MESOLITHIC, LATE BRONZE AGE AND MEDIEVAL ACTIVITY AT KATHERINE FARM, AVONMOUTH, 1998

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During archaeological investigations at Katherine Farm, Avonmouth, in 1998, two humic layers were revealed within the alluvial clays of the Wentlooge Formation, the post-glacial sediment sequence that underlies the Avon Levels. Both deposits were interpreted as 'soil ripening or stasis horizons', indicating breaks in the cycle of inundation and alluviation that enabled the formation of these soils under drier conditions. The upper layer contained pottery sherds, imported stone and bone indicating Late Bronze Age activity, and adds to the growing evidence of late prehistoric occupation and activity on the Avon Levels. Until recently, the inhospitable tidal mudflat and salt marsh environments were thought to have been largely avoided, in terms of any consistent occupation or economic exploitation, by late prehistoric communities. The lower organic layer contained no artefacts. It was initially considered to be a Neolithic soil ripening layer (the 'BaRAS' layer) recorded at other locations, radiocarbon dating showed, however, that here it formed during the Mesolithic period. A number of later ditches were also investigated and these may relate to the medieval and/or post-medieval Katherine Farm. Finds of pottery and fired clay with wattle impressions suggest that the site was occupied in the medieval period.

INTRODUCTION

Wessex Archaeology was commissioned to carry out a programme of archaeological work in advance of expansion of Wessex Water's (WW) Bristol Sewage Treatment Works at Avonmouth (WW site id: 13013; WW project (Phase 1 Sequence Batch Reactor) id: D7492). The development area, which lies just to the north-west of Katherine Farm, covers an area of *c.* 3.5 hectares and is centred on NGR 3534 1796 (Figure 1). It forms the northern corner of the

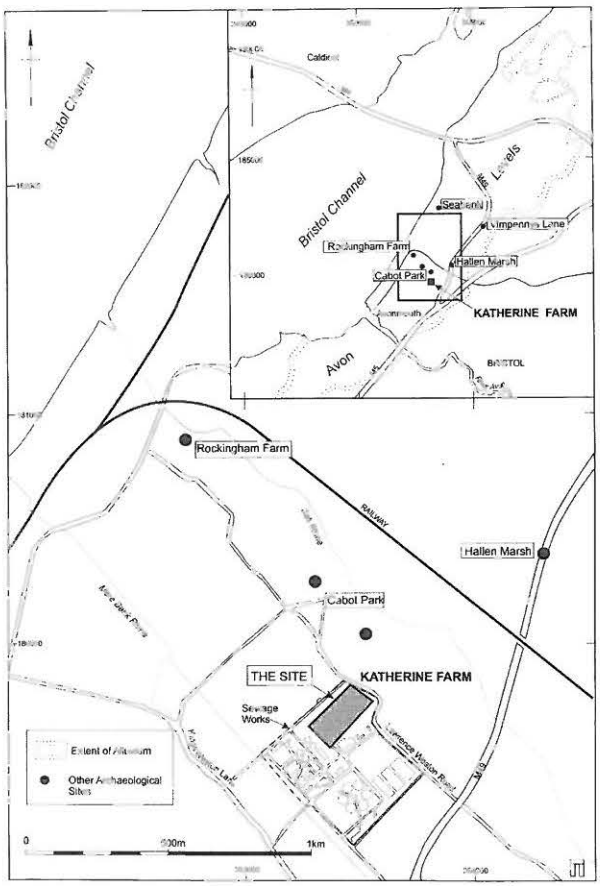

Figure 1: The location of Katherine Farm in the Avon Levels in relation to other archaeological sites.

Sewage Treatment Works and lies within the historic parish of Henbury, formerly in Gloucestershire and now in Bristol. It lies on the Avon Levels, an area of flat low-lying land on the eastern side of the River Severn estuary. The Levels were formerly seasonal wetlands and reclaimed salt marsh that have been protected from further inundation by the construction of sea defences, and are drained by a network of rhines (drainage ditches) and natural and straightened watercourses.

The solid geology of the area, comprising Triassic/early Jurassic mudrock, is overlain by the alluvial deposits (and occasional peat layers) of the Wentlooge Formation to a depth of approximately 16 metres (Allen 1987; Allen 1990; Allen and Rae 1987). Prior to development, the site consisted of rough grassland, at between 6 m and 7 m above Ordnance Datum (OD), with a series of tree-lined ditches.

METHODS

An initial evaluation (Wessex Archaeology 1998) comprised eleven 2 m wide machine-excavated trenches (totalling 320 metres) (Figure 2, Trenches 1-11). Two further areas (Trenches 5A and 10A) (Wessex Archaeology 2000) were subsequently opened to examine significant archaeological features or horizons that had been revealed during the evaluation. Trench 5A, measuring 6 m by 10 m, was excavated to the east of Trench 5 in order to further investigate the late prehistoric horizon. Trench 10A, measuring 24 m by 10 m, was excavated to the west of Trench 10 to examine a series of medieval and post-medieval ditches. A 2 m deep sump was machine excavated in evaluation Trench 5, in order to drain water from Trench 5A. This exposed two incipient soil development horizons (Figure 3) and allowed both to be sampled from the same sequence. The excavation was followed by a watching brief during construction in 1998 and 1999.

Modern overburden, topsoil and alluvial deposits were removed by machine either to the surface of archaeological deposits or to a depth of 1.2 m, whichever was encountered first. In addition, a 2 m deep sondage was machine excavated at the end of each evaluation trench, when archaeological deposits were not encountered. All archaeological features and deposits were excavated by hand and recorded using the standard Wessex Archaeology *pro forma* recording system. All stages of work were undertaken according to briefs produced by the Bristol City Archaeologist. It is intended that the site archive (incl. finds) will be deposited at the Bristol City Museum under the site code C/1998/41.

I PREHISTORIC SEQUENCE

The sedimentary sequence was characterised by low energy greyish and orangey silty clay alluvial deposits with low or suppressed magnetic susceptibility (3.7-8.9 x 10^{-8} SI/kg^{-1}), which in the Trench 5 sump was exposed to a depth of 1.85 m (4.66 m OD) (Figure 3 and Table 1, overleaf). The earliest and lowest deposit examined lay at a depth of 1.65 m (4.74 m OD) and comprised a pale orangey grey massive alluvial clay with some mottling (526). This was overlain by a distinct dark, organic-rich, 0.1 m thick, soil ripening horizon (525) of highly humified silty clay. A thick pale orange grey alluvial facies (524) sealed, and possibly truncated, the lower humic horizon. The basal part of this layer (5-4.85 m OD) displayed diffuse silt rhythmical laminations representing distinct flood couplets (very fine layers of alternating silt and silty clay, each pair relating to a single flood event), probably resulting from over-bank deposition during flood periods of MHW. Layer 524 was overlain by a second stasis horizon comprising a gleyed silty clay (523) with abundant manganese mottles, raised susceptibility levels and weak structure, which produced archaeological material including charcoal and occasional small and medium stones. This, in turn, was overlain by massive fine-grained silty clays, which tended to be greyish brown rather than orange (?iron dominated) in colour, again with suppressed magnetic susceptibility levels (3.7-8.9 x 10^{-8} SI/kg^{-1}). Assessment showed that diatoms were not present in the sequence, as is common with these deposits (Allen and Scaife 2001), and that pollen was absent from the sequence except for the lower organic horizon (525).

