PS: A20 HOLM HILL DIVERSION

Assessment of Macroscopic Plant Remains and Charcoal

Dr M J Allen

Introduction
In total, 22 bulk disturbed samples of generally 10 litres volume have been recovered and processed for macroscopic plant remains and charcoal during the fieldwork events itemised in **Table 1**. All were recovered during the hand-excavation of features.

In terms of addressing fieldwork event aims, the recovery and assessment of these samples is primarily to establish the economic basis of agricultural communities, and to determine the local environment of the site through recovery of such palaeo-environmental data.

Methodology
Samples were selected for processing according to the following criteria;

A broad range of feature types was to be examined,

Samples should be spatially arranged across the entire site, and

Where possible, all chronological periods should be examined at the site

Standard flotation processing methods were used, with sample flots retained on a 0.5 mm mesh and residues fractionated into 5.6 mm, 2 mm and 1 mm fractions. All coarse fractions (i.e. >5.6 mm) were hand-sorted, weighed and discarded, with flots scanned under a x10 - x30 stereo-binocular microscope in order to quantify the presence of plant macrofossils.

Quantifications
Macroscopic plant remains and charcoal quantification by sample per context for those fieldwork events conducted by Wessex Archaeology are provided in **Table 15**.

Provenance
The samples generally produced large flots (average flot size for a 10 litre sample is 60 millilitres), which were largely dominated by charcoal with mainly low levels of both rooty material and uncharred weed seeds, both of which can be indicative of stratigraphic movement.

Conservation
Analysis would include extraction and sorting of all charred remains from residues, facilitating storage and archive compilation.

Comparative material
A number of sites of these periods are known in the locale, and would provide comparative data sets. These include excavations at Stonar (Paradine n.d.), Keston Camp and Wilmington (Hillman unpub), Maidstone (Arthur 1960) and Bicknor (Arthur 1961), as well as more recent CTRL investigations at sites such as Sandway Road (URS 1999).

Potential for further work
Analysis will enable an interpretation of activities performed on site during the periods represented, and possibly the functions of some features. This will enable some indication of the role of the site in the social economy, and provide details of the community economy.

Bibliography
Arthur, J R B, 1960, 'Maidstone Chillington House – plant remains', *Arch Cantiana* **74**, 194-6

-- , 1961, 'Plant remains from Bicknor Court', *Arch Cantiana* **76**, 192-3

Hillman, G, unpub., *Carbonised charred cereal remains from Keston Camp*, unpublished manuscript

-- , unpub., *The charred remains from Iron Age pits at Wilmington, Kent*, unpublished manuscript

Paradine, P J, n.d, 'Seed identifications, Stonar, Sandwich, Kent', *Ancient Monuments Laboratory Report* **1745**

Union Railways (South) Limited [URS], 1999, *Archaeological Excavation at Sandway Road (ARC SWR99)*, unpublished interim excavation report no. 45997c (Contract no. URS/400/ARC/0001) prepared by Wessex Archaeology

Table 15: Quantification of Ecofacts

					Flot						Residue
Feature type and number	**Context**	**Sample**	**Size (litres)**	**Flot size (ml)**	**Grain**	**Chaff**	**Weed Seeds Uncharred**	**Weed Seeds Charred**	**Charcoal >5.6mm**	**Other**	**Charcoal >5.6mm**
HOL99 Excavation											
BTS 1001	1002	3001	10	$625^{6.25}$			+	+	++		
BTS 1001	1013	3004	10	20^{2}			+	+	+		
BTS 1009	1010	3006	2	$50^{2.5}$			+		++	Moll-f (+)	
BTS 1023	1024	3008	10	225^{5}			+	+	++		
BTS 1028	1027	3010	10	$250^{12.5}$			+	+	++		
BTS 2068	2066	3512	10	700^{7}			+	+	++		
Ditch 4001	2029	3507	10	$10^{6.5}$			++	+	-		
Ditch 4004	2085	3513	10	$5^{0.5}$	+		+	+(h)	+	Burnt bone	
Ditch 4005	2105	3514	10	$1^{0.1}$	+	+	+	+	-		
Hearth 1033	1034	3012	10	1000^{10}			+	+	++		
Pit 1029	1030	3011	10	1000^{10}			+	+	+++		
Pit 2003	2001	3501	10	$350^{3.5}$	+++		+	+	++		
Pit 2043	2041	3509	10	$750^{7.5}$			+	+	++		
HOL98 Evaluation											
Crem. 359604	359605	19	10	60^{6}	+	+	+	+	++	Burnt bone	+++
Crem. 359606	359607	20	15	$175^{1.75}$	+		++		++	Burnt bone	
Crem. 359609	359608	21	15	500^{5}	+		++		++	Burnt bone	
Ditch 360303	360304	2	15	20^{2}	+	+	+	+(h)	+	Moll-f (+)	
Ditch 359205 (=4010)	359202	22	10	30^{2}	+	+	++	+	+		
Ditch 359205 (=4010)	359203	23	0.7	$3^{0.3}$	++		++	+	-		
Ditch 360507	360508	18	15	$35^{3.5}$	+	+	++		+		
Ditch 361204	361203	26	15	20^{12}	+	+	++	++			
Layer	352006	1	5	800^{8}	+		+		+++		+

Key: BTS = Burnt-out tree stump; Flot size in superscript = ml of rooty material; h = hazelnut; Moll-f = freshwater mollusc
+ = 1-10, ++ = 11-50, +++ = 51-100

Assessment of Mollusca

Dr M J Allen

Introduction
As noted above, bulk disturbed samples were taken for macroscopic plant remains and charcoal, no samples were specifically taken for Mollusca.

In terms of addressing fieldwork event aims, the recovery and assessment of these samples is primarily to establish the economic basis of agricultural communities, and to determine the local environment of the site through recovery of such palaeo-environmental data.

Methodology
Samples were selected for processing according to the following criteria;

A broad range of feature types was to be examined,

Samples should be spatially arranged across the entire site, and

Where possible, all chronological periods should be examined at the site

Standard processing methods were used.

Quantifications
See **Table 15**.

Provenance
These data will provide good local evidence for the site environment.

Conservation
Analysis would include extraction and sorting of mollusc remains from residues, facilitating storage and archive compilation.

Comparative material
These data are site-specific; there is very little known in archaeological terms, particularly for the prehistoric periods, concerning mollusca in the general area to compare and contrast with Holm Hill.

Potential for further work
Analysis and identification will provide some detail of the local flooding/ water regimes contemporary with ditch **360303** and burnt-out tree stump **1009**.

Assessment of Soil Morphology

Dr M J Allen

Introduction
The sequence comprised 14 disturbed 0.1m thick spot samples, each approximately comprising 1 litre of soil. The pedological variations within context 352402 described below were not noted during field recording.

Methodology
The spot sample sequence was described (**Table 16**) following pedological notation outlined in Hodgson (1976), but due to the disturbed nature of the bulk spot samples little comment of either the true stoniness or of the structure of the deposits could be made.

Quantifications
Table 16: Pedological description of colluvial deposits

Context no.	Sample nos.	Sample depth	Description
352402	17	0 - 0.1	Yellowish brown (10YR 5/6) silty sand loam, almost stone-free, some humic material derived from roots/worms present, 1% fine macropores. [B/C horizon]
352402	8-16 (inc.)	0.1 - 1.00	Yellowish brown (10YR 5/6) to dark yellowish brown (10YR 4/4) stone-free sandy clay loam to clay loam becoming slightly firmer (?compacted) with depth
352402	6, 7	1.00 - 1.20	Yellowish brown (10YR 5/6) sandy loam becoming sandier and looser (unconsolidated with depth (loamy sand- medium sand grains, hand lens)
352417	4, 5	1.20 - 1.40	Yellowish brown (10YR 5/6) unconsolidated/loose loamy sand with some medium flints

Provenance
The pedological description provides evidence of the local site-specific soil history.

Conservation
There are no conservation issues that may affect further analysis.

Comparative material
Colluvial sequences in southern England have been recorded archaeologically by Kerney *et al.* (1964) and Preece and Bridgland (1998) for Kent, and on sandy subsoils in Surrey by Scaife and Macphail (1983), the latter providing useful comparative data. Much work on hillwash in the archaeological domain has been published by Bell (1983) and Allen (1988, 1991, 1992 etc.).

Potential for further work
The descriptions will be used to interpret the soil history and erosional events relating to archaeological activity.

Bibliography
Allen, M J, 1988, ‘Archaeological and environmental aspects of colluviation in South-East England’, in W Groenman-van Waateringe and M Robinson (eds), *Man-Made Soils.* Oxford: BAR Int Ser **410**, 69-92.

-- , 1991, 'Analysing the landscape: a geographical approach to archaeological problems', in A J Schofield (ed.), *Interpreting Artefact Scatters; contributions to ploughzone archaeology*, Oxford, Oxbow, 39-57.

-- , 1992, 'Products of Erosion and the Prehistoric Land Use of the Wessex Chalk', in M G Bell and J Bordman, *Past and Present Soil Erosion*, 37-92

Bell, M, 1983, Valley sediments as evidence of prehistoric land-use on the South Downs, *Proc Prehist Soc* **49**, 119-50

Hodgson, J M, 1976, Soil Survey Field Handbook, *Soil Survey Technical Monogr* **5**

Kerney, M P, Brown E H and Chandler, T J, 1964, The Late-Glacial and Post- Glacial history of the chalk escarpment near Brook, Kent, *Philosophical Transactions of the Royal Society, London* **B.248**, 135-204

Preece, R C and Bridgland, D R, 1998, *Late Quaternary Environmental Change in North-West Europe; Excavations at Holywell Coombe, south-east England*, London, Chapman and Hall

Scaife, R G and Macphail, R I, 1983, The post-Devensian development of heathland soil and vegetation, in C P Burnham (ed.), *Soils of the heathlands and chalklands.* South-east Soils Discussion

PS: LITTLESTOCK FARM

Assessment of Macroscopic Plant Remains and Charcoal

Introduction
A large series of bulk samples were taken from sealed contexts to recover charred plants remains and charcoal to aid in determining the following for each defined phase:

the archaeological significance of the deposits and thus the site

the nature of the local environments

selection of woodland species for general and specific activities

the use of the wild and cultivated resources

the nature of specific activities undertaken on site, and thus the general economic status of the site

Methodology
Samples were selected for processing according to the following criteria:

a broad range of feature types was to be examined

samples should be spatially arranged across the entire site

where possible, all chronological periods represented at the site should be examined.

Based on these criteria, 51 bulk samples of between 0.5 and 15 litres were processed from a range of Neolithic, Bronze Age, Iron Age, medieval and undated features. All bulk samples were processed for the recovery and assessment of both charred plant remains and charcoals, and artefacts.

Standard processing methods were used, with sample flots retained on a 0.5mm mesh and coarse residues fractionated into a 4mm mesh. The coarse fraction was hand-sorted, weighed and discarded, with flots scanned under a x10 – x30 stereo-binocular microscope in order to quantify the presence of plant macrofossils.

Quantifications
The quantification of macroscopic plant remains and charcoal by sample per context for those fieldwork events conducted by Wessex Archaeology are provided in **Table 18**.

Neolithic post-hole **2507** produced a few charred grain fragments and high numbers of charred weed seeds, including hazelnut fragments. Only two of the Late Bronze Age/ Early Iron Age samples produced a few charred grains, with similar quantities of burnt weed seeds recovered from three samples. Hazelnuts were also recovered from two samples attributed to this period. It may be of note that none of the earlier prehistoric samples produced additional material such as bone (burnt or otherwise), peas/ beans or molluscs.

Early and Early/ Middle Iron Age samples generally produced greater quantities of charred grain and burnt weed seeds than the earlier prehistoric samples. In particular, significant quantities of charred grain were recovered from the upper fill of Early Iron Age pit **2013**, a charcoal-rich deposit which may represent a shallow hearth located in the partially infilled remains of the pit. Pit **2013** also produced a few charred fragments of chaff from the lower fill, with similar quantities recovered from three of the Early/ Middle Iron Age samples. Five of the nine Middle/ Late Iron Age samples also produced hazelnut shells.

All Middle/ Late Iron Age samples produced charred grain, with the greatest quantities recovered from enclosure **5024**; grave-pit **2031** and pit **2008**, with the enclosure and pit **2008** the only features from this period to also produce charred chaff. All of the Late Iron Age samples produced generally large quantities of charred grain, moderate quantities of burnt weed seeds and low numbers of charcoal fragments. Four of the six samples also yielded low numbers of charred chaff fragments.

The single sample from Saxon pit **2437** produced a few charred grains, weed seeds (burnt and unburnt) and charcoal fragments, whereas all 14 medieval samples produced generally high numbers of charred grain, with two samples also producing some charred chaff fragments.

