Technical Reports

by

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Rowena Gale, S.E. James, Emma Loader, Richard I. Macphail, Lorraine Mepham,
Frances Raymond, Rachael Seager Smith and Sarah F. Wyles

Archaeological Investigations on the A34 Newbury Bypass, Berkshire/Hampshire, 1991-7: Technical Reports

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Wessex Archaeology 2000
on behalf of Highways Agency

Published 2000 by the Trust for Wessex Archaeology Ltd
Portway House, Old Sarum Park, Salisbury SP4 6EB

British Library Cataloguing in Publication Data
A catalogue record for this book is available from the British Library

ISBN 1–874350–35–3

This volume is intended to complement a further, narrative, volume of excavation reports:
V. Birbeck, *Archaeological Investigations on the A34 Newbury Bypass, Berkshire/Hampshire, 1991–7*,
Salisbury, Wessex Archaeology, ISBN 1–874350–34–5

Produced by Wessex Archaeology
Printed by Bookcraft, Midsomer Norton

This publication was funded by Highways Agency

Front cover photo: A view, looking north-west, of the Newbury Bypass under construcion, from Great Pen Wood across Enborne Road to Enborne Street and Wheatlands Lane (photo courtesy of Mott MacDonald)

Back cover photos: left: Corn drier at Bagnor Road; right: dump of medieval pottery at Enborne Street

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Archaeological Summary

Archaeological investigations along the route of the A34 Newbury Bypass employed a staged approach to assess the likely impact of the road on archaeological remains and allow appropriate mitigation strategies to be developed. All existing material was reviewed to provide baseline data. This was followed by field evaluation employing both intrusive and non-intrusive techniques to confirm the presence and significance of remains.

This process confirmed the existence of archaeological remains at ten sites: Great Pen Wood, Enborne Street, Wheatlands Lane, Enborne Road, Elmore Plantation, Bath Road, the Lambourn Valley, Hills Pightle, Swilly Copse and Curridge Road. Two of these sites, early Roman material at Enborne Road and in situ Mesolithic deposits in the Lambourn Valley, were thought to be of regional or national importance, and a medieval site at Enborne Street/Wheatlands Lane was thought to be of regional importance. All the other sites were considered to be of local importance.

Three different strategies were employed to mitigate the archaeological impact of the road. At Enborne Road and the Lambourn Valley, sites that were thought to be of regional or national importance, the design of the road construction requirements was amended so as to allow archaeological remains to be preserved in situ. At the other sites, where the new road would destroy all the remains, mitigation took the form of archaeological investigation and recording, prior to construction works. This entailed set-piece excavation in only one case, with the majority of sites being investigated by a 'strip and record' technique designed to ensure that the full extent of the archaeological remains within the road corridor was recorded. An archaeological watching brief was also maintained over all groundworks undertaken along the bypass route.

The results of these staged investigations are presented in a descriptive text intended to be intelligible to a wide readership, with more detailed and specialist reports presented separately as appendices.

Four sites of prehistoric date were investigated along the bypass route. Part of the Lambourn Valley Mesolithic site, which was thought to contain *in situ* deposits, was preserved through the relocation of a balancing pond. However, part of the site lay directly on the line of the road and could not be preserved; this was excavated by York Archaeological Trust. The excavation identified two concentrations of flintwork, interpreted as a 'home base' site of later Mesolithic date, in which a wide range of activities were carried out using a varied tool kit.

Evidence for Neolithic and Bronze Age activity along the Bypass route comprised a flint scatter at Curridge Road, Middle Bronze Age features at Swilly Copse, a group of Middle and Late Bronze Age features at Bath Road and colluvial deposits of Middle–Late Bronze Age date on the Lambourn Valley and Elmore Plantation sites. These were investigated using the 'strip and record' technique. No certain evidence for settlement dating to these periods was found. This may reflect the often ephemeral nature of such sites, particularly those of Neolithic date, or these isolated features may simply be peripheral to settlement sites that lie beyond the road corridor.

Prehistoric material, mostly worked flint of Mesolithic, Neolithic and Bronze Age date, was also recovered from features and deposits of later date along most of the route, indicating that prehistoric activity in the area was more widespread than the distribution of prehistoric sites along the route suggests.

Four sites of Romano-British date were investigated using the 'strip and record' technique. The Enborne Road site included material of early Roman (pre-Flavian) date; the design requirements of the road were amended to allow this site to be preserved beneath an embankment. The sites at Bagnor Road and Enborne Road appear to represent farmsteads of unknown size. The Bagnor Road site probably originated in the Late Iron Age and continued in use over most of the Romano-British period; the very early date of some of the features on the Enborne Road site suggest that this was also the case there. The nature of the activity represented by the Romano-British remains recorded at Elmore Plantation is less clear, however, it is probable that this too was a farmstead. At Great Pen Wood, on the low plateau to the south of the Kennet valley, the nature of the activities represented by the very disturbed features recorded, is uncertain: the heavy clay subsoil and waterlogged ground conditions would have made this an unpromising area for agriculture or settlement.

Three sites of medieval date were located within the Bypass corridor and investigated using the 'strip and record' technique. The remains excavated at Hill's Pightle probably represent a small croft or farmstead, situated in a chalkland dry valley. The Enborne Street and Wheatlands Lane sites were situated on a ridge of London Clay towards the southern end of the Bypass route. Large quantities of pottery and tile dating to the 13th–14th century were recovered, the fragile and poorly-fired condition of which suggested that it represented waste material from kilns. Given the close proximity of the two sites, their similar dating and nature, it is thought that they represent a dispersed ceramics industry, exploiting the London Clay.

Post-medieval evidence from the Bypass route was largely confined to field boundaries encountered during the watching brief and strip and record

operations and in some cases recorded on estate or other maps. No evidence associated with the two Civil War battles of Newbury was found.

Environmental evidence from along the route was generally limited. Although sufficient evidence was recovered to allow specific activities and in some cases localised land use to be identified, there was little evidence of the wider landscape through the archaeological periods represented along the route.

The discovery of only a single 'unexpected' site – part of the Romano-British farmstead at Bagnor Road, which was located in an area peripheral to the main line of the road and had therefore not been included in the evaluation trenching programme – demonstrates the success of the evaluation in locating archaeological sites. This success was supported by the employment of the 'strip and record technique' in mitigation, which ensured that sites located by the evaluation were recorded over their full extent within the road corridor. The general absence of archaeological discoveries during the watching brief, beyond a small number of isolated features, indicates that the level of archaeological activity across large parts of the route was relatively low, and further demonstrates the success of the evaluation and strip and record techniques in locating and defining the extent of sites.

The archaeological investigations along the line of the A34 Newbury Bypass have been viewed as an opportunity to consider the evolution of the landscape and the part that people have played in its management and inhabitation. The bypass corridor crosses a number of topographical/geological zones, the archaeological potential of some of which was already well established, while little was known of that of others owing to a lack of previous archaeological work. The road corridor transect has allowed the investigation of a sample of these landscapes, although the restricted width of the transect means that, in many cases, the extent or nature of the archaeological sites remains uncertain. Nevertheless, the data provides an invaluable tool with which to review perceptions of human activity across varying landscapes over a long period of time.

1. Introduction

Project Background

Newbury is situated in West Berkshire, approximately 3 km north of the border with Hampshire (Fig. 1). The town is sited on the floodplain of the River Kennet, close to the confluence with the River Lambourn, at a point where the Oxford to Southampton road, the A34, crosses the river and the London to Bath road, the A4, passes to the north. In response to increasing traffic congestion in the town during the 1980s, the Department of Transport put forward proposals to construct a north–south bypass to divert traffic travelling on the A34, designated a European trunk road by the European Union, away from the town centre. The relative merits of bypass routes to the east and west of the town were considered at a Public Inquiry in 1988.

The historical development of Newbury in part arises from its position at a natural crossroads. However, evidence for earlier settlement in the area has long been known. Roman remains have been found in Newbury and the surrounding area, and this part of the Lambourn/Kennet valley was extensively farmed at least 2000 years ago. Earlier still, all along the Kennet valley there is evidence that semi-nomadic people hunted in the river valleys and the surrounding woodlands. It was, therefore, likely that, whichever bypass route was selected, the construction of the new road would lead to the discovery of archaeological remains.

The Public Inquiry report indicated that the Department of Transport's preferred route for the bypass lay to the west of Newbury. In view of the likely presence of archaeological remains, Wessex Archaeology was appointed by the consultant engineers, Mott MacDonald, on behalf of the Department of Transport, to undertake an archaeological assessment of the preferred route. This first assessment involved both a review of existing information on the archaeology of the area and a limited field evaluation, carried out during 1991 and 1992. This confirmed the archaeological potential of parts of the route. This assessment was followed by a further stage of field evaluation during 1993–4 to determine the importance of these remains and to identify any need for remedial archaeological work ('mitigation').

The final stage of archaeological fieldwork was carried out in 1996–7, after government approval had been given for the construction of the bypass. This was concerned primarily with the mitigation of the archaeological impact of the road through the preservation of two of the most important sites, and a series of archaeological investigations to record other sites prior to construction of the road.

Following completion of the final stage of fieldwork and the assessment of the results, Wessex Archaeology was commissioned by Mott MacDonald, on behalf of the Highways Agency, to produce a single, integrated report presenting the results of all the archaeological investigations carried out along the route of the bypass. Rather than presenting a detailed description of each site and its finds, a summary of the results from each has been provided in *Archaeological Investigations on the A34 Newbury Bypass, Berkshire/Hampshire, 1991–7*, by Vaughan Birbeck (hereafter *Newbury Bypass*), arranged by period. The summary descriptions are followed by a narrative discussion of the overall findings in their wider local and regional contexts.

This volume is intended as a companion to that report and includes more detailed specialist reports on the finds and environmental data from the varous sites that were excavated. The reports here follow the same order as those in *Newbury Bypass*.

The Physical Background: Geology, Topography and Land-use

The Bypass route lies to the west of Newbury, and runs approximately south–north (Fig. 2). It is mostly in the former Royal County of Berkshire (now West Berkshire), with a *c.* 3.9 km stretch in Hampshire. From the existing A34 trunk road in Hampshire, some 6.5 km south of Newbury at SU 4615 6070, the route follows the course of the former Didcot to Southampton railway, entering Berkshire where it crosses the River Enborne. It continues along the course of the former railway until immediately to the south of the Kennet and Avon Canal, where the Bypass route continues northwards crossing the valleys of the Rivers Kennet and Lambourn to the west of Newbury, near the villages of Speen and Donnington. From here the route passes to the south of Snelsmore Common and rejoins the existing A34 approximately 3.5 km north of Newbury at SU 4720 7100. The total length of the route is 13.5 km.

Sites along the route can be considered to be in one of four distinct topographic and geological locations, which can be characterised as follows:

1. A low plateau, with a ridge of London clay running from south-west to north-east across its centre, occupying most of the southern half of the route to the south of the Kennet valley. This lies at between 96 m and 110 m OD and is divided by the valley of the river Enborne. The underlying geology comprises London Clay (blue–grey marine clay), Reading Beds (variable sands, clays and gravels) and Bagshot Beds (sands with seams of clay).

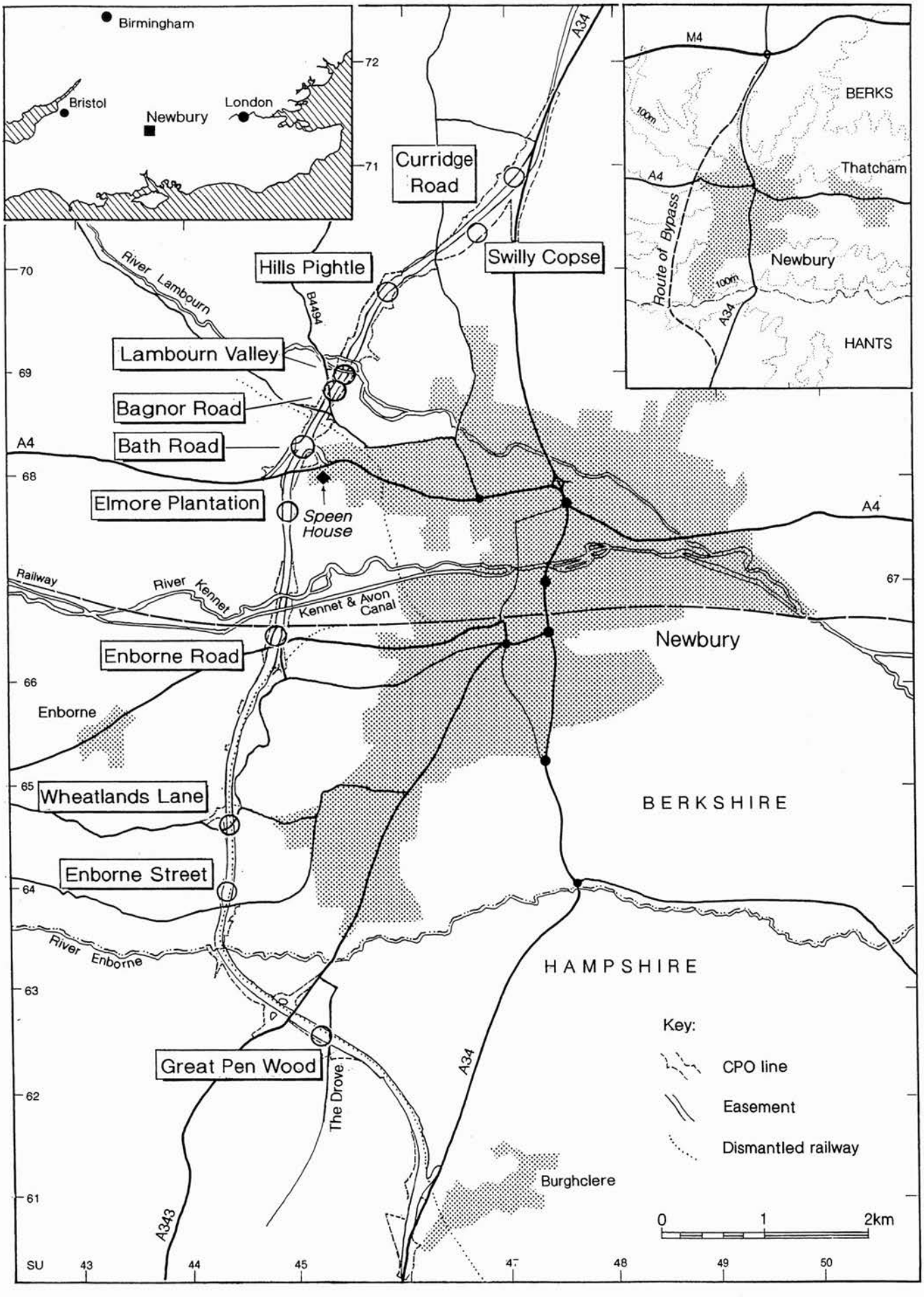


Figure 1 Newbury Bypass: location map

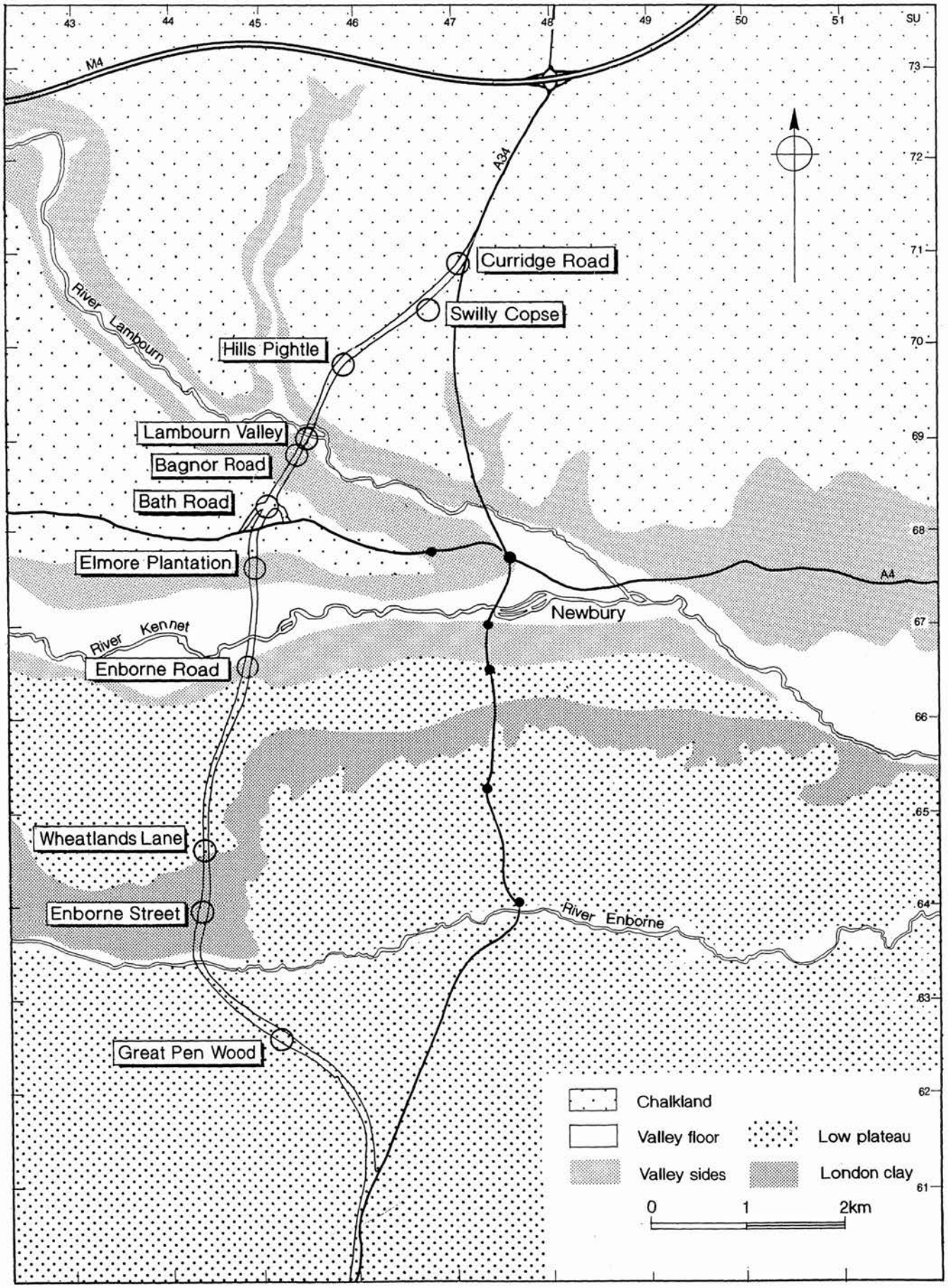


Figure 2 Topographical and geological zones

2. Chalkland with dry valleys occupying most of the northern half of the route to the north of the Kennet valley and divided by the Lambourn valley, lying at between 94 m and 125 m OD. The underlying geology comprises Upper Chalk, some of which is overlain by Reading Beds or plateau gravels.
3. The valley floors of the rivers Enborne, Kennet and Lambourn, which lie at *c.* 92 m, 76 m and 79 m OD respectively. The underlying drift geology comprises a mixture of terrace gravels, river gravels, peat and alluvium.
4. The valley sides which rise from the valley floors to the chalk downland or the low plateau. These vary from steep (the northern sides of the Kennet and Lambourn) to very gentle (the sides of the Enborne valley). The underlying geology comprises a mixture of terrace gravels, Reading Beds and Upper Chalk.

During the course of the archaeological investigations, sites were recognised and excavated or preserved *in situ* in all of these zones. Three sites (Great Pen Wood, Enborne Street and Wheatlands Lane) were situated on the low plateau to the south of the route, four (Bath Road, Hills Pightle, Swilly Copse and Curridge Road) on the chalk downland, three (Enborne Road, Bagnor Road and Elmore Plantation) on the valley sides of the Kennet and Lambourn, and a single site (Lambourn Valley) was on the valley floor.

The modern land-use along the route reflects the changing geology and topography. On the southern plateau, the London Clay and Reading Beds are woodland and small fields, mainly under pasture but with some arable use. The gravel terraces of the River Kennet allow more arable farming with a tendency towards larger and more regular fields. To the north of the River Kennet lies an area of very wet floodplain with extensive drainage systems, comprising a mixture of pasture and woodland. In the chalkland and the valley of the River Lambourn arable farming and large fields are dominant, although woodland predominates where plateau gravels overly the chalk.

Stages of Archaeological Fieldwork and Recording

The three stages of archaeological fieldwork were focussed on the road corridor selected for construction following the public inquiry.

Stage 1 Evaluation

The first stage of archaeological evaluation was intended to identify areas of archaeological potential along the route and propose appropriate methods of further investigation. During the summer of 1991, Wessex Archaeology staff were present while 55 geotechnical pits were being dug to test the underlying geology and natural deposits beneath the road corridor. This 'watching brief' was intended to observe and record any archaeological remains revealed during the test pitting, in order to provide background information as to where such finds might later be encountered. This was followed in November 1991 by a desk-top study of documentary sources, aerial photographs and information held on the Hampshire and Berkshire County Sites and Monuments Records. This examined existing data relating to a corridor 1 km wide centred on the proposed Bypass route, in order to identify the archaeological potential of the area within or adjacent to the new road.

A programme of field evaluation was then carried out, between December 1991 and January 1992. This consisted of the excavation of 362 hand-dug test pits on land under pasture and woodland to recover artefacts from the topsoil, the field-walking of ploughed land to collect surface finds and an auger survey in the Kennet valley.

The latter was intended to establish the presence and nature of alluvium and peat which might conceal archaeological sites and identify any higher 'islands' in the underlying gravel where archaeological sites might be located. In addition, a walkover survey was undertaken through areas of woodland to identify any possible archaeological sites which might survive as earthwork features.

The results of the field evaluation provided evidence of artefact scatters of varying densities which, when combined with the results of the desk-top study, allowed several areas of higher archaeological potential to be identified. These were: an area of medieval activity around Reddings Copse; the Kennet and Lambourn valleys; and the northern slope of the Lambourn valley above Bagnor.

Stage 2 Evaluation

Following the identification of these areas of higher archaeological potential, a second stage of evaluation was undertaken between August 1993 and April 1994. The objective of this Stage 2 evaluation was to identify, characterise and define the limits of archaeological sites along the route, in order to determine the likely impact of the construction of the Bypass and allow appropriate mitigation strategies to be developed to alleviate this impact.

The Stage 2 evaluation consisted of the mechanical excavation of 422 trial trenches along the Bypass route, together with additional hand test pitting and auger survey, and a geophysical survey to locate any buried

remains at selected locations along the route. In the areas of higher archaeological potential identified by the Stage 1 evaluation, a 2% sample of the road corridor was investigated using machine trenches. In all other areas, a 1% sample was investigated. This work was undertaken prior to the issue of the compulsory purchase orders (CPOs) for the land and the clearance of woodland along the Bypass route and, consequently, access was not available to some parts of the route.

The machine trenching was supplemented in areas where the results were unclear by geophysical survey. This employed non-intrusive, remote-sensing techniques to identify possible buried archaeological features, which could then be targeted for further investigation by additional machine trenches.

In the Kennet valley floodplain, the results of the Stage 1 evaluation suggested that 'islands' in the underlying river gravels might exist, sealed below peat deposits, and that Mesolithic deposits could survive *in situ* on such 'islands'. A series of targeted hand-dug test pits was therefore excavated to investigate this possibility.

The Stage 2 evaluation confirmed the existence of archaeological remains at ten sites (Great Pen Wood, Enborne Street, Wheatlands Lane, Enborne Road, Elmore Plantation, Bath Road, the Lambourn Valley, Hills Pightle, Swilly Copse and Curridge Road). Two of these sites, early Roman material at Enborne Road and *in situ* Mesolithic deposits in the Lambourn Valley, were thought to be of regional or national importance, and a medieval site at Enborne Street/Wheatlands Lane was thought to be of regional importance. All the other sites were considered to be of local importance only.

Stage 3 Fieldwork

Following purchase and clearance of the land, the Stage 3 fieldwork sought to complete the field evaluation process in those parts of the route to which access had not been available during the previous stages of work and, subsequently, to mitigate the impact of the road construction on the archaeological sites identified during the evaluations.

Three different mitigation strategies were employed. At Enborne Road and the Lambourn Valley, sites which were thought to be of regional or national importance, it proved practicable for the design of the road construction requirements to be amended so as to allow archaeological remains to be preserved *in situ*. At the other sites, where the new road would destroy all the remains, mitigation took the form of archaeological investigation and recording prior to construction works. Finally, an archaeological watching brief was maintained over all groundworks undertaken along the Bypass route, in order to allow any features of archaeological interest not meriting more formal mitigation, or any sites not identified by the evaluations, to be recorded prior to their destruction.

At the outset of the Stage 3 fieldwork, a total of 37 further machine trenches was excavated to complete the evaluation of those areas to which access had not previously been available, and to investigate possible features identified by the trial trenching and geophysical survey at Enborne Street, Bath Road and Swilly Copse. At the same time, during May to June 1996, a programme of 'strip and record' investigations was undertaken by Wessex Archaeology. Full excavation of part of the Lambourn Valley Mesolithic site which could not be preserved was undertaken by York Archaeological Trust (YAT) between July and October 1996. Additional field-walking was also undertaken at Curridge Road.