Mesolithic surface and activity

The lower soil ripening horizon (525) had been recorded during the evaluation at between 4.8 m

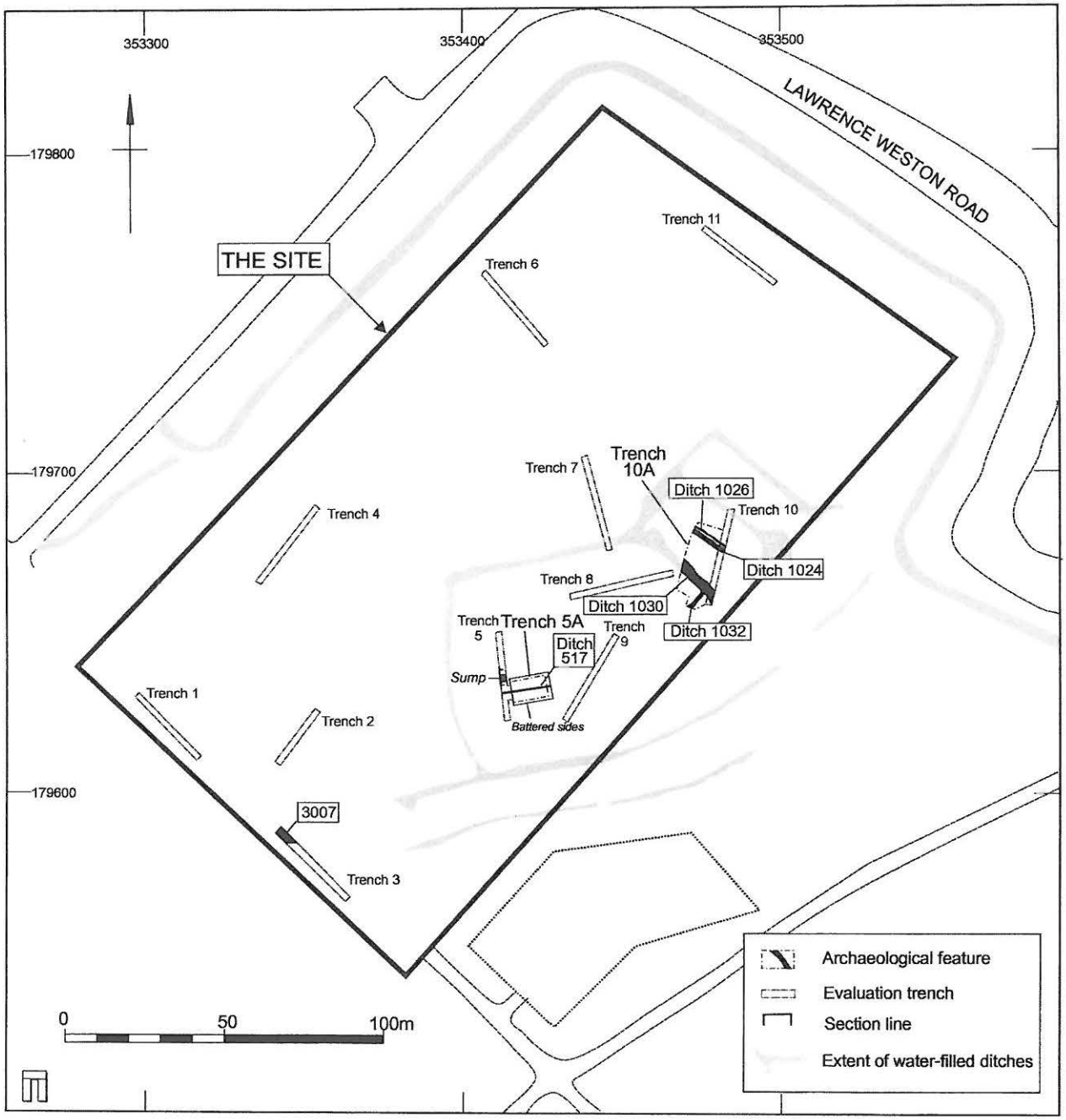

Figure 2: The array of evaluation and excavation trenches at Katherine Farm showing the location of the principal archaeological features.

and 5.1 m OD in the four trenches excavated to a sufficient depth to expose it (Trenches 6, 7, 8 and 10). During the excavation, it was exposed at 4.85 m OD in the Trench 5 sump, where it was 0.11 m thick (Figure 3).

The soil ripening horizon lay on alluvial clays (526) typical of the Avon Levels (see Allen 1990; Allen and Scaife 2001), and suggests a hiatus in alluviation with some soil formation in drier conditions upon which evidence of human activity, albeit fleeting, might be expected. No finds, however, were found in this layer. Even the *c.* 30 litre bulk samples produced no charred fragments >0.5 mm, although Richard Macphail reports that very fine and coarsely fragmented microscopic comminuted charcoal was noticed in the soil thin sections.