Provenance
The samples generally produced small flots (average flot size for a 10 litre sample is 60 millilitres) with between 2 and 90% rooty material and varying quantities of uncharred weed seeds. As a general rule, the quantity of rooty material and uncharred weed seeds recovered from a sample is considered to be directly proportional to the amount of post-depositional movement and/or impact that a deposit has experienced. Therefore, samples producing large quantities of both categories can generally be considered not stratigraphically secure. There are, however, other agents that can be responsible for rooty material and/or uncharred weed seeds that do not necessarily comprise stratigraphic security, such as contemporaneous *in situ* bioturbation.

Conservation
There are no conservation issues that conflict with long term storage for the sorted residues and extracted flots. However, the unprocessed samples, although currently stored in stable conditions, cannot remain so in perpetuity, and as such a decision regarding discard/retention needs to be reached.

Comparative material
There are no major prehistoric charred remains assemblages published from Kent (c.f. Scaife 1987), although smaller assemblages are gradually being published. In particular, Neolithic and domestic Bronze Age (as opposed funerary) assemblages are especially absent. The most important of these, and relevant to Little Stock Farm, include the Iron Age sites at Wilmington and Keston camp (both Hillman unpubl.)

Potential for further work
The presence of Neolithic cereals and charcoal in pit **2507** is significant in providing information on early farming and the nature of local woodland for a period poorly represented in the archaeological record of Kent.

There is evidence of cereal cultivation (grain) and preparation (chaff) from the Late Bronze Age onwards, and the large number of weed seeds might provide an indication of the soil types cultivated. Both the charred weed seeds and charcoals may indicate the exploitation of wilder resources, as suggested by the presence of hazelnuts. The wood species may also indicate the nature of the local woodland and whether they were coppiced or managed.

The latter is a theme that can be addressed to a greater or lesser extent in both the Late Iron Age and medieval periods, but more significant in both these phases is the increased intensity (recovery) of evidence for the use of agricultural produce (grain). From the Middle Iron Age onwards, in particular, there is a demonstrable intensification in arable farming at Little Stock Farm: cereal grain is common and there is potential for changes in the species grown, and also peas/beans are a part of the crop.

Given the enhanced potential for the site as a whole to contribute to the study of the prehistory in Kent, it is recommended that all remaining samples from *4th Rank* (see **Appendix 7.1**) or greater features are processed and sorted to augment the ecofact and micro-artefactual assemblages already obtained.

In summary, the palaeo-environmental information is well preserved, with stratigraphically secure features identified to provide a basis for future analysis. The archive may therefore enable the examination of changing woodland and exploitation of the local environment. The cereal and charred plant remains can provide detailed of the farming economy and activities occurring on site in each period, as well as recording the developments in the crops and farming from the Neolithic to the medieval period. Within this the weed seeds might enable some comment of changing soil types or of selection of specific soil types for cultivation, the former indicating degradation by human action and the latter specific selections.

All of the palaeo-environmental data will aid in the interpretation of the activities and function of each phase of activity, above and beyond mere presence/ absence statements. This will provide an environmental framework on which to base consideration of human economy, intervention and interaction with the landscape of Little Stock Farm from the earlier prehistoric to medieval times.

Bibliography

Hillman, G C, unpubl., *Carbonised charred cereal remains from Keston Camp*, unpublished manuscript

Hillman, G C, unpubl., *The charred cereal remains from Iron Age pits at Wilmington, Kent*, unpublished manuscript

Scaife, R G, 1987, 'A review of later Quaternary plant microfossil and macrofossil research in Southern England; with special reference to environmental archaeological evidence', in H C M Keeley (ed.), *Environmental Archaeology: a regional review, vol II*, HBMC(E) Occ Pap **1**, 125-203.

Table 18: Quantification of Ecofacts

Sample Details (by period)				Flot Details							Residue Details
Feature (inc. sub-group)	Context no.	Sample no.	Size (litres)	Size (ml)	Grain	Chaff	Weed Seeds Unburnt	Weed Seeds Burnt	Charcoal >5.6mm	Other	Charcoal >5.6mm
Middle Neolithic											
Post-hole 2507	2506	3024	10	$30^{0.6}$	+		++	++(h)	+		
Late Bronze Age/ Early Iron Age											
Vessel-hole 2104 (fill of ON 4002)	2103	3003	4	10^{2}			+	+(h)	+		
Vessel-hole 2503 (fill of ON 4003)	2501	3009	0.5	$5^{0.5}$			+	+(h)	+		
Vessel-hole 2503	2502	3011	6	5^{1}	+		+	+	+		
Ditch 2346 (=5016)	2347	3057	3	$3^{1.5}$			+				
Vessel-hole 362706	362707	6	15	10^{1}	+		+				
Early Iron Age											
Pit 2013	2011	3020	5	40^{4}	++		+	+	+	burnt bone; p/beans (+); min. matter	
Pit 2013	2012	3022	8	$5^{0.5}$	+	+	+	+	+	unburnt bone; p/beans (+)	
Vessel-hole 2304 (fill of ON 4001)	2302	3004	6	$5^{0.5}$			++	+	+	unburnt bone	
Vessel-hole 2304	2303	3010	10	$15^{0.5}$	+		++		+	burnt bone	
Vessel-hole 2304	2303	3013	10	10^{1}	+		++	+	+	unburnt and burnt bone	
Vessel-hole 2304	2303	3017	10	40^{2}			++	+	++	unburnt bone	
Vessel-hole 2304	2303	3018	0.25	$3^{0.3}$			+		+		
Early/ Middle Iron Age											
Grave-pit 2037	2032	3042	10	5^{1}	+		+	+		mollusc (+)	
Post-pit 2441 (= 5019)	2442	3062	10	$10^{0.5}$	+		+	+(h)	+		
Post-hole 2505	2504	3023	10	20^{2}	+		++	++(h)	+		
Gully 2010 (=5002)	2009	3016	5	10^{1}	+	+	+	+(h)	+	unburnt bone	
Gully 2028 (=5007)	2027	3040	5	$5^{0.5}$	+		+	+(h)	+		
Pit 354606	354602	1	15	150^{135}	+	+	++			mollusc (++); smb (+)	
Pit 354606	354603	2	15	$125^{112.5}$	+		+	+		mollusc (++); smb (+)	
Ditch 355116	355112	15	15	10^{1}	+	+	++			mollusc (+); smb (+)	
Pit 355118	355117	16	15	$5^{1.5}$			++	+(h)		mollusc (+); smb (+)	
Post-hole 362708	362709	7	15	20^{2}	++		+		+	smb (+)	
Middle/ Late Iron Age (Phase I)											
Grave-pit 2031	2029	3041	10	$25^{3.75}$	++		+	+(h)	+	unburnt bone	
Ditch 2410 (=5003; part of 5024)	2413	3034	10	$35^{0.7}$	+		+	+	+	smb (++)	
Ditch 362704 (=5003; part of 5024)	362705	5	15	30^{3}	+		+		+	smb (+)	
Ditch 2324 (=5011; part of 5024)	2321	3029	10	$25^{7.5}$	++	+	++	++		smb (+); p/beans (+)	
Ditch 362721 (=5011; part of 5024)	362722	12	15	10^{3}	++	+	+	+	+	smb (+); p/beans (+)	

Contd.

Sample Details (by period)				**Flot Details**							**Residue Details**
Feature (inc. sub-group)	**Context no.**	**Sample no.**	**Size (litres)**	**Size (ml)**	**Grain**	**Chaff**	**Weed Seeds Unburnt**	**Weed Seeds Burnt**	**Charcoal >5.6mm**	**Other**	**Charcoal >5.6mm**
Middle/ Late Iron Age (Phase II)											
Pit 2008	2007	3008	4	5^{1}	++	+	++	+		smb (+); p/beans (+)	
Ditch 362725 (=5004; part of 5025)	362726	13	15	5^{1}	+		+		+	p/beans (+)	
Late Iron Age											
Hearth 2006	2003	3005	10	10^{3}	++	+	++	++	+	smb/f (++); p/beans (+)	
Hearth 2006	2003	3007	4	$15^{1.5}$	++	+	++	++	+	smb (+); p/beans (++)	
Post-pit 2124 (=5015)	2125	3043	10	$25^{1.25}$	++		+	+	+	smb (+)	
Ditch 2002 (=5001; part of 5026)	2001	3002	10	5^{1}	+	+	+	+	+	smb (+)	
Ditch 362725 (=5005; part of 5026)	362716	8	15	$25^{2.5}$	++	+	+	+	+	smb (+); p/beans (+)	
Saxon											
Pit 2437	2438	3056	10	10^{3}	+		+	+	+		
Medieval (Phase I)											
Pit 2036	2034	3044	5	$10^{1.5}$	+		+		+	smb (+)	
Pit 2036	2035	3045	4	15^{10}	+		+	+(h)	+		
Hearth 2421	2423	3048	10	50^{1}	++	+	++	+(h)	++	smb/f (+); mollusc (+)	
Hearth 2421	2423	3049	10	$60^{1.2}$	++		++	+	++	smb (+); p/beans (+)	
Hearth 2421	2423	3050	10	50^{1}	++		+	+	++	smb (+); p/beans (+)	
Quarry 2522	362717	11	15	10^{5}	+		++			mollusc (+); smb (+)	
Ditch 2026 (=5006)	2025	3038	8	$15^{7.5}$	++		+	+		smb (+); p/beans (+)	
Ditch 2211 (=5006)	2210	3015	10	$10^{0.5}$	++		++	+	+	smb (+); min. matter	
Ditch 362712 (=5006)	362711	3	15	15^{6}	++	+	++		+	smb (++); p/beans (+)	
Ditch 355205 (=5027)	355206	10	15	$30^{1.5}$	+		+			mollusc (++); smb (+)	
Medieval (Phase II)											
Ditch 2439	2440	3055	10	$5^{1.25}$	+		+	+(h)	+	unburnt bone	
Ditch 362714 (=5010)	362713	4	15	20^{14}	+		+	+		smb (+)	
Ditch 355203 (=5010)	355204	9	15	20^{1}	++		+			mollusc (++); smb (+)	
Pit 362504	362503	14	15	5^{4}	+		++			mollusc (++)	
Undated											
Natural feature 355111	355107	17	15	20^{2}	+		++			mollusc (++); smb (+)	

Key: Flot size in ^{superscript} = ml of rooty material; ON = Object No.; h = hazelnut; smb/f = small mammal bone/ fish; p/beans = peas/beans; min. = mineralised; + = 1-10 items, ++ = 11-50 items

PS: SANDWAY ROAD

Assessment of Macroscopic Plant Remains and Charcoal

Introduction
A large series of bulk samples was taken from sealed contexts to recover charred plants remains and charcoal to aid in determining the following for each defined phase:

the archaeological significance of the deposits and thus the site

the nature of the local environments

selection of woodland species for general and specific activities

the use of the wild and cultivated resources

the nature of specific activities undertaken on site, and thus the general economic status of the site

Methodology
Samples were selected for processing according to the following criteria

A broad range of feature types was to be examined.

Samples should be spatially arranged across the entire site, and

Where possible, all chronological periods represented at the site should be examined.

Based on these criteria, 42 bulk samples of between 1 and 10 litres were processed from Mesolithic pit **72**, and a further twelve samples of generally 10 litres were processed from a range of ditches and other features/deposits of generally prehistoric date. Samples from some undated features were also processed, partially to attempt to recover dating evidence (inc. charcoal for radiocarbon dating purposes).

All bulk samples were processed for the recovery and assessment of both charred plant remains and charcoals, and artefacts. Standard processing methods were used, with a 4 mm mesh being used for the coarse fraction.

Quantifications
The quantification of macroscopic plant remains and charcoal by sample per context for those fieldwork events conducted by Wessex Archaeology are provided in **Table 13**.

Low numbers of charred grain fragments were recorded in 11 samples and a few charred weed seeds, including hazel nut fragments, were observed in 17 samples from the Mesolithic pit **72**.

Small quantities of both charred grain and charred weed seeds were present in two samples from the Middle Bronze Age ditch **54** (including hazelnut fragments in one of these). Only a few charred weed seeds were retrieved from Middle Neolithic pit **133** and from the similarly dated burnt-out tree stump **49**.

Small quantities of charcoal fragments of greater than 5.6mm were recovered from 12 of the samples from the Mesolithic pit **72** and from two of the samples from the Middle Bronze Age ditch **54**. Large amounts of charcoal were recorded in both samples from Middle Neolithic pit **133** and from the Middle Neolithic burnt-out tree stump **49**, all predominantly comprising large wood fragments.

The presence of hazelnuts is particularly common on Mesolithic sites, and the majority of occurrences at Sandway Road are from contexts presumed to be Mesolithic (6 out of 8 samples); the remainder from Middle Neolithic and Middle Bronze Age contexts. It is of note that the hazelnut fragment submitted for AMS dating from pit **72** yielded a calibrated date of 8590-8090 BC (i.e. Early Mesolithic).

Provenance
The samples generally produced small flots (average flot size for a 10 litre sample is 60 millilitres) with between 1 and 80% rooty material and varying quantities of uncharred weed seeds. Large quantities of both categories can be indicative of stratigraphic movement. The AMS dating results indicate that pit **72** at least contains both residual and intrusive material at the macroscopic level.