The strip and record investigations entailed the removal of topsoil from large areas, in order to define the nature and limits of the previously identified archaeological sites and allow an appropriate level of recording to be undertaken, prior to the commencement of construction works in these areas. On the basis of the results of the evaluations it was originally proposed to employ this technique at Great Pen Wood, Wheatlands Lane, Bath Road and Swilly Copse. Following the completion of the machine trenching, however, it was decided that the same strategy would be employed at two further sites, those at Enborne Street and Elmore Plantation.

The final extent of the strip and record areas was dependent on the findings, and was determined on site. Stripping was continued until the full extent of a located archaeological site along and within the route corridor was defined. The stripping was conducted using a tracked mechanical excavator equipped with a toothless bucket, working under continuous archaeological supervision. The spoil was removed from site by dumper truck. Stripping continued to the surface of the drift geology or archaeological deposits, whichever was encountered first. Following the removal of the topsoil, the sites were cleaned by hand where necessary, and all features were investigated by hand excavation.

The excavation of that part of the Lambourn Valley Mesolithic site which lay on the line of the new road was undertaken by YAT, in accordance with a detailed brief prepared by Wessex Archaeology and approved by English Heritage. The methodology employed is described in Chapter 2.

A number of fields adjacent to the present course of the A34 at Curridge Road were field-walked for the surface recovery of artefacts. The fields were ploughed and left to 'weather', to allow the soil to settle and artefacts to become visible at the surface.

The watching brief on topsoil stripping in advance of construction started in July 1996 and continued until July 1997. During the watching brief, the areas to be preserved, at Enborne Road and at the Lambourn

Valley, were closely monitored to ensure they were not damaged. An on-site archaeological presence was maintained to ensure communication with the various work crews and supply background information and advice where necessary.

Any archaeological remains encountered during the watching brief, which required more detailed investigation and recording, were dealt with under separate instruction. In this way a small site of Romano-British date, which was not found in the evaluation, was excavated and recorded at Bagnor Road. The watching brief also resulted in the recording of a small number of features of archaeological interest at Enborne Street, to the north of the A4 Bath Road, to the east of Swilly Copse and at Curridge Road, together with many features which proved to be of modern or natural origin.

Written, drawn and photographic records were made of all details of excavation and/or demolition likely to reveal material of archaeological significance, using Wessex Archaeology's standard recording system. Where possible features were revealed, these were investigated by hand excavation and fully recorded. Where more recent features, notably parts of the disused railway and agricultural drainage systems, were affected by the stripping, a full photographic record was made, augmented by plans and sections where necessary.

Establishing the Ancient Environment

A general policy of taking ten-litre samples of soil from a range of datable features at each site was employed for the recovery of charred plant remains and charcoal. This, it was hoped, would provide the basis for determining the local farming economy, the available natural resources, and the function of the sampled feature or deposit. This was particularly important in view of the lack of similar environmental investigation previously in the area beyond Newbury itself.

Where appropriate, the sediments and soils encountered were described *in situ* or as intact block samples in the laboratory. These descriptions provide specific interpretation of the processes which led to the formation of the sites, and the nature of the soil and sediment history of the excavated area. The combination of these analytical approaches allows us to attempt a limited interpretation of the wide landscape in which the prehistoric, Roman, and medieval sites operated, and the farming economy beyond the confines of the excavated areas. The only exception to this was the excavations in the Lambourn Valley, where a more site specific sampling policy was employed (YAT 1996).

In order to undertake this scientific programme it was important to be able to recover sub-microscopic charred seeds and charcoal from the soils, and to select the appropriate samples for analysis. Following this identification analyses of the remains were performed by a series of specialists using standard techniques, which are described in Chapter 2.

Assessment and Reporting

Following completion of the Stage 3 fieldwork, a post-excavation assessment of the results was undertaken by Wessex Archaeology in order to determine the potential of the evidence recovered to contribute to further research. The results of the Lambourn Valley excavation were assessed separately by YAT (1996).

Following discussions with English Heritage and the Highways Agency, Wessex Archaeology prepared an assessment report (Wessex Archaeology Report No. 36494, 1997) which put forward proposals for analysis and publication of the evidence from all sites investigated along the route of the Bypass, including the Lambourn Valley excavation.

The full details of the observations recorded during fieldwork and reports of analyses and research undertaken on the objects found have been combined into an archive of the project. This record has been left in the care of Newbury Museum (accession numbers NEBYM 1996.51 (Lambourn Valley) and NEBYM 1998.61 (all other sites)) so that it can be examined by anyone wishing to explore the evidence further. The *Newbury Bypass* report is based upon the reports contained in the archive and is written in a style as free as possible of excessive technical language, so as to make it understandable to a wide readership. Although some technical detail is necessary to support the interpretations presented in the main text, this has been displaced to the present volume. The reports herein are accompanied by relevant illustrations that also occur in *Newbury Bypass*.

In line with modern approaches to archaeology, the investigation of the line of the A34 Newbury Bypass has been viewed as an opportunity to consider the evolution of the landscape and the part that people have played in its management and inhabitation. The evidence recorded for a continuous human presence in the Newbury area is spread thinly through a wide time period and is concentrated spatially in a number of discrete 'sites'. These sites are described in chronological order, albeit that a number of sites contain evidence for different episodes of activity, sometimes widely separated in time.

The results of this study alone make it impossible to write a continuous history of land-use, but when they are combined with previous work in the region, a sound framework can be established which can be refined in the future as other opportunities for site investigation are taken.

2. Environmental Method

Soil Sample Processing

The palaeo-environmental sampling strategy is outlined in Chapter 1 of Newbury Bypass. All samples for charred plant remains and charcoals were processed by standard flotation. Samples of generally 10 litres were processed by standard bulk flotation methods and the flots retained on a 0.5 mm mesh and the residues on a 1 mm mesh. All residues were fractionated (5.6 mm, 2 mm and 1 mm) and the coarse fraction sorted by eye, weighed and discarded. The fine fractions (2 mm and 1 mm) were only sorted from samples selected for analysis (see assessment below). Sorting to extract and separate charred plant remains and charcoals was undertaken using a x10–x30 stereo-binocular microscope. Unsorted flots and extracted material were presented to specialists for analysis.

Assessment

After processing the flots were scanned under a x10–x30 stereo-binocular microscope to quantify the presence of grain, chaff, weed seeds, charcoals, intrusive material and modern roots. The presence and diversity of remains was examined in relation to the archaeological context and date, the possible functional relationship between the remains and the context/feature and the revised project/site aims. A selection of samples was then made for analysis and the residues of all such selected samples sorted.

Analysis Method Statements

Where analysis has been performed on a single site (eg, soils at Lambourn Valley or land snails at Hills Pightle), the method statement is included within the report in Newbury Bypass. However, to avoid repetition, where analysis was conducted on several sites the analytical method statements are summarised below.

Charred Plant Remains, Joy Ede

The residues were sorted at Wessex Archaeology and any carbonised remains picked out. All flots were sorted by the author. Charred items were identified using up to x100 magnification and terminology follows Clapham *et al.* (1981). Terminology about crop-processing stages follows Hillman (1984).

Charcoals, Rowena Gale

The fragments from each sample were fractured to expose fresh transverse surfaces and sorted into groups based on the anatomical features observed using a x20 hand lens. Representative fragments from each group were selected for further examination under high magnification. Freshly fractured surfaces were prepared in the transverse, tangential and radial planes, supported in sand and examined using a Nikon Labophot incident-light microscope at magnifications of up to x400. The anatomical structure was matched to reference material.

3. Evaluation of the Soil Sequence at the Lambourn Valley Site

by Richard I. Macphail and Michael J. Allen

The brief for the excavations of the Mesolithic site in the Lambourn Valley required that a possible *in situ* Mesolithic soil identified during the evaluation should be described and sampled for analysis of the soil micromorphology (*Newbury Bypass*, 10–17). Accordingly, the site was visited by R.I. Macphail and two sections were described and sampled following Hodgson (1974) and Courty *et al.* (1989).

The Soils

The site is located on sloping ground above the River Lambourn and has a mapped cover of typical argillic brown earth soils formed in loamy river terrace drift (Hucklesbrook soil association; Jarvis *et al.* 1983). The main soil cover, here however, appears to have formed out of a predominantly fine loamy drift (brickearth: Hamble 2 soil association), with sands, gravels, and flinty and chalky river terrace deposits also being present in the base of several test pits. It is probable that recent soil erosion and resulting local truncation, through ploughing, have differentially exposed the natural soils and their parent materials. Modern ploughsoils have become mixed with the eroding subsoils of the site. Erosion and colluviation have probably been active across the site and this accounts for the mixed artefact assemblage recovered from the lower ploughsoil. Recent soil truncation is also responsible for the differential exposure of the natural subsoil horizons that have formed on the site.

Argillic brown earths, sometimes known as *sol lessivés* or brown forest soils, have formed on the site. Under woodland, loamy sediments become decalcified and the upper subsoil horizon (Eb or A2) becomes depleted in clay and iron, hence the pale buff (pink 7.5YR7/4) colours. This horizon is in contrast to the resulting clay-enriched lower subsoil Bt horizon, which is more chocolate brown in colour (strong brown 7.5YR4/6).

Method and Aims

Exposed sections of the soil sequence were described and sampled (Table 1) in order to elucidate the possible colluvial history and the natural environmental and human agencies through which colluviation occurred. Field description proved sufficient to allow the nature and history of soil development on the site to be discerned, and following post-excavation assessment, it was decided that micromorphological analysis was not necessary.

The soil investigations were primarily directed at the main horizon containing the majority of the Mesolithic artefacts (context 1120), which apparently buried the natural argillic brown earth upper subsoil horizon (context 1053). The main aim of this work was to address questions relating to the nature of the archaeological deposits, the possible colluvial history and the nature of the natural environment, and human agencies in which colluviation occurred. A subsidiary aim of the soil investigation was the examination of a section through a possible gully or tree hollow.

Soil Development and History Relating to the Archaeology

The Soil Sequence

The soil profile is a typical argillic brown earth, in which both pedological development and archaeological events can be discerned.

The basal soil horizon (context 1053) contained translocated clay (Bt) and Mesolithic artefacts. This horizon seems to represent a buried natural argillic brown earth upper subsoil horizon (buried Eb and Bt(g) horizons), indicating the presence of deep *sol lessivés* or brown forest soils, which had probably formed under woodland. Localised gleying may have occurred during formation of the horizon or developed subsequently, to due to soil pores becoming infilled with clay; neither process would be surprising in the low-lying environment of the Lambourn Valley. The Mesolithic flints are likely to be more or less *in situ*, though some vertical movement is likely to have occurred (Langhor 1993).

Overlying this was the Eb2 horizon of the modern soil (context 1120). This horizon contained Mesolithic artefacts and was interpreted in the field as a colluvial occupation soil of that date. However, flintwork typical of Late Neolithic/Early Bronze Age industries, and pottery of Neolithic, Early Bronze Age and Middle Bronze Age date were subsequently recovered from the horizon. Field descriptions (Table 1) indicate a strong colluvial component to this horizon, which may be seen as the erosion of argillic brown earths from upslope. The most likely mechanism for this destabilisation and

Table 1. Lambourn Valley: soil samples

Monolith sample	*Depth OD of top of sample*	*Associated bulk sample*	*Stratigraphy* *Field interpretation*
			1.1. Spit 3132
			1.2. 0-15 cm: removed topsoil. *Ap*
	15-20 cm Ap	x la	15-22 cm (context 1050): base of Ap; brown (7.5YR4/4 moist) (pink 7.5YR7/4 dry) firm sandy silt loam; moderately stony with medium to large flints; occasional 'brick' fragments; common earthworm burrows; abrupt to clear, horizontal boundary. *Mixed Ap with homogenised Eb and Bt soil.*
Monolith 1 (Sample 40303) 25496.055E 19065.252N	**(38-78 cm)** OD81.582 40-45 cm Eb1	x lb	22-45 cm (context 1051): strong brown (7.5YR4/6 moist) (strong brown 7.5YR5/6 dry) firm sandy silt loam to clay loam; moderately well developed medium to coarse prisms; few medium stones (with occasional 'brick' fragments); common earthworm burrows; few to common charcoal; common fine pores; possible thin clay coatings; clear to gradual, horizontal boundary. *Ancient colluvial Ap, with homogenised Eb and Bt soil.*
Monolith 1 **Lateral control monolith 2;** (sample 40306; 25496.062E; 19064.203N)	**(38-78 cm) (59-67 cm;** OD81496 bEb2 50-60 cm	x lc	45-58 cm (context 1120, Mesolithic flints): dark yellowish-brown to brown (10YR4/4-7.5YR4/4 moist) firm clay loam; possibly slightly heterogeneous; moderately well developed medium to coarse prisms; occasional earthworm burrows; common fine to coarse charcoal; probable clay coatings; abrupt, horizontal boundary. *Colluvial occupation soil.*
Monolith 1	**(38-78 cm)** 65-75 bEb&Bt(g)	x ld	58-81 + cm (context 1053): brown (7.5YR5/4 moist) (pink 7.5YR7/4) weak sandy silt loam and brown to dark yellowish-brown (7.5YR4/4-10YR4/4 moist) (yellowish-brown 10YR5/6 dry) moderately firm clay loam; stone free; poorly formed medium to coarse prisms; rare, faint, medium mottles; rare flecks of charcoal; very earthworm burrows; very few probable clay coatings. *Buried ancient Eb&Bt(g) horizon.*
			Gully/Tree hollow section
			0-35 cm: *removed topsoil and top of ancient Eb & Bt.*
Monolith 3 (sample 40305) 25502.239E *19069.969N*	(35-55 cm) OD 8 1. 101 35-40 cm bEb	x 3a	35-40 cm: yellowish-brown (10YR5/6 moist) (pink 7.5YR7/4 and yellow 10YR7/6) firm sandy silt loam; coarse prisms; very few stones; abrupt, horizontal boundary. *Ancient leached Eb.*
Monolith 3	**(35-55 cm)** 45-55 cm bEb&Bt	x 3b	40-90(110) cm: mottled (heterogeneous bands and patches) brown (7.5YR5/4 moist) (pink 7.5YR7/4 dry) and strong brown (7.5YR4/6 moist, 5/6 dry) moderately firm sandy silt loam; rare medium stones; rare earthworm burrows; coarse prisms; possible clay coatings; gradual, irregular boundary. *Fill of coarsely mixed upper subsoil Eb and lower subsoil Bt?*
Monolith 4 (sample 40306) 25502.203E 19069.915N	85-89 cm **(85-95 cm)** OD 80.591	x 4a	
Monolith 4	**(85-95 cm)** 90-95 cm bBt	x 4b	90-(110) + cm: strong brown (7.5YR4/6) clay loam; probable clay coatings. *Ancient subsoil Bt horizon.*

disruption of the soil surface is clearance of woodland and vegetation, associated with Middle Bronze Age settlement or exploitation activities. In an area of limited relief, such events would especially facilitate accelerated erosion.

Above this, the colluvial Eb1 horizon again displays a clear colluvial component (Table 1). This horizon (context 1051) contained Romano-British artefacts, clearly post-dating the prehistoric activity. The colluviation here probably results from intensive settlement and cultivation of the surrounding landscape in the Romano-British period.

The Gully/tree Hollow

The section through this feature revealed a pale overlying soil, which appeared to relate to natural leaching of the upper subsoil. Complete excavation showed the morphology of the feature to be closer to a tree hollow than a gully, and included artefacts suggest a possible Mesolithic (Atlantic) date. The soil descriptions suggest the presence of mixed subsoils (Eb and Bt horizons) typical of tree throw features (Macphail and Goldberg 1990; Macphail 1992). The nature of these mixed soils are not incompatible with the disturbance of the identified argillic brown earths in the Mesolithic period (Langohr 1993). Elsewhere across the site, a number of large pale soil patches were present, which could have a similar origin.

Conclusions

Although a series of archaeological events can be clearly defined within the modern soil profile, the nature of the former pedological regime and local environment can only be hinted at by the detailed descriptions and interpretations presented here.

It may be suggested that Mesolithic occupation is likely to have occurred on a more-or-less *in situ* deposit, with only limited colluvial input. A largely wooded environment, in which the argillic brown earth soils developed, is suggested in this period. More invasive activity is indicated in the Middle Bronze Age, with disturbance of the woodland and floodplain vegetation and associated activity leading to highly localised colluviation, which was largely responsible for the burial, and therefore survival, of the argillic brown earth.

More aggressive activity occurred during the Romano-British period resulting locally in the physical disturbance and mixing of the soils, which in turn led to further colluviation. The activities responsible for this episode are likely to have been the preparation of the ground for tillage and the cultivation of fields relating to the adjacent Romano-British site at Bagnor Road.

4. An Interpretation of the Lambourn Valley Mesolithic Site Based on an Analysis of the Flint Artefacts

by Peter S. Bellamy

The nature of the stratigraphy and the recovery strategies used to collect the worked flint have a great impact on the potential of the flint assemblage to provide meaningful information about the nature of the site, the range of activities represented and other site formation processes.

No *in situ* occupation layers were recognised during the excavation and consequently the flint was treated as an unstratified scatter and recovered using fairly coarse collection units. The post-excavation analysis of the stratigraphy has raised the possibility that some of the deposits may have been largely intact and of Mesolithic date. However, in the absence of a more refined recovery strategy with close spatial control over the recovery of the artefacts, the potential to examine the possible *in situ* deposits in detail is constrained. It is not possible to analyse the spatial organisation of the site except in the broadest of terms, nor is it possible to reconstruct in detail the nature of the activities during the Mesolithic occupation of the site. Nonetheless, some potential does exist for the assemblage to tell us about the overall range and character of activities undertaken on the site. A description of the general character of the total flint assemblage from the excavation can broadly elucidate the nature of the worked flint from the site, with regard to its raw material type, technology and function. This could show up variations within the assemblage which may indicate different site formation processes and post-depositional changes affecting different parts of the assemblage. The recovery of a number of typologically datable artefacts (primarily microliths) means that there is some possibility for the dating of periods or episodes of site activity. Arguably the most important contribution the study of the flint assemblage can make is in allowing comparison with the assemblages from other sites of a similar date in the Lambourn and Kennet valleys and, therefore, may allow the site to be placed within the regional settlement and landuse systems.

The main bulk of the flint comes from the manual collection of material from digging of spits on a 2 x 2 m square grid during the Stage 2 fieldwork. A smaller quantity of flint comes from sieved samples and a small quantity was recovered from the excavated fills of cut features. The main restrictions in the quality of the data from spit-digging are the lack of fine stratigraphic and locational information, the 2 x 2 x 0.2 m unit being too coarse to allow any precise spatial or stratigraphic analysis.

Artefacts were also recovered from specific soil samples by wet or dry sieving through mesh sizes of 2 mm, 4 mm and 8 mm. The sample size taken from each 2 x 2 m spit was initially 30 litres and later increased to 50 litres. Only the material from the 8 mm mesh and a small number of the 4 mm mesh samples have been sorted and quantified. Such samples were not taken from every spit unit, particularly in the lower spits. The artefacts recovered from the samples have been quantified and presented separately to the manually recovered material in the consideration of the overall assemblage. A small number of spit samples have also been looked at in greater detail in order to recover the full size range of material from potentially *in situ* contexts.

The Character of the Total Worked Flint Assemblage

The whole assemblage was studied and quantified (by number) on site during the excavation, by Diane Holmes. This data has formed the basis of the description of the total assemblage below. Only a specific number of contexts (primarily from the colluvium and subsoil) was re-examined during the post-excavation process by the present author. Inevitably, there are some differences in the recording between the two specialists. Specifically, the number of broken versus whole pieces is underestimated in the quantifications undertaken on site. In addition, a number of flakes and blades have been reclassified as miscellaneous debitage during the post-excavation re-analysis on the basis that they may be accidental breakages and spontaneous flake removals occurring during the knapping process.

Raw Material

The raw material used for the whole of the stratified assemblage was exclusively flint. Many pieces were from nodular flint with a worn cortex, which on some examples was worn very thin and smooth. A smaller number of pieces were more rounded and rolled, with ancient patinated thermal fractures. The internal flint

Table 2. Lambourn Valley: sample areas, worked flint assemblage (no./wt (g))

spit	*cores*	*broken cores*	*core shatter*	*Core rejuven-ation flakes*	*flakes*	*Broken flakes*	*blades*	*broken blades*	*tool man ufac ture*	*tools*	*broken tools*	*chips*	*Misc. debitage*	*Burnt artefacts*	*total*
SITE 1 SAMPLE AREA															
MANUAL COLLECTION															
1	4/405	1/29	8/173	4/41	7/718	81/365	12/89	26/67	0	5/89	4/164	102/70	58/303	15/61	327/2574
2	14/1941	3/202	40/1023	4/96	147/1964	114/533	63/425	74/180	0	6/79	5/8	191/106	76/358	35/158	772/7073
3	16/2218	5/294	77/2565	3/65	207/2504	127/549	82/287	102/210	1/1	14/84	8/70	165/111	89/471	60/175	956/9604
4	27/2833	5/276	27/1213	4/34	86/2218	51/321	35/241	39/138	0	5/19	3/3	91/53	35/287	14/42	422/7678
5	3/169	2/130	9/463	7/132	51/454	28/144	24/119	34/89	1/1	5/462	1/1	78/46	16/133	37/130	296/2473
6	0	0	0	0	5/43	3/4	2/1	2/65	0	0	0	4/2	3/5	1/1	20/121
Total	*64/7566*	*16/931*	*161/5437*	*22/368*	*503/7901*	*404/1916*	*218/1162*	*277/749*	*2/2*	*35/733*	*21/246*	*631/388*	*277/1557*	*162/567*	*2863/29252*
8 MM AND 4 MM SIEVED RESIDUES															
1	0	0	8/98	0	17/72	5/8	2/6	1/1	0	0	0	352/65	7/36	6/15	398/301
2	1/133	0	3/181	0	8/46	15/47	3/3	8/8	0	0	3/2	238/49	9/25	16/3	304/497
3	0	0	4/60	0	6/27	15/72	2/3	8/3	1/1	0	1/1	209/33	5/13	13/5	264/218
4	0	0	1/3	0	1/3	4/5	1/1	1/1	0	0	0	67/7	0	4/33	79/53
5	0	0	0	0	0	3/3	1/5	2/5	0	0	0	36/3	2/6	3/1	47/23
Total	*1/133*	*0*	*16/342*	*0*	*32/148*	*42/135*	*9/18*	*20/18*	*1/1*	*0*	*4/3*	*902/157*	*23/80*	*42/57*	*1092/1092*
SITE 2 SAMPLE AREA															
MANUAL COLLECTION															
1	1/46	0	0	0	14/209	6/55	2/34	5/4	0	0	0	4/3	2/24	0	34/385
2	4/334	0	9/302	4/70	71/695	34/107	33/201	28/48	0	3/11	0	23/9	13/32	13/93	235/1902
3	27/3246	5/406	50/2713	17/418	252/5973	143/575	112/726	114/293	0	7/573	8/5	235/118	80/847	46/325	1096/16218
4	1/105	0	4/91	1/1	13/252	13/74	6/19	10/28	0	1/3	3/5	10/5	10/41	2/8	74/632
Total	*33/3731*	*5/406*	*63/3106*	*22/489*	*350/7129*	*196/811*	*153/980*	*157/383*	*0*	*11/587*	*11/10*	*272/135*	*105/944*	*61/426*	*1439/19137*
8 MM AND 4 MM SIEVED RESIDUES															
1	0	0	0	0	2/7	7/34	1/6	1/1	0	0	0	381/79	8/24	0	400/151
2	1/46	0	1/7	0	10/52	9/17	0	5/6	0	0	1/1	340/74	4/11	0	371//214
3	0	0	3/48	0	12/97	18/48	11/20	22/15	0	0	0	424/75	18/125	43/32	551/460
4	0	0	3/78	0	4/22	7/16	2/1	8/3	0	0	0	88/11	3/6	4/1	119/138
Total	*1/46*	*0*	*7/133*	*0*	*28/178*	*41/115*	*14/27*	*36/25*	*0*	*0*	*1/1*	*1233/239*	*33/166*	*47/33*	*1441/963*

Table 3. Lambourn Valley: total tool assemblage

	Microliths	*Micro-burins*	*Serrated blades*	*Scrapers*	*Piercers*	*Burins*	*Burin spalls*	*Knives*	*Misc. flake tools*	*Misc. retouch*	*Utilised*	*Projectile points*	*Axes*	*Tranchet flakes*	*Misc. core tools*	*Total*
MANUAL COLLECTION																
Topsoil	1	2	2	18	2	1	0	0	7	15	1	1	2	0	0	52
Upper colluvium	8	1	3	8	1	1	0	2	5	12	2	1		1	1	46
Lower colluvium	13	2	4	2	0	0	0	1	9	13	5	0	0	0	1	50
Subsoil	4	1	1	2	0	0	0	0	2	6	3	0	0	0	2	21
Other	4	0	0	3	0	0	0	0	1	3	0	0	1	0	0	12
Post-hole 1414	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
Test pits	0	0	0	0	0	0	0	1	0	2	0	0	0	0	0	3
Tree holes	2	2	1	0	1	0	0	0	1	0	0	0	0	0	0	7
Total	*32*	*8*	*11*	*33*	*4*	*2*	*0*	*4*	*25*	*51*	*12*	*2*	*3*	*1*	*4*	*192*
8 MM AND 4 MM SIEVED RESIDUES																
Topsoil	0	1	0	2	0	0	0	0	0	5	0	0	0	0	0	8
Upper colluvium	2	0	0	0	0	0	0	0	1	0	1	0	0	0	0	4
Lower colluvium	1	1	0	0	0	0	1	0	0	0	0	0	0	0	0	3
Subsoil	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	*4*	*2*	*0*	*2*	*0*	*0*	*1*	*0*	*1*	*5*	*1*	*0*	*0*	*0*	*0*	*16*

colour ranged from light grey to mottled grey–brown. Many pieces had pale grey coarse inclusions and sometimes crystalline inclusions. Many of the pieces had a high incidence of thermal fractures, though this was uneven. The flint ranged from material of reasonable knapping quality to fairly poor quality. All of this material is likely to have been derived from the river gravels on or near to the site.