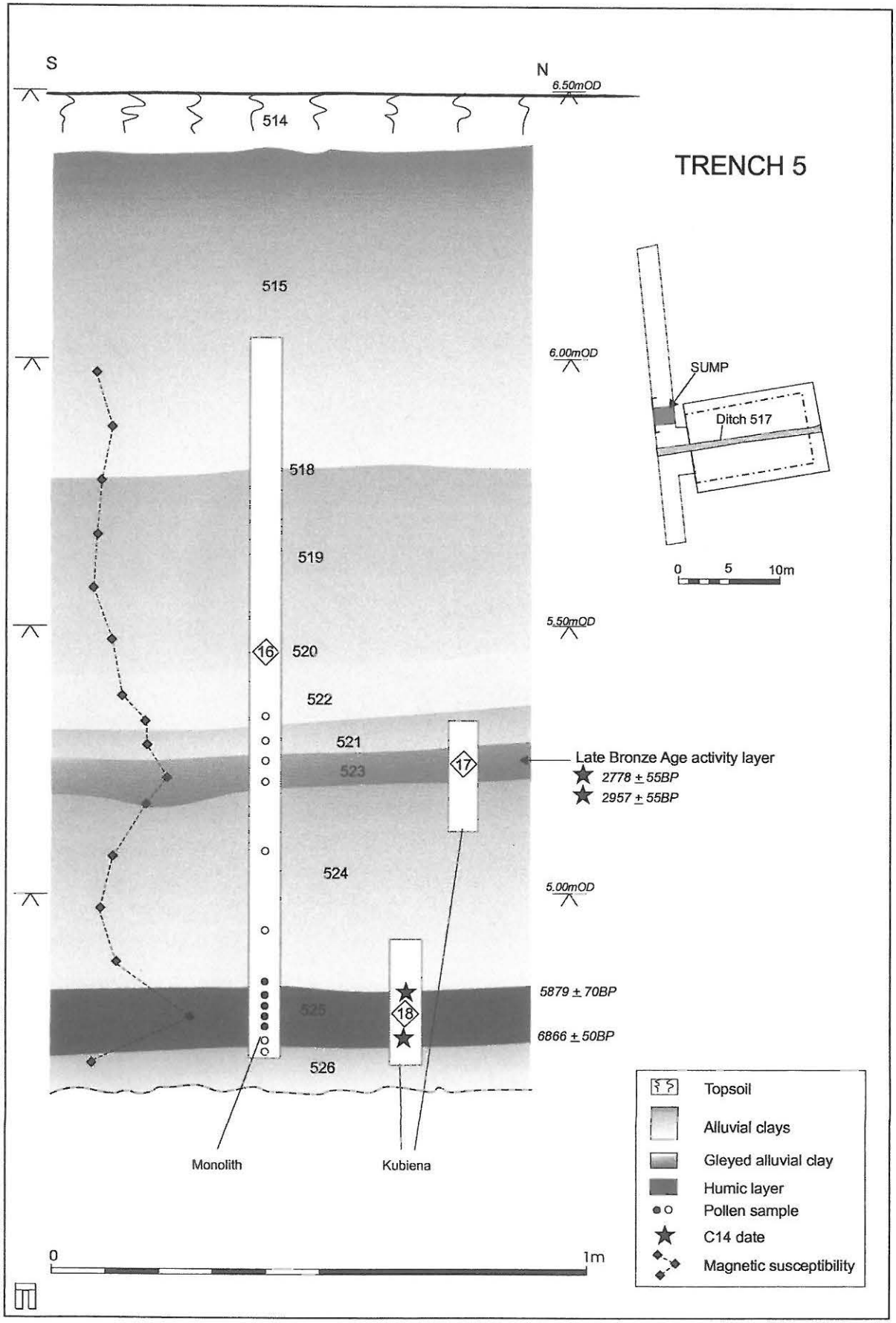

Figure 3: The sequence of the Wentlooge Formation (Trench 5 sump section), showing the two stasis horizons and the location of samples and radiocarbon results.

OD	Context Number	Description	Mag Susc OD	Mag Susc MS*
6.5-6.41m	514	Topsoil		
6.41-5.85m	515	(Light yellow brown) silty clay, no structure observable, massive, with fine common, diffuse orangish mottling, some small (1-2mm) distinct mottles of darker humic material (? modern root holes), gradual smooth boundary	6m 5.9m	4.1 5.3
5.85-5.77m	518	Transition zone	5.8m	4.6
5.77-5.4m	519/520	Massive silty clay with coarse modern lateral root at 0.3m below the top of the monolith tin, diffuse orangish and bluish/grey mottling throughout, gradual boundary	5.7m 5.6m 5.5m	4.2 3.7 5.2
5.4-5.33m	522	(Blue/grey) silty clay, no inclusions, strong columnar/prismatic structure, gradual boundary	5.4m 5.35m	6.4 8.9
5.33-5.28m	521	As above, slightly more mottling giving a darker more orange colour, clear smooth boundary	5.3m	8.9
5.28-5.21m	523	**Late prehistoric soil ripening layer**: (Pale blue) silty clay, poor structure, some charcoal flecking noted clear smooth boundary	5.25m	10.2
5.21-4.85m	524	(Pale orange grey) softer amorphous silty clay, no or massive structure; some fine laminations, flood couplets in the lower 0.15m portion (i.e. 5-4.85m); alluvium clear to sharp smooth boundary	5.2m 5.1m 5m 4.9m	8.1 5.3 4.6 6.1
4.85-4.74m	525	**Lower soil ripening horizon** (Dark bluish grey) silty clay, darker in colour (humic) with weak fine blocky or crumb structure, stone free, smooth clear boundary	4.8m	12.8
4.74-4.66m+	526	(Pale orange grey) alluvial clay	4.72m	3.7

Table 1: The Wentlooge sequence as observed in the Trench 5 sump, with details of altitude and magnetic susceptibility profile (see Figure 3). All magnetic susceptibility measurements are $\times 10^{-8}$ *SI/Kg*$^{-1}$

Microstratigraphy by Richard Macphail and John Crowther

Layer 525 was a relatively humic clay-textured alkaline sediment, and its humic content, soil micromorphological features and inclusions confirm that it was not simply alluvium. Its dark colour relates in part to the fine charcoal, but also to strongly ferruginised reed-like roots. Although raised magnetic susceptibility levels were recorded (Tables 1 and 2), the exceptionally high χ_{max} value (3250 x 10^{-8} SI kg^{-1}) (Crowther 2001; Macphail *et al* 2000) is probably a result of this iron enrichment (Table 2). Whether this reflects contemporaneous pedogenic (soil formation) processes or is due to post-burial mechanisms is

Context	*525*	*524*	*523*
Chemical Properties			
LOI (%)	5.84	4.17	3.65
pH (1:25, water)	8.1	8.4	8.2
Phosphate-Pi (mg g^{-1})	0.849	0.534	0.499
Phosphate-Po (mg g^{-1})	0.794	0.308	0.249
Phosphate-P (mg g^{-1})	1.64	0.842	0.748
Phosphate-Pi:P (%)	51.7	63.4	66.7
Phosphate-Po:P(%)	48.3	36.6	33.3
Magnetic Properties			
$\chi(10^{-8}$ SI $kg^{-1})$	12.9	9.2	9.9
χ_{max} (10^{-8} SI kg^{-1})	3520	702	578
χ_{conv} (%)	0.37	1.31	1.71
Particle Size			
Sand 600 µm-2mm (%)	0.9	0.2	0.5
200-600 µm (%)	0.6	0.4	0.7
60-200 µm (%)	0.6	0.5	0.7
Silt 2-60 µm (%)	44.9	65.5	58.7
Clay <2 µm (%)	53.0	33.4	39.4

Table 2: Physical sediment data for selected contexts

unclear. Evidence of slaking (crumbling) and soil structure collapse are apparent in thin section, possibly in part a result of subsequent alluviation.