Conservation
There are no conservation issues that conflict with long term storage for the sorted residues and extracted flots. However, the unprocessed samples, although currently stored in stable conditions, cannot remain so in perpetuity, and as such a decision regarding discard/retention needs to be reached.

Comparative material
Although the Mesolithic samples produced relatively little in the way of charred remains, over 25% (11 of 42) contained charred cereal grain. Recovery of grain in these samples is of some concern as in Britain no cereal grain has been positively identified as Mesolithic from any site in Britain, despite occasional records of rare large Poacea pollen spores, which some have considered as being cereal, in Mesolithic contexts (cf. Edwards 1988, 1990).

A possible conclusion could be that the grain from the assessed flots, although taken from ‘secure’ Mesolithic contexts must have worked their way into these horizons by bioturbation, the most likely cause being biotic activity such as roots or soil fauna (e.g. worms). The relatively high numbers of unburnt weed seeds in most samples seem to confirm this. However, the AMS dating results indicate that whilst both residual and intrusive material is present, there is, nevertheless, a definite Late Mesolithic element to the charred cereal grain assemblage.

Potential for further work
Charcoal will provide detailed information on the local woodland and thus floral composition and change. It is unlikely, however, due to poor preservation that this can be corroborated by detailed analysis of pollen. Charcoal analysis may, however, not only provide evidence of the natural vegetation, but evidence for human clearance and changes of that vegetation which may consequently have irrevocably altered the nature of the soils, and even lead to the initiation of soil erosion and hillwash deposits.

Given the enhanced potential for the site as a whole to contribute to the study of early prehistory in Kent, it is recommended that all remaining samples are processed and sorted to augment the ecofact and micro-artefactual assemblages already obtained.

Bibliography

Edwards, K, 1988, 'The hunter-gatherer agricultural transition and the pollen record in the British Isles', in H H Birks, H J, Birks, P E Kaland and D Moe (eds), *The Cultural Landscape; past, present and future.* Cambridge, Cambridge University Press, 255-66.

Edwards, K J, 1990, 'Mesolithic-Neolithic vegetational impact in Scotland and beyond: palynological consideration', in C Bonsall (ed.), *The Mesolithic in Europe.* Edinburgh, Donald 143-55

Table 13: Ecofact quantification

Sample Details				**Flot Details**							**Residue Details**
Feature	**Context**	**Sample**	**Size (litres)**	**Size (ml)**	**Grain**	**Chaff**	**Weed Seeds Unburnt**	**Burnt**	**Charcoal >5.6mm**	**Other**	**Charcoal >5.6mm**
SWR98 Evaluation											
MNE Tree-throw 357705	357706	1	15	$50^{7.5}$			++	+	+		+
MBA Ditch 357703	357704	2	15	$25^{17.5}$			++	+	+		
Hearth (BTS?) 363204	363203	3	15	1000^{150}			+	+	++		
SWR99 Excavation											
(Pre?) ME Pit 167	166	73	10	$15^{7.5}$			++	+			
ME Pit 72	73	6	10	35^{21}			++		+		
	116	7	10	30^{21}	+		++	+	+		
	117	8	10	$30^{22.5}$			++				
	375151	32	10	40^{30}			++	+(h)			
	364851	37	4	20^{12}	+		++				
	364951	38	1	10^{5}			+				
	385051	39	4	30^{18}			++		+		
	384951	40	1	10^{6}			+				
	374851	41	6.5	15^{12}			++				
	384961	42	2	10^{5}			+	+			
	394831	43	6	$30^{22.5}$			++	+	+		
	345031	44	5	20^{12}	+		+	+	+		
	374831	45	5	20^{15}	+		++				
	395041	46	5	15^{12}			+				
	355051	47	5	15^{9}			+				
	384841	48	5	$25^{18.75}$			++				
	375051	49	4	$15^{7.5}$	+		++	+(h)			
	374841	50	4	$25^{17.5}$	+		++		+		
	364841	51	5	15^{9}			++	+			
	374961	52	3	15^{12}	+		+	+(h)			
	375041	53	6	25^{10}			++				
	355041	54	4	20^{15}			++	+	+		
	385041	55	4	35^{21}			++				
	384831	56	5	40^{30}			++	+	+		
	364831	57	4	15^{12}			++	+			
	344831	58	2	15^{9}			+				
	354831	59	6	25^{20}			++		+		
	375031	60	6	$25^{12.5}$			++				
	355031	61	5.5	25^{15}			++				
	385031	62	5	$25^{18.75}$			+	+(h)	+		
	395031	63	6	25^{20}			++	+	+		
	375061	64	6	10^{6}	+		++				
	355061	65	4	10^{6}			++				
	375071	66	5	$5^{1.25}$	+		++	+			
	385061	67	5	$15^{11.25}$			+	+(h)	+		
	375081	68	4	$5^{2.5}$	+		++				
	354961	69	2	$3^{1.5}$			+				
	374971	70	2.5	10^{5}	+		+	+			
	364961	71	2	10^{4}			+				
	364971	72	2.5	$5^{2.5}$			+				
	354951	74	2	5^{4}			+				
	374951	75	2	10^{5}			+	+(h)			
ME Pit 156	155	29	10	30^{18}			+	+	+		
MNE Pit 133	135	9	10	$425^{4.25}$			+		++		
	134	10	9	$120^{2.5}$			+	+	++		
MNE Tree-throw 160	159	36	10	40^{26}			++	+(h)			
MNE BTS 49	50	1	10	500^{35}			+	+	++		
MBA Ditch 54	70	3	10	$25^{12.5}$	+		++	+(h)	+		
	87	4	10	5^{2}			++				
	89	5	10	$10^{1.5}$	+		+	+	+		

Contd.

Table 13: Quantification of Ecofacts (contd.)

Sample Details				Flot Details							Residue Details
Feature	Context	Sample	Size (litres)	Size (ml)	Grain	Chaff	Weed Seeds Unburnt	Burnt	Charcoal >5.6mm	Other	Charcoal >5.6mm
SWR99 Excavation (contd.)											
Tree-throw 151	152	26	10	30 [10]			+	+	+		
	152	27	10	20 [5]			+	+	+		
BTS 63	64	2	5	30 [3]			+		+		

Key: BTS = Burnt-out tree stump; Flot size in superscript = ml of rooty material; h = hazelnut; + = 1-10, ++ = 11-50
ME = Mesolithic; MNE = Middle Neolithic; MBA = Middle Bronze Age

Assessment of Soil Micromorphology

Dr M J Allen

Introduction
A series of five undisturbed soil micromorphology samples were taken in kubiena tins, complemented by a suite of disturbed bulk samples. These sampled the *in situ* Mesolithic soil horizons in both the northern spread **144** and southern spread **137** (including the underlying natural sand **140**), as well as Mesolithic pit **72** and tree-throw **151**.

The potential of these samples and the pedological criteria has been discussed with Dr R I Macphail (Univ. London), and Drs C A I French and H Lewis (Univ. Cambridge).

In addition, soil monoliths were taken through the fill of pit **72** and the colluvium that sealed the Mesolithic site, both for pollen analysis and descriptive and interpretative purposes.

Methodology
The soil samples were described following pedological notation outlined in Hodgson (1976).

Quantifications
Description of sands in southern spread area **137**

*0 – 70 mm (?bBh) Context **137**. Medium loose sand with some silt, slightly humic matrix, some vertical worm/root channels with humic silty loam ('A' horizon) material – no structure observed, few very fine fleshy roots, gradual smooth boundary.*

*70 mm+ (?Rw) Context **140**. Medium sorted sand, strong orange colour – Folkestone Beds – no structure observed, some vertical macropores up to 4mm in diameter with humic silty loam material.*

Mesolithic pit **72** contained the most humic fill of this period, indicating that it may be derived from the Mesolithic land surface. The single fill, **73**, was sampled with a kubiena tin and as a small bulk sample. In addition, as this was the deepest Mesolithic profile, a 0.3 m monolith for pollen analysis was also taken.

Description of fill in pit **72**

0 – 70 mm: A dark humic medium sandy loam with very rare small and medium flints with occasional fine fleshy roots and 0.2% medium macropores (4 mm diameter) with more humic 'A' horizon material, gradual smooth boundary.

70 mm – 300 mm: Loose fine and medium sandy loam with very rare small and medium flints with occasional fine fleshy roots and 0.2% medium macropores (4 mm diameter) with more humic silty material.

Provenance
The pedological description provides evidence of the local site-specific soil history.

Conservation
There are no conservation issues that may affect further analysis.

Comparative material
Comparative soils that are published are known in the Surrey Heathlands and the Dorset Heath. There are also parallels of Mesolithic activity on heathlands from Hampstead, North London, and via palynological analysis at Wytch Farm, Dorset (Allen and Scaife 1991).

Potential for further work
The soil history obtained from this analysis may elucidate various anthropogenic events such as clearance, burning of woodland, soil disturbance for occupation etc. The topsoil from the two Mesolithic spreads has been truncated or reworked into the overlying colluvium, but the main soil events can be discerned from this truncated horizon. The nature of the topsoil, however, can be determined from the humic fill of pit **72**, which is likely to have filled either naturally of by dumping, with topsoil material. Specific Mesolithic activities may be discerned from these contexts.

Evidence of soil degradation, tillage and erosion can be discerned from the detailed description and interpretation of the colluvium which was sample in a long monolith tin. This will augment data from the charred plant remains to provide a site history and scheme of landscape degradation caused by human activity

In order to define the nature of the pre-Mesolithic and Mesolithic soil, and any associated activity, it is proposed therefore that four soil micromorphology slides are prepared to facilitate full soil micromorphological study.

The descriptions will be used to interpret the soil history and erosional events relating to archaeological activity. Despite the evidence of biotic re-working the deposits are *in situ* and provide the potential to examine the nature of the former Mesolithic soils prior to major anthropogenic change in the Bronze Age (cf. Macphail 1983; Scaife and Macphail 1983; Allen and Scaife 1991). Further, soil micromorphological studies will provide detailed information on the nature of bioturbation which is so critical to the presence of charred cereal remains in these contexts.

Bibliography
Allen, M J, and Scaife, R G, 1991, ‘The exploitation of the flora and fauna and its impact on the natural and derived landscape’, in P W Cox and C M Hearne, *Redeemed from the Heath; the archaeology of the Wytch Farm Oilfield (1987-90).* Dorset Nat Hist Archaeol Soc Mongr Ser **9**, 216-20

Hodgson, J M, 1976, Soil Survey Field Handbook, *Soil Survey Technical Monogr* **5**

Macphail, R I, 1983, ‘Surrey heaths and their soils’, in C P Burnham (ed.), *Soils of Heathland and Chalk Grassland,* SEESOIL (Journal of the South East Soils Discussion Group) **1**, 57-69

Scaife, R G and Macphail, R I, 1983, ‘The post glacial development of heathland soils and vegetation’, in C P Burnham (ed.), *Soils of Heathland and Chalk Grassland,* SEESOIL (Journal of the South East Soils Discussion Group) **1**, 70-79

PS: SALTWOOD TUNNEL

Assessment of Charred Plant Remains and Charcoal

Michael J. Allen, Enid Allison and Sarah F. Wyles

Introduction
A full sampling programme was conducted during excavation for the retrieval of charcoal and charred plant remains to provide information and interpretation of the economic and palaeo-environmental aspects of the site.

The recovery and assessment of the samples was undertaken in accordance with the Fieldwork Event Aims for the site. The sampling programme aims to allow general questions concerning the diet and economy of the site, and of land-use for the site, as well as more specific information about the function and nature of individual features, building or activities, to be addressed. On a wider, regional level it was hoped to gain information at varying levels from the Bronze Age to Saxon economy and lifestyle of Kent, and to look at the development of the economy and land-use through time.

Methodology
Site sampling strategy ensured that a range of features from all phases were sampled. Within each defined phase the sample suite included a range of different feature or context types, and ensured a spatial array. Priority was given to samples from features or contexts that were dated, or datable, over those that were unlikely to be dated/ datable, except where specific or unusual activities were indicated by the field evidence. Where environmental sampling methodologies differ between Canterbury Archaeological Trust (CAT) and Wessex Archaeology (WA), these are indicated appropriately in text.

Standard processing methods were used. Flotation of bulk samples facilitated the retrieval of flot on 500 µm (WA) or 250 µm (CAT) mesh sieves, with residues retrieved on 1mm mesh sieves. The fractionated residues greater than 5.6mm were sorted, recorded and discarded. Residues of 2mm and 1mm from all flotation samples (WA) were dried and are retained. Artefact samples from which charcoal was retrieved were sieved to 1mm and fractionated on 1mm, 2mm and 4mm/ 5.6mm meshes.

