

Excavations at Southworth Hall Farm, near Winwick, North Cheshire and the Neolithic and Bronze Age Regional Background

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Part I. The Excavations

Summary

As part of the Aggregate Levy Sustainability Fund (ALSF) initiative administered by English Heritage, an archaeological evaluation took place of an 8 hectare field to the north of Southworth Hall Farm near Winwick, Cheshire. The work was carried out by the Field Archaeology Unit of National Museums Liverpool (NMLFAU). The field is scheduled to be quarried for aggregates over the coming years. The evaluation took place within a regional context where it is often difficult to gain substantial returns from prehistoric projects because of limited artefactual associations which lead to relatively difficult circumstances for archaeological discovery and interpretation. Until relatively recently this lack of information has tended to discourage widespread research into many aspects of prehistoric settlement and land use in the lowlands of North West England. The ALSF initiative was, therefore, seen as an opportunity to carry out research to try to assess and develop such interpretations and methodologies further.

Nineteen trenches were excavated in 2003, totalling 1713 m², or a little over 2% of the field. A previous smaller evaluation in 1993 by NMLFAU had produced a certain amount of evidence that formed a framework for the more recent research. The evaluation produced results that are fairly typical of much prehistoric research in the region. A number of archaeological features were recorded spread thinly across the field with intervening empty areas. Most features were not associated with artefacts and consequently the dating and phasing of the evidence recorded is limited. Attempts at providing direct dating of two features through radiometric means provided only limited extra clarity. However, the nature of the archaeological evidence probably resulted from the way in which prehistoric society functioned in the North West. So, allowing for a degree of imprecision in the detail resulting from the character of the surviving evidence, the work reported on here is used to suggest a broad framework for interpretation of prehistory in certain areas of the region. The information could form the basis for further testing and development.

The main evidence from Southworth falls into two categories. The first is represented by a relatively dense distribution of features, of several stratigraphic phases, adjacent to the cropmark of a Romano-British enclosure which lies on the ridge forming the central

part of the field. The cropmark was not investigated in 2003. Dating for these external features is, on the whole, absent, although there is some indirect environmental evidence that suggests that some of the activity is contemporary with or post-dates the Romano-British enclosure. No later medieval or early post-medieval evidence came from the excavations, or from a fieldwalking survey of the site in 1993. This lack of evidence suggests that the land was not arable during much of the time when it was demesne land belonging to Southworth Hall. This absence of evidence might suggest that the features adjacent to the enclosure had ceased to be in use before the 12th or 13th century AD.

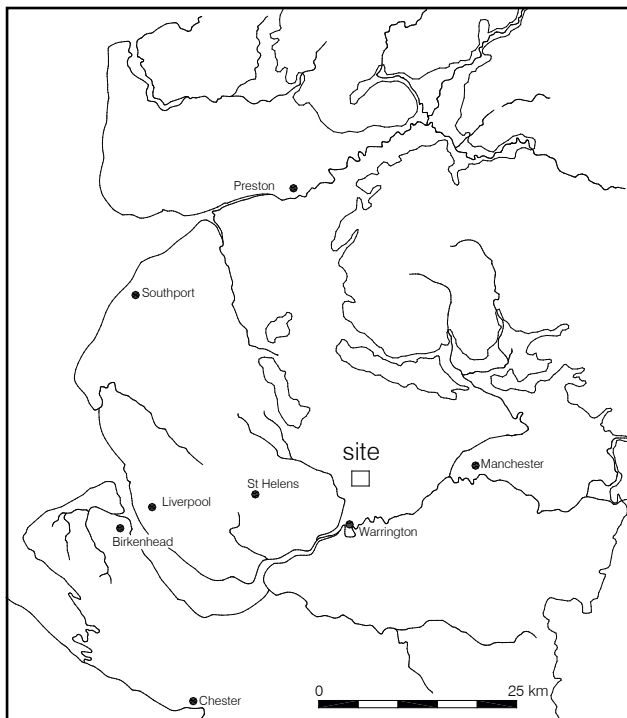
The second class of evidence is represented by a series of small pits scattered across six trenches, spread over an area of *circa* 0.8 hectares in the north of the site. Radiocarbon dating evidence was acquired for samples from two of the pits although it was not sufficiently conclusive to be able to suggest a date for the cutting of the associated pits. Stone tool working of approximately later Mesolithic or early Neolithic date and of late Neolithic/early Bronze Age date was found in the same areas. There was also evidence for several episodes of fire dating to the late Mesolithic and early Neolithic periods.

In addition, the discovery of a little pottery, potential loomweights, fired clay and metal fragments in the two most northerly pits, suggest there may be a phase of pitting in the later prehistoric period (approximately the first millennium BC). The investigation of a nearby cropmark of a possible double pit alignment turned out to be an alignment of trees. The root hollow of one of them, however, contained fired clay which was tentatively assigned as being of undifferentiated prehistoric date.

Background

The site at Southworth Hall Farm, near Winwick, Cheshire, consists of a field of 8.2 hectares (NGR SJ 623941) which occupies a low ridge of Bunter Sandstone, at a height of 22m to 30m above sea level (Fig. 1). In 1980, some 600m to the south-west of the site, a phase of rescue archaeology was undertaken because of quarrying. This excavation produced the site of an early Bronze Age barrow and a Dark Age inhumation cemetery (Freke and Holgate 1990). There are also four other Bronze Age barrow sites within a couple of kilometres of the field.

In the centre of the field there is the cropmark of a Romano-British farmstead (NML Archaeological Aerial Photograph Archive; LM92.1076). In 1993 the cropmark, along with other parts of the field, was subject to a small-scale trial trench evaluation and fieldwalking survey by the Liverpool Museum Field Unit (now National Museums Liverpool Field Archaeology Unit (NMLFAU)) (Philpott *et al* 1993). The existing quarry to the south was subsequently extended into the western



corner of the field, amounting to the loss of an area of 1.4 hectares (Fig. 2). In 2003, plans to extend the quarrying further into the field led to the current investigation which aimed to assess further the potential of the archaeological evidence retrieved in 1993. This excavation was funded through the Aggregates Levy Sustainability Fund (ALSF) distributed by English Heritage on behalf of the Department for Environment, Food and Rural Affairs (DEFRA). The part of the site containing the enclosure is due to be quarried in the final phase of development. This part of the field is subject to a planning condition that should afford the cropmark a degree of prior investigation through developer funding. The 2003 evaluation, therefore, concentrated on the area outside the cropmark, which was not included in the planning designation.

The evaluation took place over eight weeks in April and May 2003. The aims were to investigate three main periods of activity as suggested by the 1993 evaluation: the early prehistoric (Later Mesolithic and early Neolithic); the early Bronze Age and the late prehistoric period (approximately the 1st millennium cal BC). Twenty trenches were machine-cut across the northern two thirds of the field (Fig. 2). An additional aim was to interpret the validity of the distribution of surface artefacts retrieved from fieldwalking, and to test various survey and excavation methodologies as a means of improving the identification, interpretation and understanding of the nature of settlement and land use in this region for a range of archaeological periods. The results and methodologies from the 1993 evaluation are, therefore, also incorporated into the discussion elements of this report.

In July 2003, after the excavations were completed an area of 0.7 hectares was quarried on the western

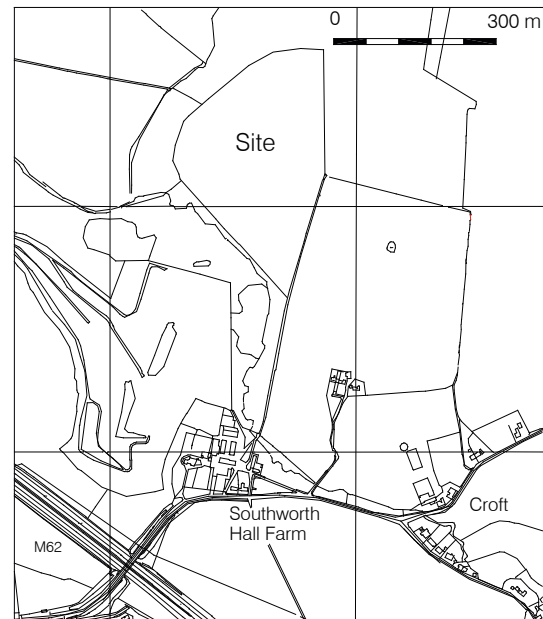


Figure 1. Location map of the excavation site.

side of the enclosure, the eastern edge of which overlapped the evaluation trench 118 (Fig. 2). This work was done in such a way as to make it possible for the author to monitor the clay subsurface prior to its removal. No features or finds were recorded.

Solid and Drift Geology

The field lies at 30m above sea level on the western edge of an east-west ridge which falls to the south and west into the valley of the Cockshot Brook, with a gentler slope into a small dry valley to the north. Sheets 97 and 84 (Drift Editions) of the Geological Survey of England and Wales (1977 and 1950 respectively) show the local drift deposits of Devensian glacial sand and gravel in the north-eastern part of the field, with Bunter Sandstone outcropping to the west of the field. The central and western part of the field has a cap of boulder clay, which lies between these two deposits.

The predominant soil type in the locality is defined as an argillic stagnogley of fine loamy type over reddish till, mapped in Lancashire as the Salop association (soil unit 26). There is a small pocket of a brown sand/brown earth group (in Lancashire, the Clive association: soil unit 20), which occurs locally where Triassic sandstone protrudes through the drift deposits (Furness 1978, 66-73, 116-123).

Methodology

Prior to the excavations a metal detector survey of the field was undertaken by the Cheshire Metal Detecting Society. The detector survey avoided iron in order to keep the amounts of material manageable. Selection of those pieces found was undertaken in the field at

the time of the survey and all pieces of obviously late post-medieval date were discarded. In all, 21 pieces of metalwork were retained from the topsoil, none of which was particularly useful in informing subsequent strategy. Most were not dateable except for one lead spindle whorl which is likely to be of Romano-British date and a 17th-century ring fragment.

The topsoil in each trench was excavated using a 15 ton tracked Hi-Mac and the resulting subsoil surface was cleaned by hoe and trowel with any finds encountered spot-recorded. Trenching methodology was varied depending on the nature of previous evidence recovered. In areas with little previous evidence most were slit trenches, measuring, in the order of *circa* 20 m² to 30 m² in area. Larger trenches, varying in area between approximately 120 m² to 220 m² were placed in three areas with known or suspected archaeological activity. Except for trench 105, a minimum 100 litre sample of topsoil from each trench was sieved through a 4mm mesh, to act as a control for understanding the relationship between the fieldwalking material and sub-surface features.

Forty-seven samples were selected for environmental processing and assessment from trenches 105/110, 100, 101, 103, 104, 109, 114 and 119. Oxford Archaeology undertook the processing of samples and Oxford Archaeology North the assessment of the evidence (Huckerby 2003). The flots from the palaeoenvironmental samples were collected on 250 micron mesh and air dried. Subsequent scanning for the recording and provisional identification of plant material took place with a Leitz/Wild microscope. In addition, a monolith sample of a possible buried soil in a channel in trench 114 was taken for potential palynological analysis and samples were taken for soil micromorphological analysis from the same deposit and from deposit [2159] in trench 109. The latter two categories of sample remain unanalysed.

Of these flots, 27 contain charred cereal or plant material. The majority, however, contain only very sparse traces. Only in one pit, context [2051] in trench 105 was the charred assemblage large enough to provide the potential for further detailed analysis. This, however, has not subsequently been undertaken due to lack of further resources. Nine features produced enough charred material to be considered to have potential for radiocarbon dating, although in no cases could the material be unconditionally held to have a primary association with the feature in which it occurred. Fragments of charred hazelnuts taken from two of these samples were subsequently submitted for radiocarbon analysis.

The Results

The description of the trenches below is given in thematic rather than numerical order and, in order to make correlation of the two evaluations easier, are based

on areas of the field recognized in the 1993 evaluation (Philpott *et al* 1993).

Area A

This area lies on the level ground of the ridge, at a height of up to 30m OD on the eastern edge of the field (Fig 2). Fieldwalking and evaluation in 1993 produced three pieces of struck flint from this area, including an early Bronze Age barbed and tanged arrowhead and thumb-nail scraper (Fig. 14.36 and 62) which, with the proximity of several Bronze Age barrows in the vicinity, appeared significant.

Trench 104

This trench was 212m² in area. The subsurface consisted of orange boulder clay, which was cleaned by hoe. The cleaning layer and the sieving of the topsoil each produced a piece of small, struck flint debitage (200, 202). One was a broken blade and may be of early prehistoric (late Mesolithic or early Neolithic) date. The only feature in the trench was an isolated pit (Fig. 3). This pit [2006] was oval in plan, measuring 0.6m east to west by 0.74m north to south. It had a fairly regular shallow bowl-shaped profile reaching a depth of 0.13m. Its primary fills consisted of a yellow-white sandy clay [2004] with some charcoal and an orange clay/yellow-white sand with charcoal [2005], which probably represents the initial weathering of the sides, suggesting the pit was kept open a little while before the final filling [2002]. The fill was a brown-grey loamy sand with frequent charred material dispersed through it. Fills [2002] and [2004] were sampled for palaeoenvironmental analysis and produced charcoal and burnt hazel nut fragments. The sample from [2002] also produced a possible pinecone (*Pinus sylvestris*) scale and some fungal sclerotia. The hazel nut fragments have not been radiocarbon dated. Although there is no firm evidence, the form of the pit, the nature of the fills and analogies with other features in the field (see below) imply that this is likely to be a prehistoric feature.

Trench 109

This trench lay adjacent to trench 104. It lies at a similar altitude to the Romano-British enclosure, on the level ground of the ridge at the eastern edge of the field, where the subsurface is orange boulder clay. It was positioned in relation to a test pit excavated in 1993 which had produced stratigraphy beneath the topsoil that could not be understood within the confines of the small area excavated (Philpott *et al* 1993, 11). This evidence was thought to be potentially significant because two fine pieces of struck flint of early Bronze Age date came from the fieldwalking in this general area prior to the test-pitting and from the topsoil of the trench in 1993. The area excavated in the 2003 evaluation was 62m² incorporating the area of the original 1993 test pit. It involved cleaning the surface by trowel and excavating

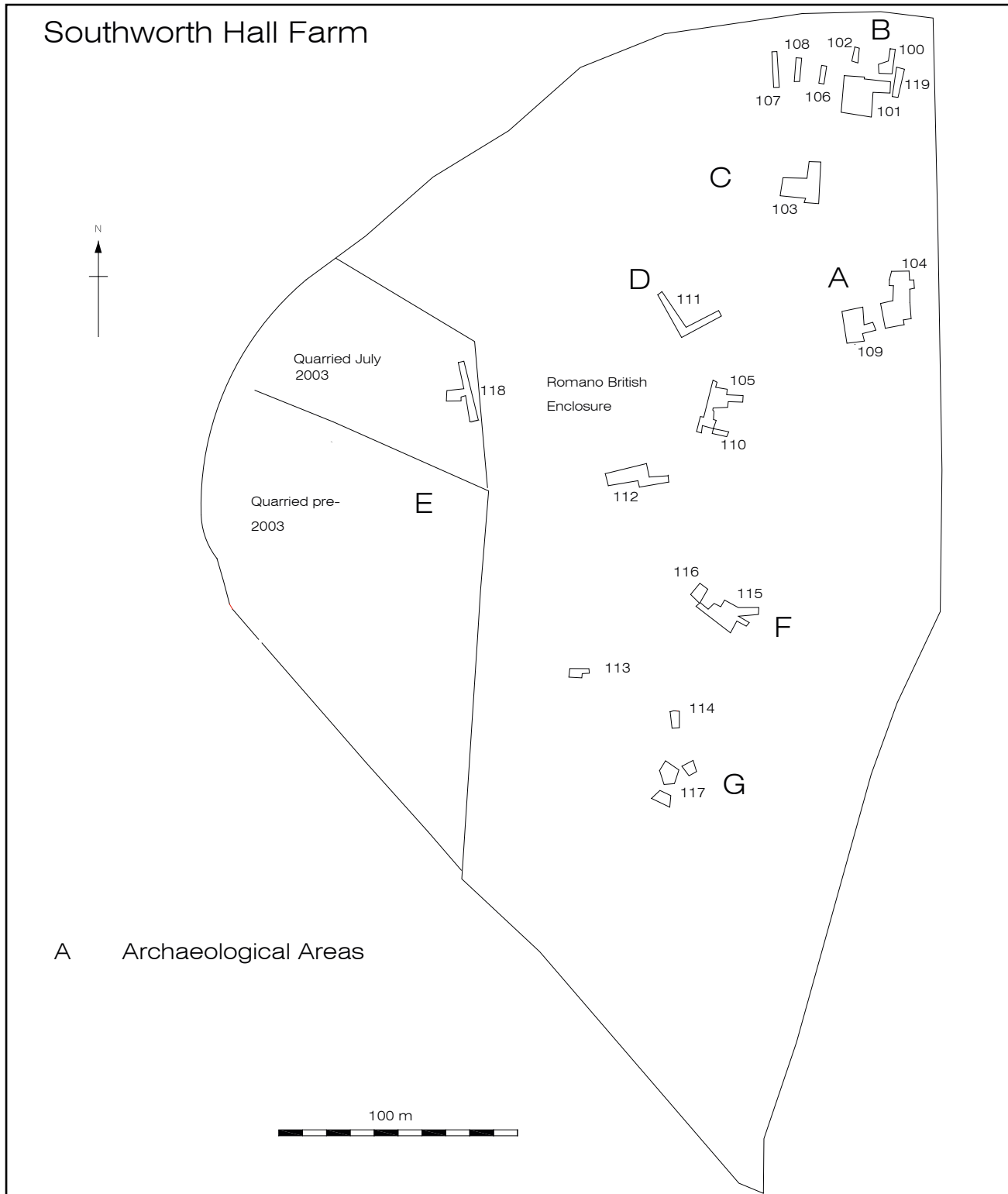


Figure 2. Location of the study areas and evaluation trenches.

a narrow 0.5m wide right-angled slot across the main central deposit to test its characteristics (Fig. 4).

The layer encountered in 1993 was part of a roughly oval patch of grey-brown sand, *circa* 6.6m by 7.5m in area, made up of two thin layers [2155] and [2158] which deepened in an irregular fashion to *circa* 0.15m in the centre of the deposit. The layer was very pebbly

throughout its depth, particularly in the northern part, where it included some large flat natural sandstone slabs, *circa* 0.18m by 0.14m in size. The upper, clayey-sand layer [2155] contained frequent, irregular, fine linear mottles of yellow sand and had an undulating base junction with the lighter grey, sandier layer [2158] below. The only find from the deposit was a single sherd of pottery, weighing <1 gramme. This sherd was characterised by the assessment

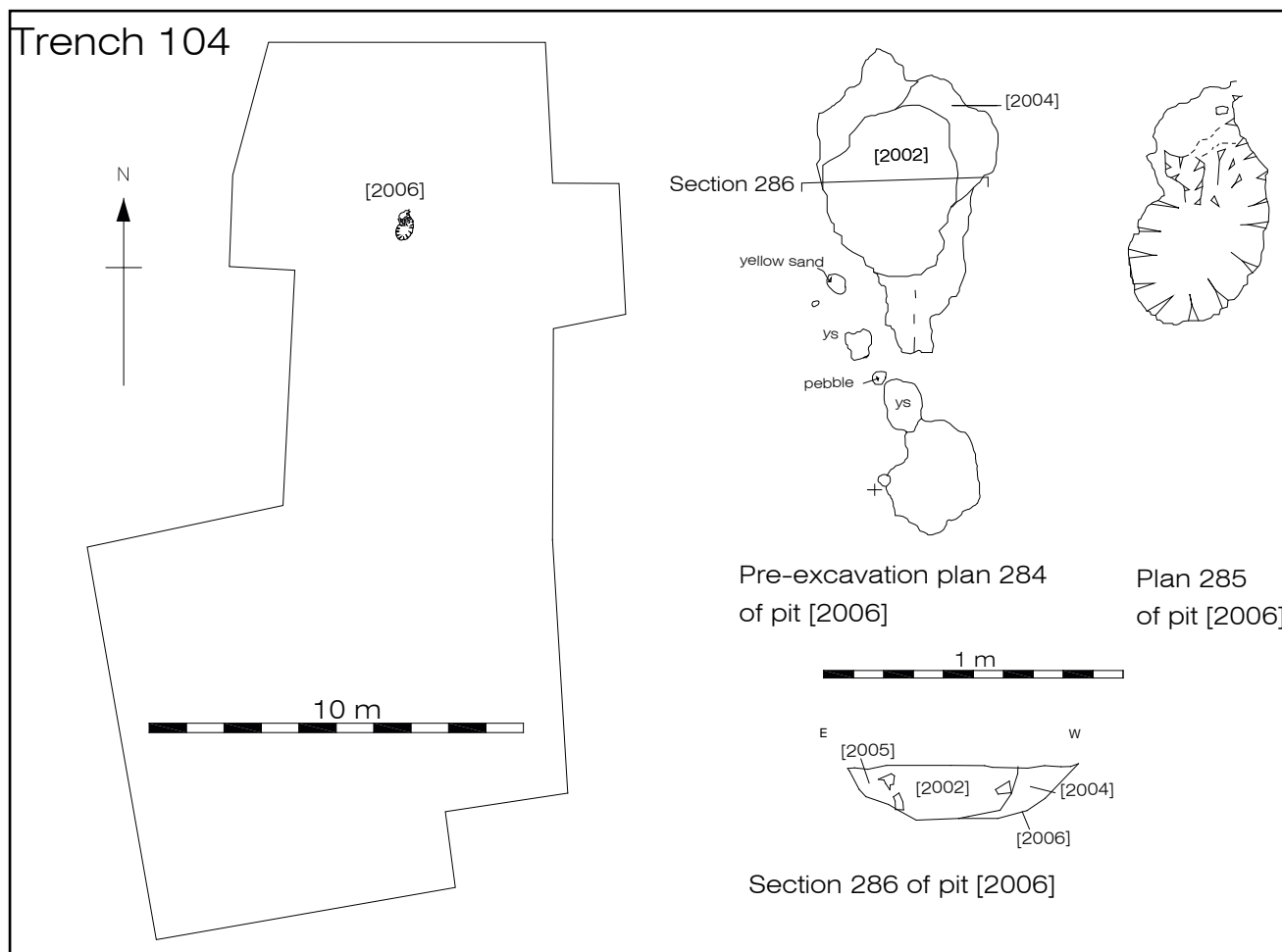


Figure 3. Plans and sections of the features in Trench 104.

specialist, Ann Woodward, as 'prehistoric of indeterminate date', with no known parallels for the fabric type.

Four small pieces of flint debitage (201, 212, 207, 209) came from the area around the deposit, either from the cleaning layer between topsoil and subsoil or from the yellow to orange clayey sand surfaces that probably represent weathered boulder clay. There are some grounds for thinking the first two of these might be of Mesolithic date (see below), the other two are merely pieces of fine debitage.

