

1.1 Assessment of Macroscopic Plant Remains and Charcoal

Introduction

1.1.1 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:

1. *the archaeological significance of the deposits and thus the site*
2. *the nature of the local environments*
3. *selection of woodland species for general and specific activities*
4. *the use of the wild and cultivated resources*
5. *the nature of specific activities undertaken on site, and thus the general economic status of the site*

Methodology

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

6. *a broad range of feature types was to be examined*
7. *samples should be spatially arranged across the entire site*
8. *where possible, all chronological periods represented at the site should be examined.*

1.1.3 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.

1.1.4 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

1.1.5 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**.

1.1.6 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.

1.1.7 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.

- 1.1.8 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.
- 1.1.9 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

- 1.1.10 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

- 1.1.11 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

- 1.1.12 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

- 1.1.13 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.
- 1.1.14 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.

- 1.1.15 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.
- 1.1.16 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.
- 1.1.17 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.
- 1.1.18 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	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