Quantification and Provenance
A total of 547 bulk samples were taken of which 462 were processed (comprising all 353 samples taken by CAT and 109 samples taken by WA), including a representative sample of all feature types and phases. In addition a series of 59 samples were taken for artefact and charcoal recovery. A further 353 samples were taken and processed from the Anglo-Saxon cemetery and grave-related contexts.

The samples processed were from a range of Neolithic, Early Bronze Age, Late Bronze Age/ Early Iron Age, Early Iron Age, Romano-British, Early to Mid Saxon, medieval and undated features, for the recovery and assessment of charred plant remains and charcoal.

The majority of the bulk samples were 10 litres, but varied between 0.5 and 110 litres and artefact samples were up to 800 litres. The volume of the flots was obviously highly variable due to the range in sample size, but in general flots were average for the sampled contexts, (average flot size is *c*. 60ml per 10 litre of sample) with between 1 – 70% rooty material and low to high numbers of uncharred weed seeds, which may be indicative of stratigraphic movement. **Table 41** quantifies the assessment data.

Charcoal fragments of greater than 5.6 mm were recovered from 73 of the samples. Eight of the Neolithic samples, nine of the Late Bronze Age/ Early Iron Age samples, one of the Late Iron Age/ Early Romano-British, one of the Saxon samples and six of the undated samples contained large quantities of charcoal. The charcoal was mainly large wood fragments.

Neolithic
The ten Neolithic samples from pits W136 and W175 contained charred grain fragments in seven samples, with high numbers in one of them, charred weed seeds, including hazelnut fragments in all samples, with large amounts in seven of these. A few charred chaff fragments were recorded in the sample from W175. Burnt bone fragments were recorded in five of the flots.

Early Bronze Age
The Early Bronze Age samples from the ring ditch W33 and ditch C4744 produced very few, if any charred remains in the flots.

Middle Bronze age
Only one sample has been defined as Middle Bronze Age and this pit (C6253) produced good quantities of grain and charcoal.

Late Bronze Age/ Early Iron Age
The Late Bronze Age/ Early Iron Age samples produced charred grain fragments in 29 samples, with high numbers in 15 of them, and charred chaff fragments in 21 of the samples, with large amounts in 10 of them. Charred weed seeds, including hazelnut fragments, were observed in 24 of the samples, with large quantities in 5 samples.

The three samples from W207 contained exceptional quantities of charred pea/ bean fragments, with a few pea/ bean fragments present in a sample from W208. Very good preservation and quantities were also noted in pits and especially in pit C2805. The remains from ditches were typically poorer but occasional concentrations (e.g. the sample from C124) were richer. A number of samples were from cremation-related features from which charcoal was generally very good and plant remains largely poor as they were incidental to the pyre firing. Burnt bone fragments were present in six of the flots, bone fragments in a single flot and small mammal bones in one flot. Molluscs were observed in a single flot.

Table 41: Quantification of ecofacts

Period	Feature	Context	Sample	Size	Flot size	Roots	Grain	Chaff	Unburnt weed seeds	Burnt weed seeds	Charcoal	Other	Residue
PHIST	?Pit C2157	2156	36	20	70	10	C	C	c	-	A		C
PHIST	Crem/p-hole C6359	6358	940	10	5		-	-	c	-	-		C
PHIST	Crem/p-hole C6353	6352	942	30	10		A	-	-	C	-		B
PHIST	Crem/p-hole C6363	6362	941	10	10		-	-	c	C	C		-
PHIST	Ditch	2181	38	10	5	2	C	-	-	-	C		-
PHIST	Ditch	3765	810	10	10	3	-	-	c	-	B		-
PHIST	Ditch	2289	39	10	5		-	-	-	-	C		C
PHIST	Ditch C2178	2179	37	10	60	10	C	-	-	-	A		C
PHIST	Ditch C2276	2277	30	10	30	5	-	-	c	-	B		C
PHIST	Ditch C2292	2290	41	10	5	3	-	-	-	-	C		-
PHIST	Ditch C2292	2291	35	10	10		-	-	-	-	C		-
PHIST	Ditch C2306	2305	33	10	5	2	-	-	-	-	C		C
PHIST	Ditch C2308	2307	34	10	10	5	-	-	-	-	C		-
PHIST	Feat C3720	3719	802	10	10	3	-	-	b	-	C	Snails	-
PHIST	P-hole/pit C6347	6346	943	10	5		C	C	-	-	-		C
PHIST	Pit C6351	6350	944	10	5	3	-	-	-	-	-		-
PHIST	Pit C6489	6488	904	10	20		A*	B	-	B	B		C
PHIST	Pit C6489	6514	905	10	5		A	C	-	-	-	H	-
PHIST	Pit C6489	6521	909	10	5		C	C	-	-	C		-
PHIST	Pit C6489	6658	907	10	5		-	-	-	-	-		-
PHIST	Pit C6489	6659	906	10	15		A**	C	-	-	C		-
PHIST	Pit C6489	6660	908	10	5		-	-	-	-	-		-
PHIST	Pit C6499	6431	900	10	10		A*	A	cc	C	B		-
PHIST	Pit C6499	6498	948	20	50	5	A*	A	-	C	A	Fruit stone	C
PHIST	Pit C6499	6499	899	10	80	20	A**	A*	a	A	A		-
PHIST	Pit C6499	6655	901	10	5		A	-	-	-	C		C
PHIST	Pit C6499	6656	902	10	5		C	-	c	-	-	Burnt bone	-
PHIST	Pit C6499	6657	903	20	10		C	C	-	-	B	Smb	-
PHIST	Post hole C6305	6304	911	10	10		A	-	-	A	B	H	-
PHIST	Post hole C6307	6306	913	10	5		A*	-	-	-	C		-
PHIST	Post hole C6309	6308	917	10	5	3	-	-	-	-	C		-
PHIST	Post hole C6317	6316	925	10	5		C	-	-	-	-		C
PHIST	Post hole C6319	6318	928	10	5		C	C	c	-	-		-
PHIST	Post hole C6323	6322	930	10	5	3	C	-	c	C	-		-
PHIST	Post hole C6329	6328	932	10	10	5	C	-	-	-	B		-
PHIST	Post hole C6339	6338	927	10	5		-	-	c	-	C		C
PHIST	Post hole C6341	6340	926	10	10		B	-	-	-	B		-
PHIST	Post hole C6349	6348	945	10	5	2	C	-	-	-	-		C
PHIST	Post hole C6355	6354	947	10	5		C	-	-	-	C		-
PHIST	Post hole C6357	6356	946	10	5		A	-	-	C	-		-

PHIST	Post hole C6395	6394	936	10	5		C	-	-	-	-		C
PHIST	Post hole C6397	6396	938	10	10		-	-	-	-	C		-
PHIST	Post hole C6401	6400	939	10	20		B	C	-	C	B		-
PHIST	Post hole C6409	6408	933	10	10	3	B	C	-	-	B		-
PHIST	Post hole C6414	6413	934	10	5	1	A	C	c	-	C		C
PHIST	Post hole C6445	6444	912	10	10	3	A*	C	c	A	B		-
PHIST	Post hole C6447	6446	918	10	10		B	C	-	C	B		-
PHIST	Post hole C6451	6450	914	10	5		C	-	-	-	C		-
PHIST	Post hole C6453	6452	916	10	5		-	-	-	-	-		-
PHIST	Post hole C6455	6454	915	10	5		-	C	-	-	C		-
PHIST	Post hole C6457	6456	920	10	5		-	-	c	-	-		C
PHIST	Post hole C6459	6458	921	10	5		C	-	-	-	C		C
PHIST	Post hole C6461	6460	922	10	5		-	-	-	-	-		-
PHIST	Post hole C6462	6463	923	10	5		-	-	-	C	-		-
PHIST	Post hole C6465	6464	919	10	10	3	C	C	-	-	C		-
PHIST	Post hole C6467	6466	924	10	5		C	-	-	C	C		-
PHIST	Post hole C6472	6473	937	10	10		C	-	-	-	B		-
PHIST	Post hole C6487	6486	910	10	5		B	-	-	-	C		-
PHIST	Post hole C6585	6584	935	20	30		A	-	c	-	A		-
ENE	Pit W136	3371	245	20	250	12.5	A	-	b	A(h)*	A	-	-
ENE	Pit W175	3278	237	7	50	2	C	-	c	A(h)	A	-	-
ENE	Pit W175	3279	238	4	60	1.8	-	-	c	C(h)	A	Some burnt bone	1
ENE	Pit W175	3280	239	3	60	3	C	-	c	A(h)	A	Some burnt bone	-
ENE	Pit W175	3281	240	4	35	3.5	B	C	a	A(h)	B	Some burnt bone	-
ENE	Pit W175	3297	244	5	50	5	C	-	c	B(h)	A	-	-
ENE	Pit W175	3298	243	6	130	4	C	-	c	A(h)	A	-	-
ENE	Pit W175	3299	242	5	60	6	-	-	c	A(h)	A	Some burnt bone	-
ENE	Pit W175	3300	241	5	60	3	B	-	c	A(h)	A	Some burnt bone	-
BA	Barrow ditch C4744	3827	834	20	20		-	-	c	-	B		-
BA	Barrow ditch C4744	3919	831	10	5	2	-	-	-	-	-		-
BA	Barrow ditch C4744	3921	832	10	5		-	-	c	-	C		-
BA	Barrow ditch C4744	3930	825	10	10	5	-	-	-	-	B	Snails	-
BA	Barrow ditch C4744	3931	826	10	10		-	-	-	-	C		-
BA	Ring ditch C6221	6220	894	10	40		C	C	c	-	A		-
EBA	Ditch W33	1882	233	4	1	0.5	-	-	c	-	-	-	-
EBA	Ditch W33	1886	234	5	2	0.5	-	-	c	-	-	-	-
MBA	Pit C6153	6152	1046	50	40	5	A	-	a	-	A*	Snails	C
LBA/EIA	Pit	1499	93a	10	20		A*	A*		A	B		
LBA/EIA	Pit	1499	93b	10	10		A*	A*		A	B		
LBA/EIA	Pit	1499	93c	10	10		A*	A		A	B		
LBA/EIA	Pit	1499	93	22	10		A*	A*		B	B		
LBA/EIA	Pit C2805	2802	210	20	35	10	A*	C	c		A	Snails	C
LBA/EIA	Pit C2805	2802	248	20	25	5	A*	A	-	B	B	Snails	C
LBA/EIA	Pit C2805	2802	255	10	10		B	-	b	C	B	Snails	C
LBA/EIA	Pit C2805	2803	211	10	15		B	C	c	-	B	Snails	C

LBA/EIA	Pit C2805	2803	256	10	30	5	C	C	-	-	A	Snails	C
LBA/EIA	Pit C2805	2804	212	20	20	5	A*	C	c	B	B	Snails	-
LBA/EIA	Pit C2805	2804	249	10	20	5	A	A	c	C	B	Snails	C
LBA/EIA	Pit C2805	2804	257	10	20		B	C	c	-	B		-
LBA/EIA	Pit C2805	2813	213	20	20	5	A	A*	-	B	B	Snails	C
LBA/EIA	Pit C2805	2813	250	10	10	3	B	C	c	-	B	Snails	-
LBA/EIA	Pit C2805	2813	258	10	30	5	C	C	-	-	B		-
LBA/EIA	Pit C2805	2814	214	20	10	3	B	B	b	B	C		-
LBA/EIA	Pit C2805	2814	251	20	15		C	C	c	-	B	Snails	-
LBA/EIA	Pit C2805	2814	259	10	30	5	A	A	-	A	A		-
LBA/EIA	Crem W100	1727	120	0.5	10	1.5	-	-	c	-	-	Some burnt bone	-
LBA/EIA	Crem W100	1727	121	1.5	25	5	-	-	b	C	C	Some burnt bone	-
LBA/EIA	Crem W101	1729	122	1	10	2	-	-	c	-	C	Some burnt bone	-
LBA/EIA	Crem W101	1729	123	1	15	2.25	-	-	b	-	C	Some burnt bone	-
LBA/EIA	Crem W102	1700	109	1	10	1	-	-	c	-	C	-	-
LBA/EIA	Crem W102	1700	113	1.5	10	1.5	-	-	b	-	C	-	-
LBA/EIA	Crem W102	1700	110	3	25	5	C	-	b	-	C	-	-
LBA/EIA	Crem W102	1700	112	3.5	30	4.5	C	-	c	C	C	-	-
LBA/EIA	Crem W102	1701	114	1.5	5	2	C	-	c	-	C	-	-
LBA/EIA	Crem W102	1701	115	3	5	1.5	C	-	c	-	C	-	-
LBA/EIA	Crem W102	1701	111	3.5	10	4	-	-	c	C	-	mollusc (C)	-
LBA/EIA	Crem W106	1723	116	4	20	4	-	-	c	C	C	-	-
LBA/EIA	Crem W107	1725	117	3	10	2	-	-	b	-	C	-	-
LBA/EIA	Crem W223	3603	277	10	500	5	C	-	c	C	A*	Some burnt bone	-
LBA/EIA	Crem W223	3608	278	10	250	5	-	-	c	C	A*	Some burnt bone	-
LBA/EIA	Crem W223	3609	279	10	650	6.5	-	-	c	C	A*	Some burnt bone	-
LBA/EIA	Crem W223	3610	280	10	1100	11	-	-	c	C	A*	Some burnt bone	-
LBA/EIA	Crem W223	3611	281	10	1500	15	C	-	c	C	A*	Some burnt bone	-
LBA/EIA	Crem W99	1704	118	2	10	2	C	-	c	-	C	-	-
LBA/EIA	Crem W99	1704	119	0.5	10	2	-	-	c	C	C	-	-
LBA/EIA	Ditch W165	3152	219	10	10	1	A	B	b	C	C	-	-
LBA/EIA	Ditch W165	3646	287	10	60	3	A	-	b	C	B	Some burnt bone	-
LBA/EIA	Ditch W165	3646	288	10	60	3	C	-	c	C	A		-
LBA/EIA	Ditch W3	1023	6	20	10	1	C	-	c	C	-	-	-
LBA/EIA	Ditch W62	1698	108	10	50	5	C	-	a	C	B	-	-
LBA/EIA	Ditch W62	1702	124	20	40	16	B	-	a	-	-	-	-
LBA/EIA	Pit W207	5236	341	10	50	7.5	C	C	b	C	B	P/beans (A*)	-
LBA/EIA	Pit W207	5250	324	10	500	1	A	-	c	C	A	P/beans (A**)	-
LBA/EIA	Pit W207	5265	342	10	600	6	A	A	c	A	A	P/beans (A**)	-
LBA/EIA	Pit W208	5030	311	10	100	15	A	A	c	C(h)	A	Smb (C), mollusc (C), p/beans (C), bone	-
IA	Pit	4589	858	20	5	3	-	-	c	-	C		-
EIA/MIA	Grave W64	1306	55	20	15	4.5	C	-	b	C	C	-	-
EIA/MIA	Grave W69	1412	63	10	25	5	-	-	a	-	C	-	-
EIA/MIA	Grave W69	1412	68	10	25	4	C	-	b	-	C	Bone	
EIA/MIA	Grave W70	1605	96	20	15	3	C	-	c	-	-	mollusc (C), bone	-