This upper layer [2155] is interpreted by the soil scientist on the project, Erika Guttman, then of Oxford Archaeology North, as possibly representing part of a truncated ancient soil that had slumped into a natural hollow. The wavy boundary between the two layers may represent ard marks suggesting early ploughing, which has reworked the deposit. Five small soil samples have been retained from layer [2155] although the stratification of the features was not regarded as secure enough to warrant undertaking thin section analysis and phosphate analysis. A palaeoenvironmental sample (250) from layer [2155] produced frequent charcoal, with occasional charred cereal fragments.

The deposit largely coincided with an underlying natural surface of reddish sand, often heavily impregnated

with mottled or compacted patches of iron-staining. In the north eastern part of the trench this deposit became mixed with the yellow or orange boulder clay which forms the subsurface in the adjoining trench (104) immediately to the east. This evidence might strengthen the case for a simple glacial hollow having formed in these less consolidated deposits in the natural clay of trench 109, into which this potential soil eventually became incorporated. Although it appears that this soil may be lying in a small, natural hollow, the excavated area may have been only part of a larger oval or even linear feature which continued beyond the trench. Without full excavation it is not possible to say if it could, even conceivably, be humanly created. Apart from cleaning over the surface several times the main excavation of the layer was limited to two narrow sections set at right angles to each other across the central part of the feature. Although layer [2155] became very patchy at its outer limits, suggesting it was dying away, these areas almost coincided with the edges of the trench on the north and south sides, providing some doubt that the edges of the deposit in the trench were real. It was also truncated on its western side by a linear feature *circa* 0.9m to 1.2m wide and 0.2m deep [2157] running north-south against the western baulk. The fill [2154], ginger brown mottled silty sand, was fairly uncompact,

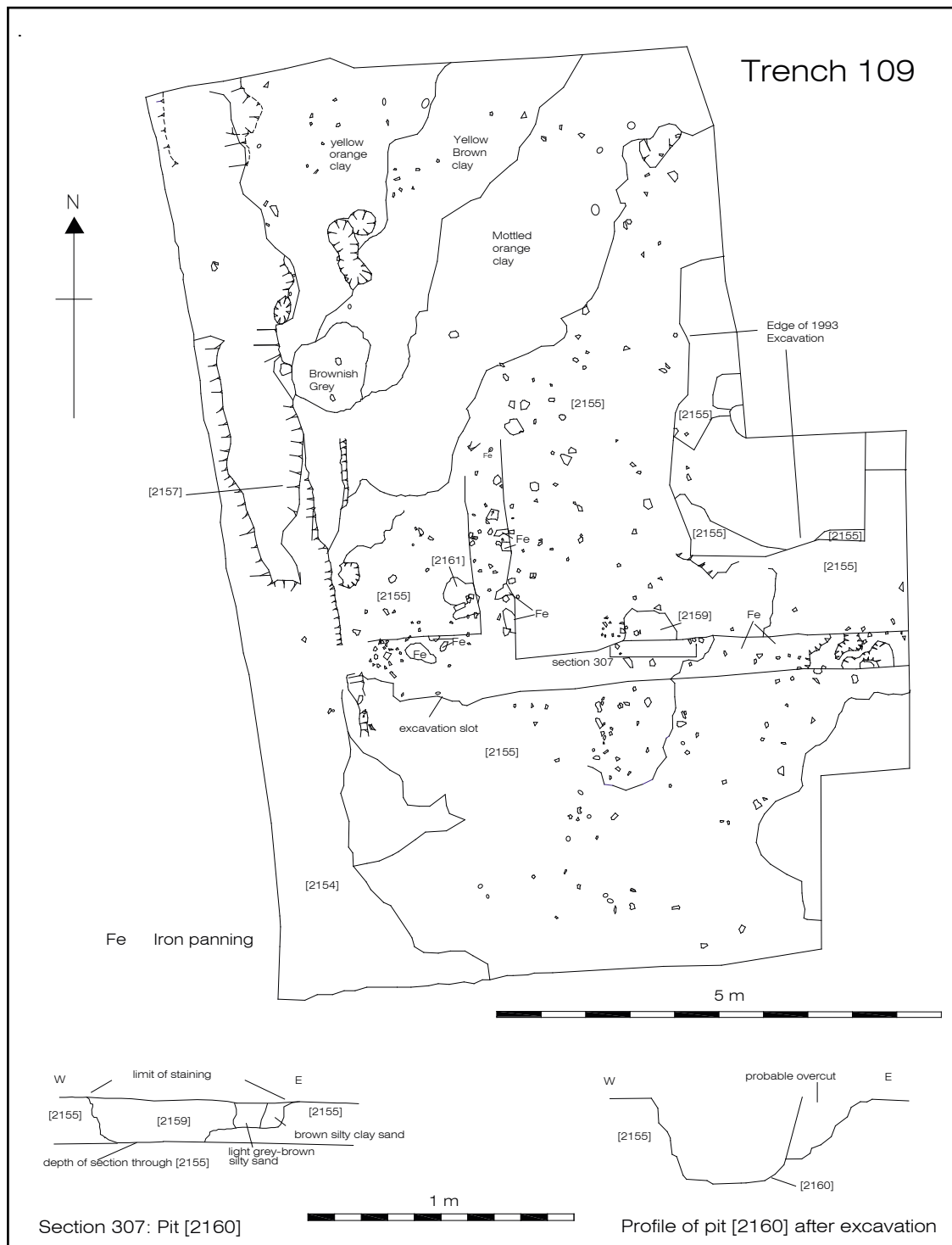


Figure 4. Plan of Trench 109 and the sections of Pit 2160.

suggesting a post-medieval date for this feature.

In the surface of layer [2155] there were two roughly oval discolourations, which were interpreted as potential pits. Deposit [2159] within pit [2160] measured 0.65m by 0.48m on the surface, showing up against the lighter, grey-brown clayey sand of [2155]. Its vertical edges were more difficult to see in section, but it did have a core area of dark grey sandy silt mottling, sometimes appearing 'peaty', even though absolutely sharp boundaries for it could not be defined. This pit [2160] was *circa* 0.31m

deep with a reasonably identifiable boundary, marked by changes in texture and colour at its base (Fig. 4). A sample (251) was analysed from deposit [2159], which showed a little poorly-preserved charcoal, which included oak as well as occasional charred hazel nut fragments, an alder cone axis and charred weeds such as blackberry and small legumes. Two hazel nut shells from the sample produced statistically inconsistent radiocarbon determinations (OxA-13138, 4890±170 BP; OxA-13139, 5500±140 BP; T'=7.5; v=1; T'(5%)=3.8; Ward and Wilson 1978) which give calibrated dates

of 4040-3340 cal BC (4890±170BP; OxA-13138) and 4680-3990 cal BC (5500±140 BP, OxA -13139).

A little to the west, deposit [2161], a darkish grey silt with charred inclusions, which showed reasonably clearly on the surface of layer [2155], covered an area of *circa* 0.6m by 0.5m and was excavated to a depth of 0.14m. However, it was more difficult to find edges for this deposit, even by the standards of fill [2159], so the interpretation of this as a pit is less confident and it could be as accurate to interpret it as a formless variation within layer [2155]. A sample (254) was taken for palaeoenvironmental analysis; this sample showed moderate amounts of charcoal, some possibly of pine, but little else.

As with many deposits on this site, and indeed as on many sites encountered in the region, differences in soil texture and colour are very slight and subtle and can make confident interpretations difficult. This is particularly the case here, when attempting to interpret the relationship between the potential ancient soil [2155], its ploughing and the pit [2160]. The relationships between the pit [2160] and the ard marks in layer [2155] are not clear. There is no stratigraphic link between them but, in the context of the extremely subtle nature of the evidence, the ard marks do not appear to have disturbed the pit fill [2159], which would suggest that the ploughing could be earlier than the pit. However, as there is no archaeological evidence for a direct functional relationship between the pit and the hazelnut shells from its fill, the radiocarbon date OxA-13138 (4890±170BP) only provides a *terminus post quem* of 4040-3340 cal BC for the infilling of the pit, meaning that it need not be as early as the Neolithic date for the burning of the hazelnuts, and could be much later. This accordingly means that the ard marks, which may pre-date the pit, also could date to an unknown period after the burning of the hazelnuts.

What can be said a little more positively is that, potentially centuries apart, the burning of the shells appears to have taken place on two separate occasions in the early prehistoric period. There is struck flint from the field from this period, probably typologically dateable to the later Mesolithic or early Neolithic, (see below) and some fine flint debitage and one piece of pottery from this trench. Together this suggests that it is as possible that this human activity provides a context for the burning of the shells as it is that it is coincidental. Furthermore, it seems reasonable to think that the burning events may have taken place, if not close to where the shells were found, at least somewhere in the vicinity of the field.

Area B

This area lay in the northern corner of the field, near the base of the gentle north-eastward facing slope. All the trenches lay on moderately sloping ground. The fieldwalking and evaluation in Area B in 1993 produced two small groups of struck flint, totalling seven pieces.

They were spread thinly over *circa* 40m, and included two cores similar to those found in Area G (see below) together with a pit with prehistoric pottery.

Trench 100

In 1993, one small test pit (XV) revealed a short length of narrow ditch containing four small sherds belonging to two vessels of probable late prehistoric pottery (Philpott *et al* 1993, 8). Trench 100 in 2003 extended the area of this original test pit, to a total of 40 m² (Fig. 5). The subsurface in this trench was yellow boulder clay. A sieved sample of topsoil produced one small flake chip (231) in light grey flint. It is difficult to date.

The 2003 excavations showed that the 'ditch' was more likely to be a pit or short length of gully and, although only one feature had been identified in 1993, it represented two intercutting features. About half the feature had been removed in 1993 which made it difficult to interpret the full form, but the pattern in the north-facing section (281) showed the sequence clearly (Fig. 5). The later pit [2026] was 0.8m wide east-west and *circa* 0.8m of it survived to the south of the 1993 trench. At the section face it had a regular profile and flattish base, with a depth of 0.23m, but at the northern end of the 1993 trench it was only a few centimetres deep and tapered sharply in plan. If this is part of the cut [2026] then the whole feature would have been a little over 2.5 m long. The light yellow sandy fill [2025] was sampled (242) for palaeoenvironmental evidence and produced occasional charcoal with some >5mm oak fragments. The plant remains found within the fill consisted of occasional charred cereal fragments and waterlogged seeds but the sample was not judged to be suitable for analysis.

This pit [2026] cut through the silty grey-brown mottled loamy sand fill [2027] of an earlier pit [2028]. Only a width of 0.22m of this pit had survived to the east of the later pit and it was slightly shallower, at *circa* 0.2m in depth. A sample (243) from the fill [2027] contained frequent charcoal, of mixed taxa, burnt rush stems, metal fragments, possible invertebrate eggs and faunal sclerotia as well as modern contaminants. The plant remains included the rare occurrence of undifferentiated cereals, moderate numbers of hazelnut fragments and charred weed seeds. Although the plant material was too sparse for analysis, two hazelnut fragments were dated by AMS which have given statistically inconsistent determinations (OxA-13078; 4855±34 BP; OxA-13079; 5042±34 BP; T'=15.1; v=1; T'(5%)=3.8; Ward and Wilson 1978) providing calibrated dates of 3710-3530 cal BC (4855±34 BP; OxA-13078) and 3960-3710 cal BC (5042±34 BP; OxA-13079).

This evidence, means, therefore, that there are two separate burning events represented both of early to mid Neolithic date. The results have become incorporated in the pit that was dug at an unknown date after 3710-3530 cal BC (OxA-13078). This information does not,

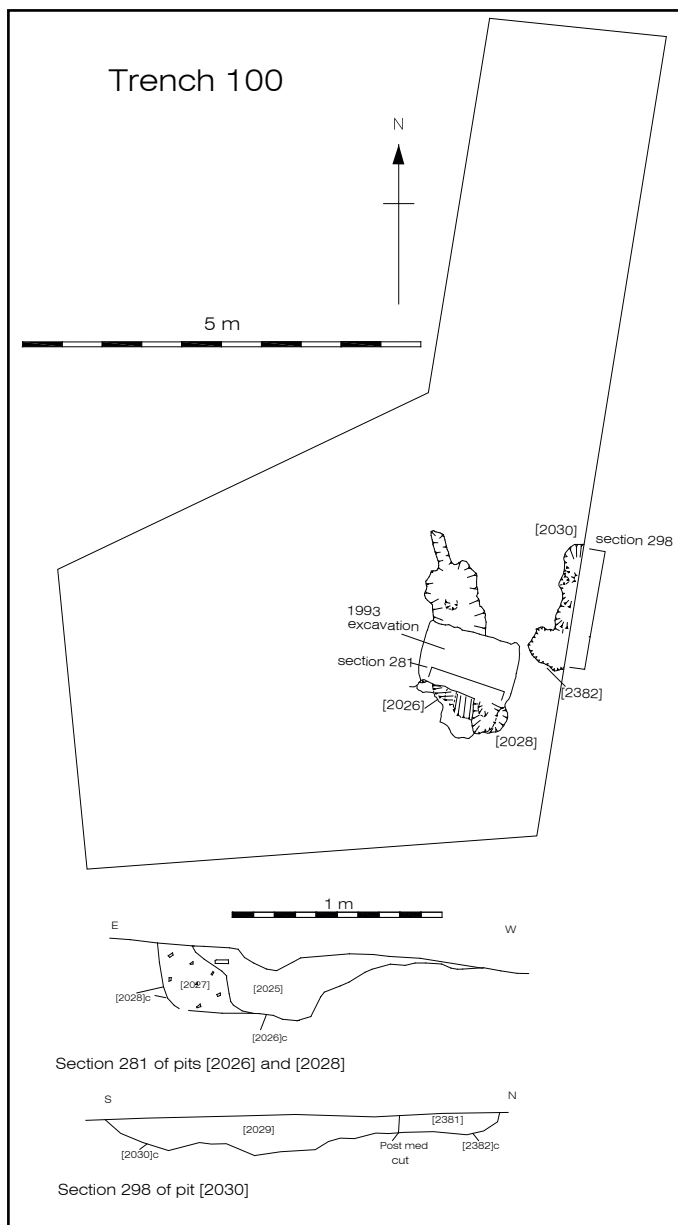


Figure 5. Trench 100 plan and sections of pits.

therefore, help to provide a date either for the pit or for the pottery that was found in it, which has been identified as being of general undiagnostic later prehistoric type (Philpott *et al* 1993). The inclusion of metal fragments in this pit [2028] also suggests that either this pit or the later pit [2026] (from which such fine contaminants could have been introduced to the earlier one), would have been dug at an unknown date some time after the start of the Bronze Age.

Another feature [2030] identified in this trench may be a third pit, although only a proportion lay within the confines of the trench and a natural origin cannot be ruled out (Fig. 5). It was 1.38m long north-south and 0.24m east-west, with an undulating base reaching a maximum depth of 0.20m. Its fill [2029] was yellow-grey sand, with the occasional fleck of charcoal. It was sampled (244) for analysis, the results of which showed an abundance of charcoal, mainly oak, as well as waterlogged seeds of

buttercup and sedge. It was truncated on its southern edge by a loose-filled loam [2381] which fills a probable post-medieval feature [2382].

Trench 101

This trench was slightly further up the slope from the previous trench in Area B. The area excavated was 215 m². The subsurface here was of moderately compacted red sand, most of which was unaffected by disturbances, except for one area near the northern baulk where there was a linear band of five irregular features (Fig. 6).

With the frequent lack of finds in excavations in this part of the region, and the frequent difficulties of determining edges to features, particularly when cut into sand as here, there is great scope for edge distortion of pits and post holes caused by weathering and subsequent disturbances from roots and animals and developing soil profiles. These agents can make a dense and complicated pattern for interpretation, and their man-made origin cannot always be confidently identified. This was the case particularly in this trench.

The surface pattern of the main feature [2292] appears to represent a natural event, caused presumably by a tree. It is marked by a roughly oval area of yellow sand [2282] which patchily covers an area of *circa* 1.75m in diameter visible around an oval dark grey-brown silty sand area [2281] contrasting with the red sand elsewhere (Fig. 6). There are stratigraphic grounds for indicating two potential elements within the feature. The earliest fill of [2292], a dark grey silty sand [2283], cut by a hollow [2291] which contained a yellow and grey sand fill [2284]. This fill was in an uncertain relationship to a yellow sand deposit [2293], which may lie within a separate cut [2294], or which may be associated with [2283] as a secondary fill in hollow [2292].

No finds came from these fills or from excavation anywhere in this trench. Both the main contexts were sampled for palaeoenvironmental analysis. Sample (258) from the final fill [2281], produced frequent but poorly-preserved charcoal with occasional charred, undifferentiated cereals and weed seeds. Sample (257) from the primary grey silt [2283] produced only poorly-preserved charcoal with very occasional undifferentiated cereals.

The question, therefore, is to what extent does this general area of yellow sand [2282] and its associated deposits represent a natural hollow within the red sand, or to what extent is it filling a humanly cut hollow. Nowhere is there any evidence of irregular linear patterns that might be caused by roots penetrating the base of the excavated deposits. These do not always have to be present in such features, although the surface pattern of the different deposits could be interpreted in that way.

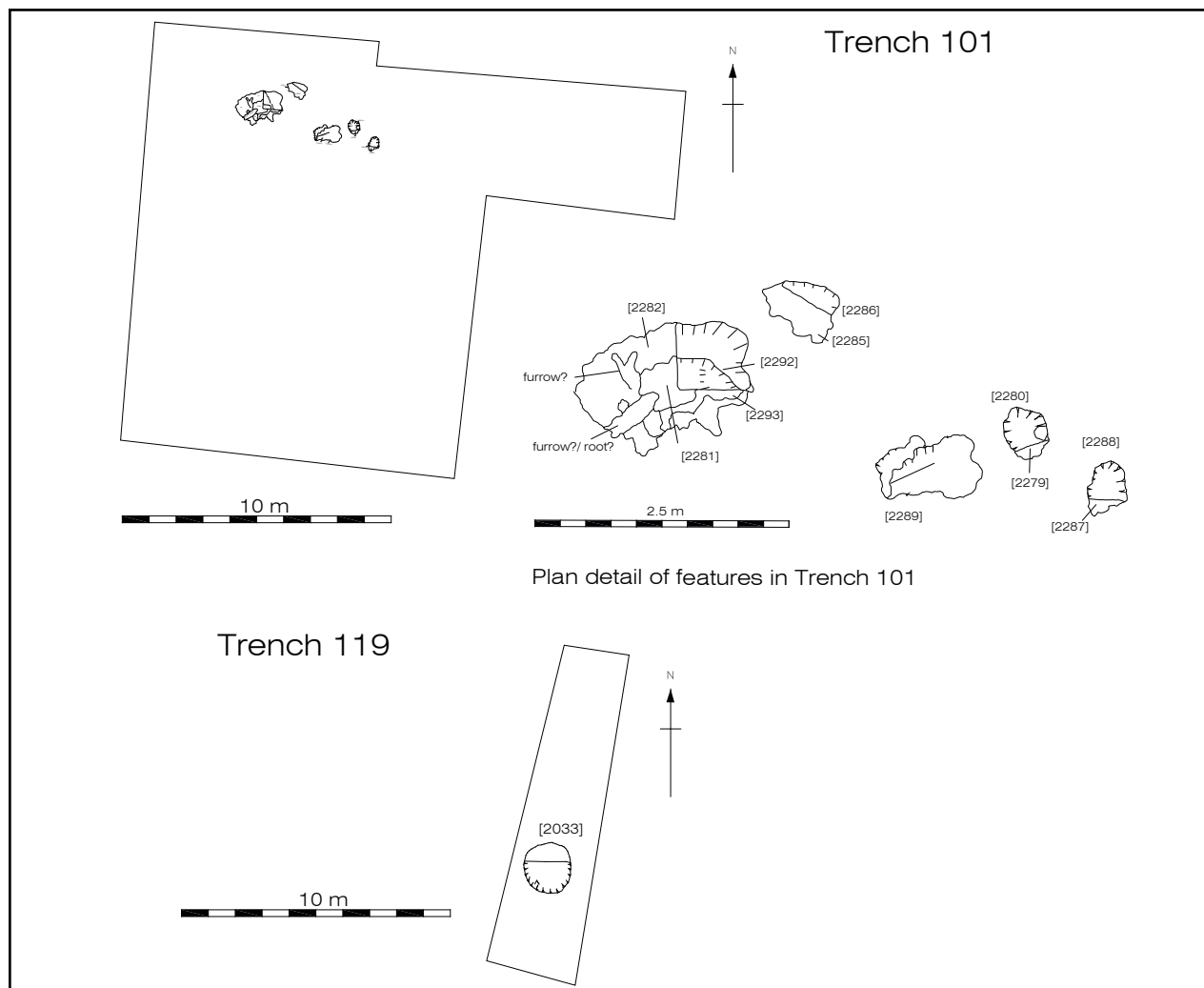


Figure 6. Trenches 101, 109 and surface features.

If this is a natural hollow, possibly a tree hollow, then either it has fortuitously been cut through by pits [2291] and [2292], or one or both of these two features do in fact result from the natural event. Their fills contained burnt weeds, cereals and charcoal, which could have been incorporated at a later date unless they were already on a surface preceding the growth of the tree.

This problem is of wider relevance as there were several other relatively discrete areas of yellow sand in a roughly linear band spread over *circa* 6 metres adjacent to deposit [2282] (Fig. 6). These have very different characteristics, however, from the former. They were not easy to excavate as differences in texture were minor; their grey-yellow colour and the presence of charcoal flecks were the main determining factors for identification. They were very shallow, and were excavated as fairly regular bowl-shaped hollows. The best formed and the deepest [2288] and [2286], averaged *circa* 0.4m in width and were between 0.08m to 0.1m deep. The two other areas [2289] and [2279] were more amorphous, averaging *circa* 0.7m by 0.5m in area and between 0.05m to 0.08m in depth. No finds came from any of these features. The fill [2285] of hollow [2286]

was sampled for analysis (259) and produced moderately frequent, poorly-preserved charcoal, but no charred plant remains.

With features this nebulous, it is difficult, with any confidence, to interpret them as being representative of human activity and some or all of them could be natural features. The incidence of charcoal in the smaller ones ([2286], [2280], [2288] and [2289]) and charred cereals and weeds in the largest ones ([2292] and [2291]) suggest that human activity did take place in the general area. There is no direct evidence, however, to date such activity or to establish whether it was contemporary with the creation of the features. The highly localised distribution of burnt material suggests that it is unlikely to represent contamination of the features through widespread natural movement through the soil profile from later generalised surface burning because charcoal was not noted in the surrounding, similarly textured, sandy surface where there were no such similar features. The main alternatives are, therefore, either that the creation of the features was roughly contemporary with the burning or the features were either cut into or formed in a surface that already contained burnt material.