Radiocarbon dates from humic acids at the top 40 mm and bottom 40 mm of this layer gave determinations of 5879 ±70 BP (NZA-12478) and 6866 ±50 BP (NZA-12495) respectively (see Table 3). These clearly indicate a Mesolithic, rather than a Neolithic, timescale at 4910-4550 cal BC and 5790-5590 cal BC respectively (see discussion on the 'BaRAS' layer below).

The evidence points to pelo-alluvial stagnogley (Fluvent) soil formation, probably in a semi-terrestrial land surface with a reed like vegetation. The dark colour of the soil was due in part to the presence of charcoal fragments, including some rare wood charcoal, suggesting that much of this vegetation had been burned, possibly by human activity in the Mesolithic period.

Pollen by Robert G. Scaife

Although pollen was poorly preserved, increasing absolute frequencies towards the top of the layer 525 confirm the presence of a soil ripening horizon and a partially developed soil horizon. The lower profile (Figure 4, pollen zone 1) dominated by Chenopodiaceae (goosefoots, oraches and glassworts) indicates stabilisation of a salt marsh habitat, although no other typical halophytes (plants that grow in a salty soil) were recorded to confirm this, nor were diatoms present. Small but significant changes in the on-site flora indicate the formation of grass turf, with a progressive development from grasses of possible salt marsh taxa (*Spartina* and *Glyceria*) giving way to grass swards with *Plantago lanceolata* (ribwort plantain).

The vegetation recorded seems to be difficult to reconcile with the later Mesolithic radiocarbon determinations from the humic acid fraction in this soil (Table 3), when compared with the middle Holocene vegetation for the country as a whole (see for example Birks *et al* 1975; Godwin 1975a, 1975b; Birks 1989). This may, in part, be due to taphonomic factors with the dominance of on-site (autochthonous) herbs reducing the percentage values of tree pollen from the regional pollen catchment (ie from areas of better drained soils outside the extensive marsh area). Furthermore, determinations of the humic acid fraction, rather than of plant matter, tend to give ages slightly older than the vegetated surface (Shore *et al* 1995).

The pollen suggests that the soil ripening horizon was the result of a relatively short period of drying of the salt marsh environment, in which grass and ribwort plantain became established but without the colonisation by pioneer scrub vegetation such as birch. The decrease in the levels of tree pollen through the layer (Figure 4) may be due to the fact that, as conditions dried, less pollen was washed into the area from trees

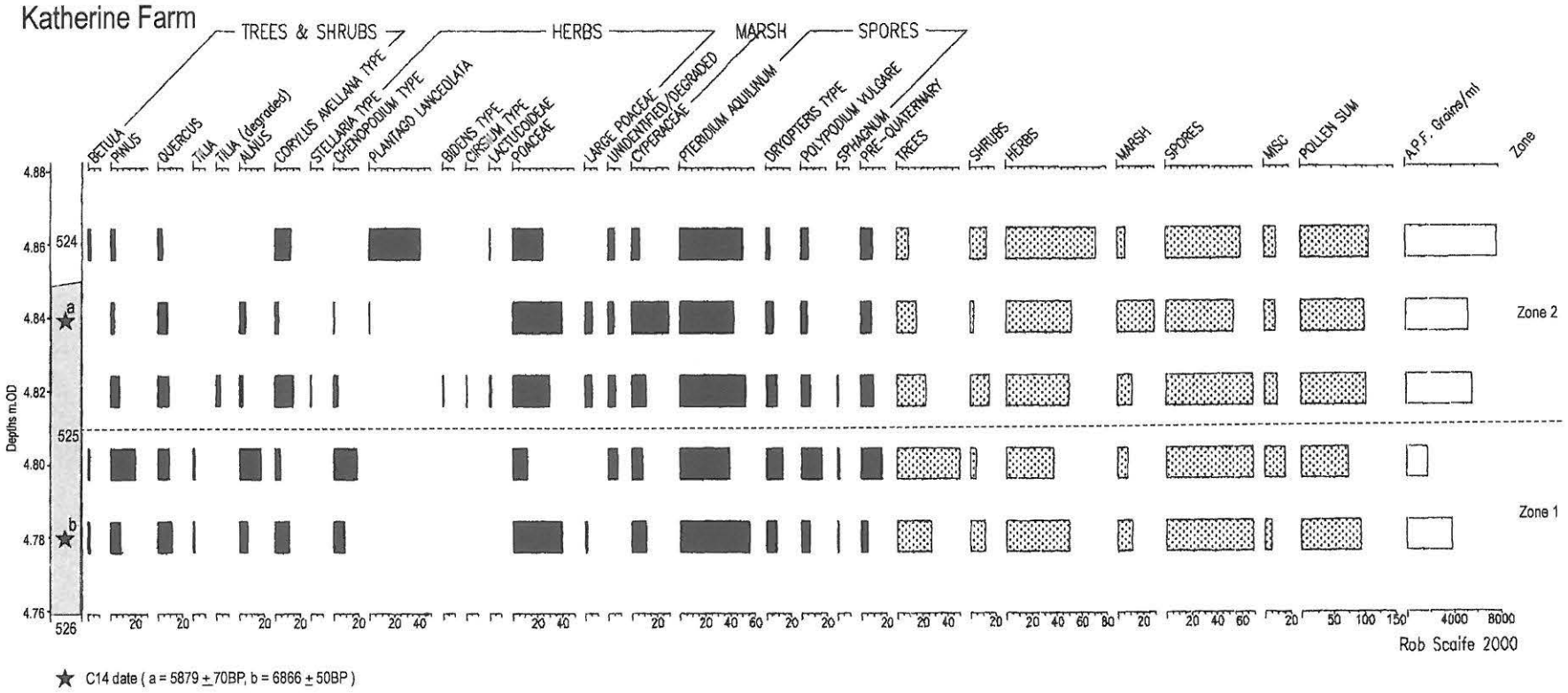

Figure 4: Pollen diagram from the lower stabilisation horizon, context 525.