EIA/MIA	Grave W97	1733	125	20	60	36	C	-	a	C	A	-	-
EIA/MIA	Grave W97	1735	129	20	40	10	A	C	b	C	C	-	-
EIA/MIA	Posthole W67	1410	64	10	40	6	C	C	a	C	B	-	-
LIA/ERO	?Crem	336	30	48	40	5	-	-	-	-	B	Burnt bone	-
LIA/ERO	?Crem	2944	254	10	5	3	-	-	-	-	C		-
LIA/ERO	?Hearth	3985	839	30	120		A**	B	-	B	B	Snails	C
LIA/ERO	?Pit C4586	4585	853	20	10		-	-	a	-	C		-
LIA/ERO	Crem	59	8	12	10	5	C	C	c	-	C		-
LIA/ERO	Crem	59	11	20	10	5	-	-	-	-	C		-
LIA/ERO	Crem	62	91	10	5	-	C	-	-	-	-		-
LIA/ERO	Crem	82	89	8			20		-	-	B	Burnt bone	C
LIA/ERO	Crem	2186	17x	120	710	40	-	-	c	-	A	Snails	B
LIA/ERO	Crem	2186	24x	30	500	50	-	-	-	-	A**	Snails	B
LIA/ERO	Crem	2201	20x	35	80	15	A	-	c	-	A	Snails	C
LIA/ERO	Crem	2208	18x	100	200	40	-	-	-	-	A	Snails	B
LIA/ERO	Crem	2208	25x	50	3000	10	-	-	-	-	A**		B
LIA/ERO	Crem	2216	27x	10	50	10	C	-	-	-	A	Burnt twigs, burnt bone	C
LIA/ERO	Crem	2232	28x	25	100	10	A*	-	c	B	A	Burnt bone, twigs, bird	C
LIA/ERO	Crem	2287	31x	10	5	2	C	-	c	-	C		C
LIA/ERO	Crem	2301	32x	10	5	2	-	-	-	-	C	Snails	-
LIA/ERO	Crem	2826	216	12	25	5	A	-	-	C	B	Burnt bone	-
LIA/ERO	Crem	3007	501	50	100	30	C	-	c	-	A*	Snails	C
LIA/ERO	Crem	3192	525	60	2040		-	-	-	-	A**		A
LIA/ERO	Crem	3704	801	30	70	5	-	-	c	-	A*		C
LIA/ERO	Crem	3708	800	20	20	5	-	-	c	-	B		-
LIA/ERO	Crem	3710		10	10	5	-	-	c	-	B	Burnt bone, snails	-
LIA/ERO	Crem	3737	809	10	30	5	C	C	c	-	A	Snails	-
LIA/ERO	Crem	3776	812	10	10	3	-	-	c	-	C		-
LIA/ERO	Crem	3805	815	10	20		-	-	-	B	B	?Seed heads	-
LIA/ERO	Crem	3809	816	20	20		C	-	c	C	B	?seed heads, bone	-
LIA/ERO	Crem	3894	821	10	5	3	-	-	-	-	C		-
LIA/ERO	Crem	3933	827	10	5	2	-	-	-	-	C		-
LIA/ERO	Crem	3934	828	10	10		C	-	c	-	C		-
LIA/ERO	Crem	6366	898	10	15		C	-	-	-	C		-
LIA/ERO	Ditch	4563	854	20	10	3	-	C	c	-	C		-
LIA/ERO	Ditch	4564	855	20	15		-	-	c	-	C	Snails	-
LIA/ERO	Ditch	4587	863	10	10		-	-	a	-	C		-
LIA/ERO	Ditch	4605	864	10	10		-	-	b	-	C		-
LIA/ERO	Ditch C2042	2040	3x	10	15	5	-	-	c	-	B		-
LIA/ERO	Ditch C2100	2103	6x	10	5		-	-	c	-	C	Snails	C
LIA/ERO	Ditch C2101	2102	7x	10	5	3	C	-	c	-	C		C
LIA/ERO	Ditch C2116	2115	5x	10	10	3	-	-	c	-	C		C
LIA/ERO	Ditch C2118	2117	4x	10	5		C	-	-	-	C		-
LIA/ERO	Ditch C2122	2121	8x	10	5		-	-	-	-	C		-
LIA/ERO	Ditch C2128	2126	14x	10	10		-	-	c	-	-	Snails	C

LIA/ERO	Ditch C2128	2127	13x	10	20	7	-	-	c	-	B	Snails	C
LIA/ERO	Ditch C33	32	64	10	30	5	C	-	-	-	C		-
LIA/ERO	Ditch C4566	4589	857	20	10	3	C	-	b	-	-	Snails	-
LIA/ERO	Ditch C71	34	65	20	20	5	A	C	c	-	C		-
LIA/ERO	Feat C3937	3936	829	10	20		-	-	b	-	B	Fish	C
LIA/ERO	Feat C4609	4608	861	10	10		C	-	a	-	C		-
LIA/ERO	Feat C4611	4610	862	10	20		C	-	c	-	C		-
LIA/ERO	Hollow	2282	40x	10	10	5	-	-	c	-	C	Snails	-
LIA/ERO	Pit	3911	841	60	200		A**	A**	-	A	A		B
LIA/ERO	Pit	3975	842	10	20		A*	A	-	-	A	Burnt bone	-
LIA/ERO	Pit C3800	3799	814	10	5		C	-	c	-	-		-
LIA/ERO	Pit C3910	3982	843	10	10		A	-	-	-	C		-
LIA/ERO	Pit C42	40	1	20	200	20	A	-	c	-	A		-
LIA/ERO	Post hole C2250	2251	29x	10	10	5	-	-	-	-	C		C
LIA/ERO	Post hole C4514	4513	850	40	35		-	-	a	C	B		-
LIA/ERO	Scoop C644	643	47	10	20	5	A	C	c	C	C		-
RO	Crem	49	3	8	5	5	-	-	-	-	-		-
RO	Crem	58	9	10	5	3	C	-	-	-	-		-
RO	Crem	85	12	8	5	5	-	-	-	-	-		-
RO	Crem	95	13	25	5	5	-	-	-	-	-		-
RO	Crem	113	14	20	30	20	-	-	-	-	C		-
RO	Crem	2152	10x	30	180	20	-	-	c	-	A	Snails	B
RO	Cut C176	177	67	20	20	10	C		c		C		
RO	Cut C178	179	66	20	25	55	C	C			B		
RO	Ditch	733	74	15	10		A	A		C	C		
RO	Ditch C164	163	68	10	15	8	C		c	C			
RO	Ditch C18	17	71	20	20	3	B	C		C	C		
RO	Ditch C187	204	70	10	10	5		C	c		C		C
RO	Ditch C227	180	17	10	5		-	-	-	-	C		-
RO	Ditch C450	449	37	20	20	5	A	C			B		
RO	Ditch C592	591	42	20	30	5	A	C	c		B		
RO	Ditch C618	617	45a	10	10	2	C	C	c		C	mussel	
RO	Ditch C806	801	88	10	5		C	C					
RO	Ditch C806	801	90	20	5	3	B						
RO	Feature C66	65	72	10	5	3	C		c				
RO	Grave	23	6	8	20		B	-	c	-	C		-
RO	Grave	23	19	8	10		C	-	-	C	B		-
RO	Grave	23	5	10	40	5	A	B	-	C	B	Lmb, smb	-
RO	Grave	23	18	10	15		C	-	-	C	B		-
RO	Hollow way C896	622	44a	10	20	10	A*	C		B	B		
RO	Layer C143	143	16	10	5		-	-	-	-	-		-
RO	Layer C352	352	31	45	30	5	A*	-	c	-	B		-
RO	Oven C630	629	51	10	20	5	C			C	B		
RO	Oven C630	629	80	30	40						A		
RO	Pit	754	63	10	10	5	B		c		C		

RO	Pit C175	174	15	20	20	5	A*	-	-	-	C		-
RO	Pit C4550	4551	851	30	150	20	B				A	Snails	
RO	Pit C518	582	40	20	10	7	C				C		
RO	Pit C612	611	78	20	20	3	A*	A		B	B		
RO	Pit C703	702	69	22	10	5	A			C	C		
RO	Pit C9	10	4	40	125		A*	A*	-	A	B	H	-
RO	Pit C9	261	20	10	10		C	-	-	-	C		-
RO	Post hole C382	381	33	10	30				c		B		
RO	Scoop C644	643	47	10	200	5	A	C	c	C	B		
RO	Stoke hole C638	637	52	10	125					C	A		
RO	Stoke hole C638	637	58	20	450		A				A**		
RO	Stoke hole C638	637	59	10	250						A**		
RO	Stoke hole C638	637	60	10	125		C				A*		
RO	Stoke hole C638	637	61	10	30						B		
RO	Stoke hole C638	637	62	10	40						B		
RO	Stoke hole C638	637	81	20	800	10	A			C	A**	H	A
RO	Stoke hole C638	637	82	20	300		A				A**		B
RO	Stoke hole C638	637	83	20	300		A				A**		B
RO	Stoke hole C638	637	84	10	200					C	A**		B
RO/EM	Grave W59	1390	59	20	50	25	A	C	a	C(h)	C	-	-
RO/EM	Layer W46	1612	97	20	40	20	C	-	a	C(h)	C	-	-
EM	?Grave	2480	60	10	10	5	C				C	Snails	
EM	?Post hole	642	50	10	10	3					C		
EM	Feature C2835	2836	218	10	20	5			c		C	Snails	
EM	Feature C2835	2838	219	100	5	3					C	Snails	
EM	Feature C2835	2842	221	10	5						C		
EM	Feature C2835	2844	222	100	10	3	C		c		C		
EM	Feature C2835	2861	226	20	5						C		
EM	Feature C2835	2863	227	10	5						C		
EM	Feature C2835	2865	228	10	5	5							
EM	Feature C384	383	34	20	30	5	A*		c		A		B
EM	Feature C384	415	36	45	2900		A**	A**		A	A		A
EM	Grave	2886	233	20	10	5	C				C	Snails	
EM	Grave	3035	528	10	20	10			c		B		
EM	Grave	3061	529	10	15	5	C				B		C
EM	Grave	3220	527	60	150	40					A	Burnt bone	C
EM	Grave	3714	808	20	20	5	C		b	C	B	Burnt bone, snails	
EM	Grave	3725		10	10	3			c		B	Charred stalks, bone	
EM	Grave	3750	805	10	20	3	B		c	C	A		
EM	Grave	3758	807	10	10						B		C
EM	Grave	3763	813	70	50		C		c		A	Bone	C
EM	Grave	3997	840	60	30	10	C		a		B		
EM	Grave	4501	845	50	50		C		a		C		
EM	Grave	4501	846	10	5				c				
EM	Grave	4501	847	10	5	3					C		