Trenches 102, 106, 107 and 108

Four narrow trenches were placed to the west of trench 100 in Area B (Fig. 2). These trenches were cut towards the bottom of the slope mainly to test for the existence of colluvium and potential features that it might have buried, as well as to identify any associated flintwork that might relate to the small surface collection of struck flint that had come from this area in 1993.

A colluvial layer was present in all trenches except 107 where the topsoil, *circa* 0.3m deep, directly overlay brownish-red sand along the length of the trench. All the other trenches showed a similar depth of topsoil to that in trench 107. Only trench 108 had a gradual down-slope deepening of the colluvial layer, from *circa* 0.4m at the southern end to 0.6m about three metres from its northern end. This layer seems to have been localised as the other two trenches had a thinner colluvial layer, *circa* 0.3m thick which deepened little from south to north.

No features were identified under the colluvial layer in these trenches where the surface varied from a mottled yellow-red and brown-red sandy clay in trench 102 to a very soft reddish sand in trench 106 (both included frequent gravel pebbles) to the less gravelly brownish-red sand of trenches 107 and 108.

Two pieces of struck flint came from the topsoil sieving in these trenches; a burnt debitage chip (233) from trench 102, and a broken fragment of a steeply retouched tool from trench 107 (Fig 14.236). Both were of uncertain date. Granite fragments, possibly from a quern stone (244), were also found in this trench.

Trench 119

This trench lay immediately to the east of trenches 100 and 101 and was positioned to determine if the features recovered in those trenches continued eastwards (Fig. 2). The subsurface was of stiff yellow-orange boulder clay and the total area excavated was 39m².

The main feature identified was a large pit [2033], which lay on the higher part of the sloping trench surface (Fig. 6). It was roughly circular in plan with dimensions of 1.9m by 1.75m, and had nearly vertical sides. The pit was excavated to a depth of 0.4m, although it continued below the extent of excavation. The upper fill [2031] was very stiff orange-red boulder clay which overlay a slightly sandier version [2032]. It was difficult to distinguish this material from the surrounding boulder clay other than by dark flecking throughout the fill. That this pit was not a natural feature was indicated by the recovery of 17 grams of fired clay fragments from fill [2032]. These may have been from an oven or walling, possibly of prehistoric date, but are very difficult to date on their own. There was also 20g of fired clay fragments from the same context that may possibly have come

from loomweights or oven/kiln furniture. A potential late prehistoric date has been suggested (Ann Woodward, specialist's report, archive). A sample (245) of fill [2032] was taken for analysis and showed frequent charcoal fragments and also fine inclusions that might be of metal. A flint scraper of early Bronze Age type (Fig. 14.223) came from the topsoil in this trench.

Area C

Trench 103

This trench was located *circa* 50m to the north-west of trench 104 and lay on the upper part of the slope which gently falls north-north-eastward (Fig. 2). Here the dark red sand subsurface geology is different from that on the higher ground across the ridge to the south where there is boulder clay. The excavated area covered 171m² and the trench was placed to test if the two, close-set, parallel lines of features that showed on an aerial photograph, running east-west across this part of the field, could be prehistoric pit alignments.

Once the topsoil was removed the alignments showed as being features of different size and mainly of an irregular oval shape. They all had very similar textural and colour characteristics, suggesting a unified origin. Common to them all was an area essentially of elongated oval shape, consisting of yellow clayey sand or silty clay. The smaller deposits [2306] and [2315] were between *circa* 0.5m to 0.9m in diameter and filled simple hollows cut into the reddish sand (Fig. 7). Others contained a compacted area of iron-rich sand (manganese), surrounding the core, similar to that in features [2320] and [2304], which extended the total diameter of the feature by an extra *circa* 0.6m to 1m. This iron-rich sand presumably relates to a localised area of impeded drainage around the clayey sand core. Some of these larger features ([2320] and [2301]) also had a further outer zone of manganese-mottled sand *circa* 0.6m wide.

The smaller deposits [2306], [2316] and [2302] filled fairly steep-sided regular hollows up to *circa* 0.3m deep, although the latter had a disturbance in its western slope that strongly suggested a root run. This feature, along with the repeated surface pattern of yellow sandy clay and compacted manganese patches, is an indication that the features may have been tree hollows rather than pits. The larger features ([2304] and [2301]) also had small, fairly regular hollows in the edges of their general profile or, as in the case of feature [2304], outside the clay core. These hollows were sometimes filled with compacted manganese.

One feature [2317] had two small, rounded regular depressions, one just to the west of the yellow sandy clay core [2314] and the other within its western edge [2311] (Fig. 7). Both had fills [2313] and [2310] respectively, of

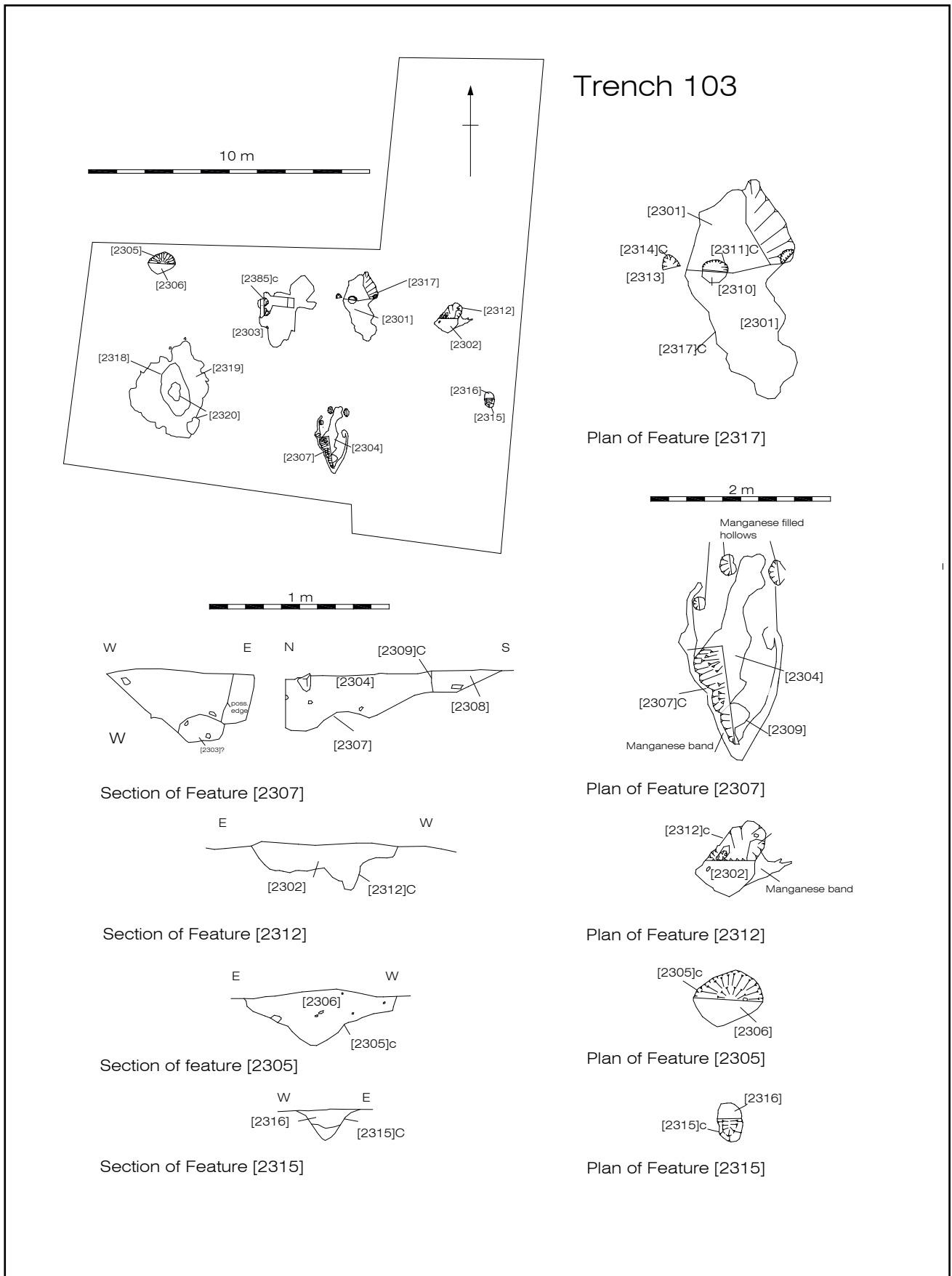


Figure 7. Plan of Trench 103 and surface features.

mottled brown-grey sand which was very similar to fill [2002] of pit [2003] in trench 104 which had produced charred hazelnuts and for which a human origin was confidently proposed. Two small pieces (17 grams and 6 grams) of fired clay of indeterminate date also came from the main fill [2301]. Their presence further suggests the possibility that this is a human-cut feature, although cultural artefacts can often be found in features such as tree hollows or other natural features (Healy 1988, 25-29). A palaeoenvironmental sample (246) from fill [2301] produced abundant, poorly-preserved charcoal fragments of mixed taxa, including conifer, very occasional charred, undifferentiated cereal grains and small legumes. A second sample from the adjacent small feature [2314] produced abundant charred pine charcoal.

However, because of the potentially complicated stratigraphy of natural tree hollow fills in sand, there has to be some caution in accepting that these two features truly represent pits cut into an infilled tree hollow, although this is the marginally more favoured option. It has to be considered a possibility that the features may represent irregularities formed by the removal of the roots from their original ground level and that the charred material and fired clay were either on a surface into which the tree grew, or else became incorporated into the fill of the hollow at a subsequent date. However, although it is difficult to know which alternative is the more likely, the clay and burnt material does suggest that human activity, of limited form, took place in the vicinity, although it is of unknown date.

The parallel form of the features in the aerial photograph is suggestive of a potential narrow avenue but, in the excavated evidence, this is less obvious. The evaluation and aerial photograph evidence together suggest that they could be a linear arrangement of trees, possibly a boundary, of unknown date. The environmental evidence suggests the possibility that pine may have been involved.

Area D

This is the area of the Romano-British enclosure which was evaluated through excavation in 1993. It produced charcoal and charred grain from the enclosure ditch together with 43 sherds of Romano-British pottery, including samian ware, black-burnished ware and sandy fabrics from Wilderspool and the Cheshire Plain (Philpott *et al* 1993). Trenches just outside the enclosure to the north produced a microlith (Fig 14.25), of late Mesolithic date, and two small pieces of flint knapping debris from the topsoil.

Trench 105/110

This trench is *circa* 15m to the east of the rectilinear Romano-British enclosure, close to the southern edge of the ridge top. It was positioned to test for the existence

of a curving linear cropmark, faintly seen overlapping the enclosure on an aerial photograph. The subsurface here is stiff, yellow boulder clay. The trench was 147m² in area, including the adjacent trench 110 (Fig 8). Subsequently, trenches 111 and 112 were cut *circa* 25m to the north west and south west respectively in order to test the limits of the settlement features encountered in this trench (Fig. 2).

A short segment of ditch [2053], measuring 2.1m long, was recorded in the easternmost arm of the trench. It is 1.35m wide and has a fairly shallow, irregular base. This largely marked the eastern limit of the features in the trench, except for part of one small pit [2216] lying against the baulk to the east of it, which appeared similar to excavated examples in the main part of the trench. Not enough of the ditch was visible in the trench to determine whether it was associated with the pitting activity to the west. It did not, however, have the same characteristics as the Romano-British enclosure ditch excavated to the west in 1993. A sample (200) of the fill [2052] of the ditch produced fairly frequent charcoal fragments and charred blackberry seeds. It is a little similar in form to the ditch [2157] found at the western edge of trench 109, and their nature suggests that an agricultural function of unknown date may be a possible explanation. However, a far greater area would need to be investigated before any confident interpretation would be possible.

The other features consist of pits of various sizes, short segments of curving gully and post holes. The evidence has been grouped into a number of categories based on similarities of form and fill, potential alignments, or apparent structural associations, although it is difficult to identify any structures with certainty. There are no artefacts from trench 105/110 to provide dating for the features and little stratigraphic association between the features themselves to provide indications of how the various features may be grouped into separate phases of activity, although there are some indications of at least two phases.

On the west side of trench 105, the most easily associated group of features is represented by a north-east to south-west alignment of six squared-off post holes [2059], [2061], [2063], [2065], [2069], [2071] all with similar dimensions (Fig. 9). The trench was too small to provide enough of a context to be able to allow a confident suggestion that the alignment might represent a structure or, alternatively, something akin to a fence-line. A post hole [2077], *circa* 1.3m to the north, also rectangular in plan and with a similar kind of fill, might be regarded as part of this group. It has a slightly different profile, and again, a greater area would have needed to be excavated to be more certain of this. The feature [2075] to the east of the latter appears to be a natural feature, and thus, being so close together, there is, at least, a suspicion that the two could be linked, possibly making feature [2077] natural in origin (Fig 8).

Palaeoenvironmental samples were analysed from four of the post holes, [2063], [2065], [2069] and [2059], with only the latter two producing any evidence. Both of these samples contained poorly-preserved charcoal, unsuitable for dating; possible invertebrate eggs and modern contaminants (the latter two categories were found in virtually all samples), while sample (212) from post hole [2059] also produced a possible charred tuber. This square form is essentially confined to the features in this alignment which may, on type, suggest the possibility of a different phase of activity from the other features in the trench. From their relative positions, the square post hole alignment and the gully [2097] appear to confirm the existence of different phases (Fig. 8). However, although one of the post holes [2061] lay on the extreme edge of the gully, its position was just a little too peripheral to the fill of the gully to be able to show definitively, through excavation, which of the two was the earlier. A partial post hole [2103] against the trench baulk, appears to be later than the gully [2097], but too little of it was visible to be sure, nor was it possible to know with what the former might be associated. The light-grey, silty sand fill [2096] of the gully was sampled for palaeoenvironmental evidence but produced nothing more than poorly-preserved charcoal.

Gully [2097] was later than pit [2121] which it cut. A sample from the dark brown silty loam fill [2093] of this pit produced frequent charcoal fragments including oak and occasional cereals. There were other, shallower, irregular features [2129], [2216], [2079] and [2049] in this area, which have been grouped together as Group 3. The form of some of the features in this group such as the conjoined hollows of feature [2216] make it difficult to be absolutely confident that they are all humanly cut features (Fig. 9). If they are natural features, then in this case, the charred cereals, for example, could have become incorporated at a later date, perhaps when the later, more confidently human-cut features were in use.

A second gully [2233] in this area, does not appear to be directly associated with gully [2097], although they do both have similar light grey, mottled, sandy loam fills (Fig. 9). Gully [2233], which is 0.17m deep, is mainly notable for providing further indications that there were at least two phases of activity associated with the site. This phasing is suggested by two other pits [2057] and [2229] (Group 5), which stratigraphically are unlikely to be contemporary with gully [2233], although identifying the precise relationship between them is compromised a little as the greater part of the pit circumferences lies outside the excavated area. As all three features have very similar fills, which meet close to the edge of the trench, it is not possible to be confident of the sequential relationships between them (Fig. 9).

Both pits were sampled for palaeoenvironmental evidence. Pit [2229] produced abundant charcoal, some

engrained, partially-charred wood and waterlogged blackberry seeds in peaty, grey silt fill [2227]. The final fill [2225] produced abundant charcoal, including oak, charred weed seeds and small legumes. The final fill [2056] of pit [2057] produced a high frequency of charcoal, including oak roundwood and other taxa, cereals, including oats/rye and charred weed seeds, including small legumes. The primary fill [2098] contained moderate amounts of charcoal, cereals, including barley and waterlogged seeds.

There is also a group of miscellaneous pits in this area [2118] and [2235] and three unexcavated ones [2089], [2090] and [2088] that have been grouped (Group 6; shaded in Fig. 8). They all vary in size, shape and fill type and they cannot be phased together with any confidence but are grouped on the basis of their proximity and miscellaneous form (Fig. 9). Nor can these five features be as confidently related to human activity as is the case of the two Group 5 pits. Hollow [2118] is cut by feature [2067] which is included in a subsequent group.

Feature [2067] is placed in Group 7 with six other quite small features which occur in the same area as the Group 6 pits (Fig. 8). There is a faint indication of a rectilinear, or possibly oval, arrangement to these features but not a large enough area was investigated to put them properly into context. Apart from their size, however, the variation in their profiles provides little confidence that they are all human cut features. The above-mentioned feature [2067] and feature [2087] both occur on the edges of Group 6 hollows which may suggest a natural origin for some features, at least, in both groups. Environmental samples were taken from three of the features, [2067], [2073] and [2087]. All of these produced charcoal, including poorly-preserved oak from sample (228) from feature [2087] and a small legume from feature [2067].

To the north of this group of features there was a substantial elongated feature made up of several intercutting pits which continued under the western baulk of the trench (Fig. 8). The earlier one [2262] was fairly shallow, 0.17m deep, and was cut by a more substantial pit [2261], *circa* 0.55m deep (Fig. 10). The final fill of the latter, a dark grey clay silt [2084], is very similar to that of the Group 5 pits [2229] and [2057] to the south, which might argue for a similar phase of associated activity. However, in contrast to the samples from those features, environmental sample (204) from fill [2084] produced only poorly-preserved charcoal flecks. Samples (205 and 216) from the less silty primary and secondary fills [2101] and [2124] also produced nothing more than occasional poorly-preserved charcoal. There were also indications that the situation here was more complicated than the time allowed to investigate with further potential pit fills [2122] and [2263] of unknown stratigraphic relationship lying adjacent to the excavated features to the south, partially under redeposited white-grey clay.

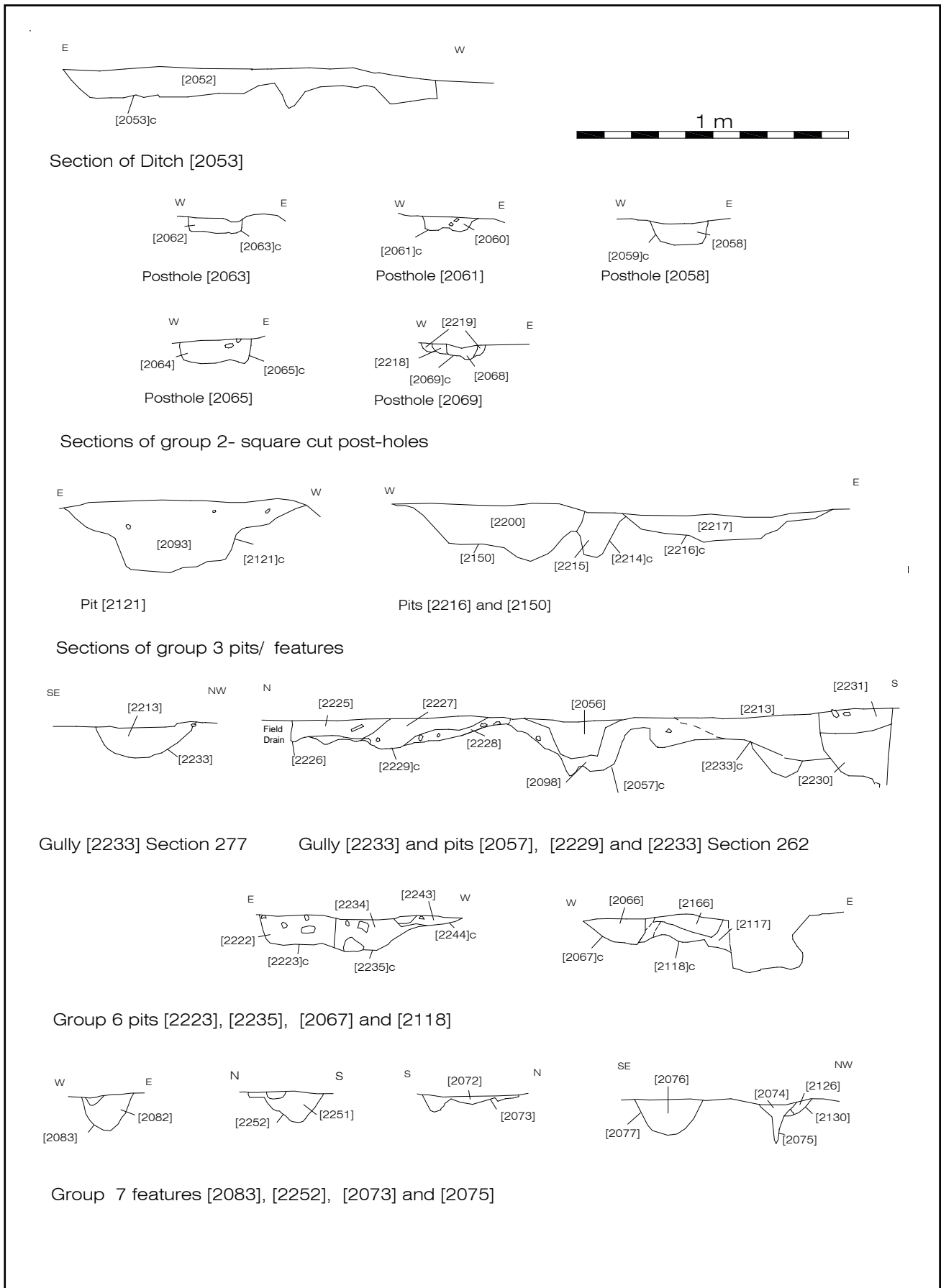


Figure 9. Sections of features in Trench 105.