Site	Context	mOD	Result	Cal BC	Description
BaRAS-type layers					
Katherine Farm	525	4.85-4.75m	5879 ±70 BP, NZA-12478 6866 ±50 BP, NZA-12495	4910-4550 cal BC 5790-5590 cal BC	Dark bluish grey humic clay
Vimpennys Lane	207	4.2-4.05m	4182 ±55 BP, NZA-12527	2920-2610 cal BC	Very dark grey (10YR 3/1) stonefree slightly silty clay, humic/ organic layer
Cabot Park	162-4	4.5m	3970 ±60 BP, Beta-125795 4170 ±70 BP, Beta-125794	2900-2300 cal BC 2920-2580 cal BC	Organic clay 'BaRAS' charcoal - activity in vicinity
Seabank site	BaRAS	4.7m	3930 ±50 BP, Wk-5804	2580-2280 cal BC	
Late prehistoric layers					
Little Googs, Cabot Park		5.1-5.2m	2970 ±60 BP, Beta-134900 3350 ±60 BP, Beta-134901	1400-1020 cal BC 1780-1510 cal BC	Charcoal, burnt stone, bone, pottery
Rockingham Farm	729	5.2-5.1m	2810 ±70 BP, Beta-118379 3040 ±60 BP, Beta-118378	1210-820 cal BC 1440-1100 cal BC	Thin bands of organic material
Katherine Farm	523	5.3-5.25m	2778 ±55 BP, NZA-12725 2957 ±55 BP, NZA-12726	1070-810 cal BC 1380-1010 cal BC	Charcoal patch and spread, burnt stone, pottery
Kites Corner, Cabot Park	462	5.1m	2610 ±70 BP, Beta-129554	930-520 cal BC	Charcoal patch and spread, stakeholes

Table 3: Dates and descriptions of comparable stabilisation horizons in the Avon Levels (data from Locock 1999; Allen and Scaife 2001)

and shrubs growing on better drained soils some distance away.

Alluviation

The Mesolithic horizon (525), as exposed in the Trench 5 sump, was sealed by a further 0.4 m of alluvial clay sediments (524), indicating alluviation and increased sedimentation. This may in part have caused slaking and soil structure collapse of the Mesolithic grassland pelo-alluvial stagnogley soil.

Microstratigraphy by Richard Macphail and John Crowther

This alluvium (524) is an alkaline silty clay loam with clear textural features and apparent structural collapse as in the Mesolithic soil horizon. It contained many ferruginised features which may be iron-replaced earthworm burrow-fills indicating soil being brought down profile from humic topsoils that no longer exist. Such evidence is also apparent at Kites Corner (Walker *et al* 1999). Fine roots, from plants growing in an overlying topsoil, have also been preserved

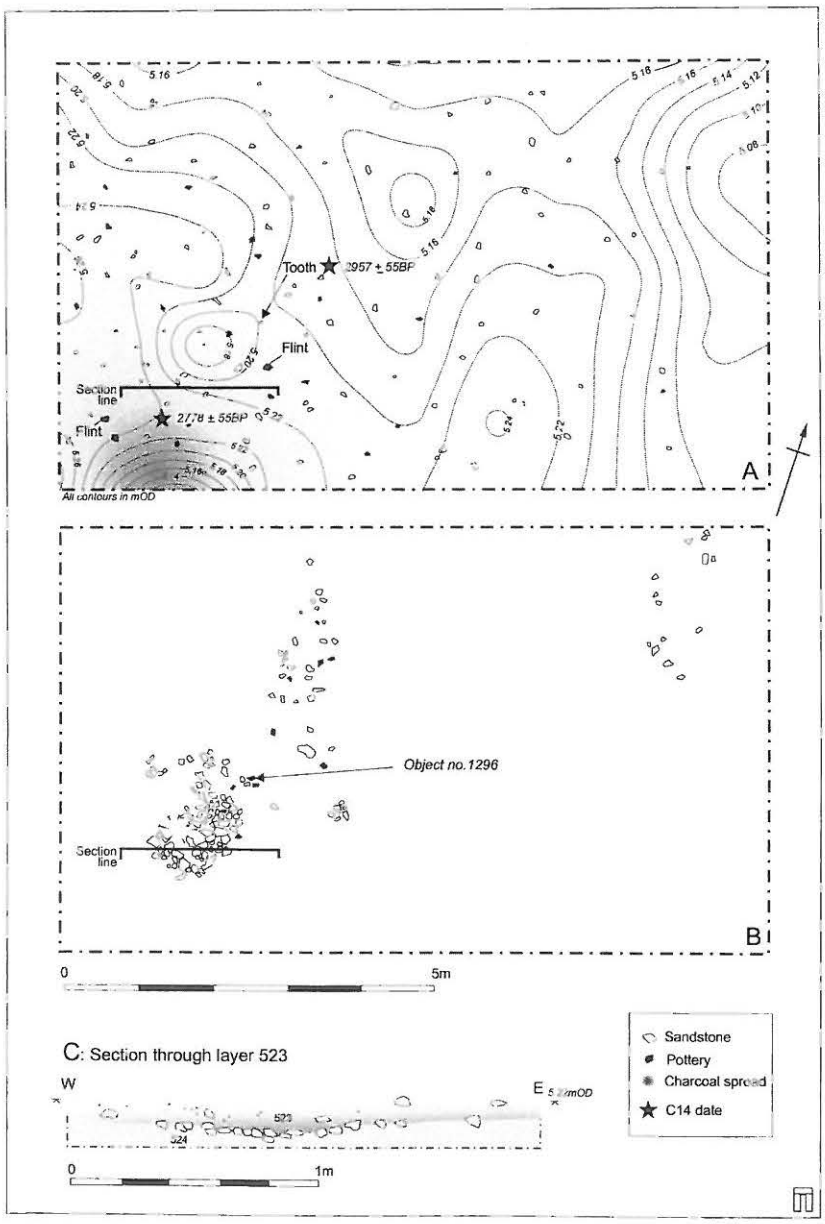

Figure 5: The Late Bronze Age occupation surface showing the distribution of pottery, charcoal and imported stones as well as the two radiocarbon determinations A) at the top of context 523, B) at the base of context 523 and C) Section through layer 523.

through pseudomorphic ferruginisation of the roots or ferruginous hypocoatings along the root channels. This inorganic alluvium, therefore, seems to represent the alluviation and disruption of topsoils, prior to stasis and the soil ripening horizon containing Late Bronze Age artefacts.

Late Bronze Age activity

The upper soil ripening layer (523), which overlay alluvium (524), contained evidence of late prehistoric activity. It consisted of a dark silty clay gley with charcoal flecks, and was sandwiched between lighter, orange grey and blue grey alluvial deposits (Figure 3). Soil micromorphology shows evidence of soil ripening possibly under a terrestrial upper salt marsh environment.