EM	Grave	4501	848	10	20				a				
EM	Grave	4565	856	20	10	5			c		C	Snails	
EM	Grave	4592	866	20	20	5			b	C	B	Human bone	
EM	Grave	4613	865	110	60				a		C	Human bone	
EM	Grave	4613	870	20	10	5	C		c		C		
EM	Grave	4616	867	30	10				b		B		C
EM	Grave	4622	868	10	20				c		B		
EM	Grave	4646	871	30	25	5	C		a	?C	C	Snails	
EM	Grave	4660	879	30	20	3	C	C	c		B		C
EM	Grave	4664	889	50	25		C		c	C	A		C
EM	Grave	4678	884	20	5	3					C		C
EM	Grave	4681	876	20	15		C		b	C	B		
EM	Grave	4687	878	10	5				c		C		
EM	Grave	4700	875	10	10				c		C		
EM	Grave	4705	877	30	30	5	C	B	b	C	B		
EM	Grave	4709	883	10	10				b		C	H	
EM	Grave	4995	860	10	5								
EM	Grave	6132	892	10	10	5			c		C	Bone	
EM	Grave	6200	893	10	10		C	C	c	C	C	?textile	
EM	Grave	6522	897	10	5	3							
EM	Grub hut	631	48	45	75	10	B		c		A	H, burnt smb, mussel	C
EM	Grub hut	632	49	65	50	10	B		c		A		C
EM	Layer C191	191	21	10	30	5	C		c		A		
EM	Layer C238	238	29	45	60	5	A*	B	c	C	A		B
EM	Pit C3753	3752	806	10	5	2			c		C		
EM	Pit C4596	4595	859	20	40				c		B		
EM	Grave W104	1706	147	20	30	12	A	C	a	C	-	-	-
EM	Grave W111	1812	180	15	20	10	C	-	a	C	-	-	-
EM	Grave W12	1147	5	20	10	1.5	C	-	a	-	-	-	-
EM	Grave W120	1897	200	20	10	5	C	-	b	C(h)	-	-	-
EM	Grave W121	1899	205	20	15	4.5	B	-	b	C	C	-	-
EM	Grave W122	1465	181	20	30	7.5	C	-	b	C	C	P/beans (C), mollusc (C)	2
EM	Grave W123	1855	186	20	50	5	A	C	a	C	A	-	6
EM	Grave W13	1072	2	20	10	1	-	-	b	C	-	-	-
EM	Grave W13	1075	3	20	10	1	C	-	c	C	-	-	-
EM	Grave W18	1125	7	20	15	7.5	B	C	a	C	-	-	-
EM	Grave W185	1320	47	20	10	1.5	A	-	b	C	-	mollusc (C)	-
EM	Grave W19	1121	17	20	20	3	A	-	a	C	-	-	-
EM	Grave W190	1647	101	10	25	15	C	C	a	C	-	-	-
EM	Grave W20	1119	9	20	30	6	C	-	a	C	-	-	-
EM	Grave W21	1117	8	20	10	1	-	-	a	C	C	-	-
EM	Grave W22	1324	44	20	10	1.5	B	-	a	C	C	mollusc (C)	-
EM	Grave W24	1115	11	20	20	2	C	-	c	-	C	-	-
EM	Grave W27	1322	45	20	10	1.5	C	-	b	C	C	-	-
EM	Grave W38	1515	95	20	10	3.5	C	-	b	C	-	-	-

EM	Grave W41	1768	173	20	30	21	B	-	a	-	-	-	-
EM	Grave W43	1574	82	20	15	10	B	-	c	-	-	mollusc (C), bone	-
EM	Grave W45	1578	192	20	50	15	A	-	a	C	C	Bone	1
EM	Grave W45	1858	194	20	50	15	A	-	a	C	-	Bone	-
EM	Grave W57	1635	168	20	15	4	C	-	c	-	C	-	-
EM	Grave W60	1454	206	20	30	9	A	-	a	C	C	P/beans (C)	-
EM	Grave W60	1458	73	20	30	10	A	-	a	C	-	-	-
EM	Grave W7	1177	16	6	5	1	C	C	a	C	-	-	-
EM	Grave W7	3032	172	20	15	1.5	-	-	b	C	-	Bone	-
EM	Grave W77	1100	4	20	25	7.5	C	-	a	-	-	-	-
EM	Grave W78	1152	18	20	40	28	C	-	a	C	-	-	-
EM	Grave W83	1300	25	20	25	5	C	-	a	C	-	-	-
EM	Grave W84	1280	20	20	30	9	C	-	b	C	-	-	-
EM	Grave W93	3008	141	20	10	2	C	-	c	-	-	mollusc (C)	-
EM?	?Hearth C3891	3890	824	10	10		C				B		
EM?	Ditch	3831	835	20	5				c		C		
EM?	Ditch	3917	830	20	30	5				C	B		
EM?	Ditch C3917	39917	837	30	25	5	A				B		
EM?	Ditch recut	3829	833	20	20		B	C			B		
MD	Beam slot	660	57	100	30	5	C		c		B		
MD	Ditch C267	266	22	10	15	3	A				B		C
MD	Ditch C316	310	25	10	20		C		c		B	Smb	
MD	Ditch C360	361	32	20	20		A		c		B	Lmb	
MD	Ditch C504	503	39	10	5	3							
MD	Ditch C520	549	79	20	20	5	A	C	c	C	B	H	B
MD	Ditch C590	589	41	20	10	5	B	C			B	H	
MD	Ditch C646	645	56	15	20	55	C		c		B		
MD	Layer C389	389	35	20	10	5	C	C	c		C		
MD	Layer C413	413	38	10	25		A*			B	B		B
MD	Pit C281	280	23	20	10		A			B	B		
MD	Pit C281	309	24	20	30		A*				B	Fish	B
MD	Pit C603	602	43	10	30	5	C		c		B	Fish	
MD	Pit C614	613	45	10	250		A**	A		A	A		B
MD	Pit C614	636	46	10	10	3	A*				B	Lmb, fish	C
MD	Pit C792	791	76	30	75	10	A*	C	c		A	H, lmb, smb, fish	
MD	Pit C792	796	77	45	225	10	A*		c	C	A	H, lmb, fish, eggshell,	B
MD	Pit C872	411	26	10	30	10	B	C			B		B
MD	Ditch W44	1569	94	1	3	0.4	B	-	c	-	-	P/beans (C)	-
MD	Ditch W66	1598	92	20	50	25	B	C	a	C	C	-	-
MD	Pit W47	1310	50	10	40	8	A*	C	a	C	B	-	-
UN	Ditch W132	3131	232	10	10	2.5	C	C	a	C	-	-	-
UN	H.way W170	3234	221	3	2	1	C	C	c	-	-	-	-
UN	Pit W137	3345	252	3	10	1	-	-	b	-	C	-	-
UN	Pit W137	3405	253	4	10	0.5	-	-	c	C	B	-	-
UN	Pit W137	3406	254	4	10	0.5	C	-	c	C	C	-	-

UN	Pit W137	3407	255	4	5	0.5	-	-	c	C	C	-	-
UN	Pit W137	3408	256	5	5	0.75	-	-	c	-	-	-	-
UN	Pit W137	3409	257	4	5	0.75	-	-	c	C	-	-	-
UN	Pit W138	3397	246	10	40	4	C	-	c	C	A	-	-
UN	Pit W138	3398	247	5	40	6	-	-	b	C	A	Some burnt bone	-
UN	Pit W138	3399	248	5	35	5.25	-	-	b	C	C	Some burnt bone	-
UN	Pit W138	3400	249	4	60	3	C	-	c	C	B	Some burnt bone	-
UN	Pit W138	3401	250	2	5	1	-	-	b	-	C	Some burnt bone	-
UN	Pit W138	3404	251	2	5	1	C	C	c	C	-	-	-
UN	Pit W138	3491	261	10	70	7	C	-	c	C	A	Some burnt bone	-
UN	Pit W139	3335	258	10	60	12	C	-	b	C	B	Some burnt bone	-
UN	Pit W139	3410	259	10	20	10	C	C	a	C	C	-	-
UN	Pit W139	3411	260	10	10	3	C	-	b	C(h)	C	Some burnt bone	-
UN	Pit W139	3499	266	10	10	3	C	-	c	C	B	-	-
UN	Pit W139	3500	267	10	10	1.5	C	-	c	-	B	-	-
UN	Pit W180	3383	264	5	60	3	-	-	b	C	A	-	-
UN	Pit W180	3498	265	5	60	6	C	-	b	C	A	-	-
UN	Pit W37	1595	93	10	90	9	A*	-	b	C	A	P/beans (A)	-
UN	?Pit C2723	2722	206	10	20	3	C	C	c	C	C		
UN	?Post hole C2536	2535	62x	30	10	3			c		C	Snails, modern insects	
UN	?Post hole C2737	2736	203	7	2	2							
UN	?Ring ditch	2503	55x	10	5	2	C		c			Snails	
UN	?Ring ditch	2509	56x	10	5			C				Snails	
UN	Cut C2720	2719	200	5	5	3			c				
UN	Cut C2923	2922	238	10	5	4	C						
UN	Cut C2937	2838	246	20	10	3			c		C	H	
UN	Ditch	2330	81x	10	5	2			c				
UN	Ditch C2471	2470	63x	10	10	3	C		c	?C	C	Snails	
UN	Ditch C2583	2582	67x	10	10	5			c			Snails	
UN	Ditch C2621	2622	70x	10	5	3	C				C	Snails	
UN	Ditch C2710	2890	245	10	25	5	C		c				
UN	Ditch C2718	2718	261	20	15	5	B	B	c	B	B	modern millipedes	
UN	Ditch C2718	2771	269	20	15	5	C				C	Snails	
UN	Ditch C2718	2775	270	20	15	5			c		C	Snails	C
UN	Ditch C2718	2787	266	20	10								
UN	Ditch C2718	2791	263	10	30	10	C		c		B	Snails, fish bone	
UN	Ditch C2718	2796	264	20	20	10	C				B	Snails	
UN	Ditch C2718	2821	267	10	20				c	?C	C	Snails	
UN	Ditch C2718	2902	262	20	20	10	?C				B		
UN	Ditch C2718	2918	265	30	25	5	C		c		C	Snails	
UN	Ditch C2718	2947	268	20	30	10			c		B	Snails	
UN	Ditch C2739	2738	205	20	30	5	C		c				
UN	Ditch C2741	2740	230	20	20	5	B	C	c		B	Snails, modern earwig	
UN	Ditch C2812	2811	207	20	60						A	Snails	B
UN	Ditch C2812	2811	234	10	10	3		C				Snails, modern earwig	

UN	Ditch C2840	2846	225	20	30	10	C	C	c		B	modern beetle	
UN	Ditch C2840	2867	229	20	20	20			c		B	modern millipede	
UN	Ditch C2911	2912	253	20	10	5			c		B	Snails, modern millipedes	
UN	Feature	2751	282	10	10	5			c			Snails	
UN	Feature	2755	276	10	10	3			c		C	Snails	
UN	Feature	2759	280	10	40	5	C		c		B	Snails, mod beetle/millip	
UN	Feature	2761	278	10	10	5			c			modern woodlice/beetles	
UN	Feature	2763	283	10	10	3					C	Snails	
UN	Feature	2777	275	10	10	3	C		c		C	Snails, modern beetle	
UN	Feature	2781	279	10	10	3			c		C	Snails	C
UN	Feature	2783	277	20	10	3	C		c		C	Snails	
UN	Feature	2904	281	20	5	3	C	C	c			Snails	
UN	Feature	3005	502	10	20	10	C	C	c		B	Snails	
UN	Feature	3013	500	20	60	30	C		c	C	B	modern beetle	
UN	Feature	3031	503	20	10	3			c		C		
UN	Feature	3031	505	10	10	5	C		c		C		
UN	Feature	3033	504	20	20	10			c		B		
UN	Feature	3057	511	10	10	3	C				C		
UN	Feature	3059	514	10	10	3	C		c		C	Fish bone, modern insects	
UN	Feature	3063	512	10	5	3				C			
UN	Feature	3065	510	10	5								
UN	Feature	3070	513	10	5		?C						
UN	Feature	3079	516	10	50	5		C		C	A		
UN	Feature	3081	517	10	15	5	?C	?C			B		
UN	Feature	3115	518	10	500	20					A**	Snails	
UN	Feature	3119	519	30	30	5	A	C	c		B		
UN	Feature	3123	520	10	15	3			c		B		
UN	Feature	3124	521	10	15	3					B	Fruitstone	
UN	Feature	3142	524	20	10	3	C				B		
UN	Feature	3079/3081	515	20	100	5			c	C	A**		
UN	Feature	3145/3149	523	10	10	5							
UN	Feature C2730	2729	202	10	5	3							
UN	Feature C2801	2800	204	20	5	2	C	C	c		C	Snails	
UN	Feature C2939	2938	247	20	50						A	Snails	
UN	Feature C3041	3039	507	20	30	10	C		c		B		
UN	Feature C3083	3082	508	10	30	10	C		c		B	Snails	
UN	Feature C3516	3515	531	10	20		?C				B	Snails, cockle shell	
UN	Feature C3525	3524	541	10	15	5							
UN	Feature C3534	3532	540	10	200	20	A**						A
UN	Pit C2354	2355	80x	25	30	5			c		B	Snails, modern insects	C
UN	Pit C2609	2608	68x	10	15	3	C		c		C	Snails	B
UN	Pit C2636	2635	69x	20	10	2	C		c	C	C	Snails, modern millipede	
UN	Pit C2678	2677	72x	10	5	2	C		c		C	Snails	
UN	Pit C2704	2703	217	10	5	4							
UN	Pit C2952	2951	260	12	10	3			c		C	Snails, mod fly puparia	