Assemblage Composition

The overall composition of worked flint from the site is shown in tabular form on Table 2 and the tool types on Table 3. The incidence of material from the broad stratigraphic units on site is also shown. Owing to the difficulties outlined above, this must be seen as being very crude and approximate. Half of the flint (49.8%) comes from the topsoil and the colluvial layers, but there is also a small but significant proportion of material (10.7%) from the base of the colluvium or the top of the subsoil. However, expressing the proportion of the assemblage from each stratigraphic unit as a straightforward percentage of the total assemblage is misleading, as an equal volume of each layer was not excavated. In fact, a decreasing volume of soil was excavated down the stratigraphic sequence. Very approximate volumes of soil excavated from each stratigraphic unit are shown on Table 4 along with the density of worked flint per cubic metre. It can be seen from this that the density of worked flint increases dramatically towards the bottom of the stratigraphic sequence in the lower colluvium and the top of the subsoil.

The assemblage comprises primarily of items of debitage, with waste flakes and chips dominating (64.1%). Blades (length = twice width) and bladelets (width less than 12 mm) comprised 18.5% of the assemblage total, though there are comparatively few regular examples. The cores form about 2.5% of the total assemblage and the ratio of cores:flakes/blades is about 1:22.6 for the whole assemblage, but this ratio increases down the stratigraphic sequence rising from 1:35.6 for the topsoil, through 1:20.8 and 1:22.1 for the upper and lower colluvial layers to 1:10.9 at the base of the colluvium and top of the subsoil. The cores generally result from the production of blade and bladelet cores (*c.* 58%), the remainder are classed as flake cores but their morphology suggests that they are merely exhausted blade cores and probably form part of a single reduction technology producing blades and bladelets. Single-platformed cores predominate (56%) with a smaller number of two opposed-platform blade cores (8%), and include a number of nodules with only one or two flake removals, probably representing the testing of raw material for its knapping suitability. The presence of irregular core shatter (about 5% of the assemblage) is an indication of the poor, fracture-prone nature of much of the gravel flint used on site.

Table 4. Lambourn Valley: density of worked flint

Stratigraphic unit	*Volume of soil excavated (m^3)*	*Density of worked flint (No./m^3)*
Topsoil	161	16.21
Upper colluvium	133	21
Lower colluvium	38	66.31
Subsoil	14	83.14

The material recovered from sieved residues is presented separately on Table 2. This includes data from all of the 8 mm mesh and a small number of the 4 mm mesh samples (see below for further detail of the 4 mm mesh samples selected for examination). The discrepancy between the material from the sieved residues and the manually recovered assemblage is immediately apparent. The nature of the flint working is the same but the proportion of the artefact types is different. The much larger proportion of chips and small fragments is to be expected, but the core component is very much reduced and there are fewer artefacts than might be predicted from the evidence of the manually collected sample. In other words, the largest components (cores) and the more distinctive items (tools) seem under represented. A cursory examination of many of the sieved samples suggested that many of the larger flakes and blades were also under represented. In conclusion, it seems likely that the sieved material on its own is not representative of the whole assemblage, but taken in combination with the manually recovered flint, it can add some further information on the very smallest items in the assemblage, which may assist in determining whether there is evidence of *in situ* flint-working on the site.

The tools recovered from the site were distributed throughout the stratigraphic sequence (Table 3) and form about 1.9% of the total assemblage. This percentage remains relatively constant throughout the stratigraphic sequence. The greatest range of forms came from the topsoil. Many of these were in a worn condition and were often fairly rudimentary, and may possibly have been the result of accidental damage rather than deliberate manufacture. The implements were primarily flake tools with only a very small number of core tools present. Scrapers were the most numerous tools in the assemblage but it is clear that the majority come from the topsoil where over 78% are in a worn condition, and probably arrived on site as the result of colluvial movement from further upslope: they are therefore peripheral to the understanding of the activities which took place on site.

The same is also true of the piercers, which again were mostly fairly rudimentary examples in a worn

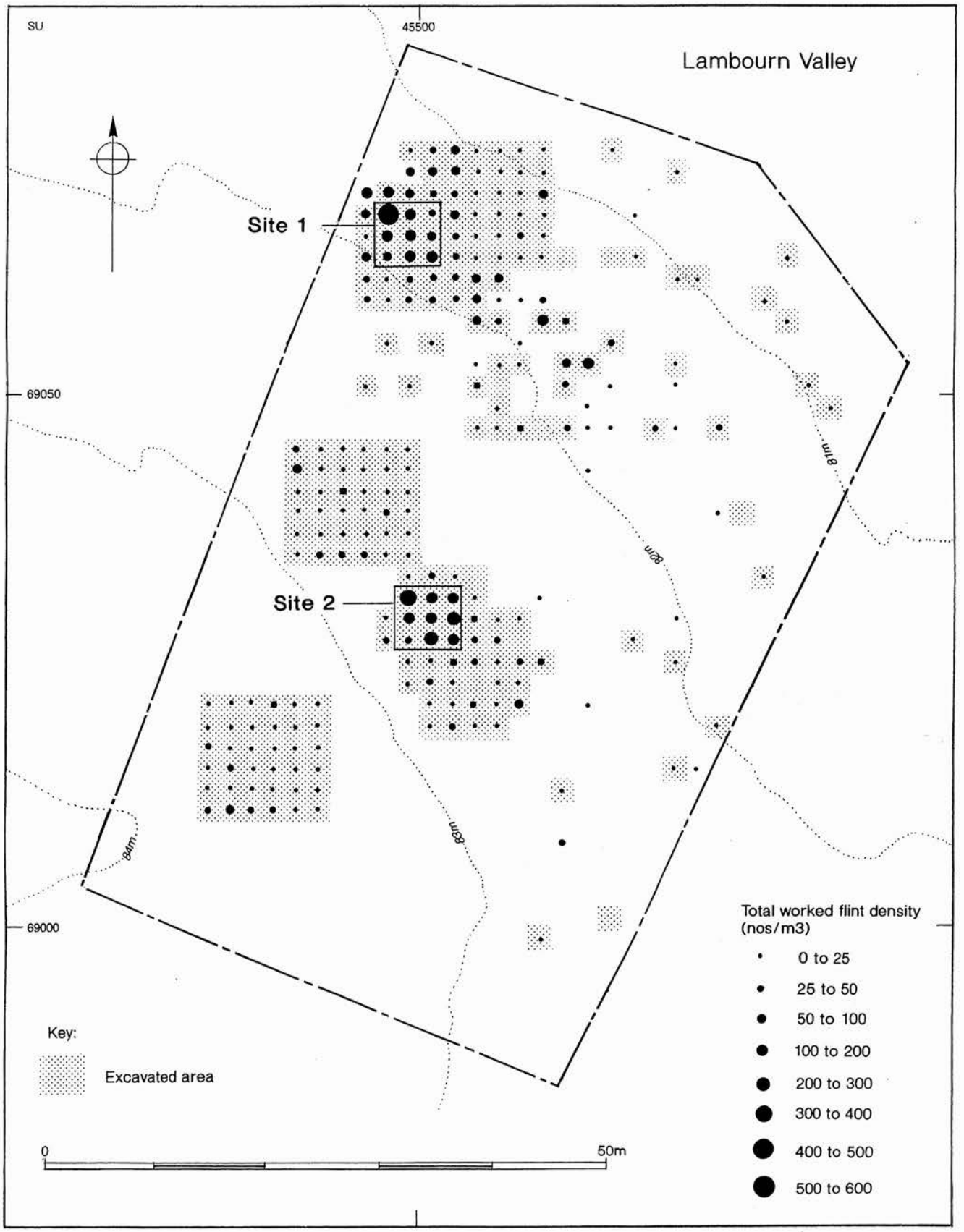


Figure 3 Lambourn Valley: density distribution of worked flint

condition. In contrast, the microliths and serrated blades are generally in a fresh condition and are concentrated towards the base of the stratigraphic sequence. The existence of a number of microburins indicates that microliths were probably being manufactured on the site. Among the knives is one fine example of a plano-convex knife from the upper colluvium. The projectile points are both arrowheads – one rough or unfinished possible leaf arrowhead in a rolled condition and a chisel transverse arrowhead. The miscellaneous flake tools include 12 truncated flakes and blades, 6 backed flakes, 3 denticulates and 2 notches. The core tools included 2 broken flake axes (in both cases the blade end is missing so it is uncertain whether they were tranchet axes or not), one pick, or possibly an unfinished axe roughout, and 4 miscellaneous core tools which are little more than broken nodules with some signs of utilisation or perfunctory retouch. The presence of tranchet axes on site is attested by a single tranchet axe sharpening flake from the upper colluvium. Overall, the composition of the tool assemblage does not suggest a specialist site, but rather that a wide range of different activities were practised.

Chronology

The only chronological indicators available are a small number of tool types. The presence of microliths and microburins in a fresh condition indicates that there is a Mesolithic component to this site. They include obliquely blunted points and a smaller number of geometric forms, mainly rods. Although obliquely blunted points are common in earlier Mesolithic assemblages they also occur in later industries dated post- *c.* 8500 BP, alongside geometric forms which only began to be made after this date (Jacobi 1987, 164). The majority of the obliquely blunted points are on quite small narrow bladelets which may indicate a later date in line with the decrease in overall size of these forms over time (Pitts and Jacobi 1979, 169–70). There are also a number of larger obliquely blunted points in the assemblage as well (Fig. 5), but it is not clear whether these reflect an earlier component. The fact that all the microlith types occur together, clustered in two concentrations, suggests that they may all be of the same later Mesolithic date.

In addition to the material of probable Mesolithic date, there are a small number of artefacts which attest to later activity. The presence of a possible leaf arrowhead and a chisel transverse arrowhead suggest some Neolithic activity. The ?leaf arrowhead is in a worn condition and may have been transported to the site by colluviation, but the chisel transverse arrowhead is in a fairly fresh condition and was found in the lower colluvium near the northern concentration. The presence of a fine plano-convex knife in a fairly fresh condition in the upper colluvium points to some Early Bronze Age activity in the neighbourhood of the site.

Spatial Patterns

The horizontal distribution of all the worked flint is shown in Figure 3 (see also *Newbury Bypass*, fig. 3). It clearly shows that there is a general background scatter of flint across the site, though this seems to tail off towards the east. Two distinct concentrations about 30 m apart are easily recognised standing out from the general background scatter, Site 1 in the north and Site 2 in the south. Neither concentration was fully excavated.

The distribution of cores, core rejuvenation flakes and irregular core shatter follows the pattern for the total flint, again clustering in two concentrations, with a general background scatter across the rest of the site. The same pattern is exhibited by the tools, particularly by the microliths and other lightweight tools. A similar marked distribution of heavyweight tools also exists, particularly if the more worn miscellaneous retouched pieces and rudimentary tools, many of which may have accidental damage rather than deliberate retouch, are ignored. The distribution of all the constituent parts of the worked flint assemblage follow the same general pattern, indicating the likelihood that the majority of the worked flint recovered from the excavated area was derived from two small, discrete 'sites' spaced about 30 m apart. Both sites contain a significant quantity of cores, core rejuvenation flakes and irregular core shatter, derived from the testing and working of cores. Both sites also have a number of finished artefacts, suggesting a range of other activities were being undertaken at these sites.

Post-depositional Processes

The flint assemblage can aid an assessment of the amount of post-depositional modification of the sites. The appraisal of the amount of post-depositional disturbance and movement can be approached through an examination of the condition of the flint and its horizontal and vertical distribution through the stratigraphic sequence, to assess whether the concentrations of flint were still roughly in their original position or whether there was much movement through colluviation or cultivation.

Not all the flint artefacts were in a similar condition and this difference appears to be related to their position in the stratigraphic sequence. As may be expected, the flint at the top of the sequence was in a much more worn condition than the material in the lower deposits. In the topsoil and upper part of the

colluvium, the flint was mainly well-worn with a glossy sheen and extensive edge damage, though a few pieces were in a fresher condition. The difference in condition was most pronounced in the two concentrations: elsewhere, almost all the flint was in a worn condition.

An assessment of how much disturbance or mixing has taken place in the two concentrations is necessary in order to determine how much reliance can be placed on the evidence and the integrity of any further analysis. The condition of the flint from the lowest spits (spits 4–6) is in a fresh condition, while in the upper spits there is an increasing number of worn and rolled pieces, although much of the material is still fairly fresh. It is also notable that the number of large heavy pieces such as cores and preparation flakes are proportionately more numerous. The same appears to be true of the tools, with very similar tools occurring in spits 2–5 and very few which may be intrusive later material or derived from elsewhere, judging from their character and condition. The intrusive material included a fine plano-convex knife of probable Early Bronze Age date which was recovered from spit 2 on the south-western edge of the concentration. The increasing density of flint, its fresh condition and the lack of obvious intrusive material, suggests that the site was relatively undisturbed below spit 3 (or spit 2 in some squares). A cursory examination of the material from the 4 mm and 2 mm sieved residues indicated a difference in the smallest material between the upper and lower parts of the stratigraphic sequence. In the upper spits the chips were mainly spalls, many fairly fresh, with a significant number with patinated or cortical dorsal surfaces. Many of these may be accidental removals from natural flint gravel in the soil. In the lowest spits there were many more bladelet fragments and spontaneous debitage, and more significantly a number of very small abrasion chips. These are completely absent from the upper spits. A small number of refits (up to 3 refitting pieces) were recognised on Site 2 but none on Site 1, although a number of pieces of flint appear to have come from the same nodule.

Both flint scatters seem to have become spread out along the contours rather than across them which suggests that there has not been much movement down slope. This is confirmed by the vertical distribution of the material. Site 1 was only just visible as a very slight increase in flint density and Site 2 was not visible at all in the uppermost spit, but both became more and more pronounced further down the stratigraphic sequence. The flint concentrations remained in the same horizontal position in all spit levels, although the restricted number of squares dug in the lowest spits makes it difficult to be certain of this.

Taking these various observations together with the evidence from the soils and stratigraphy, it seems likely that the lower part of the two concentrations, though probably not *in situ*, were only very slightly disturbed, but much of the material from the upper layers is likely to have come down the hill through colluvial processes and may not be derived from the sites at all.

Further Analysis of the Flint Industries from Sites 1 and 2

The examination of the total assemblage has indicated the probability that the majority of the worked flint was derived from two discrete areas of the site. The fact that much of the material was not and potentially had later intrusive material mixed in with it meant that the scope for undertaking detailed metrical and attribute analysis, and any spatial analysis, was extremely limited. It was felt that the potential presence of later intrusive material would skew the results and any metrical analysis would have a spurious accuracy. Therefore, it was decided to define two equal sample areas of 6 x 6 m within each concentration and to quantify and describe the material from the whole of the stratigraphic sequence in terms of its condition, raw material type, and debitage type. A smaller sub-sample at the base of the excavated sequence was also examined for its main technological attributes, such as the presence or absence of all stages of the core reduction sequence, hammer mode, presence of platform preparation and core modification and renewal. Although this lacks the authoritative weight of full metrical analysis, it still allows the character of the flint industry to be described and enables comparisons to be made with other flint industries in the region. Some attempt at refitting was undertaken within selected contexts, though no attempt was made to refit material across collection unit boundaries.

The results of the flint analyses will be presented by spit only. A total of six spits were excavated in Site 1 and four in Site 2. Although the total assemblage was divided roughly into stratigraphic units, the data are not sufficiently precise to allow this to be attempted in any great detail within a specific area with any degree of confidence. Instead, presentation by spit does allow the vertical dimension to be taken into account even if the relationship with the stratigraphy is not known.

Flaking Mode

Core reduction was probably achieved using a combination of direct percussion by both hard and soft hammers, based on the criteria defined by Ohnuma and Bergman (1984). A hard hammer was generally used in the earlier stages of raw material testing and core preparation and shaping and then a softer hammer was used for blade production once the core was satisfactorily prepared. The microliths and microburins indicate that direct percussion on an anvil was

Table 5. Lambourn Vally: sample area core typology

Spit	*Single-platform blade cores*	*Opposed platform blade cores*	*Other blade cores*	*Tested nodules etc.*	*Single-platform flake cores*	*Multi-platform flake cores*	*Uncertain/ fragmentary cores*	*Mean wt complete cores (g)*
SITE 1 SAMPLE AREA								
1	1	0	0	0	1	2	1	102
2	5	4	3	1	0	0	5	139
3	7	1	1	0	3	1	8	118
4	10	4	3	3	0	3	9	173
5	1	0	1	1	0	0	2	52
Total	*24*	*9*	*8*	*5*	*4*	*6*	*25*	*117*
SITE 2 SAMPLE AREA								
1	0	0	0	0	0	1	0	47
2	1	1	1	1	0	0	1	79
3	10	4	3	1	2	2	10	110
4	1	0	0	0	0	0	0	108
Total	*12*	*5*	*4*	*2*	*2*	*3*	*11*	*86*

sometimes used for retouching. No hammers were recovered from the site, so it is unclear whether the soft hammers were of soft stone or of organic material such as wood, bone or antler.

Cores

One hundred and twenty cores were recovered from the sample areas, 81 from the north and 39 from the south (Table 5). This gives a core to waste ratio of 1:45 for Site 1 and 1:69 for Site 2. The difference is due in part to the much greater quantity of small chips recovered from the sieved samples in the southern site. If the chips from the sieved residues are not included, the core to waste ratio of the two areas is more similar at 1:34 and 1:42.

The cores all appear to be gravel flint, with fragments split by frost fractures being selected rather than cobbles. Very occasionally, thick flakes were utilised. Many nodules had coarse or crystalline inclusions, and/or faults and thermal fractures, making the raw material difficult to work. The large number of fragments of core shatter are presumably a direct result of this fractured nature of the raw material. The precise number of nodules represented is not known, but a number of cores are manufactured from very similar raw material, suggesting they may have come from the same nodule. A small number of cores reutilised core fragments which had shattered along thermal fractures.

The range of core types was similar in both sites and they were present in similar proportions. Single platform cores predominate and most were prepared for the production of blades/bladelets. Many of the cores classed as flake cores in Table 5 have some evidence of earlier blade/bladelet removals. Other cores had an additional opposed striking platform. A number of cores had two or three separate platforms in varying positions depending on the shape of the raw material but a good number of these had only a few removals from the additional platforms. The platforms were either unprepared thermal surfaces (43%), or were prepared by the removal of a single flake from the flaking surface (57%).

Despite the irregular nature of the raw material, it is evident that the cores were carefully prepared and controlled (Fig. 4). Where suitable thermal surfaces were present, these were used unmodified as a striking platform. It is difficult to know how much initial core trimming and shaping took place, but there was little evidence for the modification of the sides, back and base of most cores. The presence of a small number of unifacially crested blades indicates careful trimming to guide the initial blade. Natural crests were also used for this purpose. Platforms were renewed by the removal of a core tablet, generally by a blow to the flaking face. In a smaller number of cases, the edge of the platform and the face of the flaking surface was removed by a blow directed from the side of the core. The edge of a striking platform was also used as a crest to guide the first blade from a new platform. The striking platforms were almost always strengthened by abrading the edge of the core during blade production but there is no evidence for the faceting of the platform to modify the flaking angle.

The majority of the cores appear to have been abandoned because of problems over irregularities in the raw material. Hinge fractures, often occurring just below the striking platform also contributed to core rejection. A very small number of cores continued to be used to produce bladelets after they had been reduced to a very small size, though in general the cores were abandoned when they were much larger.

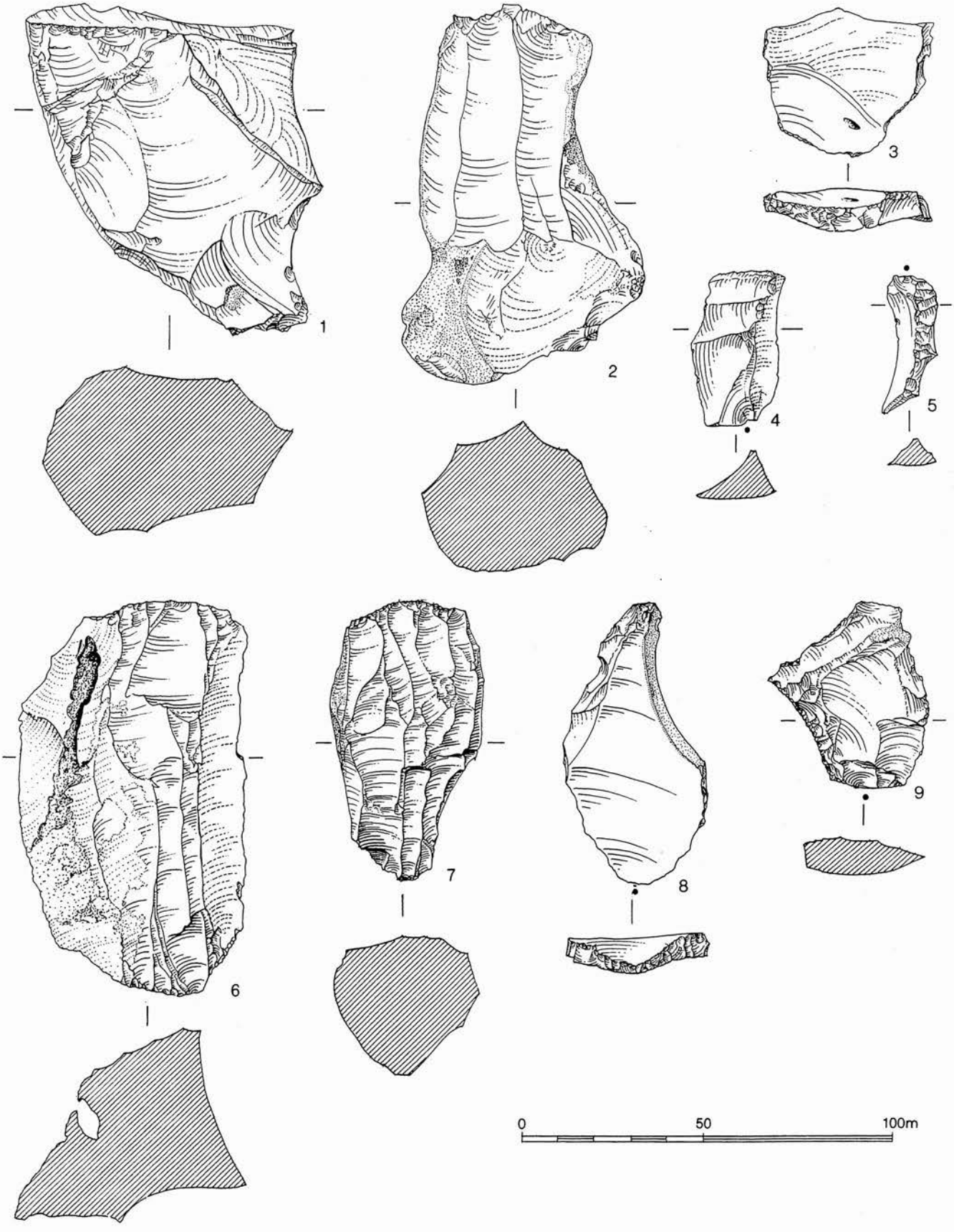


Figure 4 Lambourn Valley: cores and core trimming flakes

Table 6. Lambourn Valley: sample area flake and blade reduction sequence and mode

context	*Primary flakes*	*Secondary flakes*	*Tertiary flakes*	*Primary blades*	*Secondary blades*	*Tertiary blades*	*Flake hammer mode*			*Blade hammer mode*		
							hard	*soft*	*indet*	*hard*	*soft*	*indet*
SITE 1 SAMPLE AREA												
2957	0	0	0	0	1	1	0	0	0	1	1	0
2970	0	1	1	0	0	0	1	0	1	0	0	0
2966	0	3	2	0	0	2	2	0	2	0	1	1
2969	0	0	0	0	0	2	0	0	0	0	1	1
2961	8	25	16	0	11	11	24	7	18	2	5	3
2965	4	16	8	0	8	4	16	3	9	2	3	7
2963	7	10	4	0	2	2	15	0	6	1	0	3
2951	9	22	5	1	10	6	19	1	16	2	8	7
Total	*28*	*77*	*36*	*1*	*32*	*28*	*77*	*11*	*52*	*8*	*19*	*22*
SITE 2 SAMPLE AREA												
2887	0	2	1	0	0	0	2	0	1	0	0	0
2888	0	7	4	2	4	1	5	0	6	2	2	3
3201	0	4	0	1	1	1	2	1	1	1	1	1
2860	0	1	2	0	0	3	2	0	1	0	1	2
2874	1	2	1	0	0	0	3	0	1	0	0	0
2870	1	3	3	0	3	3	3	2	2	1	3	2
2886	4	8	4	0	5	3	7	1	8	0	5	3
2879	9	10	7	5	12	0	12	3	11	1	10	6
2864	12	37	18	1	6	19	34	6	27	3	13	10
2868	0	5	3	0	1	5	4	1	3	0	4	2
2875	3	5	0	1	3	5	4	0	4	1	4	4
2863	9	19	2	0	11	21	24	0	6	0	26	6
Total	*39*	*103*	*45*	*10*	*46*	*61*	*102*	*14*	*71*	*9*	*69*	*39*

Flakes and Blades

The character of the flakes confirms the observations made on the cores above. There is no evidence for the deliberate production of flake blanks. The large majority of flakes were waste by-products from the trimming and shaping of cores. The overall size of the flakes was much larger and thicker than the blades and there is a much greater proportion of primary and secondary flakes present (ie, flakes with either completely or partially cortical or thermal dorsal surfaces) (Table 6). The flakes exhibit a wide range of shapes and are often very irregular. The majority of them have thick plain butts and the overwhelming proportion of primary and secondary flakes were removed with a hard hammer (Table 6). There is comparatively little evidence for platform abrasion. Many of the tertiary flakes (with no cortical or thermal dorsal surfaces) are smaller and thinner but largely appear to be products of core trimming as well.