The layer extended across the whole of Trench 5A, its surface being highest in the south-west corner at 5.28 m OD and lowest in the north-east corner at 5.07 m OD (Figure 5A). During the evaluation and watching brief, neither it, nor other similar layers, were seen to extend beyond this highly localised occurrence. Its thickness varied from about 0.12 m in the south-west corner to a few millimetres in the north-east corner. Similarly, the concentration of finds and charcoal at the surface of the deposit was greatest in the south-west corner gradually thinning out towards the north-east corner. This appears to have been

Acer	*Alnus*	*Corylus*	*Fraxinus*	**Pomoideae**	*Prunus*	*Quercus*	*Rosa/ Rubus*	*Ulmus*	*Taxus*
10#	2	5	27#	3	3	32h,2s	2	6h,4s	6

Table 4: Charcoal from layer 523: the number of fragments identified is indicated (s = sapwood, h = heartwood, # = charcoal selected from short-lived species for radiocarbon dating).

the result of considerable subsequent erosion and truncation of the surface (see soil micromorphological evidence below). A stone concentration, about 1.5 m across, was recorded at the base of the layer, at around 5.17 m to 5.2 m OD, in the western part of the trench (Figures 5B and 5C). The spreads of material continued beyond the south and west sides of the trench so that the full extent of the activity area could not be determined.

Microstratigraphy by Richard Macphail and John Crowther

Soil micromorphological evidence shows that this soil ripening horizon was a truncated profile with no topsoil (A horizon) and that it represents 'subsoil'. Its boundary with the alluvial facies beneath is defined by an inwash (band) of poorly sorted coarse sand, rare stones (a flint flake), rounded clay clasts and ferruginised nodules. This is a poorly sorted lag (coarse material that is left) deposit indicative of renewed erosive flooding and alluviation, immediately prior to the cessation of alluviation and the onset of pedogenesis. Soil formation of a pelo-alluvial stagnogley is indicated, with earthworm activity from a subsequently lost humic topsoil. There is no indication of organic accumulation, nor of phosphate-P enrichment or χ enhancement (see Table 2), but this is often typical of 'subsoils'. Nevertheless, this suggests that the layer represents, at most, only a short-lived episode.

The distribution of material was more coherent at the base of the soil ripening horizon, while it was more widespread on the upper part of the truncated surface (Figure 5). The latter may represent the disruption and movement of the archaeological material, along with the topsoil, by flooding rather than a second separate episode of activity.

Snails

The lost topsoil originally formed the Late Bronze Age surface, and unfortunately no pollen, diatoms nor waterlogged plants survive in the subsoil to indicate the nature of the wider environment, although a few fragmentary shells were noted from a 40 litre bulk sample from this 'occupation' layer. Sparse fragments included cf. *Vallonia* sp. *Helicella itala* and unidentified but modern shell fragments (cf. *Trichia hispida*). The few shells do not enable any real palaeoenvironmental interpretation, except that both taxa identified are essentially terrestrial species.

Charcoal by Rowena Gale

Evidence from the charcoal included mainly terrestrial species (Table 4) that would not have grown in waterlogged conditions, apart from alder (*Alnus glutinosa*). While species such as oak (*Quercus* sp.), ash (*Fraxinus excelsior*), elm (*Ulmus* sp.) and hazel (*Corylus avellana*) may have grown on moist soil or marginal floodplain, the overall diversity of species suggests that higher and drier ground supported the mixed woodland species represented (see above as well as yew (*Taxus*), maple (*Acer campestre*), blackthorn (*Prunus spinosa*), hawthorn/*Sorbus* group (Pomoideae) and briar (*Rosa* sp.) or bramble (*Rubus* sp.)). This wide range of species indicates that the charcoal was the remains of firewood. It was probably gathered from damp meadows and floodplains, and drier land less prone to flooding. The wood appears to have been imported for fuel, together with the pottery, stone, cereals and meat.

Human activity and economy

Finds by Lorraine Mepham

The Bronze Age horizon (523) contained a spread of pottery (56 sherds) (Figure 5), and nearly all the sherds are in a very similar, coarse sandy fabric containing leached-out calcareous inclusions. Vertical wipe marks are visible on some external surfaces, but otherwise the sherds are plain. As well as body sherds, both rim and base sherds are present; the rim sherds are all simple rounded forms, slightly inturned or 'hooked'. The visual similarity in both fabric and rim sherds suggests that only a small number of vessels, perhaps only one, are represented here. The only exception to this is a small group of sherds found together (Obj. No. 1296), which are in a similar although coarser fabric, containing prominent quartz inclusions. While neither fabrics nor forms are closely diagnostic, this group of material would fit within a date range of Late Bronze Age to Early Iron Age. The two radiocarbon dates, obtained from this layer, place the activity comfortably within the Late Bronze Age. The dates are statistically indistinguishable (Ward and Wilson 1978), the first, from *Acer* charcoal of 1070-810 cal BC (NZA-12725, 2778 ±55 BP), the second, from a cow tooth, of 1380-1010 cal BC (NZA-12726, 2957 ±55 BP) (see Table 3 and Figure 5).

The most common find from this layer were imported stone fragments (311). These are typical of Bronze Age and Iron Age sites in the Avon Levels. Predominantly micaceous sandstone, but also chert, were found. Although the sandstone varied in colour (red, dark red, light grey, dark grey and black), it is not clear whether or not this colouring was a result of burning or was the natural appearance of the stone. A small fragment of undiagnostic fired clay was also recorded.

Five worked flint flakes, none of them chronologically distinctive, and a leaf-shaped arrowhead of early Neolithic type were recovered.

Pippa Smith reports that the animal bone was exceptionally poorly preserved, with only two of the five small fragments being identifiable; both were cow of which one was a tooth.

Charred Plant Remains by Julie Jones

Two 40 litre soil samples produced only very small quantities of charred plant remains. These included only a single wheat (*Triticum* sp.) grain and a single barley (*Hordeum* sp.) grain. Preservation of the grains was poor and it is perhaps significant that chaff was absent from the samples, suggesting that crop processing was undertaken elsewhere. A small assemblage of weeds included species typical of both disturbed arable soils and grassland habitats.

The Late Bronze Age horizon (523) was sealed by over one metre of alluvial clay, indicating further inundation with estuarine sediments (Figure 3).

Discussion

Mesolithic Activity

Although no artefacts were recovered from the limited exposures of the lower soil ripening horizon (525), the presence of fine comminuted charcoal in the soil thin section, in conjunction with evidence of the short-lived stabilisation and the localised establishment of grassland replacing a more halophytic community dominated by Chenopodiaceae (goosefoots, oraches and glassworts), might point to evidence of fleeting human activity.

Evidence for Mesolithic activity has not previously been recovered, nor suggested, in the Avon Levels except in relation to peat outcrops along the coast which have been dated to this period and have the potential to preserve and contain evidence of human activity (see Druce 1997, 1998, 2001 for examples). The examination of any physical evidence of Mesolithic exploitation or activity is obviously hindered by both the failure to realise that such evidence may occur, and by the presence of over 1.5 m of overlying alluvial deposits.