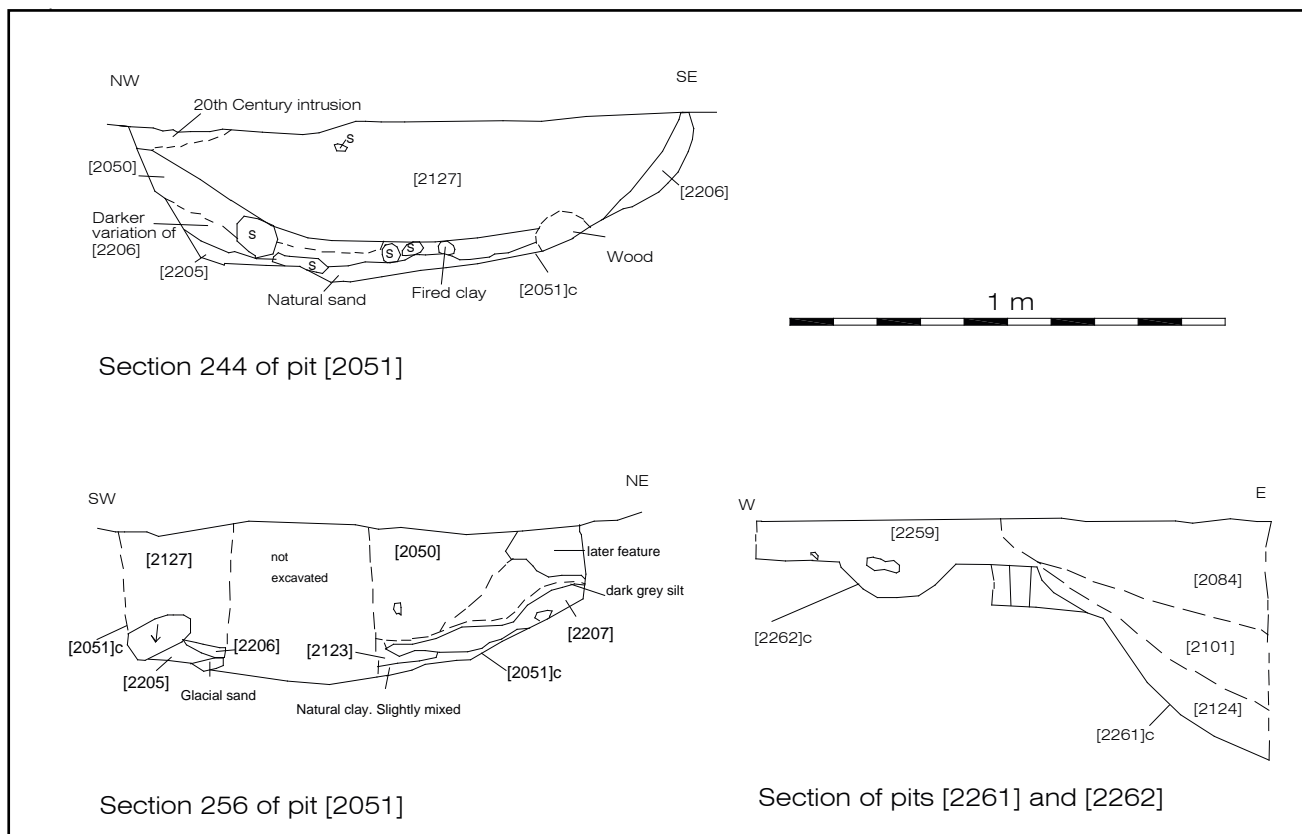


Figure 10. Sections of pits 2051, 2261 and 2262.

To the east of this area, close to the eastern edge of this part of the trench, there was a feature unlike all the others in form. It consisted of a very regular, sub-circular pit [2051] measuring 1.12m east-west by 1.28m north-south, with a flat base at a depth of *circa* 0.4m (Fig. 10). The finds from the pit included haematite, a struck flint, burnt stone and baked clay fragments, weighing 1.6kg. They probably represent oven or oven/kiln furniture that was thrown broken into the pit, rather than being *in situ*. This feature produced the best environmental evidence from the site, although the pit and environmental evidence cannot be assumed to be necessarily linked. However, at the very least, the evidence from the samples reflects a relatively intensive phase of agricultural activity which the presence of one charred taxa, corn marigold, suggests is Romano-British or later (Elizabeth Huckerby, Archive Specialist Assessment Report). It probably dates to before the 12th century AD because of the lack of late medieval pottery from the site. Sample (214) from fill [2127] produced abundant charcoal including oak and charred weed seeds, corn marigold, small grasses and plantain. Small charred legumes were also found in fill [2205], which had abundant charcoal, but rarer weed seeds. Fill [2206] produced less charcoal but also included burnt cereals including barley and oats, charred weed seeds, corn marigold and charra/nitella oospores. Fill [2050] also had frequent charcoal and infrequent cereal evidence, including oats along with charred weed seeds and corn marigold. Sample [2123] included the same variety with the addition of stinking mayweed. The function of this pit is not obvious but its regularity, depth and even

silting pattern suggest it had a distinctive practical use.

The character and density of the features in the northern part of the trench differs from the areas previously described. They consist of two groups made up of a series of adjacent small to medium-sized hollows filled with varied types of essentially grey-brown loamy sand, within larger areas of grey-white mottled sandy clay. Originally it seemed as if there might be a number of post holes here as the fill characteristics looked convincingly of human origin. However, as excavation proceeded and the complexity of the relationships between features increased, it began to look as if they might all be part of two separate, large, natural features. Although it is still possible that the occasional human cut feature could be represented within these two larger groups, they have been interpreted as being more likely to be large natural features, possibly tree hollows (Groups 11 and 12). Group 11 covers an area of 1.04m by 1.14m and to the north west; group 12 covers an area of 2.14m by 1.42m. Each larger area contains a number of smaller depressions, their average depth between *circa* 0.15m to 0.25m, varying in size from diameters of *circa* 0.45m to 0.5m to *circa* 0.17m to 0.25m. A more detailed account is given in the archive report.

Only one sample (229) was taken from this group of features, the stratigraphically latest hollow [2208]. It contained some charred blackberry seeds, waterlogged seeds and some oat seeds as well as oak charcoal. It is probable that this collection of features relates

essentially to natural tree boles, although the occasional settlement feature may be included within them.

The following three trenches were positioned to delineate the northern and southern extent of the features found in trench 105/110 and to test for other areas of activity immediately outside the Romano-British enclosure. As the results were largely negative the trench plans have not been illustrated here but are included in the archive report.

Trench 111

This trench was located *circa* 20m to the north of trench 105 (Fig. 2). It measured 104m² in area, arranged in an L-shape. The subsoil was boulder clay which was cleaned by hoe. The trench produced two features. In the angle of the two arms of the trench, feature [2353] was sub-circular in plan and measured 0.46m in diameter, its U-shaped profile reached 0.15m in depth. The fill was fine, light yellow-grey sand [2350] with an occasional charcoal fleck. There were no finds from this feature but the profile of the cut suggested it was a post hole or pit. About 5m to the east there was a lentoid-shaped shallow pit [2355]. This measured 2.2m in length, with a maximum width of 0.98m and was 0.32m deep. Small depressions at either end could have been stake holes or post holes or, they could possibly have been root holes, which suggest a potential natural origin for the larger feature. The dark grey-brown sandy clay loam fill [2352] was very uncompact and friable suggesting a probable modern or late post-medieval date. The only other recordable features were some modern/late post-medieval plough scrapes in the northern half of the western arm of the trench.

Trench 112

This trench was located *circa* 30m to the south-west of trench 105, lying across gently south-westward sloping ground, just below the break in slope (Fig. 2). It measured 138m² in area. The subsoil was of very stiff yellow boulder clay. This trench was investigated during a period of heavy rain which made the surface very difficult to excavate. Initial machine topsoil stripping had indicated that there were no significant features in the trench, but cleaning by hoe and further testing of the surface layer was limited. One Mesolithic or early Neolithic backed blade (Fig. 14.230) came from the topsoil.

Trench 118

This trench lay on the western edge of the Romano-British enclosure to test for external features, similar to those in trench 105 (Fig. 2). It was on fairly level ground where the boulder clay subsurface is slightly sandier than in the other trenches around the enclosure. It measured 104m² in area. After cleaning by hoe, only one small irregular feature was identified, it suggested a natural

small tree hollow or something similar.

Subsequent to the completion of the excavations, in July the quarry was extended into the area immediately adjacent to trench 118 (Fig. 2). The opportunity was taken to monitor the clay surface after the topsoil was bulldozed off prior to extraction of the boulder clay and the sandstone. This exercise effectively extended the evaluation area of trench 118 by an area of 0.54 hectares albeit in a less controlled way. No features were identified in this area to the west of the main enclosure.

Areas G and F

These two areas lay *circa* 50m apart towards the head of, and to either side of, a slight natural gully, which runs in a north-east/south-west direction down towards the stream-bed marking the western edge of the field (Fig 2). Fieldwalking here, in 1993, produced evidence of a small dispersed surface group of struck flint lying on both sides of the channel. The group consisted of 14 pieces from an area of *circa* 110m by 125m. Eight of these were cores or core fragments, several of which may perhaps be of early prehistoric date with one or two possibly later examples (see below).

Trench 114

The trench was placed towards the middle of the linear hollow, roughly between the two areas of surface flint. An auger survey along its length revealed the presence of a dark, thin, organic band running along the base of the hollow. The excavated area covered 27m², although it was only excavated to its full depth of a little over a metre in a central area measuring 2m by 5m (Fig. 11).

Beneath the topsoil layer [2010], averaging 0.22m in thickness there was a mid-brown clay loam [2011], 0.6m thick, which represented a colluvial layer. The trench was excavated by machine down to the underlying orange boulder clay surface, thus reducing the potential for finds retrieval from this layer. No soil samples were sieved in this trench. Accordingly, no finds came from layer [2011] that might have identified the start of a major phase of ploughing. The only stratigraphic relationship to the layer was to a late, post-medieval field drain at the northern end of the trench, clearly later than the accumulation of the layer.

Below this layer there was a band of dark-grey clayey silt [2012] which thickened southwards from 0.2m to 0.28m, probably representing a buried soil. At the northern end of the west-facing section, the layer separates into three thin bands [2018] which are interpreted as lenses of erosion, or possibly fragmentary turf-lines on the slight slope. Its greater part, however, was fairly homogenous. In the north-facing section (304), it is capped by a darker, more concentrated layer [2015],

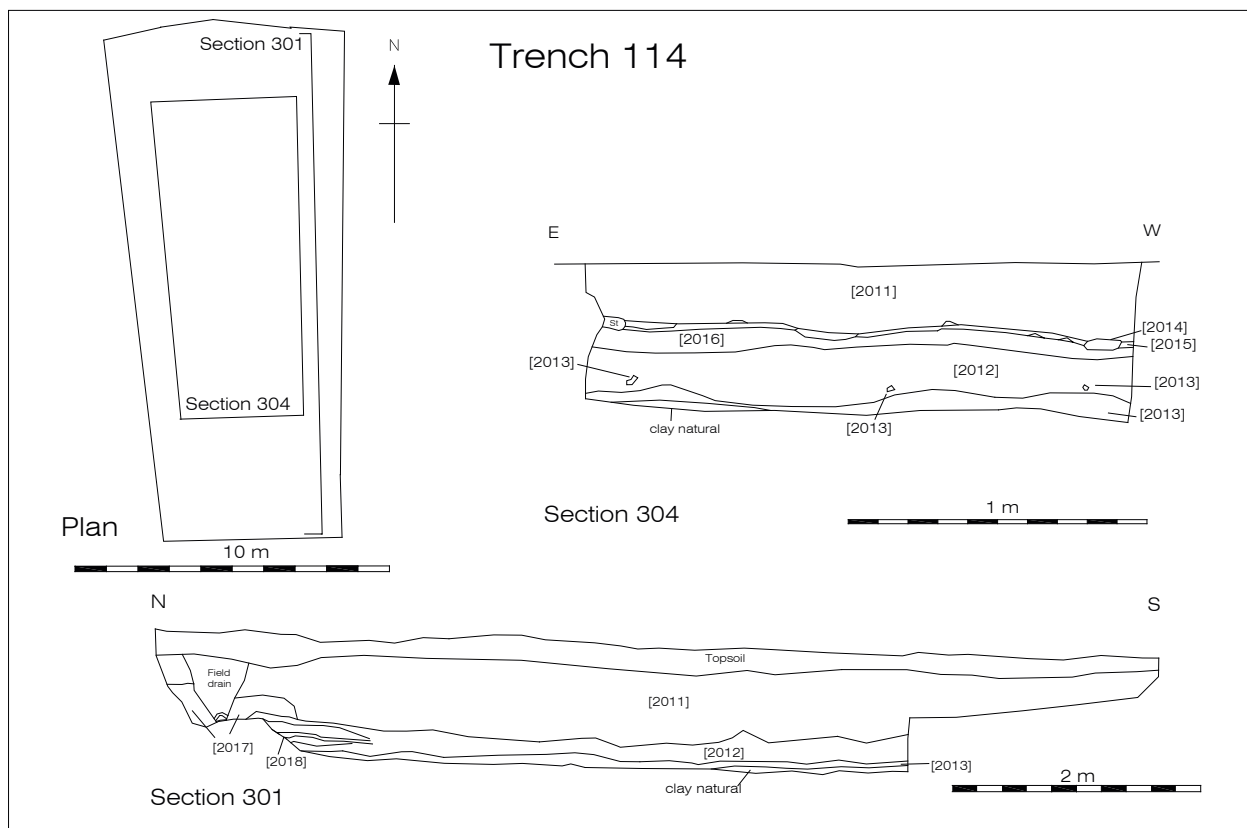


Figure 11. Plan of Trench 114 and sections.

0.05m thick. This is a good indication of a former turf line which formed prior to the build-up of the colluvium. Immediately below [2015] the dark-grey clayey-silt of [2012], which was the defining characteristic in the west-facing section, is lighter grey in colour in its upper part [2016]. In the south western corner of the trench, seen better in the north-facing section (Fig. 11), the base of layer [2012] is undulating and, over each undulation, there was a small patch of grey clay, similar to the clay in the underlying grey clay silt [2013] which forms a thin layer over the natural boulder clay surface.

The soil scientist, Erika Guttman, then of Oxford Archaeology North, suggests that the undulations could represent plough or ard marks. If this were to be the case, direct dating of the phenomenon on the site is not available, and although the undulating surface might suggest possible medieval ploughing no medieval pottery was found during the excavations or fieldwalking. The evidence suggests that the field may not have been arable during this period. One whole earth sample was processed from the buried soil [2012] and produced very sparse evidence of charred cereals and corn marigold. The latter suggests that the accumulation of this layer should be post-Roman (see below). One monolith sample, *circa* 0.28m deep, from the potential buried soil (layer 2012) has been assessed as having potential for pollen analysis. Although retained, the sample has not been analysed

because of the uncertainty of the dating of the context. The potential ard marks in the layer were also sampled for thin section analysis and phosphates, but the samples have also not been processed for the same reason.

Below the thin grey clay band [2013] there were three adjacent, irregular surface areas of light brown-grey sandy silt with varying irregular linear extensions [2376], [2021] and [2022]. There were interpreted as tree root hollows. They are of unknown relationship to the buried soil [2012], as the latter was removed by machine. There were no, even subtle, indications in the profiles of the sections to suggest that there were disturbances cutting through layer [2012], that is later than the buried soil. Although the sections obviously represent only a small sample of the soil layer, the findings suggested that it was more likely that the tree hollows represented features which existed prior to the cultivation of this part of the site

Trench 115/116

These two conjoined trenches lay on the northern side of the linear hollow in the field, just below the break in slope of the ridge top (Fig. 2). They were of irregular shape, measuring 180m² in area. The topsoil was not as deep here as on the trenches on the higher ground, averaging *circa* 0.2m in depth, and it directly overlay the stiff orange boulder clay subsurface. The

trenches were placed here to test, along with trench 117 (see below), the distribution of the surface flint found in this area during the fieldwalking in 1993.

The main trench contained nine features, mainly elongated oval in form. Five were investigated further to test for a potential association with the flintwork (Fig. 12). On the surface they were mainly identifiable by pale yellow-white clayey-sand spreads, sometimes mottled with fine reddish sand, within the natural stiff orange clay. Their generally elongated plan and excavated profiles make them difficult to explain as human cut features and they have been interpreted as tree hollows. Feature [2361] is probably the most obvious with irregular sloping sides and irregular, undulating base with narrow depressions probably representing root runs (Fig. 12). The largest feature [2365], which was slightly curving and 2.7m long by 0.84m wide, had a slightly more regular base at a depth of 0.15m, and produced a small black chert waste flake (234). However, the nature of its fill [2363], which was interrupted by an oval area of iron panning in its southern part and a deep patch of light brown-grey soft, sandy clay [2367] to the north, suggests a natural deposit (Fig. 12). The fill [2383] of feature [2384] which was a varied, grey sand or silty sand, with brown loamy sand mottling and charcoal flecks is different from the others and appeared, on-site, the most likely to be of non-natural origin. However, the 0.12m deep fill of the irregular, elongated oval plan, 0.23m wide and 0.9m long of [2384] does appear to mirror the form of most of the other features and throws some doubt that it might be a human-cut feature. One other unstratified struck flint, a debitage chip (221), came from this trench.

Trench 117

The three adjacent trenches lying on the southern side of the linear hollow have been designated as one trench for the purposes of this report. They were excavated towards the end of the project, when time was running short. There was, however, little to record. The topsoil in this area was the shallowest on the site, being less than 0.2m and came down directly onto stiff orange boulder clay in which it was obvious that there were no features of any kind, other than late post-medieval field drains. One hundred litres of topsoil was sieved through a 4mm mesh but produced nothing. The area cleared in total amounts to 104m².

Finds from the 2003 evaluation

Metalwork from the detectorist survey:

- Copper alloy: Six lumps or pieces of artefacts, only two potentially identifiable as being of early post-medieval date.
- Lead: Eleven pieces, mainly undated lumps and strips of metal.

One Romano-British spindle whorl.

Metalworking waste: Three fragments of unknown date.

Pottery: One sherd associated with layer (2155) in trench 109. No parallels are known for this fabric type and it is categorised in the assessment by the specialist as 'prehistoric of indeterminate date'.

Fired clay: 17gr. of fragments of fired clay, from pit 2032 in Trench 119. These may be from an oven or walling. It is difficult to date, but it could be prehistoric.

20gr. of fragments of fired clay from the same pit. Possibly from a loomweight or oven/kiln furniture. This could be of late prehistoric date.

1.6 kg. of probable oven/kiln furniture from pit 2051 in Trench 105. There was no indication that it was *in situ* but many of the pieces can be joined. Subsequent resources did not allow for this and accordingly the piece is not illustrated in this volume. It is difficult to date typologically, but should be earlier than the medieval period and contextually could be as early as Romano-British.

Two pieces of fired clay, weighing 13gr. from fill 2301 in Trench 103; a tree hollow fill. Indeterminate date.

Struck flint: There are 13 pieces from 2003 as shown in Table 1.

Summary Conclusions

The prehistoric archaeology of the North West differs from that in many other areas of the country in that artefactual evidence here can often be sparse and settlement density thin. This makes the identification and interpretation of prehistoric sites and landscapes difficult. These factors no doubt contribute to a tradition of restricted field research in many parts of the North West in relation to other areas of the country and understanding of many periods is accordingly slighter in this region. One of the aims of the evaluation at Southworth was to further develop work undertaken over a number of years to try to see how best to overcome problems of local prehistoric site visibility, recovery and interpretation (Cowell and Philpott 2000, Ch. 10).

This phase of the project was an evaluation of an area of landscape involving sites and activity of several periods dating from the Mesolithic to the post-Roman

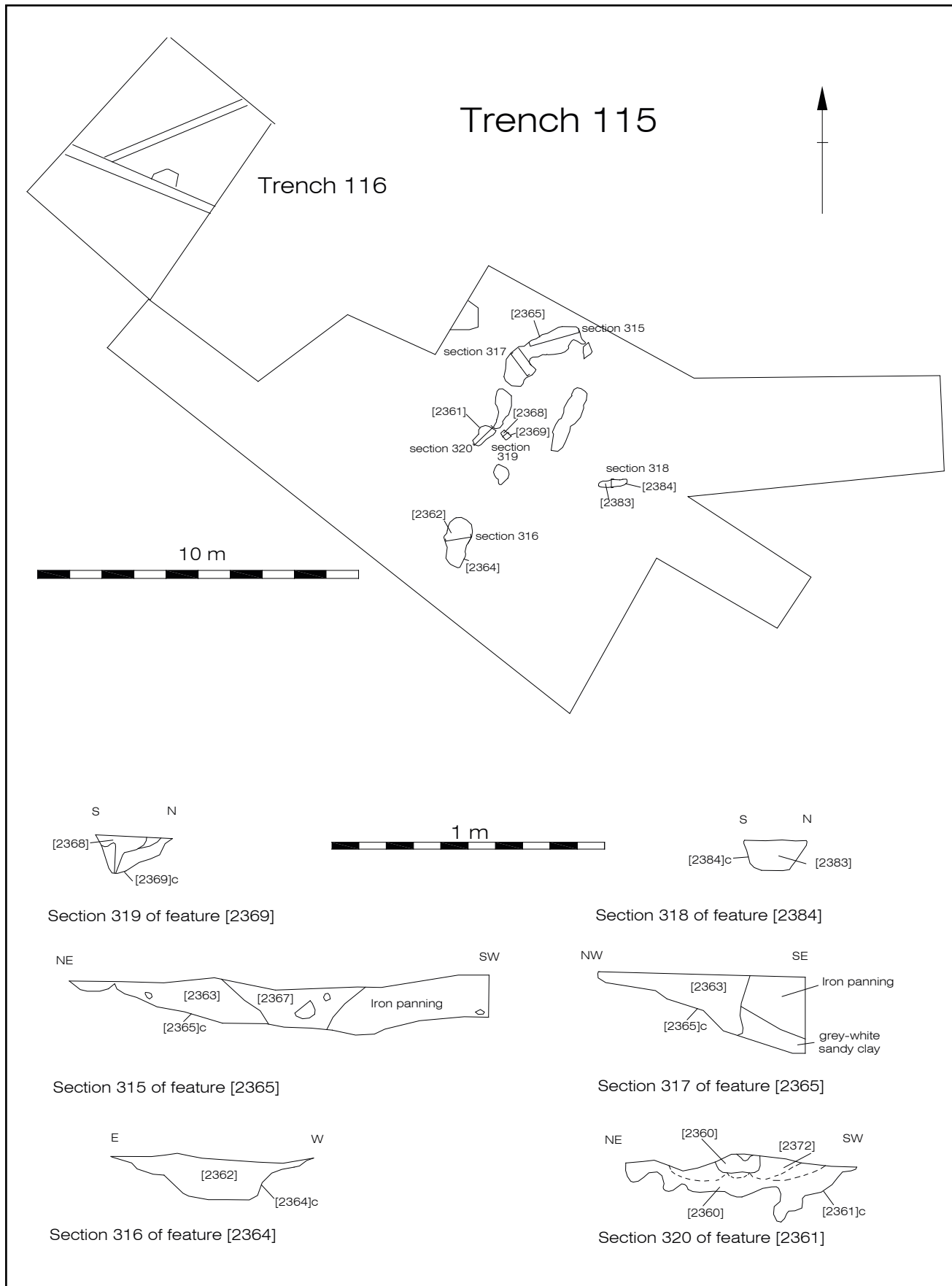


Figure 12. Plan of Trench 115 and sections of features.

Finds Number	Trench	Context	Type
231	100	us	small flake
233	102	us	burnt small flake
200	104	2001	broken blade
202	104	2001	debitage
236 (Fig. 14)	107	us	steeply backed fragment
201	109	2153	blade
207	109	2153	debitage
209	109	2152	waste
212 (Fig. 14)	109	2152	?micro-burin
230 (Fig. 14)	112	us	backed bladelet
221	115	us	debitage
234	115	2363	chert flake
223 (Fig. 14)	119	us	thumbnail scraper

Table 1. *Struck flint.*

period. As such, there was a reasonable expectation from the outset that the results might prove less conclusive in their own right than if the project had been targeted specifically at parts of the site on a more detailed and intensive scale. This limited approach meant that the results were always likely to relate to only fragments of settlement or land use patterns.