The blades are generally much smaller and thinner than the flakes, and tertiary removals (with no cortical or thermal dorsal surfaces) predominate (Table 6). The secondary blades also include a large number which have only a small proportion of cortex remaining, usually along one edge or at the distal end. A significant proportion of secondary blades appeared to be the result of core trimming to remove irregularities during blade production. All the blades have plain narrow butts, often linear or punctiform, and the vast majority have evidence of careful platform preparation before removal.

Chips and Miscellaneous Debitage

The chips from the sample areas include both fragments of flakes and blades (primarily broken bladelets) and also small spalls and chips which are probably the result of spontaneous accidental removals during the knapping process or the result of later damage. In a small number of sieved samples a fairly large number of small platform abrasion and retouch chips have been noted. The miscellaneous debitage largely comprises unclassifiable irregular knapping debitage, often a result of the irregular quality of the raw material used.

Tool Production

The presence of a number of microburins provides direct evidence for the production of tools on site (Fig. 5, 16–17). These occur in the Site 1 sample area (Table 4), where one butt microburin notched on the right-hand-side and one tip microburin notched on the left-hand-side were found. The ratio of microburins to microliths is 1:7.5. One possible burin spall (but no burins) was also recovered from the Site 1 sample area; neither was recovered from the Site 2 sample area.

The occurrence of other tool types in both sample areas indicates that a range of other retouched pieces were possibly being manufactured on site (Fig. 6). It is clear that blades with no or very little cortex were selected for microliths and serrated blades. The other tool types, however, were made on a wide range of

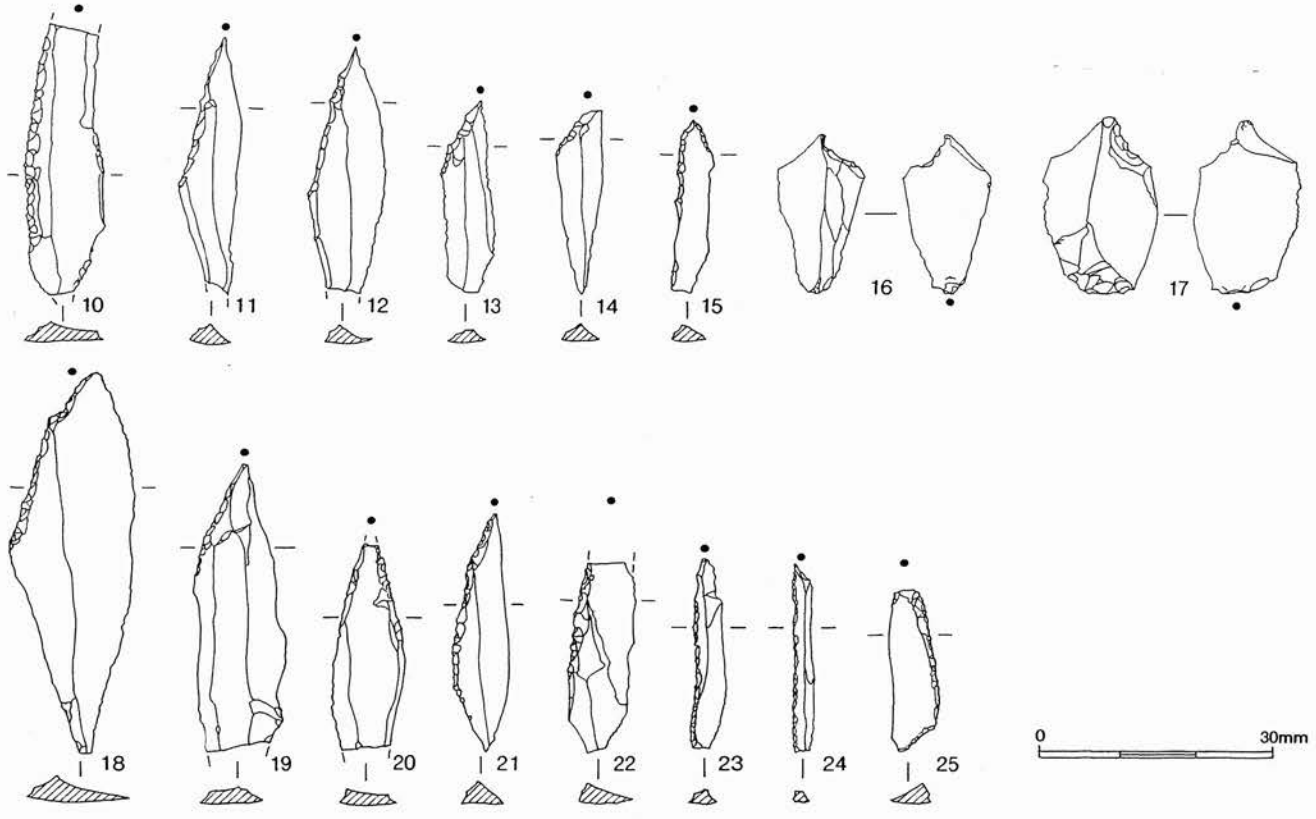


Figure 5 Lambourn Valley: microliths and microburins

flakes and blades. The scrapers, for example, were made on blanks 20–68 mm long, 21–74 mm wide and 6–39 mm thick and included core preparation flakes, thermal blanks and broken pieces. The majority of scraping edges were made by direct regular/irregular retouch, primarily on the distal end, but occasionally on one side. The retouch was often fairly minimal, emphasising a naturally steep edge. The other tool types were present in such small numbers to make it difficult to assess the range of preferred blanks.

The Nature of Sites 1 and 2

Although the flint industries from both sites were indistinguishable, there are some differences apparent in the assemblages which may allow interpretation of the nature of the sites and the activities carried out.

Site Size and Position

It is difficult to be precise about the absolute limits of the sites as inevitably, the edges of the concentrations are blurred. However, since the background scatter of flint across the site had a density generally less than 25 pieces per 2 x 2 m square, any 2 x 2 m square with greater than 50 pieces of worked flint was included as part of the concentration.

Using this criterion, Site 1 had an excavated area of roughly 64 square metres. This is not the total area of the site since it continued further to the west and north-west beyond the excavated area. Given that the density of worked flint increased towards the edge of the site, it is possible that it continued for some distance and that the main focus lay outside the excavation. Within the excavated area the site was slightly elongated in a north-west/south-east direction, running roughly along the contours at about 81.8 m above OD.

Site 2 had an excavated area of approximately 32 square metres, approximately half the excavated area of Site 1. In common with Site 1, the full extent of Site 2 has not been fully defined by excavation as the concentration appears to continue to the north-west beyond the excavated part of the site. However, unlike Site 1, it seems unlikely to continue much further as no trace of it was visible in the excavated area 8 m to the north-west. Again, the site seems to have been slightly elongated north-west/south-east, roughly along the contours. It lay about 30 m from Site 1, higher up the slope at about 82.70 m OD.

Site Activity

The composition of the flint assemblages from both sites is similar, suggesting that it represents broadly similar activities on Sites 1 and 2. The bulk of the flint

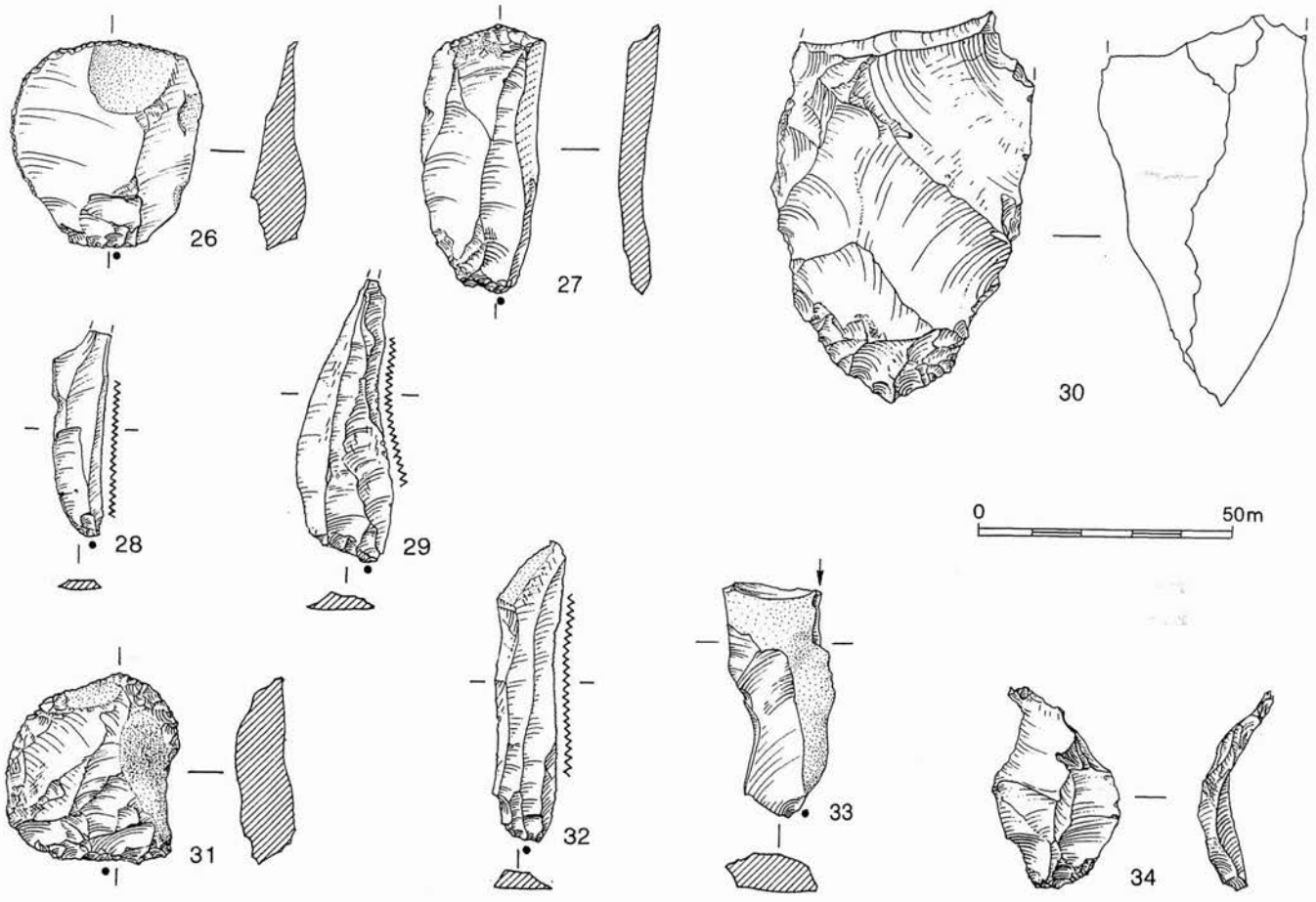


Figure 6 Lambourn Valley: miscellaneous tools

assemblage provides evidence for the exploitation of river gravel flint as raw material for producing blades. The majority of the flint recovered from both sites was discarded core preparation and trimming flakes and blades. The presence of small abrasion chips and other small knapping debris suggests that flint was both knapped and the waste products discarded on site. However, given the poor quality of some of the raw material, the relatively small proportion of tested nodules (5–6% of cores) and core shatter (just over 60% of all core material) within the assemblage is surprising. It might indicate that the preliminary testing of raw material was carried out elsewhere. The number of blade 'end products' appear to be under-represented in the samples examined from both sites, and it is suggested that these were removed for use, either elsewhere on the sites (ie within the unexcavated area) or taken off site completely for use in another location.

There are, however, one or two small differences which suggest that the two sites are not identical. For example, there is some evidence for the manufacture of microliths on Site 1 (though the number of microburins present is not large) but no microburins were found on Site 2 (although a single microburin was found immediately to the south, in the upper part of the colluvium). It seems that microlith production using the microburin technique was absent from, or a very insignificant part of, the activity carried out on Site 2.

The range of tools present illustrates further differences between the two sites. Site 1 has a slightly higher proportion of tools than Site 2 and, more importantly, there is a much wider range of different tool types present (Table 7) suggesting a range of different domestic activity. In other words, Site 1 was not purely an industrial site manufacturing flint artefacts. In the absence of any potential for microwear analysis, it is not clear what activities are being represented, especially since there are very few specialised tool types present, other than microliths. There is no direct evidence for bone-working, but skin-working is suggested by the presence of scrapers and by the presence of two miscellaneous core tools which have deliberate smoothing and rounding on one edge and which may have been used in cleaning and preparing skins. There is little direct evidence for the subsistence base of the site. However, an obliquely blunted point with a burin-like break (impact fracture) at the tip which may have resulted from its use as a

Table 7. Lambourn Valley: sample area tool assemblage

Spit	*Micro lith*	*Micro burin*	*Serr. blade*	*Scraper*	*Burin*	*Burin spall*	*Knife*	*Misc. flake tool*	*Misc. ret.*	*Util.*	*Axe*	*Misc. core tool*	*Total*
SITE 1 SAMPLE AREA													
1	0	0	0	4	0	0	0	0	4	0	1	0	9
2	4	0	1	3	0	0	0	0	5	0	0	1	14
3	7	1	3	1	0	1	0	5	4	3	0	0	25
4	3	0	0	1	0	0	0	1	1	2	0	0	8
5	2	1	1	1	0	0	0	0	0	0	0	2	7
6	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	*16*	*2*	*5*	*10*	*0*	*1*	*0*	*6*	*14*	*5*	*1*	*3*	*63*
SITE 2 SAMPLE AREA													
1	0	0	0	0	0	0	0	0	0	0	0	0	0
2	2	0	0	0	1	0	0	0	0	1	0	0	4
3	4	0	1	0	0	0	1	0	6	2	0	1	15
4	0	0	0	0	0	0	0	1	2	1	0	0	4
Total	*6*	*0*	*1*	*0*	*1*	*0*	*1*	*1*	*8*	*4*	*0*	*1*	*23*

projectile point, and which may have been carried back to the site in the carcass of a dead animal (Barton and Bergman 1982, 242), may indicate that hunting formed one part of the food procurement activity.

Site 2 has a much more restricted range of tools, many of which are rudimentary retouched fragments. In common with Site 1, microliths predominate amongst the classified tool assemblage. In contrast, there are no scrapers present, which seems quite significant since scrapers are the second most numerous tool type present on Site 1. It seems likely that a much more restricted set of activities was being practised on Site 2, which has to be seen as being primarily an industrial site.

Chronology

Both Sites 1 and 2 appear to belong to the same period. The similarity of the flint industries has already been noted. The technological characteristics compare well with other Mesolithic flint industries, particularly those from the later Mesolithic period (Froom 1976; Harding 1997; Healy *et al.* 1992; Pitts 1978; Pitts and Jacobi 1979). A likely date in the later Mesolithic period is also suggested by the presence of rods and other geometric microliths. The majority of microliths (Table 8) are obliquely blunted points which are found throughout the Mesolithic period as are microburins,

Table 8. Lambourn Valley: microlith typology

Context	*Obliquely blunted point*	*Edge-blunted point*	*Rod*	*Scalene triangle*	*atypical/ frag.*
Site 1	7	3	1	0	7
Site 2	3	0	1	0	3
Other	6	1	1	1	2
Total	16	4	3	1	12

serrated blades, and tranchet axes/adzes. Therefore, it is possible that there is an earlier Mesolithic component to the site. However, there are no clear technological differences recognised in the assemblages unlike at Thatcham where the early and later assemblages were clearly distinguishable (Healy *et al.* 1992). Therefore, it is considered more likely that the whole assemblage is dated to the later Mesolithic, ie in the period after *c.* 8500 BP. In the absence of radiocarbon dates it is impossible to be more precise.

Interpretation (Relationship between Sites 1 and 2)

In terms of its size and composition, Site 1 can be regarded as a home base where a wide range of activities took place, including hunting and domestic tasks (Mellars 1976). The presence of large quantities of burnt flint and a number of burnt flint artefacts (5%) points to the former existence of hearth(s) which probably formed the focus around which most tasks were undertaken. The location of the site on the first river terrace was probably partly determined by the ready availability of flint raw material in the form of river gravel flint and the exploitation of this flint forms a major part of the surviving evidence for activity on this site. It was also in a good position to exploit a wide range of resources including varied vegetation, congregating deer and other animals in winter, and fish (Mellars 1976).

It is extremely difficult on the basis of the flint assemblage alone, particularly without the aid of microwear studies, to determine the full range of activity on the site, particularly as microwear studies have shown that similar artefacts can have a multitude of different functions (Healy *et al.* 1992). Without the survival of organic materials, it is difficult to be certain of the relative importance of hunting, fishing and plant

gathering. It has previously been emphasised by Clarke (1976) and Mellars (1976) that plant foods form an extremely significant part of the diet of hunter-gatherer communities in temperate latitudes and Grace (in Healy *et al.* 1992) has shown that presence of microliths does not necessarily imply projectile points and provide proof of hunting, nor does it allow a simplistic correlation between the number of microliths and the relative importance of hunting.

In contrast to Site 1, Site 2 appears to be a small site, primarily industrial in function, again exploiting the river gravel flint. The presence of large quantities of burnt flint and a number of tools suggests that it is more than a purely industrial site and some domestic activity is implied. It is possible that Site 2 is in fact similar to Site 1 but smaller in scale or just less frequently occupied.

Although the two sites both belong to the same period, it cannot be determined if they were in use at the same time or whether one site succeeds the other. There is nothing to indicate the duration of occupation on either site, nor the frequency of that occupation. Also, it must be borne in mind that these two sites are only part of a larger area of Mesolithic occupation along the southern edge of the River Lambourn. Further evidence for broadly contemporary, possibly *in situ* Mesolithic flint-working was recovered from the Stage 2 evaluation trench 297, about 70 m to the west of the present site (Wessex Archaeology 1994). The nature of this site was very similar to Site 1, with evidence for the exploitation of the river gravel flint for blade production on site, as well as a possible hearth and a range of tools including microliths (both rods and obliquely-blunted points), serrated blades and burins.

Comparison with Other Sites in the Region

The sites excavated on the southern slope of the Lambourn valley in advance of the Newbury bypass comprise only worked flint and burnt unworked flint. Fortunately, they sit within a region which is rich in evidence for Mesolithic activity (Lobb and Rose 1996; Richards 1978; Wymer 1977), making it possible to put them into a wider regional context and possibly fill in some of the gaps missing from their archaeological record. A number of Mesolithic sites in the Kennet and Lambourn valleys have been excavated (including Thatcham, Wawcott and Greenham Dairy Farm/ Faraday Road) and these can provide comparative data to try to flesh out the evidence of the Lambourn valley sites. An attempt will be made below to place the sites within their contemporary environment and make an assessment of their place within the contemporary subsistence-settlement systems of the region.

At Thatcham, less than 5 km to the south-east, there are a number of sites on the edge of the alluvial gravel terrace overlooking the River Kennet floodplain, which have evidence for flint-knapping and microlith production on site (Peake and Crawford 1922; Wymer 1962). These are dated in part to *c.* 9800–9400 BP (Gowlett *et al.* 1987, 127; Healy *et al.* 1992) and have a microlith assemblage dominated by obliquely-blunted points. Other tool types include larger retouched forms such as scrapers, burins, serrated blades and piercers and also tranchet axes (and axe sharpening flakes). There was also evidence for bone and antler working. The excavation of a site belonging to the later Mesolithic, broadly contemporary with the Lambourn Valley sites, at Thatcham (Healy *et al.* 1992) suggests that occupation continued in this area for a considerable length of time. At Greenham Dairy Farm (Sheridan *et al.* 1967) and the adjacent Faraday Road (Wessex Archaeology 1997), 3 km south-east of the Lambourn Valley site, there is an Early Mesolithic site with a tool assemblage dominated by microliths, the vast majority of which are obliquely-blunted points. A worked (red deer?) antler was also recovered. Two radiocarbon dates of 8779±110 BP (Q-0973) and 8160±100 BP (OxA-0956) have been obtained from Greenham Dairy Farm (though the latter is considered be be probably too young because of reduced collagen (Hedges *et al.* 1988)). This site also sits on the lower alluvial gravel terrace. In the Wawcott area, 7km to the west of the Lambourn Valley site, over 50 possible sites have been recorded on the floodplain, on the edge of the lower alluvial gravel terrace and also on the lower slopes of the river valley (Froom 1963; 1965; 1970; 1972a; 1972b; 1976). These range in date from early Mesolithic sites dominated by obliquely-blunted points, to later Mesolithic sites with a significant geometric microlith component including rods and scalene triangles. A radiocarbon date of 5260±130 BP (BM-449) has been obtained from Wawcott I and a date of 5860±113 BP from Wawcott XXIII (Froom 1972; 1976). Thus, it can be seen that the Lambourn Valley sites sit in the same topographic position as a number of early and later Mesolithic sites in the area. Further evidence from findspots and fieldwalking (Wymer 1977; Lobb and Rose 1996) serves to underline the significance of this topographical zone.

The sources of evidence for the Mesolithic environment comprise a vegetational history of the wider Kennet valley region (Holyoak 1980) and some palaeo-environmental evidence from the excavations at Thatcham (Churchill 1962; Scaife 1992) and Faraday Road (Wessex Archaeology 1997). These sources indicate that in the Pre-Boreal period, the floodplains supported a predominantly open fen vegetation with some willow (*Salix*) scrub, which appears to have persisted until after 9700 BP in the Thatcham area. The lengthy duration of open conditions in the floodplains may in part be due to the effects of the grazing of large animals such as red deer (*Cervus elephas*), aurochs (*Bos primigenius*), horse (*Equus* sp), elk (*Alces* sp), and wild

boar (*Sus scrofa*) (Holyoak 1980, 263).There is also some evidence for the burning of the fen vegetation during this period at Thatcham, which may be the result of deliberate management by the Mesolithic population to improve grazing and encourage the herds of large animals (Holyoak 1980, 297). On the terrace on the edge of the floodplain, the Thatcham sites were located in small dry grassy clearings, within pine (*Pinus*) and hazel (*Corylus*) woodland with areas of deciduous oak (*Quercus*) and elm (*Ulmus*) woodland. On the higher ground of the valley sides, small birch (*Betula*) woods gradually gave way to pine and hazel woodland and later elm and oak.

Later in the Boreal period, the Kennet valley floodplain appears to have become inundated. This may have led to the abandonment of the area which resulted in the growth of peat over the occupation levels at Thatcham and the deposition of silts over some of the sites at Wawcott. By about 7500 BP, alder carr had developed on the floodplain of the Lower Kennet (Holyoak 1980; Healy *et al.* 1992), possibly due to reduced human intervention (Lobb and Rose 1996). The higher ground by this time was well-wooded and dominated by elm and lime (*Tilia*).

Both the earlier and the later Mesolithic sites in the region, therefore, appear to occupy similar topographical and environmental niches. For the Early Mesolithic, a number of the Thatcham sites appear to be 'home base' sites in which a wide range of activities were carried out using a varied tool kit. Several hearths were found and there was a suggestion that there were shelters, perhaps constructed from branches and hides (Wymer 1962, 336). There is evidence for the exploitation of red and roe deer and wild pig, as well as other animals to a lesser degree (King in Wymer 1962). There is also evidence for the consumption of hazelnuts and a range of other vegetable sources (Healy *et al.* 1992). At Wawcott several of the sites are of a similar non-specialised type and several hollows have been discovered which have been interpreted as dwellings (Froom 1972a; 1972b; 1976). Two sites, however, do not fit into this category. The southern site in the most recent excavations at Thatcham appears to have been a more specialised site involving the processing of antler and bone (Grace in Healy *et al.* 1992) and the Faraday Road site has been interpreted as a kill site involving the initial butchery of animals (particularly juvenile pig) by a hunting party (Wessex Archaeology 1997). The evidence for the later Mesolithic also indicates the general 'home base' character of many of the sites. The later Mesolithic site at Thatcham is of this type (Healy *et al.* 1992), as are Wawcott III and XXIII (Froom 1972a; 1972b; 1976). Wawcott XXIII produced faunal remains which suggested the exploitation of wild cattle, red deer and pig. The Lambourn Valley Site 1 has been interpreted as a 'home base' site and Site 2 may tentatively be included in this category of site also, though in common with many of the sites in the area, it also had strong evidence for gravel flint exploitation and blade and other artefact production.