A consideration of the 'BaRAS' horizon

Similar dark organic soil ripening horizons have been detected at depth at a number of locations in the Avonmouth area. These have sometimes been, colloquially, referred to as the 'BaRAS' layer

(Bob Jones pers comm.) after the first discovery and recording by the Bristol and Region Archaeological Services (BaRAS 1998) on the Seabank effluent pipeline (between Lawrence Weston Road and the Salt Rhine). This horizon lay at *c.* 4.4 m OD and was Neolithic, with radiocarbon dates of 2580-2280 cal BC (Table 3). Other comparable layers were found at Cabot Park (Locock *et al* 1998, 32), which suggested that a single planar surface might exist over considerable distances in the Avonmouth area. This was, however, dispelled by Locock's elegant analysis of recorded heights and dates (Locock 1999), which showed that this was an over-simplification. The evidence at Katherine Farm confirms this, and considerably extends their time range, and suggests that these surfaces occur in localised patches, at least throughout the North Avon Levels (see Allen and Scaife 2001, table 12). It is likely that a patchwork of soils occurs at differing heights across the Levels, and that these were formed at different dates. They represent the combination of localised stabilisations on slightly higher ground, and the survival of those soils not stripped out by channelling or subsequent vertical alluviation. The discontinuous nature of the spatial pattern of these peaty or organic horizons can readily be seen from J.R.L. Allen' s schematic section drawings of the Wentlooge Formation (eg Allen 1992, fig 1).

No Neolithic soil ripening horizon, corresponding to the 'BaRAS' layer, was encountered at Katherine Farm, despite the proximity of the Cabot Park and Seabank sites where it has been recorded (Figure 1). In addition, the early date of layer 525 raises the possibility that similar earlier soil ripening horizons may be more widely distributed in the area, but have not yet been recorded.

Late Bronze Age Activity

The Mesolithic soil ripening layer (525) was sealed by 0.4 m of alluvial clay sediments containing traces of charred reed and charcoal (context 524), indicating relatively rapid inundation and waterlogging before the organic material in the Mesolithic soil ripening layer could decay. Any soil development during the Neolithic, as represented elsewhere by the 'BaRAS' layer, either did not occur, or was not preserved here, confirming the localised and patchy nature of this horizon.

Soil ripening and a localised area of drier ground was, however, exploited in the Late Bronze Age. All of the artefacts, such as they are, are portable and imported. There are no structures, corrals or evidence of even short-term structures. This points to the temporary use of a drier location within the upper salt marsh as a 'camp' during a visit to exploit the Avon Levels lowlands and its resources. Precisely what activities were undertaken at the site remain enigmatic. The requirement to bring in stone is curious, and its function and use are unclear. Elsewhere such stone has been reported to be burnt or fire-cracked (Locock *et al* 1998; Locock 2001). Here, however, the reddening of the sandstone appears to be due to oxidisation of the iron elements rather than due to heat. The numerous fragments of sandstone which litter the activity surface are clearly of some significance since this material is not available on the Levels and has been deliberately brought in from the uplands fringing them. They may have been used to raise the surface and make it less boggy and wet and are commonly found on other Bronze Age and Iron Age sites in the Levels.

The complete range of activities undertaken at Katherine Farm and similar sites remain unclear. Although it is not possible to determine the full extent of the occupation area beyond the trench, there appears, as elsewhere, to have been only a single location of activity, as indicated by both the concentration of stones at the base of the layer and the corresponding distribution of charcoal visible at its surface. Moreover, the fact that nearly all the pottery recovered may have come from a single vessel suggests that the entire evidence of activity may be the product of a single event.

The component activities of this short-stay, limited or even single event occupation, included making fire, possibly the consumption of meat and cereals brought by the site's occupants, and the discard of broken pottery. The reason for the camp may be related to the tending of grazing cattle (summer graze) or the collection of resources available in the Levels, both of which are likely to be summer activities.

Late Bronze Age soil ripening and activity horizons similar to Katherine Farm, have been recorded within Cabot Park (Locock *et al* 1998). The Kite's Corner site, for instance, consisted of a spread of charcoal at *c.* 5.2 m OD, with burnt stone, animal bone, flint and Late Bronze Age/ Early Iron Age pottery. The presence of flimsy structures is suggested by a number of stakeholes. This layer produced a radiocarbon date of *c.* 930-520 cal BC (Locock 1997; Locock *et al* 1998) (Table 3). The other Cabot Park sites were also characterised by spreads of charcoal, Late Bronze Age/Early Iron Age pottery sherds, heat-cracked stone and animal bone. Sites with similar finds and characteristics have been found on the Welsh foreshore at Cold Harbour and Chapeltump (Whittle 1989). At Rockingham Farm, north-west of Katherine Farm, one horizon is recorded extending over 100 m across, within which were thin bands of organic material producing two radiocarbon dates of 1210-820 cal BC and 1440-1100 cal BC, but no direct evidence of human activity was found.

It has been suggested that these ephemeral sites may represent seasonal activity by groups exploiting a range of resources available in the salt marsh and local freshwater marsh environments, such as hunting, coastal grazing and salt-making (Locock *et al* 1998), although clear evidence of these activities is not yet forthcoming.

With still only a few such sites investigated, it is not yet possible to tell whether this combination of possible activities was widespread and recurrent across the Levels, although the span of dates from this group of sites does indicate that activity persisted for about a millennium (Allen and Scaife 2001; Gardiner *et al* 2002). Furthermore, it can be demonstrated that such activity can be comfortably modelled as being a small part of a Late Bronze Age economy within the broader landscape (Gardiner *et al* 2002; Locock 2001). Evidence as to the nature of Late Bronze Age settlement and economy in the adjacent higher ground off the Avon Levels, into which such seasonal activities might have fitted, is far from complete. In the surrounding area, Bronze Age round barrows and a Late Bronze Age hoard are known from Kings Weston Hill (Aston and Iles 1986, 31), and flint artefacts were found at Long Cross (Rawes and Wills 1996).

Of incidental interest at Katherine Farm was the recovery from evaluation Trench 5 of a leaf-shaped arrowhead (with its tip missing) from the Late Bronze Age horizon. It is a narrow form with almost parallel sides, and while these are usually Neolithic in date, it is feasible that some may have continued to be made into the Early Bronze Age. However, it is clearly out of place within a Late Bronze Age context, so raising the question as to how it came to be in this layer. Nonetheless, the artefact was associated with the Late Bronze Age activity, and therefore was likely to have been incorporated within that context by the occupants of that site, rather than being merely a residual find. It may have been collected and kept as a curio, and later discarded or dropped and lost at the camp.