This approach exacerbates the difficulties of recovering enough associated artefacts in order to understand the nature or phasing of any features located. In turn, the general lack of artefacts can lead to a potential underestimation of the significance of what is recovered. In addition, the current limited state of understanding of many areas of settlement and land use, associated with the early archaeology of the region, means that there is little comparative evidence to draw upon in order to help interpretation.

There are three areas from the evaluation whose potential might be greater than seems superficially apparent. First, the pitting in a small part of Area B, which has produced evidence of a little prehistoric pottery, fragments of clay structures and metalworking debris; second, the prehistoric soil layer in Area A with its topsoil finds of fine Bronze Age artefacts, probable early prehistoric knapping debris, a sherd of undiagnostic pottery and charcoal, burnt weeds and seeds (both areas can be seen within the context of the more widely dispersed struck lithic evidence from the field) and third, the settlement evidence adjacent to the Romano-British enclosure.

The rather typical regional character of this material, however, makes it difficult to illustrate convincingly its significance when judged against the more ideal

parameters of good structural evidence with dated associations between artefacts, environmental evidence and archaeological features. This has meant that no further resources have been available to apply to the site in order to develop the conclusions from the evaluations outlined below.

The moderately extensive landscape approach of the evaluations and the attempt at correlation between surface and below-ground evidence at Southworth, however, does perhaps serve to advance the argument for the identification of a particular kind of evidence that appears to be common in some areas of the North West. This evidence would seem to be indicative of a distinctive element of prehistoric land use, and by implication, settlement. The following sections, therefore, aim to use the evidence from Southworth to characterise some of the particular difficulties and problems that are inherent in this area and, within these limitations, to consider how the evidence might be interpreted. Much of this evidence is regarded as a working hypothesis, seen at a coarse chronological scale and based on less than ideal archaeological associations. It aims, however, to set a context for further research, forming a tentative narrative against which more straightforward interpretative evidence, when it becomes available either here or in other parts of the region, can be measured. For selected periods of prehistory, Part II of this paper then reviews how typical or otherwise this type of evidence is in the wider regional setting.

The Pit Evidence

The evaluation produced evidence of pitting in several areas; trenches 109 and 104 in Area A, trenches 100 and 119 in Area B, and possibly in trenches 101 and 103 in

Areas B and C respectively (Fig. 13). There are some doubts about the latter two examples being humanly cut. However, given the difference in character between these features and others which have been more readily interpreted as tree hollows in other trenches, it seems slightly more likely that the former are humanly cut. The evidence from these dispersed pits has to be integrated with the radiocarbon dates and previously gathered evidence, most notably the pattern of surface flint distribution in the field, to arrive at a possible interpretation.

The only finds associated with the pits are ceramic. In Area B, pottery came from pit [2026] in trench 100 while possible oven walling and loomweight material came from pit [2033] in trench 119. In Area C, fired clay came from fill [2301] in trench 103. All this material is, however, too undiagnostic to be dated precisely, except that it is likely to be prehistoric.

Given the continual, common problem in the region of the scarcity of material culture to assist in dating many periods of prehistory, the only usual way to date these types of feature, even approximately, is through radiometric means. The radiocarbon determinations from the Southworth site, however, have limitations for adding much to the archaeological evidence. Because of the difficulty in dating the ceramic evidence by using comparative evidence, it is not clear how the 4th millennium BC dates from the pit in Area B fit with this class of evidence. The statistical inconsistency of the results has also served to make it unsafe to suggest potential associations between the burning events that produced the charred hazelnuts and the pits in which the sample material was found. Although the burning events cannot strictly be held to be associated with the cutting of the pits, the fact that the burning falls within the date range suggested by the nature of much of the struck flint on the site is of some interest.

Late Mesolithic/early Neolithic (Early Prehistoric)

In this report, a distinction is made between, on the one hand, activity that can be characterised as being of either Mesolithic or early Neolithic date and which can be identified through radiometric dating and/or lithic typology and pottery and, on the other hand, the knapping waste and less diagnostic retouched forms which are common to both periods and thus difficult to allocate to one or the other period. Material of this latter type has been less precisely termed as being of 'early prehistoric' date. The main evidence relating to the latter chronological horizon includes 29 struck lithics from the fieldwalking survey in 1993 (six of which are not precisely located in the field), a further seven pieces from the first trenching phase of the evaluation and five pieces from the evaluation in 2003. The total size of the assemblage for all lithics is 79 pieces.

The flint used on the site is mainly pebble flint, most as far as can be ascertained coming from the glacially-

derived boulder clay common in the area. Few flint assemblages based on the use of pebbles have been studied in this region. The most useful studies come from a late Neolithic site on Anglesey (Healey 1987) where beach pebbles were used and, the Neolithic and Bronze Age site at Manchester Airport where the raw material source was river gravel pebbles (Garner 2007). Although more distant geographically, the area of the Fenland in East Anglia has seen much research on prehistoric sites using similar sources, as well as boulder clay derived raw materials (Healy 1988; Pryor 1980; 1984; 1985). This area is, therefore, used as a potential source of comparative data to help understand the less intensively-studied assemblages of the North West. Given the current state of knowledge in this part of the North West, and until large, dated, and securely-contextualised assemblages are available, certain circumstantial associations have been made in order to develop a working hypothesis. One such set of assumptions is involved in trying to overcome the difficulties associated with distinguishing between many elements of later Mesolithic and early Neolithic lithic assemblages which are not specific to this region (Healy 1988). Of the material from Southworth, one, a microlithic point (Fig. 14.25) from Area D would appear to be of late Mesolithic date, while a small backed blade (Fig.14.230) might also be of similar date, although it uses the opaque reddish-brown to honey coloured raw material (local flint type 4) the use of which has been assigned an early prehistoric date, see below. The microlith (25) is made on a fine, translucent rich dark grey-brown flint, of which only three other pieces were recovered in total; they are two blade fragments from Area A (200, 201, Trenches 104 and 109 respectively) and a debitage chip from trench 104 (202). Part of a fractured pebble fragment with cortex (30) from the 1993 evaluations in Area D bears some similarity to this material and suggests that it may be reasonably local in origin. In Trench 109 in Area A there is also a narrow flake (Fig 14.212) which has characteristics redolent of microburin forms (and thus probably Mesolithic) The altered edges are, however, so degraded due to the poor flaking characteristics of the pebble chert used that the classification is not totally certain. These few pieces suggest a Mesolithic focus in Area A which either extends to, or is additional to another possible focus along the flat part of the ridge in Area D, *circa* 100m to the west (Fig. 13).

There is a body of material characterised by the use of dull reddish-brown to honey-brown boulder clay flint (type 4), and a rather poor light grey to brownish-grey flint, that is often found with it in the boulder clay locally (Cowell in prep b) that may represent a reasonably homogenous horizon of flint use in the field. This is partly suggested by the form of eight single-platformed cores and tested pebbles in the type 4 raw material (eg. Fig.15.22 and 27 and 38, which has a second partially tested platform) along with one core rejuvenation piece (Fig. 15.40) and a further two in the associated boulder

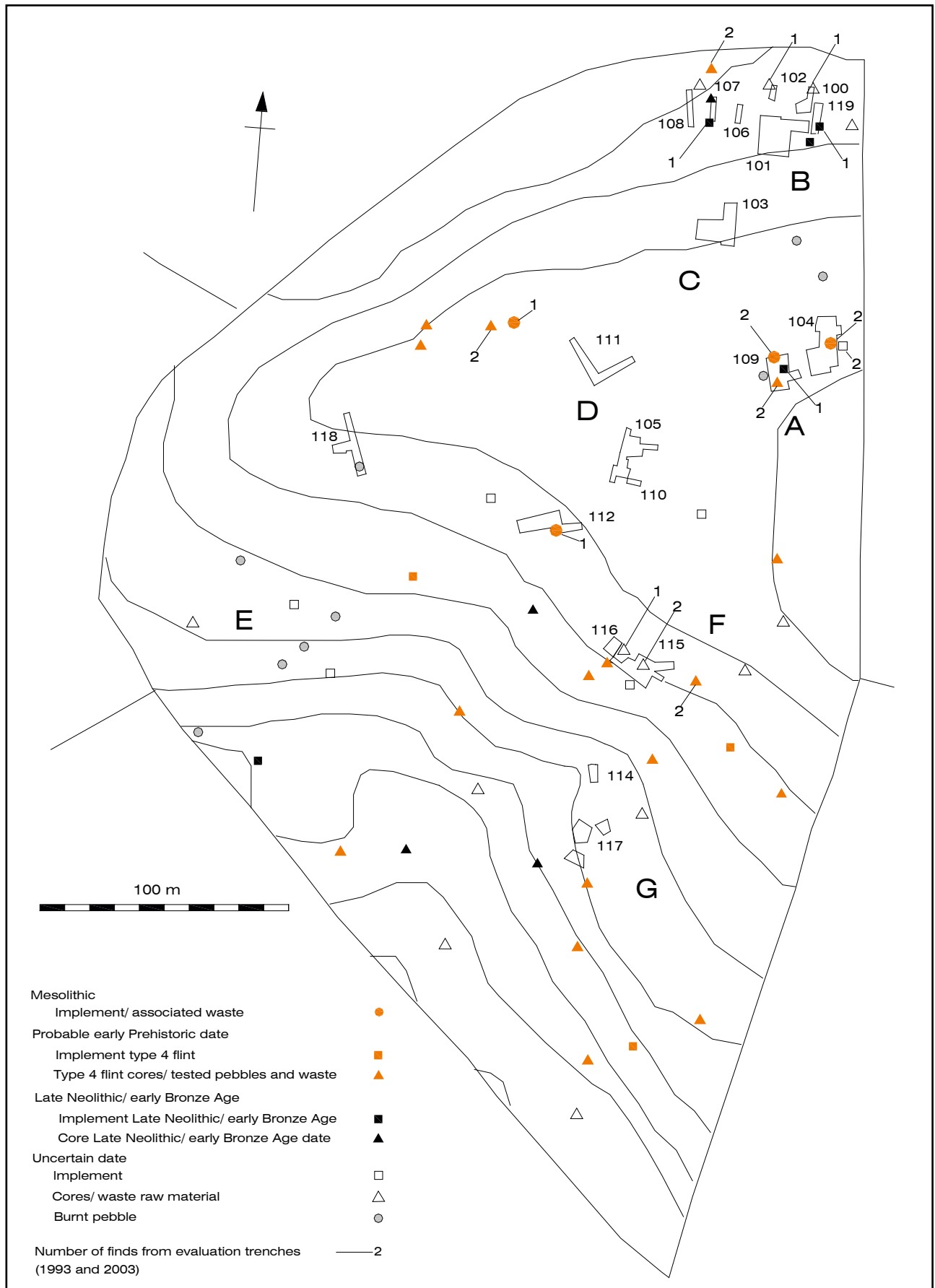


Figure 13. Lithic distribution plot from field walking and evaluation trenches.

clay raw material (for example Fig. 15.46) and possibly 15.44. There are also a further 19 pieces of the type 4 flint and one of the associated type of technologically similar small knapping waste. Up to a further five examples were modified by fine limited retouch or utilisation to produce informal implements (eg. Fig. 14.49, 75 and 81). There are also three implements made on chunky irregular flakes of type 4 raw material, including a scraper (Fig. 14.31), two robust points (Fig. 14.16 and 30) and an informal simple point (02). The core rejuvenation flake (Fig. 15.40) also has a retouched edge.

Dating of these lithics is difficult, although the scraper (31) might potentially be of late Neolithic or early Bronze Age date and the robust points (16 and 30) may also be of a similar period. That not all the reddish-brown boulder clay flint is early prehistoric is also suggested by one other object in this type of raw material, a transverse arrowhead (Fig. 15.52) This arrowhead is likely to be of late Neolithic date. With the latter four exceptions, much of the rest of this material (different from the raw material associated with the microlith) might best be characterised, on the form of the blade associations, as early prehistoric in date. This material is found mainly on the southern slope of the ridge in the vicinity of the dry buried channel, but it does also occur more widely across the field (Fig. 13).

This area is some distance from the pits which contained the burnt hazelnuts and lie between 120m to 220m to the north. The radiocarbon determinations associated with them are 4040-3340 cal BC (4890±170BP; OxA-13138) and 4680-3990 cal BC (5500±140 BP, OxA-13139) in Area A, the latter occurring where potential late Mesolithic flint was found, and 3710-3530 cal BC (4855±34 BP, OxA-13078) and 3960-3710 cal BC (5042±34 BP, OxA-13079) from Area B. In each of the two areas, the later event is statistically consistent and could, therefore, be of the same date. This finding suggests that hazelnuts were burnt on the site potentially over a period of several centuries from around the end of the Mesolithic but, mostly, during the early Neolithic period. There can be no certainty that the burning events and the early prehistoric lithics are contemporary. The date of the burning, however, does coincide with the later part of a general date span suggested by the lithics and might be relevant to at least some of the activity represented by the latter, that is, during the first half of the 4th millennium cal BC. It cannot be taken for granted, however, that the burning was a deliberate human act, the alternative is of repeated natural fires. The fact that there is lithic evidence of this general date on the site suggests that, if not actually causing them, the humans could potentially have been taking advantage of natural fires in the vicinity.

The general lithic distribution, potentially of this period, suggests that human activity in the area was fairly light or did not involve the need for a wide spectrum of

flint tools, or may have resulted from a general scarcity of naturally-occurring flint pebbles. Although associated with the usual difficulties of dating small surface scatters that dictate caution, the differences in raw material use and distribution suggest a degree of patterning that could represent the basis of chronologically-separated phases of activity. This patterning may point to the conclusion that an area visited in the later Mesolithic continued to have been visited after Neolithic culture had been adopted in the region. The radiocarbon dates also provide a potentially analogous situation for the burning episodes. The nature of the early prehistoric activity represented here by either the burning or the lithics or by both, appears to have left little trace in structural terms in the evaluation area. One conclusion is that this activity may have been based essentially around temporary and repeated visits to the area. Whittle's models associated with mobility and transient settlement in the early Neolithic might provide theoretical interpretations here.

The main feature in trench 109, layer [2155] is a potentially ancient, truncated soil profile, sunk into a natural hollow. It included charred cereals and one sherd of probable prehistoric pottery, of non-specific typology. The facts that pit [2160] cut this layer [2155] and that the hazelnuts dated from its fill produced statistically inconsistent dates within the early Neolithic, means that the pit could belong to any time after the early Neolithic. This soil layer may contain evidence of early ploughing, as potential ard marks were identified. There are tentative stratigraphic grounds for suggesting that the ploughing is earlier than the pit, although, because of the uncertainty created by the statistically inconsistent dates from the pit samples, the date of the ploughing is similarly unclear, and also has to be placed some time after the early Neolithic period.

The two pits from which dates were obtained in trenches 109 and 100 also contained charred cereals, as did four other undated pits in Area B (trench 100, pit [2026], trench 101 pits [2292] and [2291], trench 103, feature [2311]). However, it cannot strictly be assumed that the charred cereals and the dated hazelnuts in the former two pits are contemporary as the radiocarbon dates associated with each are statistically inconsistent and suggest that burnt hazelnuts of different dates have become mixed in both features. This evidence does mean that it cannot be safely assumed that further mixing of charred material did not take place subsequently, introducing domesticated plants from a later agricultural phase (P. Marshall pers. comm.).

Early Bronze Age

The original aims of the evaluation in Areas A and B were intended to investigate the potential for a contemporary relationship between settlement, economy and social practices in an area of relatively frequent early Bronze Age barrow burials. In the vicinity of

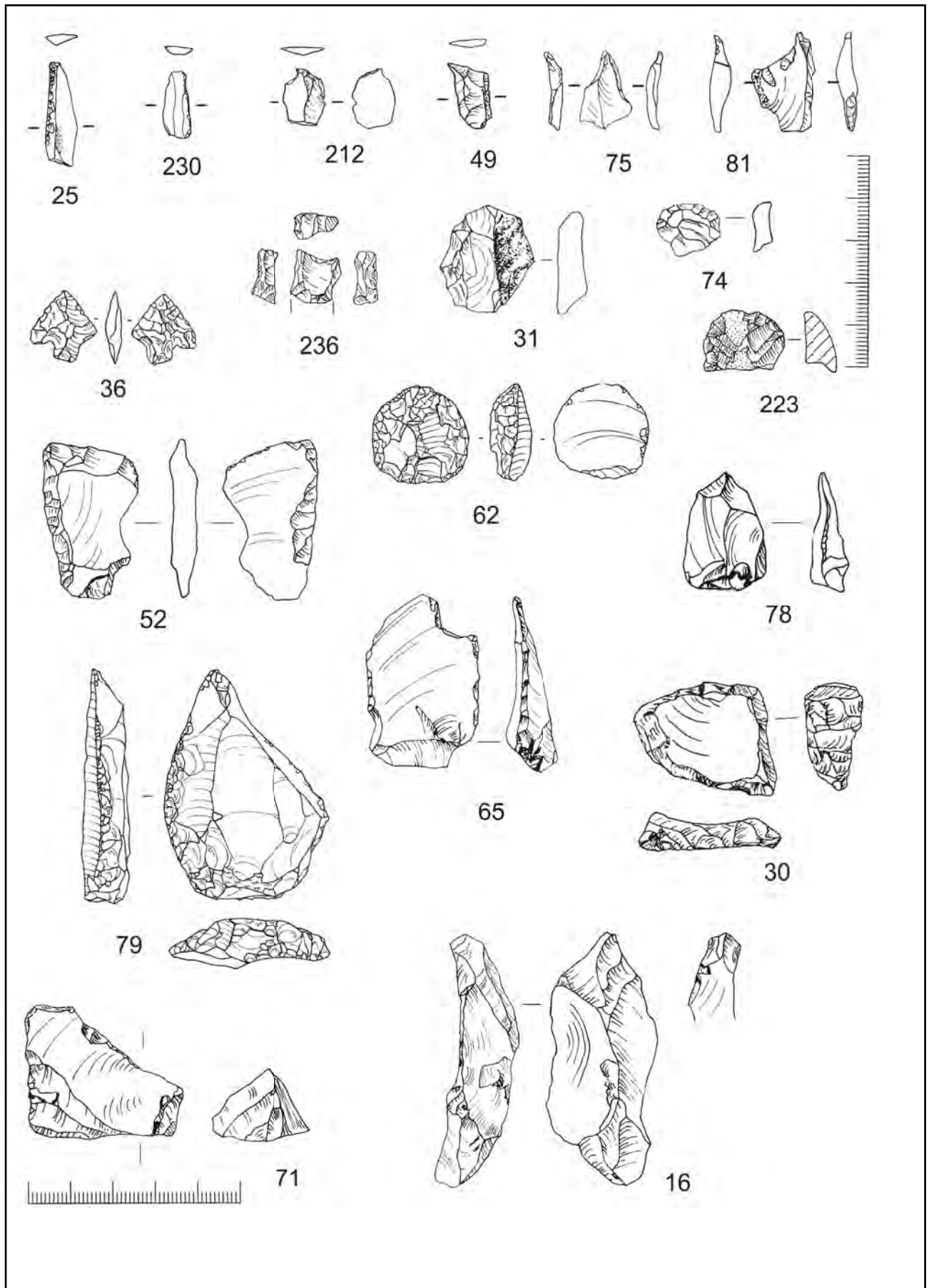


Figure 14. Lithic implements from Southworth from 1993 and 2003.

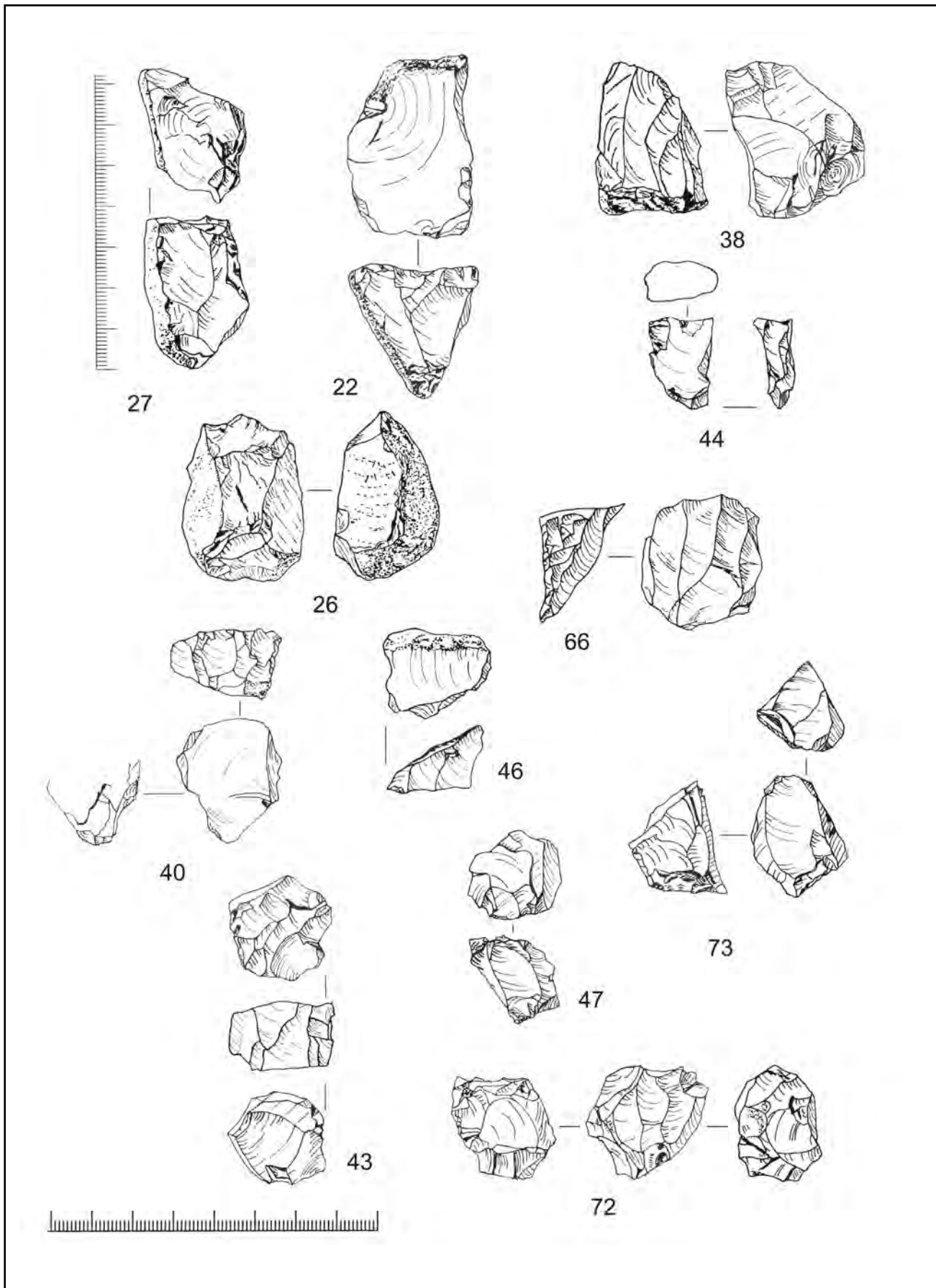


Figure 15. Lithic cores from Southworth from 1993 and 2003.

the pits in Areas A and B the main type of diagnostic struck flint was of late Neolithic or more likely early Bronze Age date. Area A produced a barbed and tanged arrowhead (Fig. 14.36) and a thumbnail scraper (Fig. 14.62), while a large broken scraper/knife (Fig. 14.79) and a thumbnail scraper (Fig. 14.223) came from Area B.