It seems that in both the earlier and later Mesolithic, a similar settlement pattern existed which concentrated in the river valleys. In contrast there is very little evidence for Mesolithic activity on the higher ground of the Berkshire Downs, despite the availability of good quality flint (Richards 1978). The density of the sites in the valleys, as well as the time span of occupation, may suggest that there was at least a semi-sedentary lifestyle exploiting the wide range of animal and vegetable resources available in the river and forest environments. It has been suggested (Clarke 1976; Mellars 1976) that the advantage of a river valley environment was the availability of storable food resources such as nuts, berries and roots together green water plants and other riverine resources during the difficult winter months when supplies of vegetable foodstuffs were at their lowest. Mellars (1976) also points out that during the winter months, red deer populations tend to congregate into much smaller areas, preferably in river valleys which combine protection from adverse weather conditions with a concentration of accessible food supplies. It has already been noted above that the Mesolithic population may have deliberately tried to improve grazing and encourage herds of large animals.

The density of Mesolithic sites in the Lambourn and Kennet Valleys appears to reflect not only the concentration of fieldwork in this area but also the great importance of this region in Mesolithic times. Further east in the Kennet Valley, the density of sites is much lower and in general the sites appear to be much smaller in size (Lobb and Rose 1996). The area can be regarded as a natural routeway between the chalklands to the west and the East Anglian and Wealden sites (Lobb and Rose 1996, 73) to the east.

In conclusion, the settlement and subsistence pattern of the area can be summarised as follows. The Mesolithic sites were concentrated in the river valley bottom and can be seen as either semi-permanent settlements exploiting a wide range of raw materials and foodstuffs in the immediate environs or as probable winter camps of more widely ranging groups exploiting the Kennet and Lambourn valleys as one part of a seasonal cycle. The evidence from the Lambourn Valley sites fits neatly into this established model of the Mesolithic settlement pattern.

5. Prehistoric Pottery from Lambourn Valley and Finds from Swilly Copse and Bath Road

Lambourn Valley: Prehistoric Pottery

by Frances Raymond

The small assemblage of prehistoric pottery from the Lambourn Valley site comprises 86 sherds (375 g). These range in date from the Neolithic to the Late Iron Age. For the most part the sherds are small and heavily abraded: a condition typical of prehistoric pottery recovered as a residual element within colluvial deposits. The assemblage includes only six featured sherds, representing 7% of the total group, and, in fact, three of these are from the same vessel. For this reason the identification of the pottery has been focused almost entirely on fabric characteristics.

A general record was made of the weight, type, main characteristics, likely date and condition of each sherd (information held in archive). No attempt was made to undertake a detailed fabric analysis, but the most common inclusion types within the various wares were recorded. These were identified with the aid of a binocular microscope (x40 magnification).

Condition was assessed using a crude index of abrasion, according to which sherds were grouped into one of the four broad categories defined below.

Degree of abrasion	*Definition*
Fresh	Surfaces unabraded, fractures crisp
Light	Surfaces unabraded, fractures rolled
Moderate	Surfaces partially abraded, fractures rolled
Heavy	Surfaces removed, fractures rolled

Neolithic

The three sherds of Neolithic pottery, all in relatively good condition, are made from fabrics which are typical of the period and which would be unusual in assemblages of any other date. It is not possible to refine their attribution any further, since all are undecorated body sherds. Parallels for the fabrics exist amongst earlier Neolithic assemblages, but can also be found within later Neolithic collections of Peterborough ware. The absence of decoration does not necessarily indicate that the sherds are earlier Neolithic in date, since they are small and could be derived from the undecorated zones on Peterborough Ware vessels.

At least two different fabrics are represented, both containing ill-sorted flint. One of these also includes sparse quantities of slightly micaceous sub-rounded sand. Such inclusions would have been available nearby and indeed, with the exception of earlier Neolithic gabbroic ware which occurs on sites well to the west of the Lambourn Valley, most Neolithic ceramics seem to have been produced locally.

Early Bronze Age

The six Early Bronze Age sherds have been assigned to this period with absolute confidence. The four from the same context (1261) are part of a Collared Urn, decorated with twisted cord impressions arranged in horizontal rows. So little of this vessel survives that it is not possible to reconstruct the overall form, or to comment on the decorative design. Collared Urns are most commonly found on funerary sites (Burgess 1986), although they are not restricted to such contexts. All sherds are in poor condition, displaying moderate to heavy abrasion.

The fabric consists of a ferruginous clay, containing a micaceous sand and a high proportion of grog. This same ware was used to produce the undecorated sherds found in 2390 and 2941. There is a relatively large quantity of mica in the clay. Although mica does occur in secondary clays, it is just possible that this fabric was produced non-locally.

Middle Bronze Age

All of the Deverel-Rimbury pottery consists of unfeatured body sherds, ranging from lightly abraded to examples with signs of moderate to heavy abrasion. However, the fabrics are typical of the Middle Bronze Age and their attribution carries a high level of confidence. The pottery from 1414, 2930 and 3159 is probably derived from barrel or bucket urns. Ceramics of this type are found in both funerary and domestic contexts.

At least two fabrics are represented and both are tempered with large quantities of crushed flint. In one case sub-rounded sand is also present. These materials would have been available nearby and as with the Neolithic pottery, local production is likely.

Late Bronze Age

The ten sherds of Late Bronze Age pottery are all unfeatured. The fabric characteristics displayed by this material compare well with Plain Ware assemblages

dated securely to the Late Bronze Age. However, some of the fabric types were in use over a more extended period of time, including wares which appear to have had a Middle Bronze Age origin. The sherds recovered from 2939 and 3138 are made from fabrics of this kind. Similarly, other wares continued to be used to produce early All Cannings Cross ceramics (Early Iron Age), although firing methods and surface treatments underwent a substantial change. The dating of these sherds should, therefore, be viewed with a measure of caution. Condition is in general moderately to heavily abraded.

The presence of Late Bronze Age plain ware on the site is not surprising, particularly in association with Deverel-Rimbury pottery. The two ceramic types are found together in a number of other locations including, for example, sites on Salisbury Plain (Bradley *et al.* 1994) and on the Marlborough Downs (Gingell 1992). This association seems to be indicative of a high degree of continuity in the location, although not necessarily in the form, of Middle and Late Bronze Age settlement.

Several fabrics are represented, all containing flint, but with various other inclusion types comprising slightly micaceous and, non-micaceous sand, and some calcareous particles, probably chalk. All these materials would have been available nearby, and as with other sites of the period, production appears to have been locally based.

Iron Age

The highest proportion of identifiable prehistoric pottery dates to the Iron Age. Most of these are body sherds made from fabrics which could have been produced at almost any time within this period. The various wares represented display characteristics typical of Iron Age pottery and they can be assigned to this period with a high level of confidence. The only exceptions are some of the Late Iron Age fabrics which were also produced after the Roman Conquest.

Only eleven of the 36 sherds could be dated more closely and all were made between the Middle and Late Iron Age. The only diagnostic Middle Iron Age sherd was a small rim fragment, probably derived from a saucepan pot. A second rim and a neck from two different jars (3116), may also be of Middle Iron Age date, but so little survives that they could equally be of Late Iron Age origin.

The only featured sherds attributed to the Late Iron Age are a bead rim and part of the neck of the same vessel (2905). The remaining six sherds have been assigned to this period on the basis of fabric characteristics, and three of these, including one grog-tempered sherd reminiscent of Savernake ware, could in fact be of early Romano-British date.

Most of the Iron Age fabrics are tempered with sand, some of which is slightly micaceous. Flint, grog, chalk and vegetable tempering were also used. While all of these materials would have been available locally, analogies with other sites of the period would suggest that it is likely that some of the pottery was imported from outside the immediate area.

The majority of the Iron Age pottery is in poor condition, exhibiting signs of moderate to heavy abrasion. The only exceptions are the sherds from the bead rim jar from 2905, which are only lightly abraded; and a single large sherd (66 g) from a vessel of Middle to Late Iron Age date from 3116, which is in fresh condition.

Swilly Copse: Pottery

by Lorraine Mepham

Sherds of a single vessel were found in Trench 410, where it had been deposited in an inverted position within a small scoop (3215; *Newbury Bypass*, fig. 7). The vessel has been identified as a Globular Urn of Middle Bronze Age date.

The sherds are in a soft fabric tempered with common (20–30%), fairly well sorted, subangular fragments of crushed, calcined flint (<2mm); both exterior and interior surfaces have been smoothed. Most of the vessel profile survives, although the base is missing. It is relatively small (external rim diameter 110 mm), with a fairly even wall thickness of 6–7 mm. There is a very slight 'shoulder' about 35 mm below the rim. Apart from two opposed bosses, applied just below this 'shoulder', the vessel is plain.

Globular Urns form part of the Deverel-Rimbury ceramic tradition of the Middle Bronze Age in southern England. They are often found in fabrics which are finer, and/or better finished than those used for other Deverel-Rimbury vessel types such as the bucket and barrel urns; decorated examples are

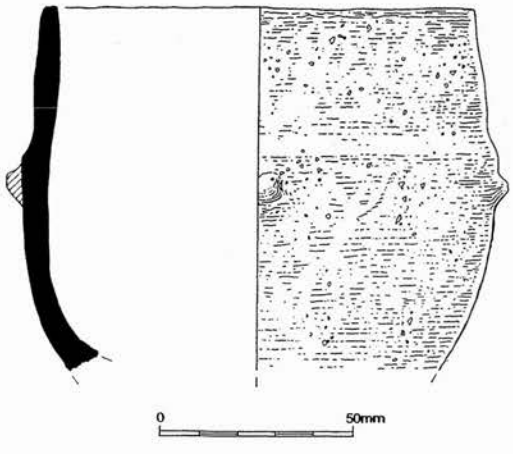


Figure 7 Swilly Copse: Globular urn

considered to represent the 'fineware' element within the tradition (Ellison 1980). While Globular Urns are frequently associated with funerary contexts (as are other Deverel-Rimbury types), either as containers for cremated bone or as accessory vessels, they are also known from domestic contexts. No cremated bone was found with this example, which would appear to rule out a funerary use, but nor is there any supporting evidence for a domestic interpretation for this apparently isolated deposit, beyond some slight traces of a possible sooted residue on the interior surface of the vessel.

Illustrated vessel

(Fig. 7)

Part profile of Globular Urn; two applied bosses. Obj. No. 7402, context 3214, scoop 3215.

Bath Road: Finds

by Emma Loader

During the watching brief two small collections of finds were made, one to the north of the A4 Bath Road and at Whittle Copse.

To the north of the A4 Bath Road, a hearth produced 33 sherds (225 g) of coarse, flint-tempered pottery. All are plain body sherds. Such flint-tempered fabrics are characteristic of the Deverel-Rimbury ceramic tradition of the Middle Bronze Age in southern England.

At Whittle Copse, a total of 6388 g of burnt unworked flint was recovered from what may be the remains of a 'burnt mound'. So-called 'burnt mounds' have a wide geographical and chronological distribution and a correspondingly wide range of interpretations, including the remains of cooking places and as saunas (O'Drisceoil 1988). One such 'burnt mound' was excavated in the Kennet valley at Anslows Cottages, Burghfield (Butterworth and Lobb 1993, 166–7).

6. Finds from Enborne Road, Great Pen Wood, Elmore Plantation and Bagnor Road

Enborne Road: Finds

by Emma Loader

Metalwork

The metalwork assemblage consists of 27 iron objects, recovered from four trenches (165, 170, 172 and 174). These comprise five hobnails and 22 nails or nail fragments, all of which are recognisable Romano-British forms. Most are comparable to Manning's type 1b, with a square shank and a flat round or rectangular head (1985, fig. 32). These nails are a common find on sites of this period, and would have been used for a variety of woodworking purposes, depending on their length; generally the smaller sizes are more common. The hobnails are also common finds, and their use may either have been on boot soles, or as an embellishment on wooden objects.

Pottery

The pottery assemblage consists of 144 sherds (1624 g). Of this total, 38 sherds (652 g) were recovered from the topsoil and subsoil and are not considered further here. The rest of the assemblage derives from ditches and gullies (56 sherds, 431 g), layers (20 sherds, 179 g), pits (4 sherds, 70 g) and features of unknown interpretation (26 sherds, 292 g) (see *Newbury Bypass*, fig. 10).

Pottery recovered from trench 165 is early Roman, dating from around the Conquest period in the mid-first century AD (*c.* AD 40–70). The assemblage from this trench includes bead rim jars in both flint-tempered Silchester ware and in wheelthrown grog-tempered wares, as well as Black Burnished ware (BB1) sherds and fragments from a fine oxidised (pale-firing) butt beaker. Three coarseware sherds of a similar date range were also recovered from the topsoil at Trench 160.

Trenches 170–4 produced a range of pottery dating from the 3rd or 4th century and the range of types present is comparable to those from enclosure III at Ufton Nervet to the east of Newbury (Manning 1974, fig. 24). The assemblage from these trenches includes grog-tempered coarsewares, oxidised sandy coarsewares and coarse greywares, and Oxfordshire colour-coated vessels and parchment ware. The latter include mortaria fragments. The greywares include dropped flange bowls, upright necked jars with hammerhead or square rims and flat topped rims, and everted jars. One very large fragment from a Central Gaulish samian Drag. 45 mortarium sherd was recovered from Trench 170, and dates to the late 2nd to mid 3rd century AD. Four undiagnostic coarseware sherds were recovered from Trench 175.

Ceramic Building Material

The ceramic building material consists of 399 fragments (33,178 g). Of this total, 149 fragments (12,374 g, 37% of the total weight) were recovered from the topsoil and subsoil. The rest of the assemblage is summarised in Table 9.

Table 9. Enborne Road: ceramic building material by feature type

Feature	*No.*	*Weight (g)*	*% weight*
linear	165	16,037	48
topsoil	129	11,326	34
layer	71	3317	10
pit	12	1442	4
subsoil	20	1048	3
ditch	2	8	1
Total	399	331,789	100

All of the ceramic building material has been identified as Romano-British and includes *tegulae*, *imbrices* and miscellaneous undiagnostic brick and tile fragments (Table 10). Six fragments of *tegula* have concentric finger-smeared 'signatures' on their surfaces – a common marking found on this type of tile (Brodribb 1987, 99). One *tegula* also has a circular peg hole, centred 35 mm from one short edge.

It may be noted that ceramic building material was not recovered from trenches 160 and 165, where only

Table 10. Enborne Road: ceramic building material by type

Type	*No.*	*Weight (g)*
Brick	4	2640
flat tile	123	6592
Imbrex	33	3658
Tegular	110	18,786
Unknown	129	1502
Total	399	33,178

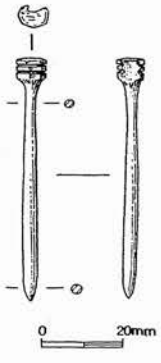
1st century AD pottery was recovered. This suggests that, during the early phases of activity on the site, any existing buildings would have used some other roof covering, for example thatch. In contrast, the quantity of building material, in particular the large quantity of *tegulae*, recovered from the later phases (2nd–4th century) indicates that there was at least one substantial building, on or close to the site.

Worked Stone

Five fragments of worked stone were recovered (7307 g), comprising one quern fragment and four other fragments which could have been utilised as building stone. A fragment from the lower stone of a Romano-British rotary quern, in a quartz conglomerate, was recovered from Trench 174. Two large worked sarsen blocks were recovered from a pit in Trench 174, dated as late Romano-British. Two further fragments of sarsen stone were recovered from Trenches 170 and 174 respectively. These are not obviously worked, but it is possible that these are fragments from quern stones or perhaps dressed blocks of building material.

Worked Bone

A complete bone pin was found in Trench 170 (Fig. 17). The pin has a cylindrical head with two parallel incised lines around the top. Half of the head is missing on one side, which appears to be intentional. Associated pottery indicates a later Romano-British date.



Illustrated object
(Fig. 8)
Bone pin. Obj. No. 7201, context 2041, ?pit 2268.

Great Pen Wood: Finds

by Emma Loader

Pottery

The small pottery assemblage comprises 42 sherds (523 g), all of Romano-British date. Of this total, 20 sherds (416 g) were recovered from unstratified contexts, and the remaining sherds came from pit 6034 (9 sherds, 62g), pit 6038 (3 sherds, 14g) and pit 6040 (3 sherds, 6g). The majority of the assemblage comprises coarsewares, but four sherds of samian, from a platter of form Drag 18 or 18/31, are present; the latter were unstratified finds. The remaining sherds include both sandy and grog-tempered coarsewares, and the overall date range of the assemblage is 1st–2nd century AD.

Ceramic Building Material and Fired Clay

The ceramic building material consists of a total of six fragments (530 g), of which five were found unstratified. The sixth fragment came from pit 6034, and is likely to be of Romano-British date. The fired clay consists of a total of 66 fragments (362 g), of which 11 fragments (144 g) were recovered from unstratified contexts. The remaining 55 came from Romano-British pit 6034. Some of the latter fragments have surviving flat surfaces but no other diagnostic features; it is likely that they are of structural origin.

Elmore Plantation: Finds

Metalwork

by Emma Loader

One copper alloy object was recovered from the hill wash and five iron objects, two unstratified, two from the buried topsoil (6075) and one from a tree-bowl. The iron objects are all nails and are all probably of Romano-British date. The copper alloy item is a small, hollow, dome-headed stud, similar to examples from Colchester (Crummy 1983, 117).

Slag

by Phil Andrews

The slag consists of 149 fragments (4827 g). Most of this derives from unstratified or undated contexts. The assemblage is generally undiagnostic iron-working slag, but also includes some iron concretions of natural origin. A few pieces (unstratified) may derive from iron smelting and may be of Romano-British origin, but this cannot be demonstrated.

Pottery

by Rachael Seager Smith

A total of 184 sherds (1564 g) was found. Of these three sherds (11 g), were found in the Stage 1 test pits while 37 sherds (190 g), were recovered from the Stage 2 evaluation trenches. With the exception of one sherd (26 g), found during the watching brief, the remainder were all from the Stage 3 area excavation (Table 11).

The assemblage is predominantly Romano-British but two prehistoric, two medieval and three post-medieval sherds were also recognised; only the

Table 11. Elmore Plantation: pottery by context

Feature	*Context*	*Prehist*	*R-B*	*Med*	*P-med*
Stage I (W457)		-	3/11	-	-
Stage II (628)		-	37/90	-	-
Unstrat.	6041	-	39/438	2/22	2/40
Gully 6047	6046	-	26/366	-	-
Pit 6049	6048	-	-	2/19	-
Pit 6051	6050	-	7/34	-	-
	6053	-	1/40	-	-
Ph 6055	6054	-	8/32	-	-
Hill wash	6067	-	1/6	-	-
	6078	1/2	-	-	-
Pit 6070	6069	-	1/12	-	-
Buried topsoil	6075	1/5	30/223	-	-
Hill wash	6077	-	5/16	-	-
Pit 6081	6080	-	6/54	-	-
Tree bowl 6083	6082	-	3/10	-	-
Tree bowl 6085	6084	-	4/10	-	-
Ph 6088	6086	-	2/4	-	-
Layer	6089	-	2/4	-	-
Watching brief		-	-	-	1/26
Total		2/7	175/1450	4/41	3/66

prehistoric and Romano-British wares are discussed here. The material is in poor condition, the mean sherd weight is only 8.9 g and all the sherds are battered and abraded. Many of the softer fabrics, such as the samian and Oxford red colour-coated ware, have entirely lost their surfaces.

Prehistoric

Both the prehistoric sherds are undiagnostic body sherds in coarse flint-gritted fabrics and probably belong to the Late Bronze Age. One was found in the colluvium 6078, and as the only sherd from this context, provides valuable dating evidence. The second sherd was found, together with Romano-British sherds, in the buried topsoil 6075.

Romano-British

Sandy grey and grog-tempered coarsewares dominate the Roman assemblage. In addition there are two very badly abraded sherds of samian and a few sherds of Oxfordshire red colour-coated fineware including three sherds from mortarium forms. On the basis of the Oxfordshire finewares and a greyware dropped flange bowl, a characteristic late Roman form, the assemblage can be broadly dated to the later 3rd–4th centuries. Although unstratified, an Oxfordshire mortarium sherd dated to *c.* AD 325–400 + (Young 1977, type C100) and two possible sherds of Overwey/Tilford type ware (perhaps better known as Porchester D ware: Fulford 1975b, 299) may suggest that activity continued into the 5th century. However, the samian and perhaps also the softer, thin-walled grog-tempered sherds, suggest the presence of at least some residual early Roman material. Rims from an oxidised sandy ware beaker with grooved decoration and a grey ware butt beaker, from the Stage 2 evaluation (linear 1060 and layer 1242 respectively), are also of 1st–2nd century date.

One sherd of Black Burnished ware from the Wareham/Poole Harbour region of Dorset was found in the buried topsoil 6075. The other coarsewares are difficult to provenance. Coarse oxidised and reduced sandy wares were produced at Hampstead Marshall, some 4 km to the south-west, during the 2nd and 3rd centuries with small-scale production, including some Overwey/Tilford type wares, continuing into the 4th century (Rashbrook 1983). Another possible kiln has been identified at Kintbury *c.* 6.5 km away (Swan 1984, mf. 1.217). No centres producing grog-tempered fabrics are known in this area, but these wares too are likely to have been made locally.

Ceramic Building Material

by Emma Loader

Eighty-one fragments were recovered (3201 g). Of this total, 13 (297 g) were recovered during the Stage 1 evaluation from topsoil during a field-walking and test pitting exercise and are probably medieval or post-medieval in date. The rest (68 fragments; 2904 g), recovered during the Stage 2 and Stage 3 fieldwork, is all of Romano-British date and includes eight fragments of *tegulae* and three flue tile fragments. The material from Stages 2 and 3 derived from both unstratified and stratified contexts (ditch 1060, layers 1242, 1246, linear 6047, pit 6070), and from the subsoil and buried topsoil.

Worked and Burnt Flint

by Emma Loader

Sixty-six struck flints were recovered mainly from unstratified and colluvial deposits during the Stage 3 fieldwork. The raw material is local gravel flint, and the majority of pieces are patinated and edge damaged. The assemblage includes flakes, broken flakes, blade fragments and a blade core. The flakes are not chronologically distinctive, but the presence of blades and a blade core suggests an element of Neolithic date. Just under half of the flint derived from hill wash and colluvial deposits (27 pieces), with a further 21 pieces unstratified or from topsoil; others were found in various features across the site, and are likely to be largely, if not all, residual in these contexts.

In addition, a small quantity (821 g) of burnt, unworked flint was recovered, mainly from hill wash and colluvial deposits. This material type is intrinsically undatable, but is frequently associated with prehistoric activity. In this instance it was found in Romano-British contexts, although the presence of worked flint would indicate prehistoric activity in the vicinity of the site.

Other Finds
by Emma Loader

Other finds comprise eight fragments of fired clay (140g), and six of sandstone (996 g). All are likely to be of Romano-British date. Several of the fired clay fragments have a visible surface and may be fragments of building material or structural pieces. The sandstone fragments are all flat (15–20 mm in thickness), and it seems likely that they represent building material such as tiles.

Bagnor Road: Finds

Pottery
by Rachael Seager Smith

With the exception of a single probable Late Iron Age sherd, all the pottery from this site is Romano-British. The assemblage contains a typical range of grey and oxidised sandy wares and grog-tempered coarsewares as well as smaller quantities of fineware, including samian and Oxfordshire products. The material reflects activity on this site dating from the mid-2nd until at least the late 4th century.

A total of 1232 sherds, weighing 19,826 g, was recovered. The condition of the sherds is generally very good with only a few sherds (less than 1%) showing any significant degree of surface abrasion. Numerous large, refitting sherds were also noted both within and between contexts belonging to the same feature, although many of these involved fresh breaks caused by the rapid excavation techniques used. The mean sherd weight was 16g.

The assemblage has been analysed in accordance with the standard Wessex Archaeology guidelines for the analysis of pottery (Morris 1994). In addition to a group of 'established wares', distinctive fabrics of known provenance or type (group E), the sherds were divided into four broad groups based on the predominant inclusion types; flint-gritted wares (group F), grog-tempered wares (group G), sandy wares (group Q) and micaceous wares (group M). These groups were examined using a binocular microscope (x 20 power) and further subdivided into 13 different fabric types based on the range and coarseness of the inclusions. Each of the fabrics has been assigned a unique fabric code. The following terms are used here to describe the quantity of inclusions present; rare less than 2%; sparse 3–7%; moderate 10–15%; common 20–25%; abundant 30%+. Fabric totals are given in Table 12.