UN	Pit or post hole C2588	2589	65x	10	5	2			c		C	Snails	
UN	Pit or post hole C2591	2590	66x	10	5	3							
UN	Post hole	3723	804	20	20	5					B		C
UN	Post hole	3767	811	10	10			C		C	B		C
UN	Post hole C2431	2430	52x	10	5	2						Snails, modern fly puparia	
UN	Post hole C2455	2454	61x	10	25	5	A*			C	A	Snails	B
UN	Post hole C2461	2460	57x	10	5	5							
UN	Post hole C2546	2545	64x	10	5						C		
UN	Post hole C2653	2652	73x	10	10	3	C		c		C	Snails	
UN	Post hole C2819	2818	209	10	15	3	B	B	c		B	Snails	
UN	Post hole C2848	2847	223	2	5	3			c				
UN	Post hole C2850	2849	224	5	5	3							
UN	Post hole C2871	2970	243	12	5	3			c				
UN	Post hole C2881	2880	240	12	5								
UN	Post void C3939	3938	836	10	20				c		B		
UN	Ring ditch	2507	54x	10	5	2							
UN	Ring ditch	2511	51x	10	10	5		C	c		C		

Early Iron Age
The Early Iron Age samples contained charred grain fragments in small quantities in four samples, a few charred chaff fragments in a single sample and low numbers of charred weed seeds in two samples. Bone fragments were present in two samples and molluscs in a single sample.

Early – Middle Iron Age
Charred remains were generally sparse in the six samples and the origin and taphonomy of the remains in these samples is less well understood. One sample from W97 contained a number of charred cereal grains. Burnt bone fragments were observed in four samples. A single post-hole attributed to this period did not produce enough charcoal to indicate the original timber. As with the graves the origin and taphonomy of the charred remains may be questionable from these contexts.

Undiagnostic Prehistoric
A number of features only remain broadly ascribed to the prehistoric period, which in general contain moderate to poor grains and chaff preservation. However, the significance and potential of these will largely rely on their final phase ascription.

Late Iron Age/ Early Romano-British
The majority of the 58 samples was from cremation-related features and in general contained good to abundant quantities of charcoal, but little charred plant remains. The likelihood is that the latter are largely incidental to the funerary activities, however some were relatively rich (cremation sample C2232) and others contained seed heads (cremation samples C3805, C3809) which might relate to pyre items and tributes. Pits and hearths typically contained larger assemblages (pit sample C3911 and hearth sample C3985).

Romano-British
A total of 47 samples from a range of Romano-British features (cremations, ditches, graves, ovens, trackways, pits, post-holes and stokeholes) produce a wide array of preservation. Six samples in particular stood out with useful quantities of grain or chaff and included ditch sample C733, trackway C896, layer C352, and pits C175, C612 and C9.

'Sub-Roman'
The two sub-Roman samples contained varying quantities of charred grain fragments and low levels of charred weed seeds, including hazelnut fragments. A few charred chaff fragments were retrieved from sample of grave C59.

Saxon
A total of 77 samples from graves were assessed. They generally represent a single sample from each grave. Nearly all produced some grain, but largely in low quantities. Only graves W19 and W185 produced relatively high numbers of cereal grains. Hazelnuts were present in grave W120 and peas/ beans in grave W121 and W60. The remains in these graves, as with other graves, are generally low and the origin and taphonomy is not secure in view of the multiperiod activity on the site.

The samples processed from Saxon pits (pit C3753 and C4596), hearths (hearth C38912), post-holes, ditches and other features (feature C2835) generally produced very sparse remains with only low numbers of charred and charcoal remains. A possible sunken-featured building produced some grain (samples C631 and C632), and apart from the single isolated ditch recut (sample C3829) were the only Saxon samples to contain even moderate quantities of charred remains.

Medieval
Twenty-two samples were examined from medieval contexts. Ditches contained low quantities in general through the sample from medieval ditch W44 contained a moderate amount of charred grain fragments and a few charred pea/ bean fragments. Many of the medieval samples from all produced high numbers of charred grain and small quantities of charred weed seeds and charred chaff fragments, in particular those from pits W47, C281, C614 and C792.

Unphased
About 115 processed samples remain unphased. the remains from very few are high, and unless these can be dated and related to the assemblages described above they are not of any great significance.

Conservation
The processed samples are all stored in a dry and stable condition. If retained in the current and dry state they are suitable for long term archive until further decisions about a programme of analysis is decided. The unprocessed samples (WA) are not suitable for long term storage or retention. Any further processing of these if required should be undertaken in the near future. The remaining unprocessed samples are unsuitable for archive in their current state, and should be considered for discard if not processed.

It is acknowledged that charred remains are present in the residues of the processed samples and will be extracted from all samples proposed for further analysis. The charred remains that exist in the samples for which no further work is proposed will be discarded. The flots of these samples will, however, be retained in the archive so a record of this proportion of the sample is always available for further examination.

Comparative material
Kent is relatively poorly served for well-preserved analysis of charred plant remains from prehistoric contexts until the later Iron Age (cf. Scaife 1987). The present publication of charred remains from Neolithic to Saxon sites in Kent is relatively sparse, although it is acknowledged that there are significant assemblages coming to light as a result of recent field work (much largely a result of that associated with CTRL).

Secure preserved Neolithic remains must be considered a priority in Kent and are of regional and national significance in view of their general scarcity (cf. Scaife 1987). Elsewhere isolated pits have produced good ‘snap-shots’ of early farming e.g. Grooved Ware pits at Down Farm (Robinson in Barrett *et al*. 1991), and the Stonehenge landscape (Carruthers in Richards 1990).

The Iron Age and Romano-British assemblages find more suitable examples with which to compare in Kent. These include sites at Gravesend (Arthur and Metcalfe in Johnston 1972) and Keston Camp (Hillman unpubl., cf. Scaife 1987), and Wilmington gravel pit (Hillman 1982). Published records of Iron Age and Romano-British date tend to be dominated by spelt wheat with barley.

Potential for further work
The following section discusses the potential for further work of the charred and charcoal remains in the relation to the Landscape Zone

In general, the charred remains provide the potential to define a number of landscape-related activities and site-based activities relating to agricultural practise. The presence of grain, and peas/ beans indicate the range and diversity of crops, while the charcoal has the potential to define the nature of the exploited landscape and the place of that activity within the landscape. Furthermore, the charred remains also have the potential to provide some indication of the farming economy and changes through time, especially the later Bronze Age to Saxon periods. Information of this type from Saxon periods is particularly sparse in much of the country nationally, but recent work in Kent has also provided some further information (e.g. Waitrose site, Margate).

The presence of weed seeds may provide information about the wider landscape and which soil types were cultivated. They may provide some information on summer and winter sown crops.

In the earlier prehistoric periods (Neolithic and earlier Bronze Age) information about landscape, land-use and agricultural economy is particularly important, and here can be related to a broader spectrum of landscape data defined from Godwin's pollen analysis at Frogholt (Godwin 1962).

The presence of the better-preserved remains enables a detailed picture of the site developments, although this is biased by the changing use (burial vs settlement) reflected in different periods. The charred remains will help define specific activities (crop processing etc, placement of ritual bundles on pyres), and with the technology present on site. The presence of seed-heads in cremation related contexts enable details of funerary practice and ritual to be added to.

The charcoal from domestic and settlement context, in particular, can help define the nature and management of the local woodland. In other features the identification of species and timber ages can help in defined the nature and technology of the activities i.e. furnaces and pyres with high burning temperatures.

Charcoal may be able to facilitate radiocarbon dating, but the likelihood is that a closer and more useful chronology will be established by the artefacts. Although the human bones have the potential to provide absolute dates for burials, statistically there is not a sufficient sample to allow detailed analysis of burial sequence, either within individual cemeteries or between separate cemeteries.

On a regional scale the information from the pyres and particularly from a selection of Saxon samples can contribute to a level of information poorly examined from these features and this period.

With specific reference to the material from the Neolithic pits, the material is not exceptional in its own right but it is exceptional for the Neolithic in southern England. There are very few non-monumental, non-funerary Neolithic sites in Kent (Clarke 1982; Holgate 1981) and south-east England. Where such exist, very few which have been excavated in recent times (i.e. non-antiquarian) and even fewer from which detailed palaeo-environmental studies have been undertaken (see Clarke 1982).

References

Barrett, J, Bradley, R and Hall, M (eds), 1991a, *Papers on the Prehistoric Archaeology of Cranborne Chase* (Oxford)

Clarke, A F, 1982, ‘The Neolithic in Kent: a review’, in P E Leach (ed.), *Archaeology in Kent to AD 1500*, CBA Research Report **48**, 25-30

Godwin, H, 1962, ‘Vegetational history of the Kentish Chalk Downs as seen at Wingham and Frogholt’, *Veröffertliclungen des geobotanishen* **37**, 83-9 (Zurich)

Hillman, G 1982, *Iron Age glume wheats from Wilmington gravel pit, Kent*, AML Report 3611

Holgate, R, 1981, 'The Medway Megaliths and Neolithic Kent', *Archaeologia Cantiana* **97**, 221-34

Johnston, D E, 1972, 'A Romano-British Building at Chalk, near Gravesend', *Britannia* **3**, 112-148.

Richards, J C, 1990, *The Stonehenge Environs Project*, English Heritage Archaeological Report **16** (London)

Scaife, R G, 1987, 'A review of later Quaternary plant microfossil and macrofossil research in Southern England; with special reference to environmental archaeological evidence', in H C M Keeley (ed.), *Environmental Archaeology: a regional review, vol II*, HBMC(E) Occasional Paper **1**, 125-203 (London)

Assessment of Pollen

Michael J. Allen and Rob Scaife

Introduction
Several monoliths were taken of undisturbed soil sequences to facilitate both more detailed pedological description, and also sub-sampling for pollen.

Methodology
Undisturbed samples were taken from sealed contexts during excavation either in kubiena tins (foil containers) or soil monoliths. Where samples were taken in long soil monoliths (in excess of 0.2m) then undisturbed sample can be cut from these after suitable pedological/ sedimetological description has been made and any subsampling for pollen or other analyses.

Provenance
Samples include Bronze Age to Saxon contexts (**Table 42**). Of particular note are potential denuded Bronze Age barrow mounds, through which the Saxon graves were cut; deposits recording beneath potential trackway metalling (e.g. samples 83, 84, Q, X1 – X4); and occupation debris (e.g. pit sample E1).

Table 42: Provenance details of Pollen samples

Sample/ ref no	Phase	Contexts	Description
W83	EBA		Old land surface under mound
W84	EBA		Old land surface under mound
W103	EBA	W1661	Ditch fills W33
E1	Iron Age	C1499	Basal layer of storage pit
A1 – A3, A1a – A5a	Iron Age	C624, C625, C626, C679, C678, C628	Deep irregular pit complex in west of site
X1 – X4	R-B	C143, C916	Above and below road metalling 155
Y1 – Y4	R-B	C838	Above road metalling 839
Z1 – Z6	R-B	C121, C122	Above road metalling
B1- B5	Saxon	C1360 +	Cemetery
C1 – C3	Saxon		Ditch fills in cemetery
F1 – F6		C1483, C1500-1507	Ditch fills
G1, G2	Saxon	W632, W631	Sunken-featured building ‘floor’
M1 – M11	Saxon	C1178, C1083, C1079, C1171, C1174, C1175, C1176, C1177	Fills of grave C7
Q	Saxon		Former old land surface through which graves were cut

Conservation
Undisturbed soil samples are not suitable for long term storage. Samples should be stored in dry cool to cold/ refrigerated, but not freezing, dark conditions before sampling. Once the monolith samples have been fully described following pedological/ sedimetological notation and subsampled for pollen, it is proposed the monoliths are discarded unless being used for soil micromorphology.

Comparative material
The most significant comparative data from this area is that published within long landscape sequences at Holywell Coombe (Kerney *et al*. 1980), and the nearby site of Frogholt (Godwin 1962).