Additionally, to the south west of the Romano-British enclosure in Area E, evaluated in 1993, but quarried prior to 2003, a small concentration of flint was spread across an area of *circa* 60m by 75m. The material lay on the upper part of the north western slope of the dry channel and included five pieces of undiagnostic burnt flint, only one of which was struck, and an arrowhead of a late Neolithic type (Fig 14.52). The latter was made of the same boulder clay flint as the material assigned to the early prehistoric period (see above). An edge-trimmed, wide-platformed flake which is probably of late Neolithic or early Bronze Age type lay about 50 metres to the south of Area E (Fig. 14.65). This was made of a very different, probably non-local flint type from that assigned to the early prehistoric period. A similar flint type was used for a two-platformed core (Fig. 15.47), a blade core (Fig. 15.66) and a flake (34) all from the margins of the channel to the east of Area E. A multi-platformed core (Fig. 15.43) in this group is made from a different, but also possibly non local, flint. A multi-platformed core (Fig. 15.72) from Area B is also made from an atypical flint type.

Later Neolithic and Bronze Age assemblages from the regions mentioned above can include single platform core examples, although there is a trend towards multi-platformed ones (Pryor 1980). This perhaps favours a possible late Neolithic or early Bronze Age horizon of imported flint at Southworth, producing well-worked cores in raw material different to the locally available material which is assigned essentially to the early prehistoric period. Although the raw material used for the cores is different from that associated with most of the implements the cores were found between Areas E and F/G and in Area B, the same areas as the implements of late Neolithic and early Bronze Age type. The latter from Area B tend to be made mostly of better types of local flint and those from Area A are more certainly of early Bronze Age date.

A proportion of this material ought to be associated with activity that relates in some way to the people who were either living in the vicinity or who were visiting the area during the late 3rd or earlier 2nd millennium cal BC, the period when the nearby barrows were mainly in use. The paucity of dating evidence from the evaluations, however, makes it difficult to know how far this activity was associated with cut features. The radiocarbon dates from the pits in trenches 100 and 109 indicate that these could have been potentially cut after the early Neolithic period, although they need not be earlier Bronze Age in date. What finds did come from pits in trenches 119, 100 and 103 in Area B have been tentatively assigned a

later prehistoric date (approximately 1st millennium cal BC or a little earlier. This view should be tempered by the fact that occasionally the undifferentiated nature of some pottery fabrics and styles in this part of the region has proved to be earlier than was assumed initially on typology alone (Philpott 2000, 120).

It is the nature of the evidence, however, that is perhaps of interest in terms of interpretation. Allowing for the uncertain date of the pitting, the type of pit found in the evaluations suggests that even if they are Bronze Age then at best, pitting is very slight in the areas with late Neolithic or early Bronze Age flintwork. The one exception is the large pit [2033] in trench 119 in Area B, which included fired clay, possible loomweight material and microscopic fragments of metal. These findings suggest a feature potentially associated with more fixed settlement, although the small amount of pottery from this general area has been classed as post-early Bronze Age by the specialist (see above).

This apparent lack of substantial pitting of early Bronze Age date has to be considered in the context of the scale of the evaluation. The struck flint was found over nearly eight hectares of the site, mainly on the upper slopes of the buried channel and on the northern and southern ridge slopes (Fig. 13). The percentage excavated within this area was *circa* 2%, which sampled the main artefact locations. If substantial settlement or land use activity of this date remains undiscovered in the field, it does not appear to be associated with artefact discard, and the spread of evaluation trenches suggests it would seem to be relatively localised, if it is present at all. The lack of clear dating for the features and artefacts in Area B, either by typological or radiocarbon means, suggests that not enough evidence has been recovered to be sure of its significance and thus, whether it might indeed contradict this view.

On the current basis, however, both the surface and excavated parts of the evaluation suggest that there is a lack of substantial land use activity or settlement features associated with the early Bronze Age flintwork. The lithic assemblage itself may be relevant to an interpretation of the land use of this area as there is little flint-knapping debris in the field explicitly of this date and most of the earlier Bronze Age material tends to be of relatively fine implements, ostensibly made off-site. Both these strands of evidence suggest that early Bronze Age activity here may have been relatively ephemeral. For this reason, a pattern of occasional seasonal activity might perhaps be more likely rather than anything more permanent.

Later Prehistoric period (approximately 1st millennium cal BC)

The lack of dateable associations for the pits makes it difficult to know exactly when they might have been cut. The dated organic samples from them only imply a date after the 4th millennium cal BC. The few finds associated with the pits are ceramic, that is four sherds of pottery

from two vessels from pit [2026] in trench 100; possible oven walling and loomweight from pit [2033] in trench 119 and fired clay from fill [2301] in trench 103. The material is, however, too undiagnostic to be confidently dated. It is suggested that it is more likely to be later prehistoric than earlier (Ann Woodward 2004, Archive Assessment Report). The form of pit [2033] in Area B, with its orange clay fill, is very different in character to the other pits in this area and it would seem to be too substantial to be of earlier prehistoric date on the basis of current analogy.

Typically, therefore, the paucity of artefactual evidence makes confident interpretation difficult and leads to an interpretation based more on probability than on confident associations. On this basis, the pottery, the burnt clay and the metal debris would indeed appear to suggest the potential for some form of more than transient settlement activity in Area B, with a date of a little before or around *circa* 1000 BC (later prehistoric) being slightly more likely than an earlier one. If this is so, the date would be quite significant as sites of this period are extremely rare in the lowlands of the North West, a situation that has been highlighted as a weakness that should be given special attention (Haselgrove *et al* 2001). However, without the exposure of a larger area, it is not clear from the limited evidence currently available what scale of activity might have been located by the evaluation trenches. The potentially incomplete exposure of the area covered by the pitting in Area B is a problem. The evaluation suggested that the pitting might be slightly denser in this area than in other parts of the field, which could mean that it represents either ephemeral activity, possibly of different dates, or that it could be part of something larger, associated with a more settled occupation.

The Settlement Evidence

The discovery of features outside the Romano-British enclosure in trench 105/110 enhances the potential for understanding the later history of the site. The main obstacle to a clear understanding of this evidence, however, is again the lack of either artefactual or radiometric dating associated with the features. There are stratigraphic indications of several phases of activity which imply a relatively persistent impact here, although how far apart chronologically the phases are from each other is impossible to determine.

Only one sherd of medieval pottery was recovered in the fieldwalking in 1999 and none from the 2003 evaluation. This lack of pottery strongly suggests that the features recovered in the evaluation had fallen out of use before the 13th century AD, the period when late medieval pottery began to be used in the region (Davey 1991, 124). The two field-names, Great Mains and Wet Mains, on the mid 18th-century Gerard Estate Map (Lancs RO, DDGe (M) 1197) and the Tithe Award Map of 1837 (Lancs RO, DRL 1/75 Southworth with Croft)

suggest that the land on which the evaluation took place formed part of the medieval demesne of Southworth Hall. The demesne was land farmed for the benefit of the lord of the manor in the form of services rendered by his tenants. Given the proximity of the Hall to the field and the probability that the medieval status of the land was demesne, the dearth of medieval pottery in the field may indicate that manuring from middens was not taking place at this time and that perhaps this part of the demesne was not cultivated but used for something more akin to grazing during the later medieval period.

Prior to the excavations it was assumed that any activity external to the Romano-British enclosure was likely to be earlier than it, or contemporary with it. In the 1993 evaluation, Romano-British pottery was relatively commonly found in the small trenches dug across the nearby enclosure ditch and, even from a small pit outside the enclosure to the north. Its absence from more extensive investigation in trench 105 suggests, therefore, that a Romano-British date for many of these features is less, rather than more likely. It is possible, however, that some Romano-British features could be present but have no pottery in them, particularly if they date to the 4th century AD, when pottery-use declines dramatically in the region (J. Evans pers. comm.). Other aceramic phases that might potentially be represented here are the post-Roman (5th to 13th centuries AD) or Iron Age period. Evidence relating to either period would be important given the current lack of knowledge of sites of this type.

The palaeoenvironmental assessment of fills [2206] and [2050] from pit [2051] which produced charred corn marigold seeds, provides the best guide available to deciding on the most likely date. This plant has not been recorded on sites earlier than the Romano-British period (Elizabeth Huckerby, Archive Specialist Assessment Report), suggesting that the activity outside the enclosure in trench 105/110 is probably of Romano-British or 5th to 12th century AD date. However, the form of the pit and the nature of its fills are not typical of the majority of other features in the trench, so the corn marigold evidence can not necessarily be extended to suggest that all the features recorded in trench 105 are post - 4th century AD. When the main excavation of the enclosure area takes place as part of development control factors associated with quarry extension, this area may be understood a little better.

PART II. Southworth in the Context of the Neolithic and Bronze Age Regional Background

This section discusses how the evidence from Southworth that can be dated with any degree of confidence fits into the wider regional pattern, although, as outlined above, inherent uncertainties in the nature of local evidence mean that even this is subject to a degree of uncertainty. The main category of evidence available is the surface struck flint in relation to the incidence of

cut features from the evaluations. This evidence covers the period from the late Mesolithic to the early Bronze Age. Other prehistoric evidence, mainly ceramic, was recovered from Area B although the small amount of material involved gives little scope for comparative dating and it is difficult to understand the implications of the evidence. Specialist advice suggests it may be of later prehistoric (around 1400-1200 BC or later) rather than earlier in date. The potential importance of the evidence in Area B, were it to be of later prehistoric date, has been highlighted above but, on the current level of understanding, this has been dealt with already as far as is possible. In Area D a similar lack of dating clarity leads only to a tentative assignment of these features to the post-Roman period. Understanding the evidence associated with the Romano-British enclosure in Area D may be developed at a future date, once the site becomes subject to development planning procedures.

Early Prehistoric period (5th-4th millennium cal BC)

In the discussion above a small proportion of the surface struck flint from the site has been assigned a late Mesolithic date, while a larger proportion, characterised by a different raw material type is suggested as being possibly of this date but could perhaps be of Neolithic, earlier 4th millennium BC date. The presence of dated, burnt hazelnuts at two separate locations in the field suggests that several burning events took place in the vicinity towards the end of the 5th millennium and particularly during the earlier part of the 4th millennium BC. No firm correlation between these two types of evidence was recovered and, therefore, the burning events could all have resulted from natural fires without any intervention or utilisation by either local Mesolithic or Neolithic groups. However, the presence of lithic evidence that on its own would be dated to around this period typologically suggests the site was visited during the general period when fires were taking place, although whether they were natural or being deliberately produced cannot be established.

Those regions in which early Neolithic ritual and religious sites survive well tend to have produced relatively coherent interpretations of many aspects of early Neolithic society. Even within these areas, however, there is much current debate about the nature of subsistence and settlement. Research agendas have highlighted two topics, firstly, the nature of the late Mesolithic/early Neolithic transition around 4000 BC, including the chronology, mechanisms and impact on native Mesolithic communities in the move towards the adoption of farming and, secondly, the nature of the subsequent early Neolithic economy and settlement.

One view is of an early Neolithic period consisting of farmers, perhaps including some incomers, introducing settled communities based on areas of land cleared for farming, the ownership of which is marked by communal monuments (Case 1969, Darvill 1987,

Renfrew 1976). This view is offset by one that sees the early Neolithic as representing a varied set of social and cultural transformations resulting from the different ways in which regional native communities acquired and used aspects of the new Neolithic cultural repertoire (Thomas 2001). In this view, the traditional agricultural model is not widespread until much later, with the early Neolithic representing a period of mobile communities relying greatly on wild resources and existing alongside the introduction of new cultural traits.

The debate is made more difficult in this region by the scarcity of evidence of early Neolithic date generally. It is clear that the appearance of Neolithic cultural material in the region is little different from that in southern England, although it is much sparser in its occurrence and understanding. In North Lancashire, at St Michaels over Wyre, for example, dates of 4330-3955 cal BC (5285±80 BP; GX-17293) and 4320-3810 BC (5230±80 BP; GX-17294) are associated with peat which contained an *in situ* plain sherd of pottery and leaf-shaped arrowhead, plus two pieces of flint waste (Middleton *et al*, 1995, 57-8, 230). At the Manchester Airport site at Oversley Farm, Grimston ware pottery is associated with a rectangular structure, with hearths with associated radiocarbon dates of 3975-3675 (5040±70 BP; Beta-127175) and 3985-3645 cal BC (5020±90 BP; Beta-133362) (Garner 2007).

The similarities in lithic assemblages between the two periods may well contribute to the difficulty in identifying a more widespread horizon of Neolithic cultural and/or economic adoptions. What little evidence there is suggests that the difficulties of distinguishing between assemblages of the two periods derive from a degree of technological similarity in the debitage categories that requires relatively large stratified assemblages to suggest dating with confidence (Wenban-Smith 2007, 24). This problem will be particularly prevalent, therefore, when trying to interpret small surface sites which tend to be the dominant type of evidence locally.

Five small lithic concentrations whose blade-associated surface assemblages (that is no microlith component) might be best characterised as belonging to the more general, early prehistoric period (see above) were subsequently excavated in the inland areas to the west of Southworth. Four of these groups did produce a diagnostic Mesolithic element marked by small numbers of microliths and/or microburins. At Ditton Brook and Ochre Brook, both in Tarbock, excavations produced assemblages of between approximately 50-250 pieces in total at each of three sites (Cowell 2000c; in prep (a)) while a site at Croxteth Park, Liverpool produced 500 pieces in total. Not all the material at these sites is clearly diagnostic of the Mesolithic and although this does not preclude a Mesolithic date for the balance of the material, there is the possibility that given the lack of stratigraphic associations, the small assemblages

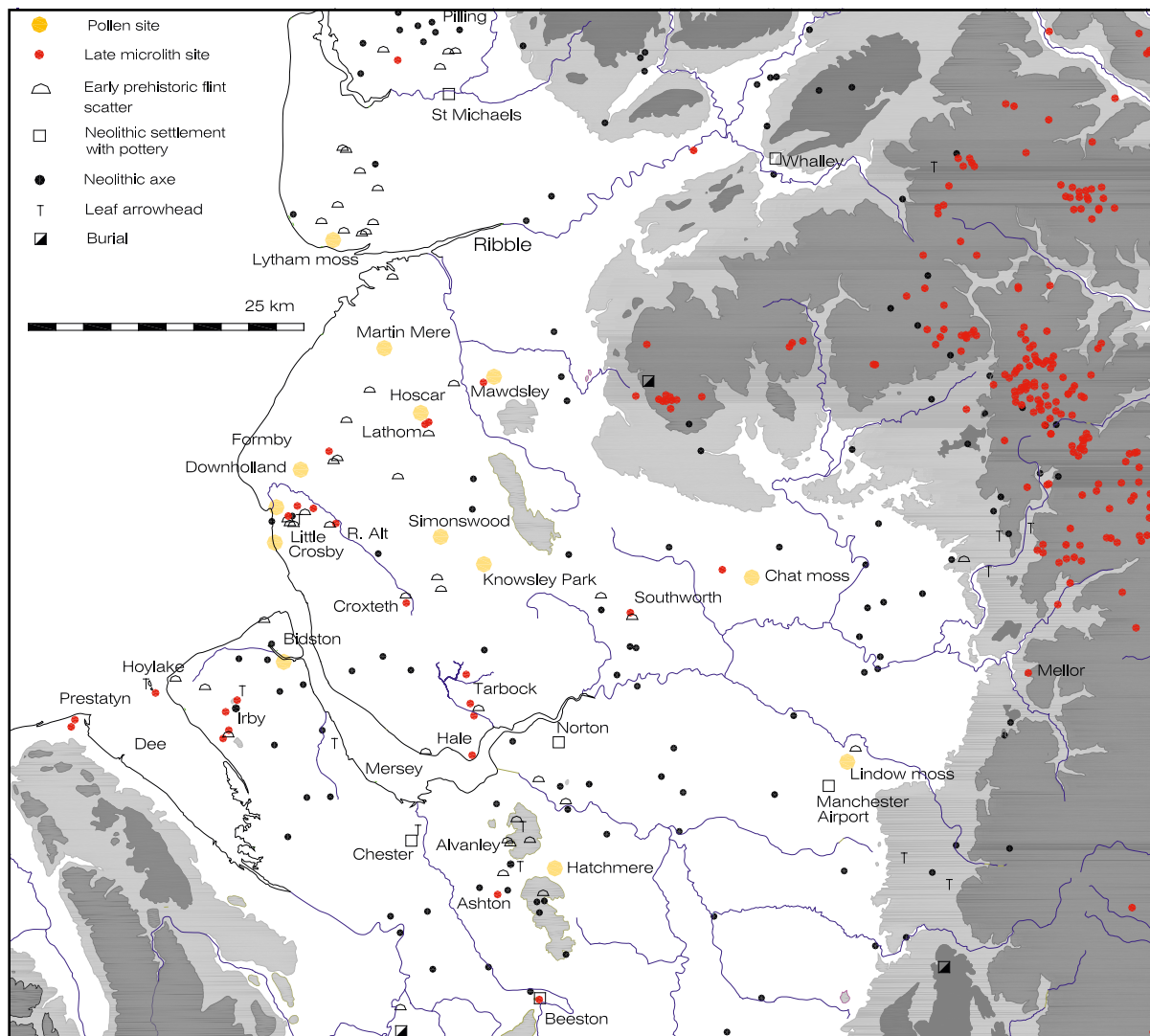


Figure 16. Early prehistoric distribution map. Contours at 100m and 200m OD.

involved, and the technological similarities between the two periods seen elsewhere (Wenbam-Smith 2007, 24; Pitts and Jacobi 1979), material from at least one of these sites may represent re-occupation of Mesolithic sites during the Neolithic (E Healey, pers comm.)

There are hints, particularly in the Alt valley north of Liverpool and in the Fylde, that the technological similarities in the assemblages of the two periods may be mirrored in other elements associated with site type, location and land use. In some circumstances, difficulties associated with the chronological characterisation of the lithics may have limited implications. In the inland areas of Merseyside, the Fylde and Cheshire (Cowell and Innes 1994; Middleton *et al.* 1995; Leah *et al.* 1997) field walking has not produced any large lithic scatters of early prehistoric type (essentially small blade-associated) and only limited numbers of the type of small early prehistoric sites that on excavation in Merseyside have been shown to include a Mesolithic element (see above). In those areas fieldwalked by the author in Merseyside and adjacent areas, the density of lithic material decreases with distance from the coast (Cowell and Innes 1994;

Cowell in prep b). The pattern is dominated by scattered, isolated, struck lithic material, mostly waste but occasionally including implements that often are of later prehistoric date. Regardless of the date of much of this material, it suggests a certain continuity of land use across most of this zone throughout the period of prehistoric stone tool use (Cowell 2000a) that is mirrored to some extent by the palaeoenvironmental evidence (see below).

More readily attributable to the Neolithic, single stone axe finds have been made across the inland zone (Fig. 16). Such finds have limitations for reconstructing settlement patterns as they need not be representative of settlement activity. Haydn (1978), for example, documents their use in modern aboriginal contexts where they are found peripheral to the settlements, in outlying woodland, mainly associated with occasional site-specific, low-density artefact, wood-processing sites which are spread widely across the landscape. In this context the local examples in the inland zone might complement the pattern of land use, interpreted from the incidence of single lithic finds associated with the lack of any lithic concentrations. However, the pattern represented

by the axes could equally relate to the later Neolithic, as typologically they cannot be dated any more closely.

The local pollen evidence also suggests there may have been a degree of continuity in the pattern of vegetation changes across the chronological boundary between the Mesolithic and Neolithic periods. In the palynological record, small episodes of woodland reduction can be identified at a number of sites in the lowlands during the later Mesolithic and early Neolithic and may reflect human manipulation of the vegetation. In some coastal areas and in most inland areas of Merseyside during the later Mesolithic, episodes of woodland reduction are small scale and appear separated by long periods of dense woodland regeneration (Cowell and Innes 1994). For example, at Knowsley Park, short-lived clearances and regeneration are preceded by a more significant, but short-lived, disturbance at the beginning of the 4th millennium BC (Cowell and Innes 1994). At a number of sites such as that at Simonswood Moss and in west Lancashire at Hoscar, Downholland Moss and Mawdsley (Fig. 16), woodland disturbances associated with lenses of charcoal are recorded during the late Mesolithic and early 4th millennium BC (Innes and Tomlinson 2008, 18). Episodes of woodland reduction associated with fires are also quite extensively recorded during the late Mesolithic in the central Pennine area to the east of Southworth. These breaks in the woodland are interpreted as providing open areas, induced either naturally or humanly, that would encourage game, potentially making prediction of animal movements and their interception easier (Mellars 1976).

To the north west of Southworth, many of the lowland peat bogs show carbonised plant remains near their base during the same chronological period (Cowell and Innes 1994; Middleton *et al.* 1995). This latter type of evidence is quite extensive but if humanly induced, the archaeological evidence from surface flint distributions, which is generally sparser than that found at Southworth, suggests that in these areas it was probably associated with subsistence activities which have left little surface trace.

At sites such as Lindow Moss (Fig. 16), dated 3950–3640 cal BC (4980±70 BP HAR 8875) (Turner and Scaife 1995, 17), a similar pattern of small temporary clearances emerges in north Cheshire for this early prehistoric period. Closer to Southworth, at a site at Nook Farm 1, Chat Moss, associated with a date of 3599–3047 cal BC (4590±70 BP; GU-5271), a small-scale localised clearance with increased burning is indicated by the pollen evidence. This site lies close to an assemblage of struck flint from a sand island in the peat, reported as being ‘mainly Mesolithic with some early Neolithic types, dating from about the 4th millennium BC’ (Hall *et al.* 1995, 26 and 50–60). At Hatchmere, near Norley, two separate clearances occur at horizons dated to 4260–3950 cal BC (5269±80 BP) and 3700–3300

cal BC (4693±90 BP) (Switsur and West 1975).