The pottery has been quantified using both number and weight of sherds of each fabric type by context, and details of vessel form, size, surface treatment, decoration and manufacturing technique have been recorded. Other information concerning surface abrasion, residues and evidence for reuse and repair has also been noted. Pottery fabric totals for each feature are shown in Table 13; percentages of fabrics given in this report derive from sherd count alone. A site-specific vessel type series has been constructed (below) and Table 12 summarises the vessel forms represented by rim sherds by fabric type. The number of examples of each vessel type shown here has been calculated on the number of occurrences in a particular fabric. Within each context, single sherds or groups of joining sherds have been counted as one 'occurrence', while non-joining sherds of the same rim form are counted separately.

Late Iron Age pottery
A single rim from a fairly slack-shouldered bead rim jar (Fig. 10, 35) made from a fine flint and sand tempered fabric, was found in ditch 9133. The sherd is probably of Late Iron Age date (1st century BC–1st century AD) and as the only sherd from this feature may be of particular chronological significance.

Fabric F1: Soft to moderately hard; common, moderately well sorted quartz grains, moderate iron particles, both <0.5 mm across, in addition to rare–sparse crushed flint <1.5 mm across. Handmade; exterior surface roughly smoothed. Unoxidised throughout; dark brownish-grey.

Romano-British finewares
Together, the finewares account for 10.9% of the sherds from the entire assemblage. The only imported finewares are two sherds of Lower Rhineland colour-coated ware and 14 sherds of samian from both southern and central Gaulish sources. Six other fineware fabrics, all of British origin, were also identified.

The Lower Rhineland colour-coated wares sherds, more traditionally known as 'Cologne ware', have roughcast decoration and probably derive from a beaker. These vessels were exported to Britain from the Claudio-Neronian period into the mid 3rd century (Tyres 1996, 147–8). The sherds were found in the secondary fill of ditch 9028 and are likely to be contemporary with the majority of sherds from this feature which date from the mid 2nd century onwards.

Table 12. Bagnor Road: pottery by vessel form/fabric

								Fabrics									
	LIA	*Samian*		*British finewares*					*Mort.*		*Coarsewares*						
Form	*F1*	*E301*	*E304*	*Q104*	*Q105*	*Q106*	*M100*	*E170*	*E211*	*E101*	*E181*	*F100*	*G101*	*Q100*	*Q101*	*Q103*
Curle 23	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Dr. 18	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dr. 18/31	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Dr. 36	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
C22	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
C32	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
C45	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
C55	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
C75	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
C81	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
C100	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
R100	-	-	-	1	-	-	1	-	-	1	-	1	-	17	-	4
R101	-	-	-	-	-	-	-	-	-	9	-	-	1	3	-	2
R102	-	-	-	-	-	-	-	-	-	-	-	-	7	17	2	6
R103	-	-	-	-	-	-	-	-	-	-	-	-	3	1	-	-
R104	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
R105	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
R106	-	-	-	-	-	-	-	-	-	-	5	-	-	2	-	1
R107	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-
R108	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	2
R109	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1
R110	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	1
R111	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
R112	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-
R113	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-
R114	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-
R115	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
R116	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-
R117	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-
R118	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3
R119	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
R120	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-
R121	-	-	-	-	-	-	-	-	-	-	1	-	-	1	-	-
R122	-	-	-	-	-	-	-	-	-	9	-	-	-	1	-	-
R123	-	-	-	-	-	-	-	-	-	10	-	-	2	5	-	-
R124	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
R125	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-
R126	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
R127	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
R128	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
R129	-	-	-	-	-	-	-	-	-	10	-	-	-	-	-	-
R130	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
R131	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
R132	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-
R133	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
R134	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-

All the samian derives from plain forms. Two joining sherds from a southern Gaulish Drag. 18 platter of late 1st century AD date were found in ditch 9028. Traces of the sand used to prevent vessels sticking together prior to firing survive on the underside of the basal chamfer although the sherds are now comparatively battered and abraded.

The remaining sherds are all from central Gaulish sources. These include sherds from three separate Drag. 18/31 platters from ditch 9028, one of which has a partially surviving rivet hole and a small fragment from the rim of a Drag. 35 cup or Drag. 36 dish from pit 9075. Three rim sherds, all in good, crisp condition, from a Curle 23 dish were found in various contexts in corn drier 9104, and may all be from the same vessel.

Fabric E132: Lower Rhineland colour-coated ware (Tyres 1996, 147–8)
Fabric E301: South Gaulish samian
Fabric E304: Central Gaulish samian

Two of the British fineware fabrics are from a known source, the colour-coated wares and parchment wares of the Oxfordshire region, but the other four are unprovenanced.

Fabric Q104: Coarse oxidised sandy wares; moderate–common quartz <0.75 mm across, rare iron particles <1 mm across. Wheelmade.
Fabric Q105: Fine oxidised sandy wares. Soft to moderately hard; moderate–abundant quartz <0.25 mm across and rare iron particles <0.75 mm across. Wheelmade. Exterior surface sometimes coated in white slip, now very abraded.
Fabric Q106: Fine sandy white ware. Hard or very hard, brittle; very fine grained, moderate–common quartz, <0.25 mm across, rare iron particles, <0.5 mm across. Wheelmade.
Fabric M100: Mica dusted ware. Hard, fine-grained; abundant quartz and white mica <0.125 mm across, iron particles <1 mm across. Wheelmade. Predominantly oxidised, dark reddish-brown. Coated in fine, micaceous slurry, now very abraded.
Fabric E170: Oxfordshire colour-coated wares (Young 1977, 123).
Fabric E172: Oxfordshire parchment ware (Young 1977, 80)

The coarse and fine oxidised sandy wares (fabrics Q104 and Q105) are both likely to encompass the products of several production centres. Part of a small, globular-bodied beaker decorated with applied dots (type R105) from ditch 9028 is the only recognisable rim form in the coarser oxidised ware. Vessels of this type were common in the 1st century and first half of the 2nd century. Some of the fine sandy ware sherds show evidence of a white slip on the exterior surface, now often very abraded. These include a flagon rim (type R127) found in pit 9080. Similar vessels were made in grey fabrics in the Oxfordshire region *c.* AD 300–400+ (Young 1977, 209, type R8) although white colour-coated flagons appear only to have been made pre- *c.* AD 250 (*ibid.*, 117). A late Roman date for this vessel would fit with that of the rest of the material from this feature.

Three vessel forms were recognised in the sandy white ware fabric (fabric Q106). With the exception of two plain body sherds from ditch 9168, all the sherds of this fabric were found in ditch 9028. Two forms, the cup-mouthed flagon (type R116) and ring-necked flagon (type R117) can be paralleled among the Oxfordshire white wares (Young 1977, 100, types W5 and W6, dated from *c.* AD 150–240 and *c.* AD 100–240 respectively) and indeed may have derived from this region. No parallels have been found for the open bowl (type R120), although it too is likely to be of 2nd or early 3rd century date.

One sherd of mica-dusted ware (fabric M100), a badly damaged bowl rim, was found in ditch 9028. Mica-dusted wares were most common in the later 1st and early 2nd centuries (Marsh 1981, 137).

The Oxfordshire colour-coated wares are by far the most numerous fineware fabric present at this site, alone accounting for almost 4% of the total number of sherds. A rim from the standard Oxford late Roman beaker type (Young 1977, 152, type C22) was found in the upper fill of the stoke hole of corn drier 9104. Vessels of this type were made from *c.* AD 240–400 but were perhaps most common during the 4th century. An uncommon 4th century beaker type, indented with applied barbotine scale decoration on the ridges (*ibid.*, 154–6, type C32) was also found, in pit 9075. Other sherds of brown colour-coated ware include part of the base of a flat, open form, found in the buried soil 9067.

The red colour-coated ware forms recognised were all prolific, widely distributed types and are indicative of activity well into the 4th century at this site. Sherds from a necked bowl (Young 1977, 164–6, type C75) dated *c.* AD 325–400, were found in pit 9074. Examples of types C45 (*ibid.*, 158 – shallow bowls copying samian form Drag. 31 dated from *c.* AD 270–400+), C55 (*ibid.*, 160 – hemispherical bowls copying samian type Drag 37, dated *c.* AD 240–400+) and C81 (*ibid.*, 166 – wall-sided, carinated bowls, prolific from *c.* AD 300–400 but perhaps starting a little earlier) were all recovered from corn drier 9104.

Only two Oxfordshire parchment ware (Young 1977, 80) sherds were recognised, found in the upper fill of the stokehole of corn drier 9104. The sherds are from the base of an open bowl with red painted decoration on the interior, a form of decoration which became more common from the mid 3rd century AD onwards (Young 1977, 80).

Mortaria

All the mortaria sherds derived from the Oxfordshire industry.

Fabric E209: Oxfordshire white ware mortaria (Young 1977, 56)

Fabric E211: Oxfordshire colour-coated ware mortaria (Young 1977, 123)

The three white ware sherds were found in ditch 9028. Two are from the flange of an Oxfordshire M2 or M3 vessel which date to *c.* AD 100–200 (Young 1977, 68); the other is a plain body sherd.

Three sherds from a mortarium with an upright rim and angular flange, dated from *c.* AD 300–400 (Young 1977, 174, type C100), as well as an additional plain body sherd, were found in corn drier 9104. Other colour-coated ware body sherds were found in pits 9075, 9080 and 9164.

Although mortaria occurred only in negligible quantities in this assemblage, their presence does imply a level of Romanisation sufficient to encompass Roman cooking methods from the 2nd century AD onwards (or at least access to traded samples).

Romano-British Coarsewares

Ten coarseware fabrics were identified, including two of known type or source. The remaining fabrics are all 'catch-all' types and include the products of more than one source.

Fabric E101: Black Burnished ware (Williams 1977, group 1).

Fabric E181: Overwey/Tilford type wares (Clarke 1949; Fulford 1975b, 229).

Fabric F100: Coarse flint-gritted ware. Soft–moderately hard; moderate common crushed flint <4 mm across, rare iron particles <0.5 mm across. Matrix may contain moderate microscopic quartz/white mica. Hand-made. Variably fired.

Fabric F101: Fine flint and sand gritted wares. Hard; common quartz <1 mm across, sparse flint 0.5-1 mm across. Wheelmade. Unoxidised.

Fabric G100: Coarse grog tempered ware. Soft–moderately hard; sparse grog <5 mm across, rare iron particles <1 mm across in matrix often containing common microscopic quartz/white mica. Hand- and wheel-made. Variably fired.

Fabric G101: Coarse grog and sand tempered wares. Hard; sparse–moderate quartz, 0.5–1 mm across, sparse grog, <5 mm across, rare iron particles, <0.5 mm across. Matrix may contain moderate microscopic quartz/white mica. Hand- and wheelmade. Variably fired.

Fabric Q100: Sandy grey wares, all types from soft, relatively coarse, dark-surfaced wares copying BB1 to more Romanised hard, brittle, blue-grey wares. Generally contain moderate–abundant quartz 0.5–1 mm+ across; rare iron particles, 0.5 mm across. Hand- and wheelmade. Predominantly unoxidised.

Fabric Q101: Fine, smooth sandy micaeous wares. Hard; matrix contains common microscopic quartz/white mica with additional larger quartz and iron particles, <5 mm across. Wheel-made. Predominantly unoxidised but tendency to have darker surfaces than core.

Fabric Q102: Coarse sandy micaceous wares. Hard; moderate–common microscopic quartz/white mica, sparse–moderate quartz <1 mm across; rare iron particles <0.5 mm across. Rounded quartz grains give these fabrics a rather pimply texture. Wheel-made. Predominantly unoxidised but may be sandwich fired.

Fabric Q103: Fine sandy wares. Fabrics vary from soft and powdery to hard and brittle; moderate–abundant quartz, rare iron particles <0.25 mm across; rare soft, white non-calcareous particles <1 mm across. Wheel-made. Predominantly unoxidised.

Two of the fabrics can be positively attributed to a known type or source; Black Burnished ware from the Wareham/Poole Harbour region of Dorset and the Overwey/Tilford type wares. The latter wares, perhaps better known as Porchester D ware (Fulford 1975, 299) appear to have been made, perhaps by itinerant potters, at Alice Holt and a variety of small centres south of the Thames during the 4th century (Lyne and Jefferies 1979, 35). Similar wares were made at Hampstead Marshall, some 4 km to the west of Newbury, at least on a small scale during the 4th century (Rashbrook 1983). The hooked rim jars (type R106; Fig. 9, 7) are the typical form made in this fabric although convex-sided dishes, colanders and dropped flange bowls/dishes are also occasionally found.

Black Burnished ware represents 15% of the coarseware sherds or 13.5% of the entire assemblage. The seven forms recognised include the most characteristic and widely distributed products of this industry. With the possible exception of the small bead rim jars (type R112; Fig. 9, 14) which continued to be produced from before the Roman Conquest until well into the 3rd century, all the forms present can be dated to after the expansion of the industry in *c.* AD 120. The flat flange bowls/dishes (type R114, Fig. 9, 16), some with chamfered bases (type R110; Fig. 9, 12), and the everted rim jars (type R101; Fig. 9, 1) are all mid 2nd–3rd century forms. The attenuated jars (type R129; Fig. 10, 31), the dog-dishes (type R122; Fig. 10, 24) and the dropped flanged bowls/dishes (type R123; Fig. 10, 25) are the typical late 3rd–4th century forms.

The sandy grey wares (fabric Q100–103) were the most important component of the assemblage, accounting for 72% of the coarseware sherds (64.5%) of the whole assemblage. No attempts were made to

Table 13. Bagnor Road: pottery by context (no./wt (g))

Feature	*LIA*	*Imported finewares*		*British finewares*		*Mortaria*	*Coarsewares*					
	F1	*E132*	*Samian*	*Unprov. finewares*	*Oxford wares*	*Oxford-shire*	*E101*	*E181*	*Flint temper*	*Grog temper*	*Sandy grey wares*	*Total*
Ditch 9133	1/13	-	-	-	-	-	-	-	-	-	-	1/13
Re-cut 9064	-	-	-	-	-	-	-	-	-	1/45	1/8	2/53
PH 9083	-	-	-	1/1	-	-	-	-	-	-	3/14	4/15
Hearth 9107	-	-	-	-	-	-	-	-	-	-	1/3	1/3
Ditch 9168	-	-	-	2/7	-	-	-	-	-	-	18/208	20/215
Ditch 9009	-	-	-	-	-	-	2/95	-	-	2/129	6/54	10/278
Ditch 9028	-	2/2	7/44	34/277	1/9	3/83	45/648	-	2/24	56/1949	356/5543	506/8597
Ditch 9036	-	-	-	-	1/6	-	1/15	-	-	1/80	22/139	25/240
Ditch 9037	-	-	-	-	-	-	-	-	6/82	-	29/173	35/255
Pit 9075	-	-	1/5	-	14/187	1/12	46/617	2/8	-	8/216	65/645	137/1690
Pit 9077	-	-	-	-	2/8	-	-	-	-	-	6/88	8/96
Pit 9080	-	-	1/5	4/17	4/16	1/4	4/22	5/174	1/5	5/216	60/711	86/988
Pit 9164	-	-	-	-	-	1/9	4/33	-	-	1/28	13/138	19/208
Grain drier	-	-	5/109	2/7	22/320	4/53	58/1124	3/30	-	35/1802	184/3137	313/6582
Buried soil	-	-	-	16/48	5/82	-	6/45	4/37	-	3/72	31/327	65/611
Totals	1/13	2/2	14/163	59/407	49/628	10/161	166/2599	14/249	9/111	113/4355	795/11188	1232/19826

divide these wares into specific fabric types due to the well-known and extreme difficulties of attributing sandy grey wares from non-production sites to any particular kiln group. Fabrics Q100 and Q103 especially can be considered 'catch-all' fabric groups encompassing products from more than one source over a wide date range.

Sources are likely to include the Oxfordshire region (Young 1977, 202–28), suggested by the presence of other Oxfordshire fabrics and parallels amongst the vessel forms although many of the smaller production sites known in Berkshire also made similar vessels (Swan 1984, mf. 1:214–19). Alice Holt (Lyne and Jefferies 1979) wares have been identified elsewhere in the area and are probably present here too. Other sources perhaps forming minor components in the supply of pottery to this area may include the kilns to the west of Swindon (Anderson 1979) and the New Forest (Fulford 1975a). Much of the pottery must have come from other, more local sources. These may include the Hampstead Marshall kilns, in use from the mid 2nd–4th century (Rashbrook 1983). Possible production sites have also been identified at Kintbury, *c.* 6.5 km west of Newbury (Swan 1984, mf. 1.217), although the 1st–2nd century AD kilns at Shaw, on the north-east outskirts of Newbury may have been more involved in tile production. Slightly further afield, 2nd–3rd century kilns are known at Bradfield and Pangbourne (Swan 1984, mf. 1:214 and 217).

The two grog-tempered fabrics together account for 10% of the coarseware sherds (9% of the whole assemblage). These fabrics were most common in ditch 9028 (Table 13) while the majority of the grog and sand tempered (fabric G101) sherds from corn drier 9104 probably derive from a single thick-walled storage jar. The use of grog-tempered fabrics probably extends throughout the Roman period; vessels such as the high, round-shouldered jar (type R113) being of 2nd century date while the dropped flange bowls (type R123) belong to the late 3rd–4th century onwards. Although broadly comparable fabrics have been identified elsewhere in the area (Mepham 1991, mf. D3; Mepham 1996, 40; Timby 1992, 82–5) all these wares are likely to have been fairly locally produced. With the exception of thick-walled body sherds from storage jars, no forms were identified among the Fabric G100 sherds.

The flint-tempered wares account for less than 1% of the coarseware assemblage. Fabric F100 probably belongs within the 'Silchester ware' tradition. These wares were current at Silchester from the late 1st century BC, reaching a floruit in the Claudio-Neronian period (Fulford 1984, 135; Timby 1989, 85). The four fabric F100 sherds found at Bagnor Road are in poor condition and were probably residual in the contexts in which they were found, although they do serve to indicate 1st century AD activity somewhere in the vicinity of the excavated features. The five fine flint- and sand-tempered sherds (fabric F101) all derive from a single sharply shouldered or carinated form. Its provenance remains uncertain although smallish vessels in fairly coarse sandy fabrics with sparse flint tempering were made in the Hampstead Marshall kilns (Rashbrook 1983).

In all, 27 vessel forms were recognised amongst the coarsewares. These encompassed a wide range of forms although 22 were each only represented by a single example. Only the everted rim jars (type R101), necked jars (type R102), necked jars with collared or hooked rims (type R106), 'dog-dishes' (type R122), dropped flange bowls/dishes (type R123) and attenuated jars (type R129) are represented by more than five rim sherds (Table 12). Jars dominate the assemblage although the bowls (types R104, R109 and R130), 'poppy-head' and ovoid beakers (types R108 and R111) and flagons or bottles (types R127 and R127) do indicate the presence of a finer 'tableware' element. The samian and other finewares, of course, provided the true fine tablewares.

Discussion

Overall the Romano-British pottery from this site dates from around the middle of the 2nd century onwards. No early Roman (1st–early 2nd century AD) groups were identified although the 'Silchester-type ware' and south Gaulish samian may indicate such activity beyond the limits of this excavation. These wares however, occurred in such small quantities that the possibility of their being derived from manuring cannot be excluded.

Re-cut ditch 9064, post-hole 9083, hearth 9107 and ditch 9168 (see *Newbury Bypass*, Figs 13–14) each contained only small quantities of undiagnostic sherds and cannot be assigned anything more than a general Romano-British date. Ditches 9009, 9028, 9036 and 9037 all contained pottery dating from the mid 2nd–3rd centuries (Fig. 15, 1, 2, 4–6, 8–12, 14–19; Fig. 16, 20–2). Pits 9075, 9077, 9080 and 9164 (Fig. 15, 3, 7; Fig. 16, 23, 24, 26–30) and corn drier 9104 (Fig. 16, 25, 31–4) contained pottery dating to the late 3rd–4th centuries. As might be expected for a context of this type, the buried soil 9067 contained a mixed group of pottery, although the material was predominantly of late 3rd–4th century date. The mean sherd weight for this material was also significantly lower (9.4 g) than for other feature types (11.9 g, 16.1 g and 21 g respectively for the pits, ditches and the corn drier).

The assemblage contains a range of fabrics and forms typical of a Romano-British community in southern England. Nothing in the range of vessel types present suggests that the assemblage had any distinctive functional characteristics. However, the percentage of finewares appears comparatively high for a rural community, although the paucity of comparably quantified and accessibly published groups of Roman pottery from the area makes this difficult to assess. However, at Park Farm, Binfield, for example, the 'fine and specialist' wares (samian, mortaria, white and white-slipped fabrics) accounted for only 5% of the total sherds (Booth 1995, 107) while tablewares were virtually absent at Pingewood where the assemblage also spanned the entire Roman period (Hawkes 1983–5, 44). The proximity of the Roman road from Cirencester to Silchester and the village of Speen, which has been associated with the Roman posting station *Spinis* recorded in the *Antonine Itinerary* (Rivet and Smith 1979, 176), may explain this accessibility of traded goods to the inhabitants of the Bagnor Road site. No amphorae were, however, recovered.

The quality of the assemblage may imply the existence of something more than a small-scale low-status farming community in this vicinity, perhaps hinted at too by the investment in a carefully constructed graindrier. The presence of relatively well-preserved sherds, espcially from Ditch 9028 and corn drier 9104, implies that the archaeological resource in this area survives in comparatively good condition and has not yet been extensively damaged by agriculture or other agents.

Type R100: Rim frags too small or incomplete to assign to particular vessel type. Mostly from jars but some bowls/dishes may be included.

Type R101: Cooking pots or small storage jars, everted rims, usually slightly beaded. Rim diam. less than greatest diam. of body. Black Burnished ware (Davies and Seager Smith 1993, 231 type 2) and widely copied elsewhere, including the Oxfordshire industry (Young 1977, 216, type R27). 2nd century onwards (Fig. 9, 1)

Type R102: Necked jar, rim diam. less than that of maximum girth. Cordons often at base of neck and many vessels have girth grooves. Developed from most common Belgic jars of Upper Thames Valley, and were standard reduced ware products of the Oxfordshire industry (Young 1977, 216, type R24). 1st–4th centuries (Fig. 9, 2, 3).

Type R103: Narrow-necked jars; neck short, rim squat and everted often with flat top but sometimes hooked. High shoulder suggests globular body shape. Grooves may occur at junction of neck and shoulder. Similar to Oxfordshire type R17 (Young 1977, 212) which is probably of late Roman date although its dating is not well established. *c.* AD 240–400 (Fig. 9, 4).

Type R104: Shallow open bowl, internally thickened, bead rim. Broadly copies samian form Drag. 31; similar bowl in the Oxfordshire reduced ware type series (Young 1977, 226, type 74) dated to *c.* AD 100–150. However, exterior surface of this vessel is better finished than interior suggesting that it may be a lid (Fig. 9, 5).

Type R105: Globular bodied beaker, sharply out-turned rim. Incised grooves and/or barbotine applied dots. Similar vessels made in fine grey ware fabrics and oxidised and white wares during 1st century and the

first half of the 2nd century AD in the Oxfordshire region (Young 1977, types W37, O22 and R31). *c.* AD 50–150 (Fig. 9, 6).

Type R106: Necked jar, collared, hooked rim, often with all-over horizontal body rilling. Paralleled by class 3C vessels of Alice Holt industry of *c.* AD 220–420 (Lyne and Jefferies 1979, 45, fig. 29). At Porchester these vessels date from *c.* AD 325–420 (Fulford 1975b, 299) (Fig. 9, 7).

Type R107: Narrow-necked jars or jugs, upright or slightly everted rims. Internal diam. of rim <100 mm (Fig. 9, 8).

Type R108: 'Poppy-head' beakers. Produced at a variety of centres in Britain, including Highgate Wood, London (Tyres 1978, 62) and Oxfordshire potteries (Young 1977, 217, type R34). 2nd century (Fig.98, 9).

Type R109: Carinated bowl,short, flat rim, sometimes horizontal rilling on exterior just beneath rim; low single or double foot-ring base. Interior surface remains comparatively unfinished, with wheel-throwing spirals clearly visible. Probably 2nd century (Fig. 9, 10, 11).

Type R110: Straight-sided bowl/dish, flat flange and chamfered base. Form was current in Black Burnished ware industry *c.* AD 100–200 (Davies and Seager Smith 1993, 235, type 23) and widely copied elsewhere. Comparable with reduced ware types C43 and C57 made in Oxford region (Young 1977, 220 and 224) both of which were common during the 2nd century (Fig. 9, 12).

Type R111: Rim, probably from ovoid beaker, short, up-right neck and flared, slightly thickened rim. Broadly comparable with the Cam.112 beaker types but this example probably of 2nd century date (Fig. 9, 13).

Type R112: Bead rim jar; high shoulder suggests fairly globular body. 1st century BC/AD possibly continuing into mid 3rd century (Davies and Seager Smith 1993, 231, type 7) (Fig. 9, 14).

Type R113: Cooking pot or small storage jar, upright or very slightly everted rim, often beaded, and high, rounded shoulder. Copied from 1st century BC/AD– *c.* mid 2nd century jars of Black Burnished ware industry but dating of copies themselves is less than clear (Fig. 9, 15).