Potential for further work
None of sampled contexts provide long sequences for which a wider landscape picture would be gained. Those from individual pits are unlikely to greatly increase our interpretation of activity and function over and above the charred remains (cf. Dimbleby 1985; Scaife pers. comm.). Only contexts for which soil micromorphology (see below) might be undertaken are worth pursuing for pollen. These would include buried soils beneath barrows, and occupation deposits in pits (see list above).

Thus the assessment to date is largely assessment of contextual value, rather than pollen preservation. The analytical value of samples is heightened by the following samples considered for contemporary soil micromorphological analysis. Those of significant contextual potential include buried soils (samples 83, 84 and Q), turf in graves (one of M1-11), below trackway metalling (one of sample X1-X4) and the basal layer in the storage pit (sample E1).

Bibiography
Dimbleby, G W, 1985, *Palynology on Archaeological Sites* (London)

Godwin, H, 1962, ‘Vegetational history of the Kentish Chalk Downs as seen at Wingham and Frogholt’, *Veröffertliclungen des geobotanishen* **37**, 83-99 (Zurich)

Kerney, M P, Preece, R C and Turner, C, 1980, ‘Molluscan and plant biostratigraphy of some late Devensian and Flandrian deposits in Kent’, *Philosophical Transactions of the Royal Society* **B291**, 1-43 (London)

Assessment of Molluscs

Michael J. Allen and Sarah F. Wyles

Introduction
As the site was situated on Folkestone and non-calcareous Beds, the archaeological deposits were not conducive to snail life or shell survival, and the area is generally poor for land snail preservation (cf Evans 1972). The research objectives of land-use and landscape in the later prehistoric to Saxon periods are not ones of general landscape type (i.e. woodland vs open country) that can be undertaken with moderate snail assemblage. They seek to determine the landscape type at 'high resolution' (i.e. type of land-use: arable, vs short-grazed, vs open trampled, vs long grassland), requiring sequences of well-preserved land snails.

Methodology
No samples were taken and processed specifically for land snails (cf. Evans 1972), however the presence of land snails was noted in the assessment of the bulk samples

Quantification and Provenance
During the processing of bulk soil samples for the recovery of charred plant remains and charcoals, snails were noted, and recorded in the flots. The presence of snails in these flots is assessed below. None of the shells (WA) were noted to be fresh- or brackish-water species.

Snails were not noted in any of the Neolithic flots. One sample from Early Bronze Age barrow ditch C4744 and one from Middle Bronze Age pit C3615 contained snails. Few Late Bronze Age/ Early Iron Age features contained shells, although pit C2805 consistently recorded the presence of snails. Preservation here may be due to micro-environmental conditions created by the pit fills (i.e. calcium phosphate input in the form of ash). The presence of snail shells in the samples from this pit is noteworthy. Only one Early to Middle Iron Age sample contained a few shells (less than 5) in the flot, whilst only ditch C2308 from the undiagnostic prehistoric category contained any shells.

Several Late Iron Age/ Romano-British samples (13) contained shells, however the contexts they were noted from (cremation C8; ditch C5; pit C1; and hollow C1) at this period, and the level of preservation make their presence of little significance. The preponderance of survival in cremation-related contexts is due the increased levels of calcium (bone) and calcium phosphate (burnt bone and ash).

Nine Anglo-Saxon graves and four other contemporaneous features contained some shell in the flots. Again low levels of preservation here are likely to be due to the higher calcium carbonate content created by bone (albeit often dissolved and poorly preserved).

Conservation
What little shell that survives is stable in dry condition in either dried flots or residues. They are suitable for long term storage, if necessary, in the current form.

Comparative Material
Due to the poor preservation of snails on non-calcareous geologies there are no comparative records in the immediate area. However, the chalkland of Kent and Sussex have provided detailed records of landscape change from the early post glacial and prehistoric periods in Kent, such as at Brook (Kerney *et al*. 1964) and Holywell Combe (Kerney *et al*. 1980), which provide a general environmental background. For the Neolithic the seminal paper by Thomas (1982) drawing on work from various Neolithic causewayed enclosures (various publications), and that of landscape blocks e.g. Caburn-Malling Down, East Sussex (Allen

1995a), show the potential for land snail analysis. This work provides some parallels for the Kent landscape. At Saltwood Tunnel, however, survival is not good enough to allow anything but specific and localised comment, rather than an integral interpretation of environment, environment change and land-use in the wider local landscape.

Potential for further work
Shell survival was so poor as to not facilitate any significant contribution. In periods post 2000 BC good preservation of shells is needed to facilitate detailed interpretation of land-use. Prior to this period where more general statements on woodland can be determined through poorer survival, either the contexts themselves are lacking or shells do not survive.

However snails from any earlier prehistoric features (e.g. particular features such as ditch C4744 and Middle Bronze Age pit C3615) will be of use in defining the nature of the earlier landscape at Saltwood, and broad evidence of local land-use. Snails from Late Bronze Age/ Early Iron Age pit C2805, where preservation is better, may aid in determining function and use of the feature (see molluscan remains from other Iron Age pits e.g. Balksbury, Hants; Allen 1995b).

Bibiography
Allen, M J, 1995a, 'The prehistoric land-use and human ecology of the Malling-Caburn Downs', *Sussex Archaeological Collections* **133**, 19-43

-- , 1995b, 'Land molluscs', in G J Wainwright and S M Davies, *Balksbury Camp, Hampshire; excavations 1973 and 1981* English Heritage Archaeological Report **4**, 92-100

Evans, J G, 1972, *Land Snails in Archaeology* (London)

Kerney, M P, Brown, E H and Chandler, T J, 1964, 'The Late-Glacial and Post-glacial history of the chalk escarpment near Brook, Kent', *Philosophical Transactions of the Royal Society* **B248**, 135-204 (London)

Kerney, M P, Preece, R C and Turner, C, 1980, 'Molluscan and plant biostratigraphy of some late Devensian and Flandrian deposits in Kent', *Philosophical Transactions of the Royal Society* **B291**, 1-43 (London)

Thomas, K D, 1982, 'Neolithic enclosures and woodland habitats on the South Downs, in Sussex, England', in M G Bell and S Limbrey (eds), *Archaeological Aspects of Woodland Ecology*, British Archaeological Reports Int Series **146**, 147-170 (Oxford)

Assessment of Soil Micromorphology

Michael J. Allen with comments from Richard I Macphail

Introduction
One sample was taken specifically for soil micromorphology, with accompanying soil chemistry samples, from a buried soil beneath possible Early Bronze Age barrow mound material. A further series of monoliths suitable for pollen and soil micromorphology were also taken. The assessment of the value of soil micromorphology is based on the sampled contexts and question posed of them, and not of the material itself *per se*.

Methodology
Samples were taken from sealed contexts during excavation, either in kubiena tins (foil containers) or soil monoliths, to ensure that undisturbed samples were taken. Where samples have been taken in long soil monoliths (in excess of 0.2m) then undisturbed sample can be cut from these after suitable pedological/ sedimetological description has been made and any subsampling for pollen or other analyses.

Provenance
Samples include Bronze Age to Saxon contexts (**Table 43**).

Table 43: Provenance details for Soil Micromorphology samples

Sample/ ref no	Phase	Contexts	Description
W83	EBA		Denuded barrow mound
W84	EBA		Denuded barrow mound
E1	Iron Age	C1499	Basal layer of storage pit
A1 – A3, A1a - A5a	Iron Age	C624, C625, C626, C679, C678, C628	Deep irregular pit complex in west of site
X1 – X4	RB	C143, C916	Above and below road metalling 155
Y1 – Y4	RB	C838	Above road metalling 839
Z1 – Z6	RB	C121, C122	Above road metalling
B1- B5	Saxon	C1360 +	Cemetery
C1 – C3	Saxon		Ditch fills in cemetery
F1 – F6		C1483, C1500-C1507	Ditch fills
G1, G2	Saxon	C632, C631	Sunken-featured building 'floor'
C140	Saxon	C1538	Sunken-featured building
M1 – M11	Saxon	C1178, C1083, C1079, C1171, C1174, C1175, C1176, C1177	Fills of grave C7
Q	Saxon		Former old land surface through which graves were cut

Conservation
Undisturbed soil samples are not suitable for long term storage and samples should be stored in dark and dry cool to cold/ refrigerated, but not freezing, conditions before sampling. Samples for soil micromorphology become stable and suitable for long term storage and archive curation once impregnated blocks have dried. The slides are normally retained by the specialist but the remaining blocks are retained in the archive.

Comparative Material
Information from buried soils has been demonstrated to provide long site histories or prior and immediately post burial (e.g. Macphail 1986; 1995). Trample deposits are well known for

their anthropogenic indicators recovered from deposits (e.g. Potterne, Macphail in Lawson 2000; Courty *et al*. 1989).

Potential for other work

A number of sampled contexts provide the potential to examine the on site lived-in environment and of site based activities (**Table 44**). The context of most of these samples is restricted to site-based, rather than wider landscape, interpretation. Only the buried soils beneath the barrow mounds and that sealed by the road have the potential of providing both on-site and wider environmental context. Where samples have been selected, small samples for soil chemistry, where available, should be analysed in conjunction with any soil micromorphology.

Table 44: Summary of Soil Micromorphology sample potential

Sample/ group	Description	Potential	Pollen
Prehistoric landscape			
E1	Basal layer of storage pit	Localised activity on site	To be sampled for pollen at 2cm contiguous intervals to enable a) assessment and b) analysis if required.
Pre-Saxon landscape			
1 of X1-4	Soil beneath road metalling C155	Pre-road landscape and activity	
Q	?former land surface through which graves were cut	Pre-Saxon landscape and land-use	
1 of M1-11	Turf in grave	Pre-Saxon landscape and land-use	To be sampled for pollen at 2cm contiguous intervals to enable a) assessment and b) analysis if required
83	Top of OLS under barrow	Pre-Saxon landscape and land-use	To be sampled for pollen at 2cm contiguous intervals to enable a) assessment and b) analysis if required
84	OLS under barrow	Pre-Saxon landscape and land-use	To be sampled for pollen at 2cm contiguous intervals to enable a) assessment and b) analysis if required
Saxon landscape and activity			
G1 or G2	Floor of sunken-featured building	Activity on site	

A selection of stratified undisturbed samples, therefore, have the potential of providing information about the wider landscape (buried soils), and specifically of activities on site. The latter include the soil horizon in the sunken-featured building and the storage pit. They may also contribute to a consideration of activity associated with funerary practices (i.e. turves in graves and the potential denuded barrow material). Analysis can provide detailed information about specific features, pits and activities on the site scale, and about activities associated with the wider land-use and landscape.

Bibiography

Courty, M-A, Macphail, R I and Goldberg, P, 1989, *Soils and Micromorphology in Archaeology* (Cambridge)

Lawson, A J, 2000, *Potterne 1992-5; animal husbandry in later prehistoric Wiltshire*, Wessex Archaeol Report **17** (Salisbury)

Macphail, R I, 1986, Palaeosols in archaeology; their role in understanding Flandrian pedogenesis, in P V Wright (ed.), *Palaeosols* Princetown University and Blackwell Press, 263-290

Macphail, R I, 1995, 'Soils', in G J Wainwright and S M Davies, *Balksbury Camp, Hampshire; excavations 1973 and 1981* English Heritage Archaeological Report **4**, 100-104

Assessment of soil pH and Phosphates

M J Allen

Introduction
A series of soil samples were routinely taken by Wessex Archaeology from grave fills in an attempt to consider ways of assessing degree of bone survival (e.g. pH), and the position of bodies within graves (e.g. phosphates), if ever present at all in graves where no bone survived.

Methodology
The small samples for pH and soil phosphate were generally taken in groups of four per grave, comprising a single spot sample from the upper grave fill, and one each from the perceived head, abdomen and feet region at the base of the grave. This comprised approximately 130 samples (i.e. *c*. 33 graves). Three measurements were made on a selection of 6 pilot samples using a pEP pH meter. Small sub-samples were mixed in water and measured using the digital meter.

Quantity and Provenance
Soil pH was tested on six samples, as follows (**Table 45**):

Table 45: Quantification of pH results

Sample	Phase	Feature	Context	pH
W52	EIA/ MIA	grave W64	W1306	6.3
W182	Saxon	grave W109	W1845	6.4
W214	Saxon	grave W127	W3087	6.4
W215	Saxon	grave W127	W3087	6.3
W216	Saxon	grave W127	W3087	6.4
W33	Saxon	grave W27	W1322	6.5

Potential for other work
Soil pH was sub-alkali and typical of the natural brown earth soils of the area. No significant variation was seen either between graves or within each grave. As a result, the potential for further work seems negligible.

No phosphate analysis was undertaken. Rapid assessment of phosphate (available phosphate) would also include that derived from the manuring regime. Whilst total phosphate might indicate increased levels at both occupation and burial areas, the analytical potential is low (Canti pers comm; Macphail pers. comm., Crowther pers. comm.). In order to define a body within a grave, a grid at about 0.05m density, descending a minimum of three 0.05m spit levels would need to be taken. No further work is deemed useful on this suite of samples.