There appears, however, to be a contrasting pattern in the nature of vegetation changes between the coast and inland areas, generally echoing the lithic evidence. In coastal areas, episodes of woodland reduction are relatively more common and the surrounding vegetation cover is generally lighter than at inland sites. The Bidston Moss pollen site on the north coast of the Wirral peninsula (Fig. 16) shows significant changes in the pollen record throughout the later Mesolithic period. During the 5th millennium BC clearances were temporary, but, in relation to other occurrences in the area, they are quite significant in nature. There is also a successive reduction in the density of woodland regeneration, so that by around 3500 BC, tree pollen formed only around 30% of total pollen, with grasses and ruderals prevalent (Cowell and Innes 1994, 37). If these changes are caused by human activity then this evidence might suggest that this coastal area was being used in an increasingly intensive way, although contemporary archaeological evidence in this area is too limited to be able to confirm this interpretation.

Although this evidence is not particularly well integrated and some of the interpretation tends to generalisation over the larger area, it does seem to bear to some extent on the process of change and integration as Neolithic culture and economy began to appear in Britain. Locally, this may relate to the early stages of what Zvelebil and Rowley-Conwy (1986) call the ‘availability phase’ at agricultural-hunter-gatherer frontiers. Here the transition to farming progresses through several types of frontier situations, the different stages of which can exist simultaneously across an area. Thus traditional hunter-gatherers could exist adjacent to farming groups, or to other hunter-gatherer groups who were in the process of adopting facets of farming technology or economy through exchange and assimilation.

In the late Mesolithic of western Britain such a frontier may have been represented by the sea, so that long term interaction could have taken place with communities from Europe who already had access to domesticated plants and animals (Thomas 2001, 15–16). Locally, the availability of one facet of Neolithic culture to the local hunter-gatherer population may be seen at sites such as Bidston Moss on the north Wirral peninsula and at Flea Moss Wood, Little Crosby on the Sefton coast (Fig. 16). Here, pollen diagrams show that cereal-type pollen is present during the late Mesolithic, between around 4900–4700 BC, at the same time as there is evidence of temporary woodland reduction phases (Cowell 1991; Cowell and Innes 1994; Innes and Tomlinson 2008). Similar occurrences, undated by radiocarbon methods, but present in pollen zone VIIa and thus potentially of similar age, are found in the West Lancashire plain, at Martin Mere and nearby Hillhouse (Tooley 1985). Further afield, similar occurrences are known from Soyland Moor

in the Pennines where the phenomenon is interpreted as the presence of cereal farming in the vicinity (Innes and Tomlinson 2008) There are, however, some objections and debate about cereal-type pollen being taken as an indication of the cultivation of cereals, because of potential difficulties over the misidentification of grass pollen as grain or the survival of relict pollen (Kinnes 1988, 3).

It is difficult, however, to identify any intensification in settlement in the areas which might suggest increased sedentary occupation was taking place at about this time. The evidence for the most marked changes to vegetation patterns is evident in coastal Merseyside. It is these areas that contain the relatively large sites (Cowell and Innes 1994) but without excavation it is difficult to know if they represent intensification of settlement or a continuing pattern of smaller concentrations condensed in the same area. In areas away from the coast, the evidence associated with the 4th millennium BC seems best interpreted as one essentially of little change with evidence of continuity across the chronological divide apparent from a number of strands of evidence.

The ephemeral evidence from Southworth appears to fit within the kind of pattern that seems common in these inland parts of the region. It is suggested that the scarcity of evidence is a product of the nature of the activity it represents. The relatively large trenches without features, the light density of flintwork, the lack of formal implements and an emphasis on flint knapping waste and possibly the repeated burning events that could be broadly contemporary with the flint, might fit best a pattern expected of transient settlement. Such activity may also have been a continuation of earlier, Mesolithic patterns in roughly the same location.

Whittle (1997, 21) outlines a number of possible types of mobility which he suggests might provide different kinds of models for the nature of Neolithic land use, although it seems likely that some could equally be ascribed to the Mesolithic. In general terms, some suggest theoretical models for the situation in parts of the North West. His model of logistical or radiating mobility may best fit the nature of the current evidence recovered from many inland parts of the county, Southworth being an example of a more intensively studied example. Here a variety of types of short-stay settlements are found, either within an overall pattern of dispersal or perhaps linked to logistical mobility where outlying visits are made to other areas for herding, hunting, raw material collecting or other off-site activity, perhaps in peripheral woodlands.

If Southworth represents a location used for fairly light, transient activity in the early Neolithic, then the Manchester Airport site with two rectangular structures, hearths, barley, pottery and struck lithics, may represent the more sedentary aspect of Whittle's models (Garner

2007). The main distinction between the latter location and Southworth appears to be its relationship to a band of river gravels in a major river valley, the Bollin. Such a basis for a difference in site type between the two areas may be more generally applicable as the Bollin type of geology is not found in the western lowlands south of the Ribble where many site locations of the Southworth type are found.

In western Cheshire, the site at Beeston Castle appears ambiguous in character (Fig. 16). Here, early to mid-Neolithic pottery is associated with insignificant features, one of which has produced, a radiocarbon date of 4360-3950 cal BC (5330±110 BP; Har 6461) from indeterminate charcoal. In a residual context near-by, charcoal produced a date of 4230-3700 cal BC (5140±90 BP; Har 6462). Leaf-shaped flint arrowheads were found in residual contexts nearby and from an area about 120m to the west. There was, in addition, a little Mesolithic flint residual in later contexts (Ellis 1993, 19-20). The findings suggest the continuing use of later Mesolithic locations in the early Neolithic here. In some ways this site may bear more similarities to Southworth than the Oversley Farm site.

There are, however, other sites that mirror the Beeston type location on hills with precipitous edges on at least one side (Fig. 16). These include the site at Norton, Cheshire, overlooking the river Mersey (Greene and Hough 1977) and Portfield Camp, Whalley, Lancashire (Beswick and Coombs 1986). Both have produced pits, with no associated radiocarbon dates but with Grimston ware pottery, which is common to the early Neolithic. This pottery is associated with a small flint assemblage at Norton (Mullin 2002). The archaeological evidence at both sites is fairly fragmentary because of intensive later occupation and very limited excavation. The imposing nature of their location, in the latter two cases in major river valleys, is, however, noteworthy. Our region lacks the kind of early Neolithic large communal enclosures found in southern and eastern England that probably had sub-regional roles for a wider population (Palmer 1976). This absence raises a conjectural hypothesis as to whether social and economic conditions here required such sites. If there were sites that performed this role, albeit in different form, might this type of local site represent more than just convenient settlement locations?

A similarly conjectural association where local sites performed a *supra*-regional function may be assigned to Neolithic public and ritual monuments locally. These sites are so poorly represented and so little understood in the southern part of the North West region that the need for such sites here can only be an assumption based on their central role in Neolithic society elsewhere in Britain. Chambered burial tombs are known only on the upland margins of the region; at the Bridestones near Congleton (Longley 1987) and at Anglezarke in the southern

Lancashire Pennines (Bu'lock 1959). There is, however, a suggested site of a possible mortuary enclosure shown as a cropmark at Churton, in Cheshire (Longley 1987; Collens 1994). This interpretation is disputed by others (Mullin D. pers comm.).

The communal nature of these monuments, however, may have represented the idea of fixed places in the landscape that provided meanings to communities about ancestry and social identification. They could have acted at the level of the larger tribal or kinship groupings. Such sites do not necessarily assume that the communities for whom they had meaning were fixed in place and they could also have functioned as part of a system for widely dispersed and mobile groups (Thomas 2001; Whittle 1997). However, it is difficult to know where the balance lies in this region between their lack on *a priori* grounds and their potential loss due to large scale industrial development of much of the area north of the Mersey. Should they have survived as a type, however, their survival in north Cheshire, and south Lancashire might be expected to have been greater, if only in antiquarian records.

Late Neolithic/Early Bronze Age period (3rd/earlier 2nd millennium BC)

After *circa* 2500 cal BC the introduction of copper artefacts, followed several centuries later, by bronze metalwork, marks the beginning of changes in the archaeological record. It includes, most notably, the widespread emergence of single burials under round mounds associated with new pottery styles. However, in a number of areas, features of the preceding late Neolithic can be seen to be precursors of much that happened in the early Bronze Age, albeit sometimes translated into new forms. Nationally, the late Neolithic is regarded as marking a phase of intensification of settlement, land use and artefact production with long-distance networks allowing regional interaction, particularly in the realm of ritual and ceremony. The period is also associated with the first real indications for the existence of social hierarchies (Bradley and Edmonds 1993). In parts of the north, the period is seen as one where distinctive regional characteristics become apparent (Harding *et al* 1996).

To what extent these developments extended to the underlying agricultural landscape is less clear. The earliest site of this period, at Tatton Park, north-east Cheshire, lies on well-drained sand and gravel type soils. Here, one of two small and fragmentary potential structures with very limited lithic associations produced barley grains from a pit giving two radiocarbon dates of 3370-2925 BC (4490±60 BP; HAR 5146) and 3500-2945 BC (4540±70 BP; HAR 4495) and clearance evidence for the adjacent area with evidence for grasses and arable weeds (Higham and Cane 1999).

Elsewhere, it is common that surface stone tool

assemblages of the two periods, potentially indicative of settlement sites, can be difficult to distinguish from each other due to the number of tool forms they share. There are some indications from a number of cores and the occasional implement (see above), that there may be a late Neolithic presence at Southworth, although there are also Bronze Age types there. From the available evidence, it is not possible to identify the relationship between activities of the two periods.

Even in areas of more abundant archaeological material, research into settlement and land use of this period can be overshadowed by the imbalance caused by the higher visibility of burial and ceremonial sites. The exceptions are a few key areas for settlement such as the Fens (Pryor 1980; 1984; 1985) or where upstanding settlement structures still survive (Barnatt 1987). The latter tend to be in upland areas.

In this part of north west England, the main form of Bronze Age burial is generally multiple cremation, often associated with Collared urns or local Pennine urns (Fig. 17). By comparison, the single-grave tradition largely associated with inhumation and stone cairns or earthen barrows with Food Vessels and Beakers, which is common to the east and south of the region in Derbyshire (Hart 1981), is represented only by a few examples in this part of the region (Bu'lock 1963, 14). Such sites appear to have been used later as the focus for secondary multiple burials associated with cremation. A Beaker from the site at Castleshaw, near Oldham shows antecedent traits to the Collared urn series of pottery in this area (Longworth 1984).

North of the Mersey, the largest concentration of burials comes from the Pennines, often located between *circa* 250m to 400m above sea level, although several occur in the lower reaches of valleys, particularly around Bolton (Fig. 17). Generally, in the southern Pennines, as higher areas became waterlogged and peat spread, the upper woodland limit fell from over 400m to around 280m above sea level during this period. Below this level there was a mosaic of wood, heath and grassland (Tallis 1999). In Rossendale, burial mounds on the highest slopes were erected over soils with a developing podsol structure adjacent to local heathland and birch and hazel woodland (Tallis and McGuire 1972).

Traditions of Bronze Age burial found in the extensively excavated sites of north east Wales are noteworthy for their retention of later Neolithic traits (Lynch 1975). Features found in some of the burial monuments of the North West can also be seen as part of this tradition, the most notable being the multiple burials in ringwork-type structures, particularly around Burnley, and the concentric circles of stake holes beneath mounds, like those found at Winwick (Bu'lock 1963; Freke and Holgate 1990). The presence of carvings of

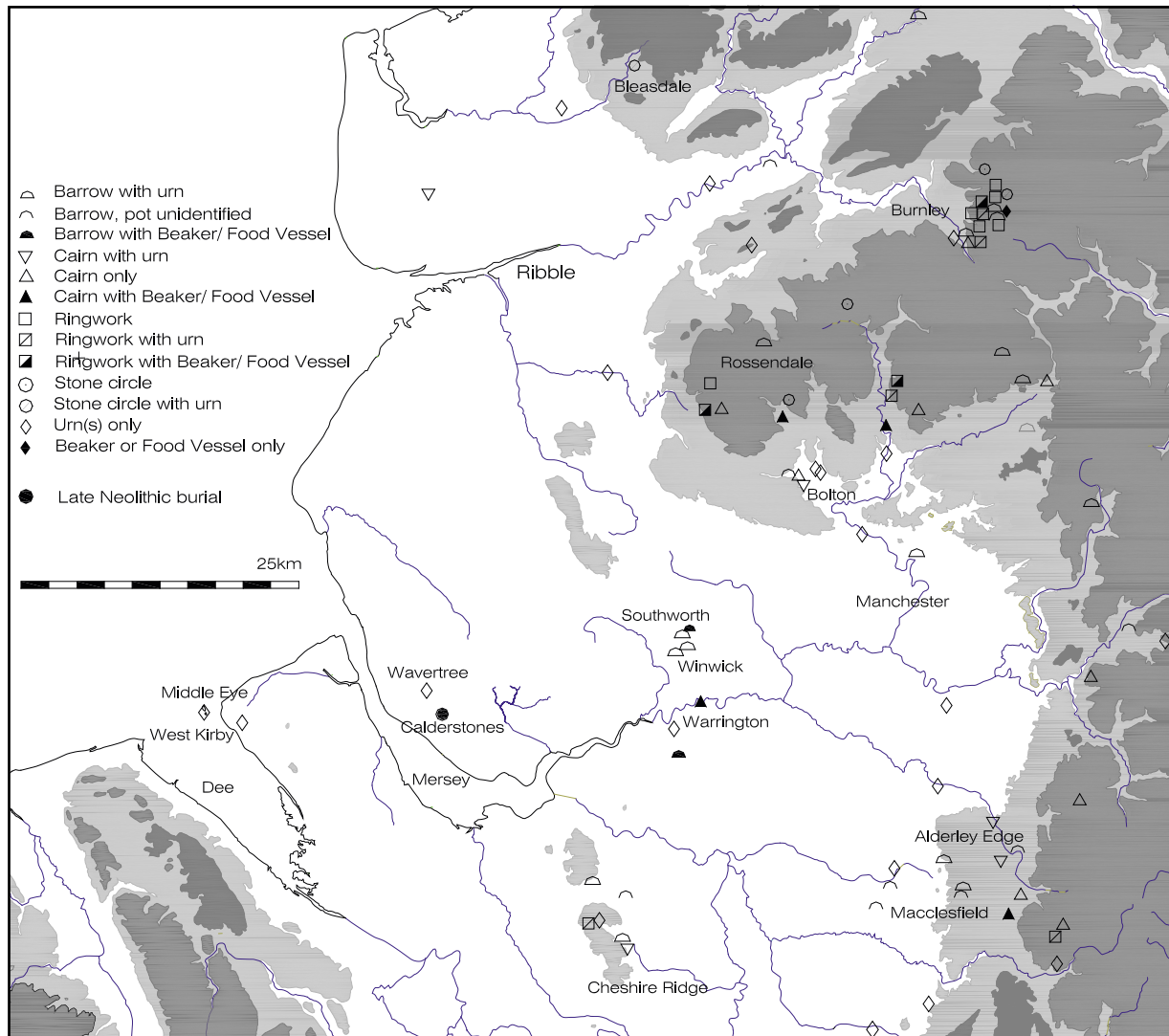


Figure 17. Bronze Age burial types in the Merseyside Region. Contours at 100m and 200m OD.

feet, which have Bronze Age parallels elsewhere, may suggest that the probable late Neolithic burial chamber of the Calderstones, Liverpool continued in use into the 2nd millennium, and urns with burnt bone are recorded as having come from within the mound and chamber (Herdman 1896, 9; Forde-Johnston 1957; Cowell 2008).

The Southworth-Winwick group of barrows is one of the few that has survived in the lowlands, north of the Mersey. There are five barrows in an area of *circa* 2km square. Two were recorded during the late 19th-century (May 1904), while two others were excavated under modern conditions. One site had been too badly disturbed to reveal much information other than that it was associated with a Beaker. However, the site at Southworth Hall Farm produced a two-phase monument with multiple cremations, mostly unassociated with pottery, except for one with a Food Vessel and two with Collared urns and an Accessory Cup. The radiocarbon dates for the two phases spanned about 400 years between approximately the 18th and 14th centuries BC (Freke and Holgate 1990; Cowell 1991). The chance discovery of a very fine flint dagger of Beaker type in the general area encompassed

by the barrow group may be broadly associated with this phase of activity (Cowell 1995; Hall *et al.* 1995).

Within this more visible element of the Bronze Age landscape a few settlements have been discovered through excavation locally. There are a number of sites to the south east of Winwick in east Cheshire (Fig.18). The early Bronze Age site at Oversley Farm, Manchester Airport has produced the most comprehensive evidence for substantial settlement in the region, with three phases of occupation centred around 2130-1750 cal BC and 1975-1680 cal BC, based on round and rectangular buildings, storage structures, a long-lived hollow way, evidence of cereal farming and a notably large pottery assemblage with associated struck lithics (Garner 2007).

Other known sites are not on the same scale. At Arthill Heath in north Cheshire, smaller scale excavations produced four circular structures between 5-8m in diameter. Burnt cereals from one structure produced a radiocarbon date of 2875-2570 cal BC (4120±35 BP; Grn 15905) and from another of 2280-2020 cal BC (3730±35 BP; Grn 15906). Neither have any meaningful artefactual associations (Nevell 1988; 1992).

The excavation of a Mesolithic flint scatter site in the Pennines at Piethorn Brook near Rochdale produced a stake-built structure with a hearth, a small amount of flintwork, some jet and shale ornaments together with Collared urns and Beakers (Poole 1986). There are also three separate knife finds of Beaker type on the Pennine fringes (Barnes 1982, 49), suggesting that potentially high status sites were located in the uplands. The site near Rochdale lies at a height of 300m above sea level and may have been best used on a seasonal basis.

To the west of Southworth, in the central part of Merseyside, a number of sites that were discovered by accident during the excavation of sites of other periods have been excavated. They are possibly only fragments of larger sites with no certainty that the evidence is representative. However, at Kirkby in north Liverpool, within an otherwise archaeologically empty trench of 2000m², two vague shallow gullies defined a small area of *circa* 45 m² in area. Radiocarbon determinations of 1910-1410 cal BC (3360±110 BP; Beta-9413) and 1945-1655 cal BC (3490±60 BP; Beta-94191), along with fragments from a Collared urn provide the chronological context for these features (Adams 1995). Even less distinct traces of settlement than those at Kirkby were located in a similar river valley location in Tarbock on the site of a Mesolithic flint scatter overlooking the Ditton Brook. Although the extent of excavation here was more limited than at Kirkby (Cowell 2000c). A small pit with three rims of probable middle Bronze Age pottery produced a radiocarbon determination of 1620-1130 cal BC (3140±90 BP; Oxa-3677). A small post hole, several metres away, was probably also of this date.

Also at Tarbock, east of Liverpool, Beaker pottery and fired clay, possibly from an oven, was found in a deposit of burnt stones in a short segment of excavated ditch on a medieval and Roman site. This site produced an associated radiocarbon determination of 2120-1680 cal BC (3540±70 BP; Beta-118137). Near-by, a short segment of shallow gully contained late Neolithic/early Bronze Age pottery with a few fragments of fired clay and a large deposit of burnt pebbles (Philpott 2000, 120-122). Such sites (burnt mounds) may be temporary locations within the landscape, possibly associated with feasting or bathing (Hodder and Barfield 1991). However, the 10 metre length of ditch found within the excavation trench may suggest a more substantial site. It could be part of the circuit of a funerary monument or, perhaps more likely, a settlement or land boundary of some kind.

Fieldwalking of *circa* 70 hectares around the site produced a nearby scatter of struck flint including tools of late Neolithic or early Bronze Age date, while approximately 30 hectares fieldwalked around the Ditton Brook site referred to above, produced only early prehistoric flintwork (Cowell 2000b). The evidence for a large roundhouse at Irby in Wirral, belongs

to the end of this period, centred on the beginning of the 15th-century BC. There is evidence of cereal farming and metalworking on-site and the use of local pottery. There are grounds for suggesting, from the radiocarbon dates, that the roundhouse may not have been in use for long (Philpott and Adams in prep).

If these sites offer snapshots of settlement activity at specific locations, the pattern produced by the more widely available evidence of lithic scatters may be used to set them in a wider pattern of land use, particularly if used in conjunction with sub-regional palaeoenvironmental evidence. However, the difficulties associated with dating surface scatters, mentioned above, can limit the accuracy of the chronological attribution of some sites and even where this is clearer, the wide date span associated with such assemblages can make the correlation between the two forms of evidence less than precise.

In Merseyside there are three localities around the lower Mersey with later prehistoric lithic scatters of very different characteristics to those assigned to the early prehistoric period (Fig. 18). The assemblages from Hale (Cowell in prep b), Telegraph Road, Irby (Philpott and Cowell 1992) and Little Crosby (Cowell 1991b) not only include material technologically different from earlier sites in the same areas but they cover larger areas and include a greater density of finds.

The most coherent grouping is present at Little Crosby. This is evident from the use of a distinctive flint raw material and from the varied and large proportion of tools and retouched pieces together with limited waste knapping debris. Primary raw material prospection and preparation must have been undertaken elsewhere, while the nature of the raw material suggests a coastal origin. The surface pattern appears to point to a series of small sites spread across an area of about 10 hectares. The fact that the flintwork from Little Crosby is largely limited to tools other than scrapers, which are often used to denote settlement sites, suggests more limited activities here than might normally be expected of 'domestic' sites. However, the high other-tool ratio to waste material suggests a site where a wide range of heavy duty tasks were undertaken and might signify a series of small residential sites of some kind, possibly only seasonal. The distribution across the field of the Little Crosby lithics suggests that they represent repeated visits to the same favoured location, rather than it being one large settlement. Only two other small sites of this type have been found in the vicinity away from this core area following widespread field walking coverage (Cowell and Innes 1994).