Type R114: Straight-sided bowls and dishes, flat flange and flat base (Davies and Seager Smith 1993, 233, type 22) dated 2nd–early 3rd centuries. Copied by Oxfordshire industry *c.* AD 100–300 (Young 1977, 220, type R46) and elsewhere (Fig. 9, 16).

Type R115: Jar or large beaker, very slightly everted 'pulled' bead rim and high shoulder. Part of one applied rod handle survives. Similar vessels (Britnell 1974, fig. 23, 244 and 246), dated mid 2nd–3rd century, found in the north ditch of enclosure III at Ufton Nervet (Fig. 9, 17).

Type R116: Cup-mouthed flagon; possibly ring-neck (insufficient survives to be certain). Resembles vessels made in Oxfordshire white ware fabric, dated *c.* AD 150–240 (Young, 1977, 100, type W5) (Fig. 9, 18).

Type R117: Ring-necked flagon. Comparable vessels made in Oxfordshire white ware, *c.* AD 100–240 (Young 1977, 100, types W2-6) (Fig. 9, 19).

Type R118: High-shouldered jar, inturned, triangular rim. Burnished line lattice decoration above shoulder, its lower limits defined by incised groove (Fig. 10, 20).

Type R119: Shallow, straight-sided dish, slightly beaded rim. Comparable with types R52 and R52 of Oxfordshire type series, where dated late 2nd–late 3rd century (Young 1977, 222) (Fig. 10, 21). Incised groove on maximum diam. of body (Fig. 10, 22).

Type R121: Shallow, convex-sided bowl or dish; plain or slightly beaded rim; flat base. Produced by Alice Holt industry *c.* AD 270–420 (Lyne and Jefferies 1979, class 6A.8-6.11) (Fig. 10, 23).

Type R122: Shallow, straight-sided dishes, plain rims and flat or very slightly chamfered bases; 'dog-dishes'. One of most typical late Roman forms produced in a variety of fabrics including Black Burnished ware (Davies and Seager Smith 1993, 233, type 20), and grey wares from the New Forest (Fulford 1975, type 19), Oxford (Young 1977, 222, type R53) and Alice Holt industries (Lyne and Jefferies 1979, class 6A). Production may have begun as early as late 1st century AD, but form achieved height of its popularity during the later 3rd–4th century (Fig. 10, 24).

Type R123: Straight-sided bowls/dishes, dropped flange. Wide range of flange forms and positions. Another typical late Roman form, produced in variety of fabrics from the late 3rd–4th century (Davies and Seager Smith 1993, 235, type 25; Fulford 1975, types 5and 6;Young 1977, 220, type R47; Lyne and Jefferies 1979, class 5b; Rashbrook 1983, fig. 4, 9 and 10) (Fig. 10, 25).

Type R124: Necked jar or bowl, out-turned rim, upper surface rilled (Fig. 10, 26).

Type R125: Narrow-necked jar, lid-seated rim. Some vessels have high, bulbous rim, others are flanged, giving trefoil appearance to rim as a whole. Cordon at junction of neck and shoulder. Similar jars, without lid-seat, made at Foxcombe Hill site in Oxford region, *c.* AD 250–400 (Young 1977, 212, type R18) (Fig. 10, 27).

Type R126: Lids; all forms (Fig. 10, 28).

Type R127: Flagon or bottle, moulded, collared rim; slightly cupped internally. Similar grey ware forms made in Oxford region *c.* AD 300–400+ (Young 1977, 209, type R8) but this was never a common type (Fig. 10, 29).

Type R128: Flagon or bottle, upright rim and small collar (Fig. 10, 30).

Type R129: Cooking pots or jars, very everted rims, flaring from shoulder; rim diam. equal to or greater than

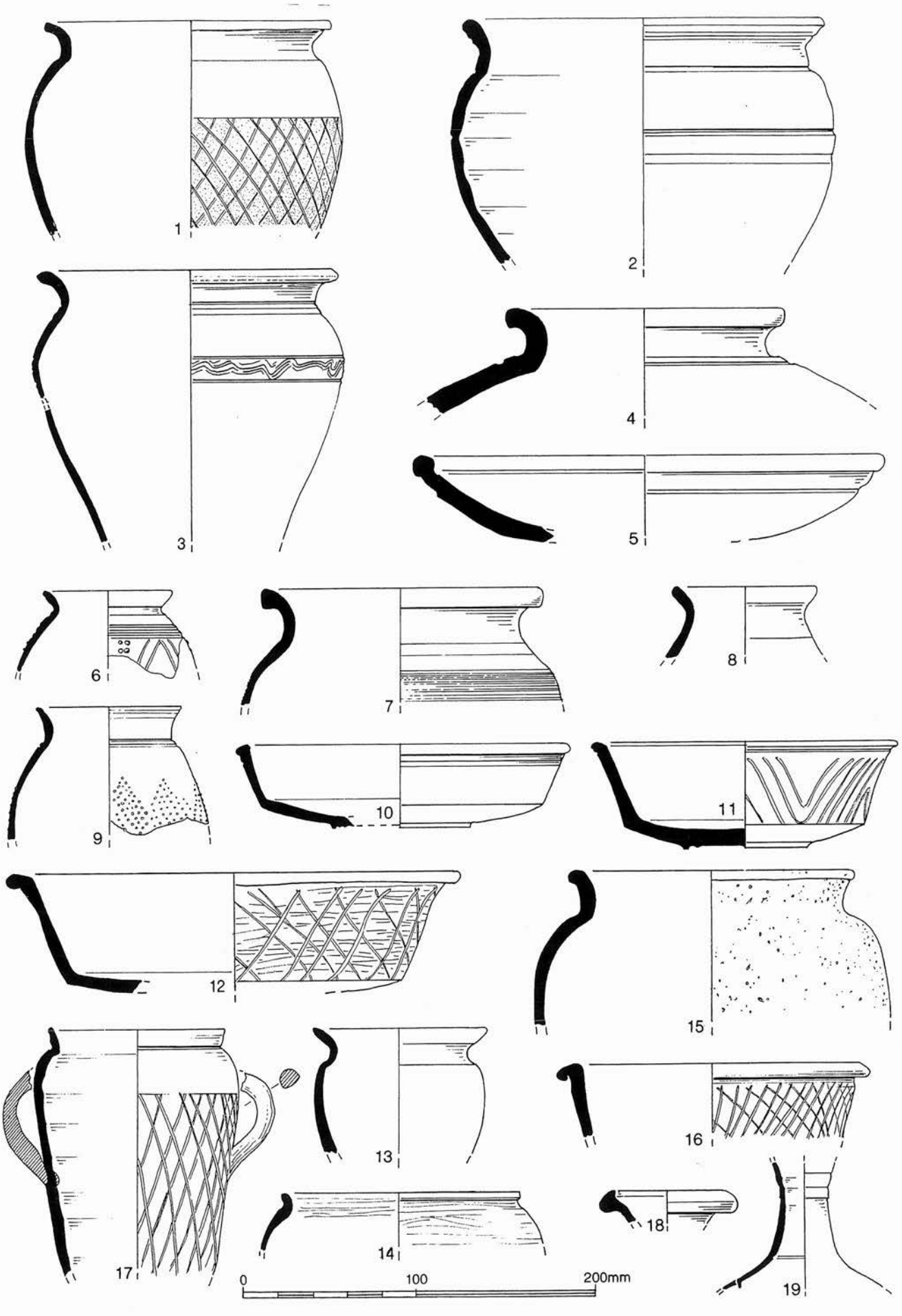


Figure 9 Bagnor Road: pottery

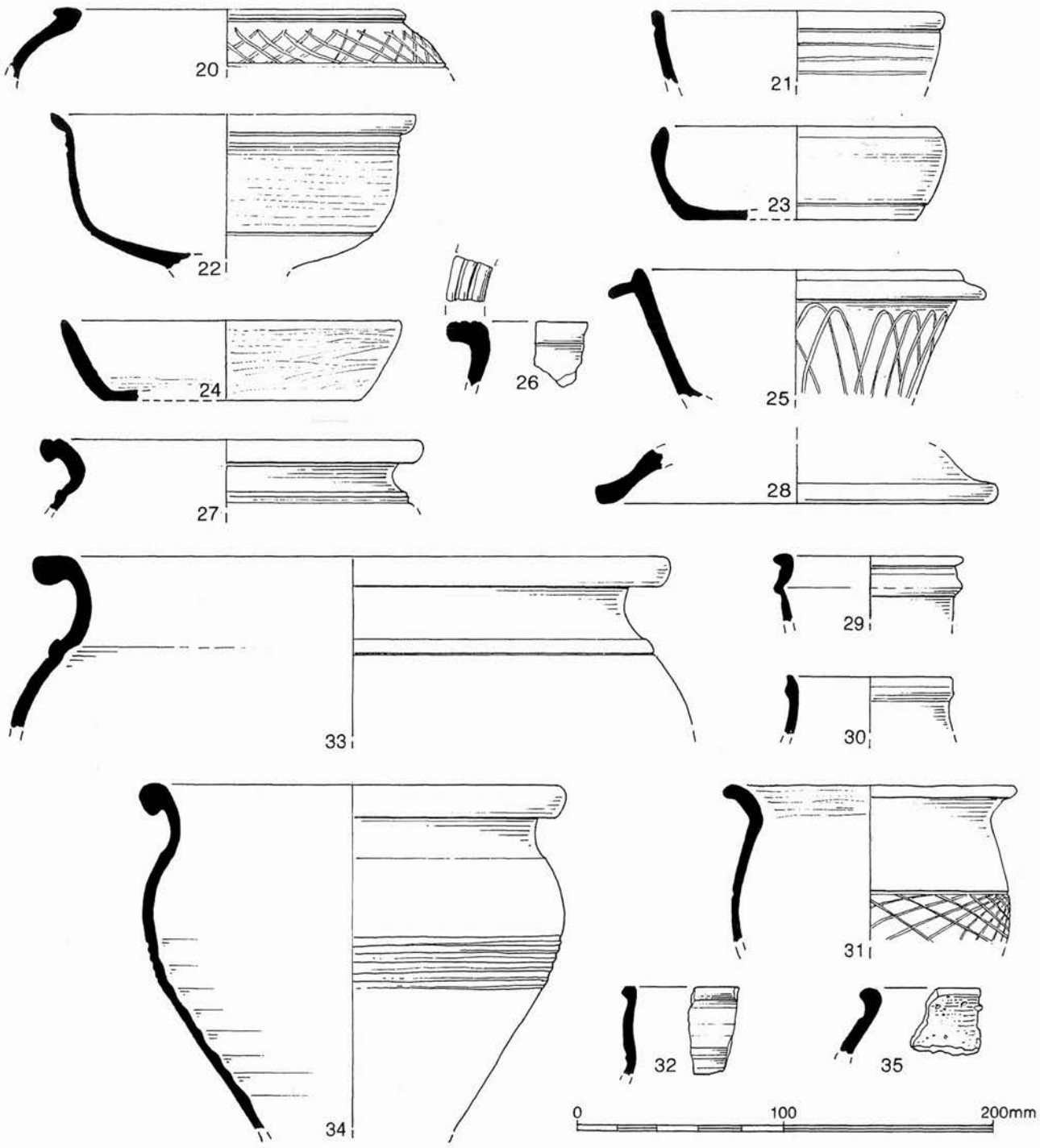


Figure 10 Bagnor Road: pottery

maximum diam. of body. Typical late 3rd–4th century Black Burnished ware jar form (Davies and Seager Smith 1993, 231, type 3). Also made by Oxfordshire potters (Young 1977, 216, type R27.1) and Alice Holt industry (Lyne and Jefferies 1979, class 3B), although these vessels tended to be squatter and more bowl-like (Fig. 10, 31).

Type R130: Bowl copying samian form Drag. 30. Oxford potters (Young 1977, 224, type R64), copying 'London ware' vessels found in south-east England, made similar forms in grey sandy ware. Late 1st–2nd century (Fig. 10, 32).

Type R131: Necked bowl; rim shape similar to Type R102 jars with cordons at base of neck. Relatively shallow in comparison with diameter; rim diameter equal to or greater than maximum diameter of pot (Young 1977, 220, type 38) (Fig. 10, 33).

Type R132: Tall, ovoid jar, upright neck and very hooked rim; more extreme version of Type R106 jars. Shallow girth grooves around maximum diam. of body. 4th century (Fig. 10, 34).

Type R133: Small, slack-shouldered jar, simple externally expanded bead rim. Probably Late Iron Age (Fig. 10, 35).

Type R134: Colanders; only perforated base sherds recognised in this assemblage. Vessels of this type made by Oxfordshire potters mid 1st–end 3rd century at least (Young 1977, 228, type R80). Early Roman (later 1st–2nd century) colander sherds found at Ufton Nervet (Thompson and Manning 1974, fig. 16, 82, fig. 17, 106, fig. 20, 162). Alice Holt colanders only became more important after AD 270 (Lyne and Jefferies 1979, class 5C) so type clearly has long life.

List of illustrated sherds

(Fig. 9)

1. Everted rim jar (R101), Black Burnished ware (E101). Contexts 9053/9054, ditch 9028.
2. Necked jar (R102), neck and girth grooves, fabric Q100. Context 9053/9054, ditch 9028.
3. Necked jar (R102), band of curvilinear combing, fabric Q100. Context 9082, pit 9080.
4. Narrow-necked jar (R103), shoulder cordon, fabric G101. Context 9015, ditch 9028.
5. Shallow bowl, internally thickened rim (R104), fabric Q103. Context 9015, ditch 9028.
6. Globular beaker, out-turned rim (R105), incised lines and barbotine dots, fabric Q104. Context 9015, ditch 9028.
7. Necked jar, collared rim (R106), band of horizontal rilling on shoulder, Overwey/Tilford fabric (E181). Context 9081, pit 9080.
8. Narrow-necked jar or jug (R107), fabric Q100. Context 9016, ditch 9028.
9. 'Poppyhead' beaker (R108), fabric Q103. Context 9016, ditch 9028.
10. Carinated bowl, footring base (R109), fabric Q100. Context 9053, ditch 9028.
11. Carinated bowl, footring base (R109), incised chev-rons, fabric Q103. Context 9053, ditch 9028.
12. Flat-flanged bowl/dish, chamfered base (R110), burnished lattice decoration, Black Burnished ware (E101). Context 9053, ditch 9028.
13. Small ovoid jar or beaker (R111), fabric Q100. Context 9043, re-cut 9047.
14. Bead rim jar (R112), Black Burnished ware (E101). Context 9053, ditch 9028.
15. Jar with upright rim (R113), fabric G100. Context 9053, ditch 9028.
16. Flat-flanged bowl/dish (R114), burnished lattice decoration, Black Burnished ware (E101). Context 9054, ditch 9028.
17. Tall jar or large beaker, 'pulled' bead rim and loop handle(s) (R115), burnished lattice decoration, fabric Q100. Context 9054, ditch 9028.
18. Cup-mouthed flagon (R116), fabric Q106. Context 9054, ditch 9028.
19. Ring-necked flagon (R117), Q106. Context 9054, ditch 9028.

(Fig. 10)

20. High-shouldered jar, triangular rim (R118), band of burnished lattice below rim, fabric Q103. Context 9053, ditch 9028.
21. Straight-sided dish, slightly beaded rim (R119), fabric Q100. Context 9056, ditch 9028.
22. Round-bodied bowl, everted rim (R120), fabric Q106. Context 9057, ditch 9028.
23. Convex-sided bowl/dish (R121), fabric Q100. Context 9081, pit 9080.
24. Straight-sided dish ('dog dish') (R122), Black Burnished ware (E101). Context 9074, ?posthole 9075.
25. Dropped flange bowl (R123), burnished arc decoration, Black Burnished ware (E101). Context 9131/9141, corn drier 9104.
26. Necked jar/bowl, out-turned, rilled rim (R124), fabric Q100. Context 9074, ?posthole 9075.
27. Narrow-necked jar, lid-seated rim (R125), fabric Q100, context 9082, pit 9080.
28. Lid (R126), fabric Q100. Context 9076, ?posthole 9077.
29. Flagon or bottle, collared rim (R127), fabric Q105. Context 9081, pit 9080.
30. Flagon or bottle, upright, slightly collared rim (R128), fabric Q100. Context 9082, pit 9080.
31. Jar with widely flared rim (R129), band of burnished lattice decoration, Black Burnished ware (E101). Context 9118/9149, corn drier 9104.
32. Bowl copying samian form Drag. 30 (R130), fabric Q100. Context 9118, corn drier 9104
33. Necked bowl, shoulder cordon (R131), fabric Q100. Context 9131, corn drier 9104.
34. Tall, ovoid jar, hooked rim (R132), band of horizontal rilling around girth, fabric Q101. Context 9148, corn drier 9104.
35. Slack-shouldered jar, Late Iron Age (R133), fabric F1. Context 9132, ditch 9133.

Ceramic Building Material

by Emma Loader

The assemblage of ceramic building material comprises 224 fragments (48,756 g), all of Romano-British date. The largest proportion comprises *tegulae* (134 fragments; 43,151 g; 88% of the total assemblage by weight). Of these, 20 fragments have cut-aways

present on the flanges, 26 fragments have the remains of concentric ring groove 'signatures' on their surfaces and four fragments have the remains of peg-holes – two with round examples and two square. One large fragment has a particularly clear dog's paw print on its upper surface.

The largest proportion of tile (65 fragments; 5838 g; 94% of the total weight) was recovered from the T-shaped corn drier 9104 *Newbury Bypass*, fig. 14). A 1.60 m length of the drying floor 9100 was constructed from reused *tegulae* and limestone roof tiles. The remaining tile used in this construction was recovered from the demolition layers of the structure. The remaining fragments of ceramic building material were recovered in small quantities from a variety of features across the site.

Stone
by Emma Loader

The assemblage of stone comprises 72 fragments (14,999 g), and includes both portable objects and building stone (Table 14). One fragment of sandstone is from an unidentified object. The stone types include greensand, quartz conglomerate, lava stone and fine-grained sandstone.

Portable Objects
by Emma Loader

This category includes 54 quern stone fragments and one whetstone fragment, all recovered from Romano-British features. The latter has a smooth surface and is 15 mm thick, though it is too fragmentary to identify its original shape.

Of the quern stones, two are quartz conglomerates, one is greensand and the remaining 51 (all small fragments; total weight 1414 g) are lava stone. The latter fragments are continental imports, and lava querns are common find on Romano-British sites of this period. The greensand is also non-local. The Lodsworth quarry, West Sussex, is one of the few sites where it is known that greensand was being exploited for quern production in the Iron Age, through to the early Romano-British period (Peacock 1987), and it is possible that this quern stone originated from there.

Table 14. Bagnor Road: stone types

Stone	*No.*	*Wt (g)*
greensand	1	1775
lava stone	51	1414
limestone	16	11,634
quartz conglomerate	2	670
sandstone	2	68
shelly limestone	1	134
Total	73	15,695

Building Material
by Emma Loader

A total of 17 fragments (11768 g) of flat limestone tiles was recovered from the corn drier 9104. Their original use was probably as roofing material on a building in the vicinity of the site, and they were subsequently reused together with the ceramic tegulae in the drying floor of the kiln. Several fragments have small nail holes surviving.

Metalwork
by Emma Loader

The metalwork assemblage comprises 119 iron, three copper alloy and two lead objects. Most (87 objects) were recovered during a metal detector survey over the buried soil (9066), and consist mainly of iron nails. The presence of a modern cartridge case and other post-medieval artefacts noted in the field indicates that these objects are likely to be of relatively recent date and are not considered further here. This report will therefore concentrate on the 37 objects (36 iron and one copper alloy) recovered from stratified contexts.

Iron objects

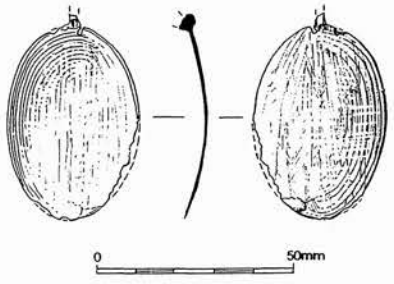
A total of 28 nails, 16 structural and 12 hobnails, was recovered from a variety of Romano-British features and layers. All are heavily corroded, although recognisable Romano-British types are present. The majority are comparable with Manning's type 1b, with a square shank, and flat round or rectangular head (1985, fig. 32).

Two cleats were recovered, one from pit 9081, and the other from a Romano-British layer. Both are quite small, and their size indicates that they were probably from boot soles rather than being structural. A double loop-headed spike, comparable to Manning's type R41 (1985, pl. 61) was recovered from ditch 9858. Such objects are common finds on Romano-British sites, and were used to form rings that could be attached to wood or masonry.

Five flat, moderately-corroded iron objects were recovered from ditch 9018, pit 9075, pit 9080 and corn drier 9104. The object from corn drier 9104 is flat, corroded, has no diagnostic features and its original use is unknown. The remaining fragments all have circular perforations, and are probably fragments of strips which may have been bindings or reinforcing on wooden objects or for joining pieces of wood.

Copper alloy object

One spoon bowl (Fig. 11) was recovered from corn drier 9104. It is white-metal plated and the handle is missing. The upper surface of the bowl has longitudinal striations that appear to have been interrupted by wiping across the width of the bowl. The back of the bowl has similar striations, mostly longitudinal though diagonal marks are also visible. These probably result from polishing. Comparable spoon bowls have been found at Catsgore, Somerset (Leech 1982, fig 81, 35 and 36) and *Verulamium* (Frere 1984, fig 15, 119). The spoon from Bagnor Road appears very well made, and was probably cast in a clay mould then finished by cold working. It can be dated to the 3rd–4th century.



Illustrated object

(Fig. 11)

Copper alloy spoon bowl. Obj. No. 94, context 9093, corn drier 9104.

Coins

by Nicholas Cooke

Four Roman coins were recovered. Three can be relatively closely dated to the 4th century and are all relatively common types. All three may be copies of contemporary coinage – in all cases the engraving is stylised, and the dies small. The fourth, a small illegible follis, cannot be dated any closer than the 3rd or 4th century.

The earliest, and best preserved (No. 1) is an *Urbs Roma*/Wolf and Twins coin from Lyons. The small die and irregular mint mark may indicate that this is a copy. No. 4 is a copy of a *Gloria Exercitus* type of the House of Constantine, depicting two soldiers and a central standard. The coin is too badly damaged and worn for either the emperor or the mint to be distinguished. However, the engraving of the soldiers and standard is very stylised. The latest coin (No. 3) is a very badly damaged copy of a *Fel Temp Reparatio* (Fallen Horseman 4) type, with a soldier spearing a fallen horseman. The name of the emperor and the mint mark are both illegible. The depiction of the two figures is relatively stylised and the flan small.

Catalogue

LRBC = *Late Roman Bronze Coinage* (eds R.A.G. Carson, P.V. Hill and J.P.C. Kent, 1960)

1. Obj. No. 89, context 9093, corn drier 9104.
Obverse: Helmeted head l. Text: V_BS/RO_A (*Urbs Roma*). Slightly worn, corroded.
Reverse: Wolf and Twins, two stars above. Slightly corroded.
Mint Mark: Lyons
Diameter: 16mm.
Metal/Denomination: cu alloy *follis*.
Description: Small flan. Mint mark is irregular, and may indicate a copy. Coin in fair condition.
Date: AD 332-4
References: ?copy of LRBC I, 195.

2. Obj. No. 95, context 9081, pit 9080.
Obverse: Head r. Otherwise illegible. Badly worn and corroded. Unknown emperor.
Reverse: Illegible. V. badly worn and corroded.
Diameter: Max: 12 mm, Min. 9 mm.
Metal/Denomination: cu alloy *follis*.
Description: Very small, irregular and badly damaged flan. Coin in very poor condition.
Date: 3rd–4th century

3. Obj. No. 97, context 9082, pit 9080.
Obverse: Illegible – v. badly corroded. Unknown emperor (either Constans or Constantius II)
Reverse: Fallen Horseman (Type 4). Text: Illegible. Corroded.
Diameter: Max: 14 mm, Min. 11 mm.
Metal/Denomination: cu alloy *follis*.
Description: Very small and badly damaged flan. Reverse is stylised, and therefore possibly a copy. Coin in poor condition.
Date: AD 350-60
References: ? copy as LRBC II, 660.

4. Obj. No. 100, context 9069
Obverse: Head r. Otherwise illegible – worn and corroded. Unknown emperor.
Reverse: 2 soldiers either side of a single standard (Gloria Exercitus type). Text: Illegible. Slightly worn.
Diameter: Max: 15 mm, Min. 10 mm.
Metal/Denomination: cu alloy *follis*.
Description: Very small and badly damaged flan. Reverse is stylised, and therefore possibly a copy. Coin in poor condition.
Date: AD 335-45
References: ? copy as LRBC I, 87.

7. The Geology of the Elmore Plantation Site

The Colluvial Sequence

by Michael J Allen

Excavations revealed a colluvial footslope deposit containing a Romano-British site (Fig.12). The west-east section was described in the field and the descriptions were later augmented by more critical examination of the sequence as undisturbed monolith samples (1003 and 1004), in order to provide further interpretative statements about the sequence and occupation surface. These additional comments were recorded on the context records. Soil and sediment descriptions follow the notation given by Hodgson (1976).