II MEDIEVAL AND POST-MEDIEVAL ACTIVITY

One of the aims of the investigation had been to target a ditched plot of land shown on early maps (Figure 6) as an orchard and suggested to be a possible medieval 'platform' or moated site. The ditches of this enclosure were too full of water to investigate but a number of infilled ditches were recorded during the evaluation and excavation.

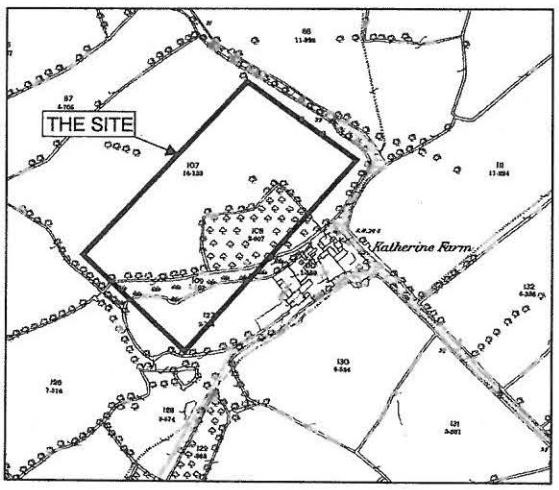

Figure 6: The area of the site superimposed over the 1881 Ordnance Survey 25-inch map.

Medieval: ditches 1024 and 1026

Two parallel ditches in Trench 10A were aligned north-west/south-east, approximately 1 m apart (Figure 7). Both ditches were filled with similar mid-greyish brown clay fills, containing flecks and bands of charcoal. Two sherds of medieval pottery - a sherd of coarse sandy ware, probably of 13th century date, and a rim sherd in a similar fabric from a handmade lid or shallow bowl/dish with external curvilinear combed decoration - were recovered from ditch 1024. Ditch 1026 only produced three fragments of fired clay in a fine-grained, relatively hard-fired fabric. Animal bone was recovered from the fills of both ditches, with cow, sheep/goat and pig represented (identified by Pippa Smith).

A layer (context 1028) indistinguishable from the ditch fills, and up to 0.2 m thick, overlay the ditches (apart from at their eastern ends) and extended beyond the north and west sides of the trench. Two further sherds of medieval pottery, similar to those found in ditch 1024, were recovered from this overlying deposit, as was a small (2 g), probably intrusive, sherd of post-medieval pottery (a glazed redware, probably of 18th century or later date). Numerous fragments of fired clay, some with wattle impressions, similar in fabric to those found in ditch 1026, were also collected from this deposit, as were animal bones (again with cow, sheep/goat and pig represented). A probable whetstone, in a fine-grained sandstone, was also recovered. These two ditches do not match any of the field boundaries or rhines which are recorded on 18th-20th century maps and air photographs (Wessex Archaeology 1998).

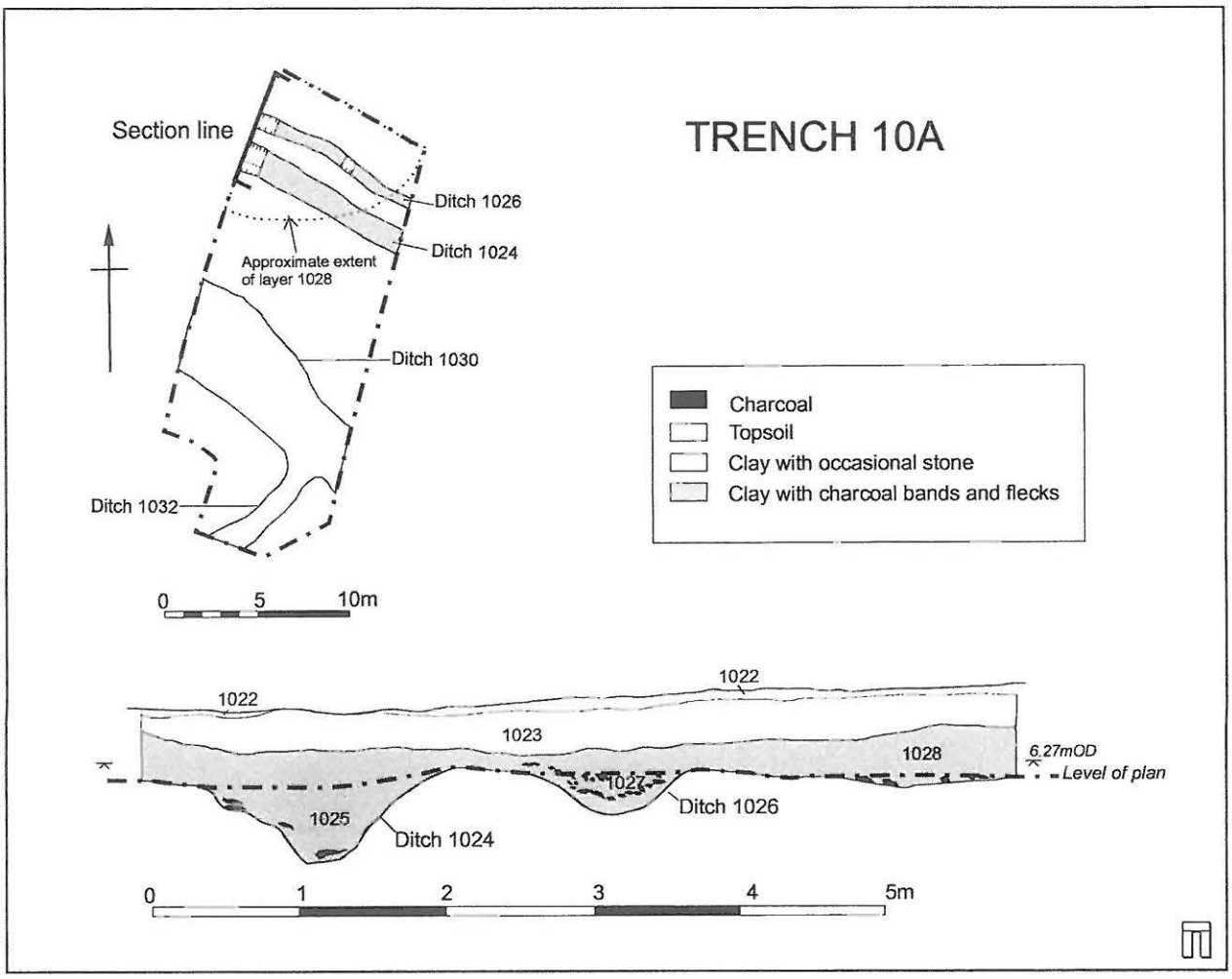

Figure 7: Plan of the medieval and post-medieval ditches in Trench 10A.

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