The situation at Irby is less clear, as Neolithic, Mesolithic and potentially later Bronze Age lithics (see below) are also found and the use of a wide variety of flint raw material types makes it harder to characterise the less diagnostic elements of the assemblage. Ostensibly, there are two small concentrations contained within

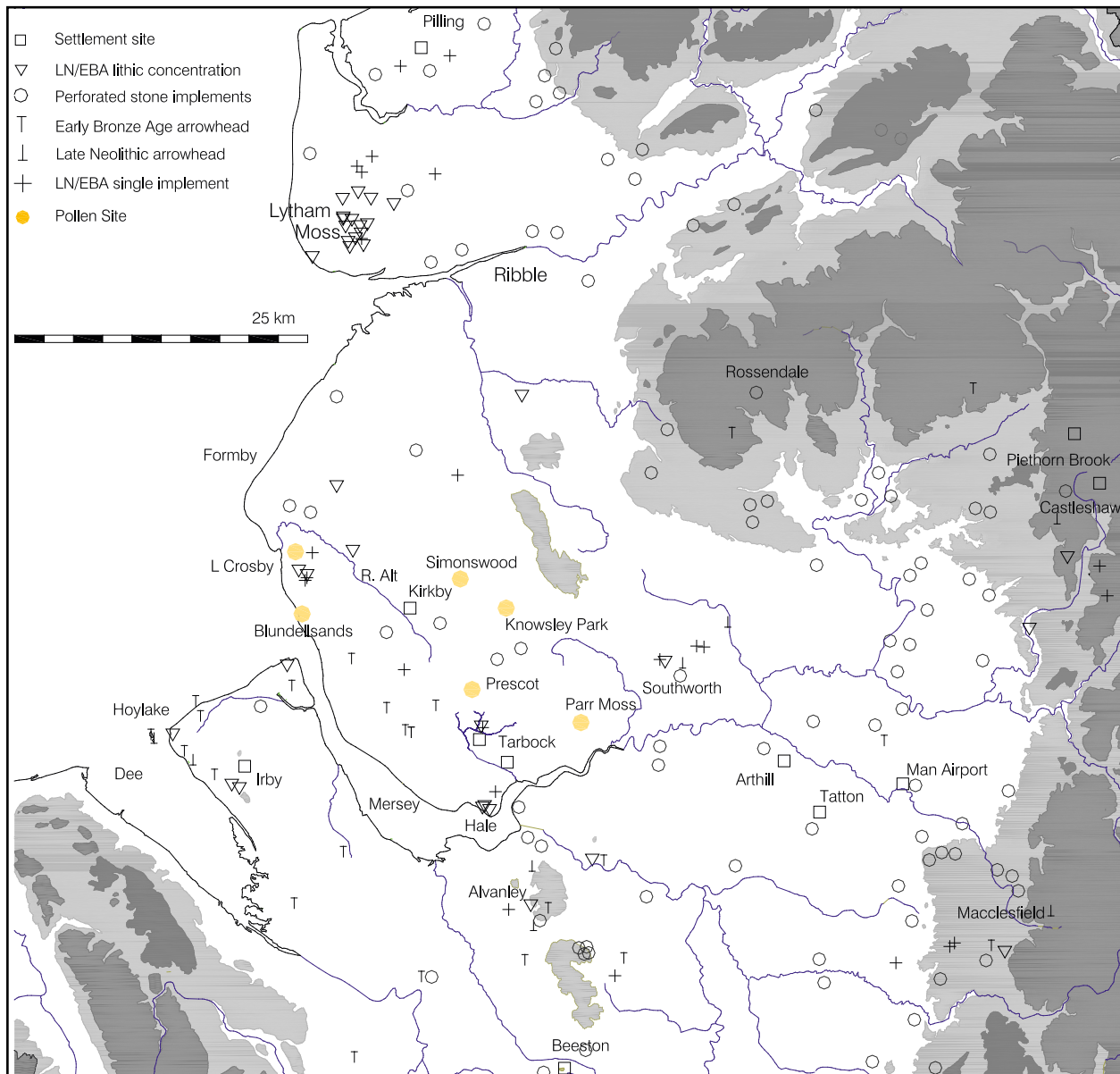


Figure 18. Bronze Age Settlements. Contours at 100m and 200m OD.

about one hectare. They include fine thumbnail scrapers and other tools all within a larger distribution of material which occurs over *circa* 9 hectares. The site at Hale is quite similar, with a wide range of flint pebbles, many of which have been tested, alongside large amounts of less diagnostic material which was spread over a similarly wide area. Within this wider spread there were a smaller number of sometimes quite finely-made scrapers and knives of late Neolithic or early Bronze Age type.

Much of the less diagnostic material at the latter two locations represents *ad hoc* opportunistic knapping activity with less structured technological characteristics than the more recognisable Late Neolithic/Early Bronze Age types. They include unprepared cores and minimal retouch on any suitable blanks, both knapping debris and natural thermally fractured pieces (Cowell and Innes 1994). Examples are also found at Southworth (eg. Fig 14.16, 30 and 71) including some which use a bipolar

technique (eg Fig.14.78; Fig. 15.38 and 73). It is not clear whether these assemblages represent early Bronze Age or chronologically different assemblages. In the Fylde (Fig. 18), this kind of material has been characterised as being of Late Neolithic/Early Bronze Age date (Middleton *et al* 1995). However, in the southern part of the region its presence on the same sites alongside pieces typologically more typical of the period, such as knives and scrapers, raises the possibility that the two traditions could be chronologically separate. Thus the *ad hoc* material could potentially indicate a phase of flint use later in the Bronze Age, as much as a functionally separate element within the Late Neolithic/Early Bronze Age period. Thus in Fig.18, the Merseyside evidence has only identified the more formal type of material as being of Late Neolithic/Early Bronze Age date and, depending on which chronological interpretation is correct, the distribution shown for this period will either be under-estimated locally or over-estimated in the Fylde.

Much more research is needed before such questions can be addressed properly but in many inland lowland areas the distribution of this type of *ad hoc* material is similar in character, mostly consisting of between only one to three or four widely scattered pieces in any one location. There is also, within the wider pattern, the very occasional small scatter or individual find spot of late Neolithic/early Bronze Age formal tools such as scrapers or knives (Cowell 2000a; Leah *et al* 1987). This distribution of struck flint across the inland areas of Merseyside and parts of north Cheshire maintains a relatively strong contrast with the coastal areas, where more concentrations are found, although scattered *ad hoc* material is also found here (Cowell and Innes 1994).

North of the river Ribble, in the Fylde coastal plain, at sites such as Peel Hall Farm in Lytham Moss (Fig. 18), there is the occasional medium to large lithic concentration within a larger distribution of sites consisting mainly of only one or two pieces (Middleton *et al* 1995). In contrast to Merseyside, these assemblages consist mainly of waste material, with few tools present and mainly form a very thin but almost continuous scatter. The raw material is of low quality, local flint with expedient platform core technologies and cruder flaking techniques than some of the material found on the Merseyside coastal core areas highlighted above. However, such sites do occur in the Merseyside coastal areas, although without the same confidence of being dated to the early Bronze Age. On the Fylde, most sites represent raw material extraction and processing, signifying repeat visits to the locality, with the tools taken elsewhere. At the site of Bonds Farm, Pilling, located on the edge of a peat bog in the north Fylde, metalwork and exotic stone have been recovered. Bonds Farm may be one location comparable to the Oversley Farm, Cheshire site or possibly to the Hale or Irby sites. The lithic assemblage at Pilling has a high proportion of tools and is associated with radiocarbon dates averaging 1445-1397 cal BC (Edwards 1978a; 1978b; Middleton *et al* 1995). This assemblage was also surrounded by a number of small, scattered sites often only including one or two of struck flints.

Palaeoenvironmental evidence for the later prehistoric period is generally sparse in the coastal and lower Mersey areas and most relates to the late Neolithic. At Flea Moss Wood in Little Crosby on the Sefton coast (Fig. 18), there is a major woodland disturbance, with potential cereal cultivation post-dating 3622-3340 cal BC (4670±50 BP; SRR-2695). A little to the south, at Sniggery Wood, regeneration of woodland and a rising water table are seen in the period before 3370-3040 cal BC (Cowell and Innes 1994, 84-88). There is as yet no vegetational evidence from Wirral pollen diagrams for this period. A midden containing bone of aurochs, red deer, boar, dogs and horse associated with a radiocarbon date of 2855 to 2230 cal BC (3980 ± 70 BP; Birm-1013) (Kenna 1978;1986) was found on the north Wirral coast. This

site may provide a potential late Neolithic or early Bronze Age context for activity represented by some of the stone tool assemblages found along the present coast (Fig. 18).

There are a number of pollen diagrams from the inland areas of Merseyside (Fig. 18) which may provide some context for the archaeological evidence outlined for this area above. A number of sites show traits that could relate to the character of the struck flint in these areas. Here, in the later prehistoric period changes to the woodland cover are little different, being either absent or slight in nature compared to those seen earlier as, for example, at a site such as Simonswood Moss B (Cowell and Innes 1994, 126). However, at other sites the pace of activity appears to quicken, although large scale reductions in woodland do not take place. At the nearby site of Knowsley Park for example, the first significant woodland recession, which later regenerated, occurs around the turn of the late Neolithic/early Bronze Age and is repeated on a more temporary basis during the early Bronze Age (Cowell and Innes 1994, 126-129). Further to the south, on the boulder clay plain, the first significant woodland changes are seen at the site of Parr Moss, Burtonwood where they occurred prior to 2279-1750 cal BC. They are succeeded by a relatively long period of woodland regeneration.

In settlement and land use surveys of this period there may be an implicit expectation of a particular type of sedentary settlement form. However, based on the particular characteristics of this region such a model may not be totally applicable for all areas (Cowell 2000a; Middleton *et al* 1995). It is suggested here that early Bronze Age adaptations may be varied within and between different parts of the region, and that, in different areas, a significant part of land use may be based around a mobile element of varying importance.

As outlined above, the scattered pattern of the lithic distribution and the pollen evidence for short-lived clearances in a generally wooded environment suggest that in some of the inland areas vegetation did not change dramatically through the Bronze Age, except perhaps for a gradual expansion in the area covered by woodland reduction episodes. The lack of precise dating for many of the surface lithic sites makes it difficult to relate them to the changing later prehistoric vegetation patterns, which, with the lack of detailed pollen diagrams for the local coastal areas during this period, hinders a rounded interpretation of the nature of activity locally. However, allowing for these difficulties, the flint distribution and pollen evidence outlined above for much of the central part of this region, might suggest that mobility, at least for a section of society, may still have been a significant feature of land use and settlement, possibly as late as the middle Bronze Age. The site locations and the type of evidence recovered from excavated second millennium BC sites such as Kirkby and Ditton Brook, for example, would not be out of place in an earlier prehistoric context and

the contemporary lithic distribution pattern surrounding these sites would not contradict an interpretation based on temporary activities within a mobile framework.

At a palaeoenvironmental site such as Prescott Moss, lying on the sandstone ridge that runs through the central part of the county, fairly intensive clearance is recorded with arable weeds and evidence of severe soil erosion, potentially induced by agricultural activity sometime after 3630-2890 cal BC (Cowell and Innes 1994, 174-176; Innes and Tomlinson 2008). In the case of Prescott, however, the potential for discovering associated archaeological evidence is limited due to the built-up nature of the surrounding area. The results from other local sites are compromised somewhat by the limited area of the excavations and the limited research framework, but circumstantially, at a site such as Tarbock, about 5km to the south of the Prescott site, there is a hint that the evidence may have been commensurate with a more than transient occupation (Philpott 2000).

Such locations may mark the existence of more established inland sites perhaps of a similar nature to those in the coastal areas around the Mersey such as Little Crosby, Hale or Irby might be interpreted as core areas reflecting a degree of sedentary settlement within a wider pattern of transitory sites. Even in these cases there are some indications from the excavated settlement at Irby that the more fixed settlements need not have been occupied on a long term basis.

If this pattern is accepted, it would seem likely that group mobility may have been associated with pastoralism as much as with hunting. If the Little Crosby area, for example, were a focus for people engaged as mobile pastoralists then it would seem likely that spring and summer grazing would have been possible in the woodland fringes and on parts of the dryer wetlands. Alternatively, free-range grazing could have taken place along the coastal fringe. Many of the human and animal footprints in the prehistoric coastal mud at Formby, *circa* 12km to the north, for example, are dated to the later Neolithic and early Bronze Age (Huddart *et al* 1999). At other times of year, a more restricted pattern may have operated with the balance in the wetlands and nearby estuary shifting, perhaps to wildfowling and fishing, while the cattle were concentrated more on the dry land elsewhere. If the similar geology of the area around Tarbock and Prescott (see above) is indicative, then perhaps the more varied landscape and range of soils afforded by the Triassic sandstone areas a little to the south of the Sefton wetlands may be places to expect such sites. A pollen site from Waterloo in north Liverpool shows evidence of cereal farming in the early Bronze Age, for example (Innes and Tooley 1993, 38). Unfortunately, however, these are just the areas which are not susceptible to survey because of their current built-up nature.

It is generally accepted that the larger burials under mounds reflect prestige and landholding. In the Peak District, Barnatt and Smith (1991) have suggested that on the gritstone moors, barrows existed in close relationship to agricultural areas, defined by localised field systems. This arrangement might represent local family groups with local leaders being placed in the barrows. On the adjacent limestone-based soils the pattern may be different as burial areas seem to be peripheral to the core settlement area, possibly representing a more centralised socio-political situation (Bradley and Hart 1983; Hawke-Smith 1981). Such burial areas may have had an economic, territorial or social significance in addition to purely religious or ritual functions and may have operated as part of a mobile system, possibly associated with elite groups. If this system was based on the management of stock then burial areas could have been visited on a seasonal basis when burials and associated rites could be carried out.

The integrated evidence for local barrows is much poorer than elsewhere and it is difficult to say too much about how settlement and burial areas were related to each other locally. The current evidence, outlined above, does suggest a generalised view of late Neolithic and early Bronze Age landscape and settlement in this area that may contain the basis for isolating potential relationships. Metalwork distribution and density is generally quite limited in the region (Davey 1976). There is no strong regional tradition and the finds are biased towards tools with early and middle Bronze Age weapons being relatively scarce when comparison is made with other areas of the country (Davey and Foster 1975). Ehrenberg (1989, 86) sees areas with low densities of such finds and a lack of clear-cut types as representing a low or a less wealthy population. In addition, she links the incidence of weapons to the existence of social elites. On this basis there might be grounds for suggesting that social stratification was not as marked here as in other areas, although the sample involved is very small and may include an inherent bias and sites such as Pilling or Piethorn Brook suggest social stratification was in evidence to some degree.

As with all chance finds, it is difficult to know how far the recovered pattern is representative of the original situation, but currently the strongest concentrations of early to mid-Bronze Age metalwork are in the upper parts of the main river valleys and around Pilling Moss. However north east Cheshire appears to exhibit several strands of evidence that suggest it may have sustained an economic and social landscape that differed from other areas of the region. Mention has already been made of the uniquely rich Bronze Age site of Oversley Farm at Manchester Airport lying on the gravel terrace of the Bollin valley. To the south there is a concentration of burials with, to a lesser extent, another one to the west on the mid-Cheshire ridge (Longley 1987). There is also a noticeable concentration of early Bronze Age perforated

stone implements in the same area. These objects are traditionally associated with farmland and may be suggestive of a degree of sedentary settlement (Bradley 1978).

These two groups of evidence are mainly concentrated on the lower slopes of the Pennine fringe between 50m to 100m above sea level around a series of river valleys flowing north westwards from their watershed on the western side of the Peak District. This area has its own pattern of rich late Neolithic and Bronze Age settlement and ritual evidence. The Bronze Age copper mining area of Alderley Edge lies in this part of the region, in the western Pennine foothills (Timberlake and Prag, 2005). It might be expected that the control and exploitation of this resource played an integral part of the economic and social pattern and exerted an influence on the local social organisation distinguishing it from the areas to the north west.

North of the Mersey, the pattern seems somewhat different, although large areas of peat, representing former wetland and recent industrialisation provide a very different landscape for survey today. The Manchester-Bolton area has a strong chance-find distribution of early Bronze Age perforated stone pieces, all lying at similar altitudes to those found further south (Fig. 18). This distribution suggests the possibility that some lowland barrows have been potentially lost here to industrialisation and, as a result could archaeologically downgrade the apparent social importance of this area when contrasted to north east Cheshire. A rough assessment of the evidence from axe-hammers found at lower altitudes and the burials on the higher altitudes in the main river valleys or on the moorland at the head of the valleys might suggest that a degree of transhumance into the upland was a feature of the seasonal pattern in this zone, with burial ceremonies potentially integrated into this model. Other upland areas show that field systems and settlements were present over 200m above sea level in the early Bronze Age and integrated into the distribution of some of the burials in these areas (Barnatt 1987). There are as yet, no convincing examples of Bronze Age field systems and associated cairns in this part of the Pennines.

It has been argued above that, away from the Pennine foothills, excavation, lithic scatters from field walking, chance finds and the palaeoenvironmental evidence suggest that localised and scattered communities existed across the central part of the region. If this is so, it may help explain why the nature of social stratification seen in the metalwork and burial record in other areas has never been fully recognised in this area. A mix of transient land use appears to have existed amongst a few core areas where more sedentary occupation might be represented. The balance of the latter is perhaps stronger around the mouth of the major river estuaries and the balance of the former is stronger inland. Burials

are few here, although the same problems associated with industrial development are as relevant here as in the Manchester embayment. The Wavertree-Allerton area of Liverpool, where records tell of two former burials within a few kilometres of each other, may not be atypical (Cowell 2008). More arrowheads than perforated implements have been found, particularly in the area of Liverpool referred to above. These could have been lost or deposited away from settlement areas, and might coincidentally have ended up in the burial areas.

Whether this kind of pattern implies a physical separation of burial and settlement rather than an integrated system still needs much research. One alternative is that groups of barrows in an area such as Southworth may mark a situation similar to that suggested for the gritstone uplands of the Peak (Barnatt 1987). Here local groups, in roughly defined social areas, were apparently burying local people in barrows. Field walking around the Winwick group of barrows, more specifically of the *circa* 60 hectares area around the Southworth Hall Farm site (Fig. 19), has produced a very sparse lithic distribution pattern (Cowell in prep b). The distribution is even sparser than in the 10 hectares represented by the field that has been evaluated. This limited evidence does not suggest that these barrows existed in a *locale* that was settled on an intensive scale. One cautionary note, apart from the small sample available on which to base such conclusions, is the discovery of an axe-hammer, seen by the author in the possession of the farmer, found *circa* 800m to the south of the evaluation field. Although these objects can be associated with burials, as seems likely with another more elaborate perforated implement from close-by (Freke and Holgate 1990), they are also regarded as potential indicators of arable land and areas of settlement (Bradley 1978). The approximate location of the find has been fieldwalked and very little lithic material retrieved. What was found seems unlikely to be early Bronze Age in date and is more reminiscent of the local boulder clay raw material ascribed to the early prehistoric period in the evaluation.

The Bronze Age evidence from the evaluation field at Southworth, which did not produce evidence of any substantial features associated with occupation of this period, is interpreted as reflecting a pattern of non-intensive occupation in the vicinity, in essence little different from that in the earlier periods. Another project with the same research aims, though with a far more limited excavation phase, has been carried out at Alvanley south of the Mersey (Fig. 18) and similar results give some grounds for thinking that this site may be analogous to Southworth (Cowell and Heyes 2003). Such evidence probably fits the pattern of seasonal mobility outlined above.

There is no known similar programme of work associated with the landscape of round barrows in this

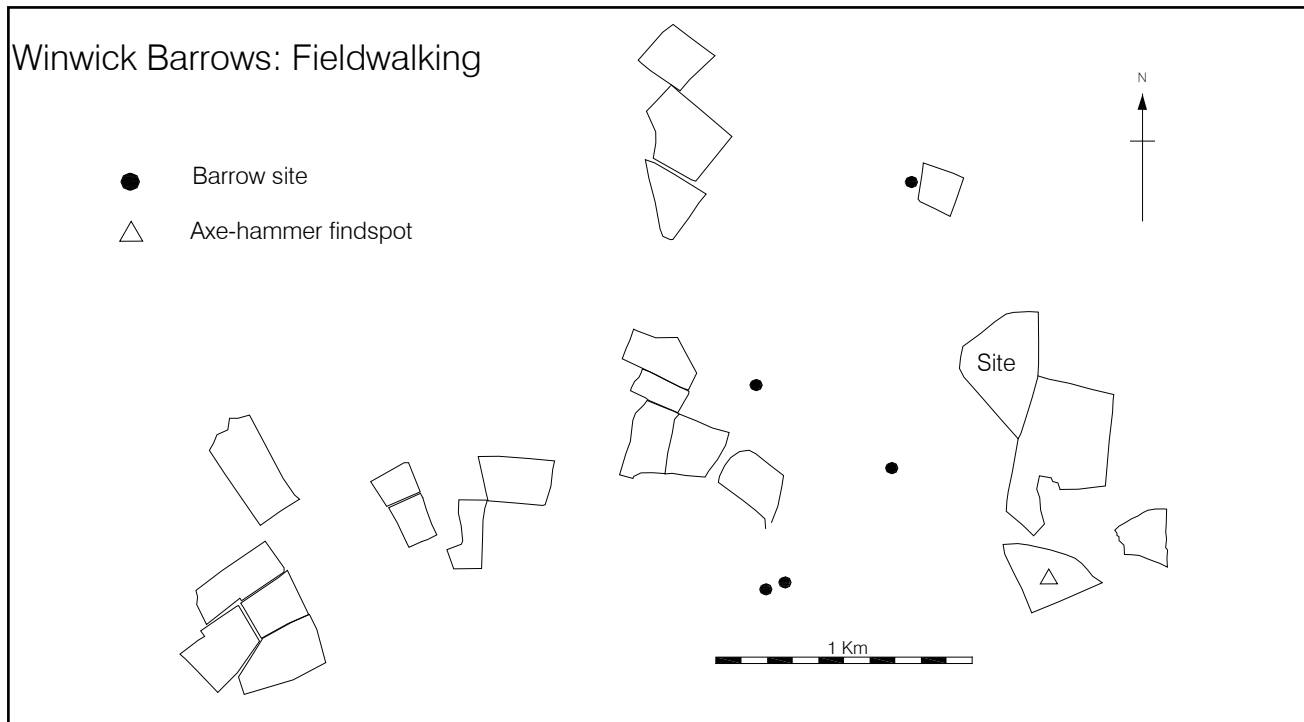


Figure 19. Areas field walked around the evaluation site

region with which to make comparison. Interpretation has to be on the basis of tentative suggestions for further testing rather than from a firm conclusion. However, if the Southworth evidence can be taken as reflecting occasional, rather than more sedentary activity in this area during the early Bronze Age then, although one reason for its location here may have been through traditions reaching back into the early prehistoric period, the proximity of the barrows is another factor that might be relevant. Potentially, visits to the area could have been made for reasons associated with the burials or perhaps, at least, partly for that purpose from core settlement areas further away. Possibly, this situation roughly mirrors the kind of relationship between upland and upland fringe seen in the Rossendale area to the east, yet in a lowland context.

To understand how it might fit into the bigger pattern needs far more evidence than is currently available but an attempt has been made above to illustrate that there may be different patterns of evidence in different parts of the region. By implication, these different patterns might reflect different balances of fixed settlement, mobility, economic response and possibly, social organisation. A larger question would attempt to try to understand whether this might reflect a series of repetitive, spatially-restricted sub-regional social territories or alternatively if a more extensive sub-regional social and economic framework existed. Within this framework, for example, areas with widespread evidence of thinly scattered patterns of transient activity might be subsumed within a larger, perhaps hierarchically determined cycle of mobility based on the burial areas. If so, this might imply a different type of social organisation than might be applicable in a more restricted, integrated economic and social system.

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