Magnetic Susceptibility

A magnetic susceptibility profile was created by measuring a series of 10 g soil samples with a Bartington MS2B meter coupled to a MS2 coil. The results were recorded at the 1.0 sensitivity range and derived from an average of 10 readings. The buried soil (6075) produced a peak in the magnetic susceptibility profile. The readings for both colluvial horizons were relatively low, though evidence of gleying and iron staining in the lower colluvial layer (6077) was present. The basal horizon displayed suppressed magnetic susceptibility results, perhaps as a result of gleying and iron staining. The natural sands and gravels produced readings lower than all of the overlying deposits, with the exception of the lower readings in the basal stabilisation horizon.

Descriptions

0–0.22 m (context 6042) Dark yellowish-brown (10YR 4/4) humic clay loam with rare medium flint gravel, moderate coarse blocky structure, abrupt smooth boundary. – TOPSOIL, PASTURE

0.22–0.54 m (context 6974) Dark yellowish-brown (10YR 5/6) fine sandy clay loam, common small and medium subangular and subrounded flint gravel, weakly developed coarse subangular blocky structure, very few fine macropores, smooth clear boundary. – UPPER COLLUVIUM

Magnetic susceptibility = 4–8 SI x10-8 SI/Kg (increasing with depth)

0.54–0.65 m (context 6075) Dark greyish-brown (10YR 4/2) silty clay loam with fine sand, few to common small and very small flints, well developed medium subangular blocky structure, some charcoal flecks, 1% fine macropores, irregular abrupt boundary. – BURIED SOIL – STABILISATION HORIZON

Magnetic susceptibility = 9–18 SI x10-8 SI/Kg

0.65–1.08 m (context 6077) Yellowish-brown (10YR 5/4) sandy silty clay with coarse diffuse vertical mottles of dark yellowish-brown (10YR 4/4) to strong brown (7.5YR 5/6), few stones and a very weakly developed very coarse blocky structure. Mottling and localised iron staining indicate localised gleying. Smooth clear boundary. – GLEYED COLLUVIAL FOOTSLOPE DEPOSIT

Magnetic susceptibility = 4 –6 SI x10-8 SI/Kg

1.08–1.27 m (context 6078) Dense yellowish-brown (10YR 5/4) firm sandy silty clay with close well-defined medium ferruginous gley mottles of strong brown (7.5YR 5/8) to yellowish-red (5YR 5/6). Dense deposit with moderately well developed medium subangular structure with some very fine interpedal ferruginous coatings and 0.5% fine macropores. – TRUNCATED BURIED SOIL OR STABILISATION HORIZON

Magnetic susceptibility = 2–4 SI x10-8 SI/Kg

1.27–1.40+ m Yellowish-brown (10YR 5/6) firm sandy loam to sandy clay loam with abundant small to medium flint gravel and rare large flint gravel, ferruginous (orangey) mottles and manganese staining. – NATURAL GRAVELS AND DRIFT GEOLOGY

Magnetic susceptibility = 5–6 SI x10-8 SI/Kg

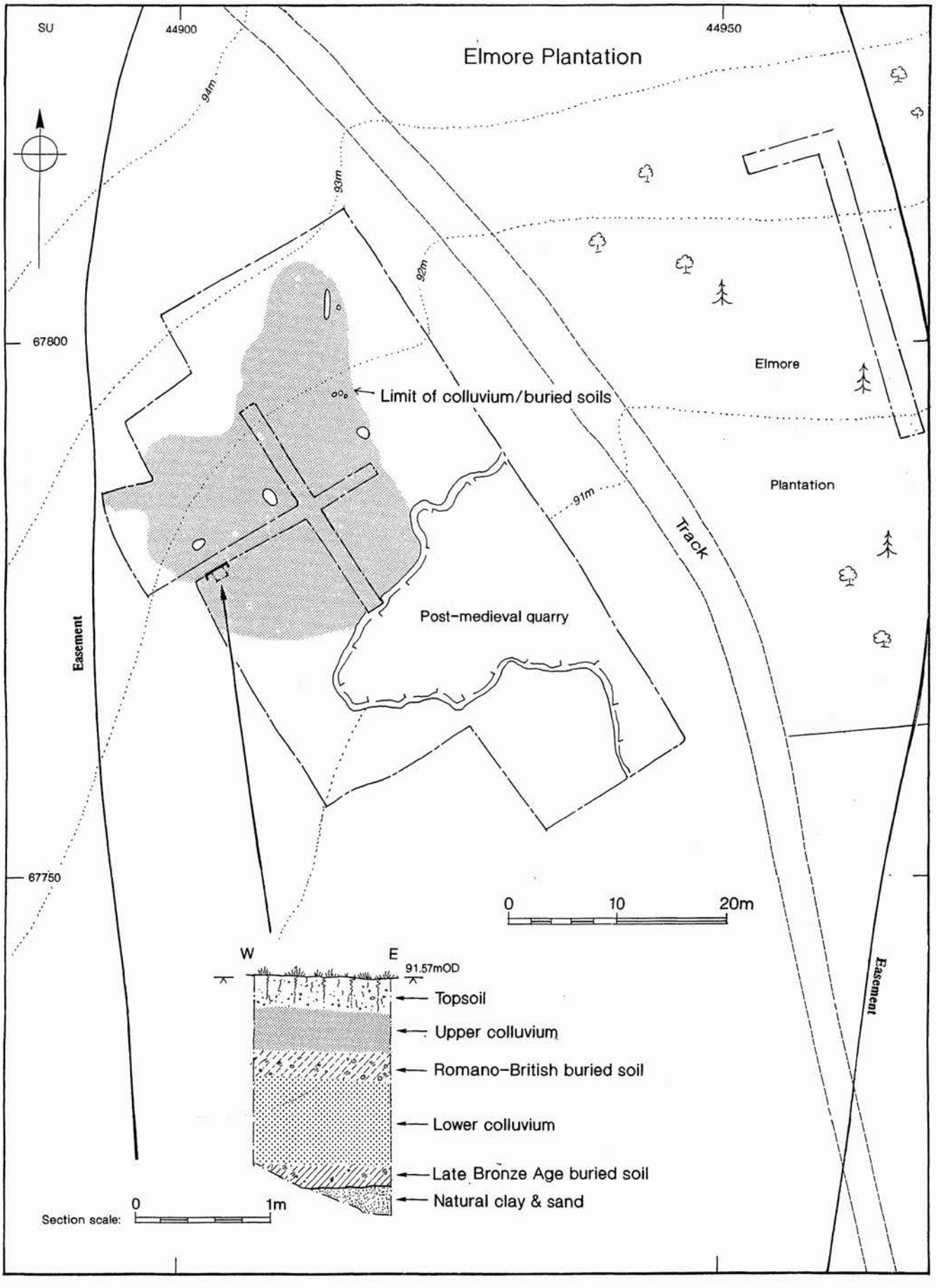


Figure 12 Elmore Plantation: site location and plan with stratigraphic section

Interpretative Comments

A gleyed stabilisation horizon or truncated buried soil (6078) was present over the natural sandy gravels (6079) at the foot of the steep gravel terrace escarpment. This horizon was moderately well developed with evidence of local, possibly seasonal waterlogging. Some of the gleying was post-burial (interpedal iron coatings due to iron mobilisation from upper horizons) indicating continued, if not increased, localised soil waterlogging.

This basal horizon was sealed by massive colluvial deposits (6077) derived from the sandy soils on the gravel escarpment which are highly susceptible to erosion. These showed extensive evidence of ground water gleying and rare localised manganese staining, which may have been confused with charcoal flecks in the field. The massive and sandy nature of this deposit may suggest relatively rapid, though not catastrophic, accumulation, possibly occurring over several centuries rather than several millennia.

Sealing the main colluvium was a well-developed structured buried soil horizon (6075) about 0.15 m thick, containing a number of pedological features. This represents a stabilisation horizon and local cessation, or decrease in rate, of colluvial deposition, upon which Romano-British occupation was recorded. It was, however, sealed by further deposits (6074), probably of colluvial origin. It is perhaps significant that no gleying was evident in the Romano-British buried soil or the colluvial deposit above it.

The presence of Holocene colluvium indicates destabilisation of the local vegetation, and erosion was certainly accelerated by human activity. Colluvial deposits are often, therefore, taken as evidence of tillage (Bell 1983; Allen 1992). Here, however, that seems unlikely as the sandy soils are highly prone to erosion (Harris and Boardman 1990). It is more likely that the footslope deposits of hill wash recorded at Elmore Plantation are a result of long-term human activity in the vicinity, but this may simply be the removal of trees from the slope. This activity may be prehistoric in date, but could have been earlier Romano-British activity prior to the Roman-British occupation. Certainly by the time of this occupation, surface groundwater gleying is not present indicating more suitable conditions locally for permanent habitation.

Drift Geology

by Michael J. Allen and Sarah F. Wyles

A trench at the base of the steep slope of the ridge revealed a complex sequence of drift geology and comprises:

- About 0.5 m of sands and sandy clay loams with a 0.1 m band of iron staining and panning. No structures or laminations could be detected within the sands, but the iron panning tended to pick out weak laminations. The deposits were well sorted and probably of fluvial or marine origin.
- Massive stonefree clays (and silts) with no laminations. Some of these may be derived from the local hillslope, but the majority is probably alluvial, possibly channel deposits.
- At the foot of the slope was a minor linear depression created by the chalk rising. Within this depression was a layer of badly preserved partially decalcified oyster shells, largely within a greensand matrix. The shells were extremely fragile, and flaking to disintegration. Cursory examination on site indicated that they had a distinctly elongate form. One particularly well preserved and thick specimen was retained for identification (see below). No other species of shells were noticed within the calcareous detritus, but a 70 litre bulk sample was taken and sieved.

The bulk sample of 70 litres from the dense layer of marine shells was sieved to recover large shells, and a smaller 1000g subsample was processed by standard methods to recover small snail shells. The coarse fractions (>4 mm) of the samples were sorted and were found to contain shells only of *Ostrea* cf. *edulis*, the common flat or native marine oyster.

The shells were all very fragmented and in poor condition. They were markedly elongated, which may be indicative of a soft substrate. They were generally thick, possibly as a result of both age, reflecting the annual growth of the oysters, and a restrictive area for growth. This possibility of a constricted natural oyster bed is also shown by a proportion of the shells displaying evidence of clumping and having shell fragments attached. There was, however, no trace of any cultch or any other marine shells on these shells. The *Ostrea* shells were generally heavily infested, many to the extent of having rotten backs. In archaeological assemblages this infestation would be attributed to the boring sponge *Cliona celata* which can be indicative of the likely source of the shells.

The overlying sequence seems to be largely of fluvial/marine origin. Identification of Ostrea edulis is important and indicates a natural former marine inundation of geological date. The lack of other freshwater species in the bulk sample seems to confirms this. However, the absence of freshwater species which have less robust shells might be in part due to the weakly calcareous nature of the deposits which accounts for the poor preservation of the oyster shells, otherwise considered a very robust species.

8. Environmental Remains from Bagnor Road

Charred Plant Remains from Bagnor Road

by Joy Ede

Five samples from corn drier 9104 and pit 3080 were selected for analysis. All were processed by Wessex Archaeology and were 10 litres in size except for one sample (10048) from the corn drier, which was of only 5 litres. In Table 15 the results of this small sample have been doubled to facilitate direct comparison with other samples. Terminology about crop-processing stages follows Hillman (1984). The flots from two samples were large (samples 10033, 10047) and were sub-sampled. The flot from sample 10047 was sub-sampled and one quarter was initially identified, with a second fraction then identified to ensure consistency. In the rich sample 10033 only one-eighth of the flot was identified, and a further one-eighth scanned to ensure consistency. The results from the flots were multiplied (x2 and x8) to equate with the total sample and added to that from the residue. The remaining quantity of flot was scanned for any species not identified in the sub-samples. None was seen. Further, it is interesting to note that in the samples from the stoke hole of the corn drier, between 40% and 45% of the total identified remains were extracted from the residues (results in archive) rather than present in the flot. Clearly, this material had not floated as easily as other samples from this site; this may be a function of the extreme burning this assemblage was subjected to.

Corn drier 9104

Four samples were analysed: one from the drying floor (context 9150), one in the flue (context 9149), and two from different levels within the stoke hole (contexts 9118, 9121).

Stoke hole

The sample from the lowest fill (context 9121) contained a lot of chaff and a relatively high proportion of weed seeds. Identifiable grain was mainly wheat with a very small component of barley and oats. Although higher quantities of charred material were recovered from context 9118, a similar range and proportion of material was represented.

Most of the grain was identified as wheat (*Triticum* sp.), probably mainly spelt (*T. spelta*) but possibly including emmer (*T. dicoccum*), as these are indistinguishable from grain morphology alone. The small amount of barley (*Hordeum* sp.) and oat (*Avena* sp.) grains may have been left over from the previous use/firings of the drier, but more probably these, especially the oats, are accidental inclusions, perhaps representing a weedy component within the wheat crop. A number of grains were not well enough preserved to be identified and this could mask a higher presence of barley than indicated by the identified grains.

The chaff was largely wheat glume bases (of which seven were positively identified as spelt), and wheat spikelet forks and rachis fragments. A very small component of barley chaff (including one barley internode from a compact head) and some oat awn fragments were present.

Both samples contained similar assemblages of weeds. Significantly, however, the sample from context 9118 produced a high number of mineral replaced (mineralised) corn cockle (*Agrostemma githago*) seeds, all of which were recovered from residue. It also did not contain corn gromwell (*Lithospermum arvense*), scentless mayweed (*Tripleurospermum arvense*) nor rushes (Cyperaceae).

Overall, a relatively wide range of weeds were present including corn cockle, corn gromwell, cleavers etc. (*Galium* sp), brome grass (*Bromus* sp), poppy (*Papaver* sp.), stinking mayweed (*Anthemis cotula*), scentless mayweed (*Tripleurospermum inodorum*) and a legume which may be a clover (*Trifolium* sp. type). Together these account for up to 32% of the total weed seed assemblages, all of which may have been incorporated accidentally during harvest of the cereal crops.

Other small seeds present do not come from plants with seed heads that may stay intact on harvesting. These include eyebright/red rattle (*Euphrasia/Odontites* sp), docks and sorrels (*Rumex* sp.), small grasses (Gramineae), small round seeded leguminous species (Leguminosae), and sedges of the spike-rush family (Cyperaceae). Small seeds account for over 60% of the weed seed assemblage, half of which may have been headed and therefore are from either the final hand cleaning of the crop, or more likely were separated by coarse sieving. As hand cleaning is indicated by the large seeds of corn cockle and corn gromwell, either explanation is plausible. The other small seeds indicate that fine sieving or winnowing debris is also present.

Flue

The small sample (5 litres) from the flue produced a relatively small amount of weed seeds and the carbonised plant remains were mainly chaff. By far the largest component was chaff, comprised entirely of wheat glume bases and spikelet forks. Very low numbers of grain were recovered: barley (4 grains) wheat (3 grains) and unidentified (4 grains). Very few weed seeds were recovered, too few to interpret alone.

Table 15. Bagnor Road: charred plant remains

	Feature	*Corn drier*				
		Stokehole		*flue*	*floor*	*Pit 9080*
	Context	*9121*	*9118*	*9149*	*9150*	*9082*
	Sample	*10040*	*10033*	*10048*	*10047*	*10044*
	Sample size (litres)	*10 L*	*10 L x8+ res*	*5 L x2*	*10 L x2+ res*	*10 L*
Triticum cf. *spelta* glume base	cf. spelt wheat	7	-	-	2	4
T. cf. *spelta* spikelet fork	cf. spelt wheat	-	-	-	-	2
T. cf. *dicoccum* glume base	cf. emmer wheat	-	-	-	-	1
Triticum sp grain	wheat grain	23	21	6	145 (18 spr)	70
glume base		373	675	158	83	188
spikelet fork		-	89	42	55	-
Hordeum sp grain twisted	6-row barley grain	-	-	-	-	7
grain straight	straight barley grain	-	-	-	2	28
grain indet.	barley grain	5	1	6	20 (3 spr)	2
cf. *Hordeum* sp		2		2	10	2
Hordeum sp chaff		1	16	-	-	1
Avena sp grain	oat	1	8	-	2	-
cf. *Avena* sp		-	8	-	-	-
awn frags		-	16	-	-	-
Indet grain	cereal indetermined	40	92	8	163	89
Indet frags		++	++	+	++	-
Chaff – silicified awn frag		-	8	-	-	-
Rachis frag		-	56	14	-	-
rachis/tops indet		+	23	12	1	-
TOTAL GRAIN		**71**	**130**	**22**	**342**	**198**
TOTAL CHAFF		**381**	**883**	**226**	**141**	**196**
Papaveraceae cf. Papaver sp	cf. poppy	12	-	-	32	-
Caryophyllaceae indet.	campion family	-	-	-	2	1 frag
Agrostemma githago (carb)	corn cockle	7	4	-	28	-
A. githago capsule frag (carb)		3	1	-	-	-
A. githago (mineralised)		12	103	-	-	-
Chenopodium album	fat hen	1	-	-	2	-
Atriplex sp	orache	-	-	-	2	-
Chenopodicaeae indet		-	-	-	2	-
Leguminosae - *Trifolium* type	clover type legume	8	16	-	-	3
Leguminosae – cf. *Trifolium* type		-	16	-	-	-
Leguminosae - indet round	vetches etc type legume	2	-	2	205	2 frags
cf. *Alchemilla/Aphanes* sp	lady's mantle/parsley piert	-	-	-	2	-
cf. *Euphorbia* sp	cf. spurge	-	-	-	2	-
cf. Umbelliferae indet	umbellifer indetermined	2	-	-	-	-
Polygonum sp	knotgrass/bistort/persicaria	1	8	-	-	-
Rumex sp	docks/sorrel	16	17	-	35	1
cf. *Rumex* sp		3	-	-	2	-
Polygonaceae			8	-	3	-
Lithospermum arvense	corn gromwell	1 silcified	-	-	21	-
Euphrasia/Odontites sp	eyebright/red rattle	39	40	2	2	2
Plantago lanceolata	lanceolate plantatin		16	-	-	3
Galium sp	bedstraws	2	8	-	8	-
Anthemis cotula	stinking mayweed	4	8	-	-	1
Tripleurospermum inodorum (Schultz Bip.)	scentless mayweed	10	-	-	34+ cf 10	-
Compositae indet	daisy family indetermined	-	8	-	-	-
Cyperaceae indet	rush/spike rush family	2	-	-	-	8
cf. Cyperaceae	cf. rush/spike rush family	-	-	-	-	1
cf. *Bromus* sp	cf. brome grass	1	-	-	-	-
Gramineae	grasses	11	40	2	12-	-
Gramineae culm node		-	8	-	-	-
Corylus avellana nut fragment	hazel	-	-	2	-	1
misc indet	unidentified seeds	44	32	2	39	4
misc replaced		-	32	2	-	-
TOTAL WEED SEEDS		**178**	**357**	**10**	**445**	**25**

spr = sprouted

The drying end of the feature

One sample from the floor (context 9150) was examined. Most of the identifiable grain was wheat (*c.* 78%) with a significant proportion of barley (almost 20%), but a high proportion remained unidentified. Some of the wheat grains were sprouted (12.7%). There was a very low component of oats. The combination of barley and wheat grains could suggest that the crop itself was a mixture of the two. Alternatively, the drier may have been used for two different crops at different times. A third explanation may be that the barley could have been a weedy component of a wheat crop, which was allowed to grow on to add bulk to the harvested grain.

The chaff was solely wheat and included both glume bases and spikelet forks. A single spikelet fork represents the presence of two grains, and a glume base corresponds to a single grain. From this we can calculate that the wheat chaff present equates to 193 grains. A total of 142 grains was definitely identified, but a large component of wheat grains might be expected in the unidentified grain. If the proportions of identified grain are representative of the unidentified grain, then four-fifths of the total (163) = 130. The wheat chaff therefore represents less than the probable number of wheat grains in this sample. Chaff will be less likely to survive burning than grain; although the glume bases and spikelet forks are dense they have a proportionally larger surface area subjected to heat. This sample could, therefore, indicate the drying of wheat grain spikelets, this being the usual way to store wheat in damp climates as suggested by Hillman (1984).

A high number of weed seeds were found together with the cereal remains, and in particular small round legumes (possibly *Vicia* sp., vetches) which comprise up to 46% of the weed seeds recorded. Vetches are known to have been a crop in their own right, but are also common weeds of arable crops and this may account for their presence here.

Function and arable economy

The evidence from the floor and drying end of the feature indicates its use for treating wheat grain in spikelet form, probably before fine sieving had occurred, as suggested by Hillman (1984, 5, fig. 3). Some of the grain had sprouted, probably accidentally in storage: the proportion sprouting is too low to indicate malting. The remains from the flue were mainly chaff with some grain and weed seeds, and probably represent general debris. The higher component of the very light chaff element may have been blown through the flue from the stokehole by the draught of hot air.

Both samples from the stokehole were very similar and the higher density of carbonised remains per litre in context 9118 probably represents longer use of the drier than was the case in the lowest layer. The samples were made up predominantly of fuel comprising chaff and seeds from the cleaning of cereal crops. These fuel components came from at least two different stages in crop processing: fine sieving or winnowing to separate grain from chaff and small weed seeds; and hand cleaning to remove the larger corn cockle and corn gromwell seeds, and flower heads of poppy, daisy-like corn cockle and scentless mayweed and the clover-like species. Although the headed species here might suggest the presence of debris from a third crop-processing stage, coarse sieving (Hillman's stage 6 which may occur after storage of grain in spikelets), the lack of culm nodes is surprising and may indicate that small seeds were already free from their heads. This again indicates sieving and/or winnowing of free grain, and suggests that coarsely-sieved debris is not present here.

Weed seeds and chaff from crop-processing debris were used to fuel the drier because they do not create smoke, which would alter the flavour of the grain. However, this sample also contained a moderate amount of charcoal in the flot, suggesting that wood was also used as fuel. The grain present may have been accidentally dropped into the stoke hole as the drier was loaded or emptied, or it may be a component of the fuel, although the grains are fully developed.

It is notable that some corn cockle seeds have been mineralised. Such mineral replacement (calcium phosphates) tends to indicate a high level of organic matter and the availability of calcium carbonate, possibly in calcareous soils (Green 1979) as is demonstrated at East Chisenbury (McOmish 1996; Carruthers pers. comm), and to a lesser extent at Potterne (Allen in press; Carruthers in press), both in Wiltshire. The corn drier itself was built of limey material (chalk) while the soils may well have been chalky having partly derived from the downland. Mineralised seeds are often found in cesspits, but it seems highly unlikely that faecal material would be found in this situation. The presence of these seeds must be due to particular conditions of the soil and the organic matter in this feature.

Stinking mayweed and the seeds of the Cyperaceae family typically indicate heavier or damper soils. The rest are commonly found weeds of arable and disturbed places such as field margins or areas around the settlement. Corn cockle and corn gromwell are firmly associated with arable crops.

Reaping of just the cereal ears was probably not carried out because there are too many weed seeds in the processing debris. However, no ground growing plants were identified in the weed seed assemblage, suggesting reaping higher up the stalks. It would be particularly desirable to avoid corn cockle plants during the harvest, as the seeds are time consuming to remove

from the grain and give the resulting food an unpleasant taste.

Three different crops might have been dried in this structure – wheat (probably spelt), barley and vetches. These crops were grown on fields with some element of damp soil (indicated by the presence of sticking mayweed in the fuel). This could have occurred locally as the site is situated in a river valley on alluvium. However there are no plant remains that absolutely point to cereal growing as part of the site's economy. Wheat in spikelet form could have been transported from elsewhere, as could the other crops. Only when large amounts of culm nodes, straw fragments and other coarser components are present in a crop-processing context can one be quite sure that growing crops occurred as part of the site economy.

Oats were a weed but did not cause a problem. Barley may also have been a weed in wheat crops but one sample (context 9150) suggested that it was also a crop in its own right.

Pit 9080

One sample from context 9082 was analysed; it contained many cereal grains and chaff, but few weed seeds. The grain was a mixture of burnt wheat and barley. These either represent a single burning episode (for example, if they were both used in a food dish), or originate from more than one source. The presence of chaff associated with the wheat grains may in part indicate a burning episode from the drying or parching of spikelets in the drier. However, there is too much chaff for the number of grains present, so the sample probably also contains an element of burnt crop processing waste (chaff and weed seeds) used as fuel for a domestic hearth or a corn drier.

The weed seed assemblage is similar to that in the corn drier, and contained indicators of arable and disturbed ground, with an element of damp ground. The proportion of damp ground indicator species (stinking mayweed and Cyperaceae) is larger than in the corn drier, with almost one half of the assemblage coming from this type of habitat. This could indicate a higher use of damper ground for arable cultivation at this period. However, such an interpretation could only be sustained with a much higher number of samples from a wider variety of contexts.

Discussion

The pit contains dumped burnt crop-processing material, possibly with an element of clean grain. However, the wheat grain, at least, could originate from the burning of spikelets in the same episode that provided much of the chaff and weed seeds. Even if the wheat represents one crop processing episode, at least one other episode of activity is necessary to account for the high percentage of barley grains, because barley and wheat are unlikely to have been processed together.

The pit belongs to an earlier period than the corn drier, so no direct comparison of the two can be made. There is some indication, however, that damper areas were being cultivated in this earlier period. Such a pattern was seen at Ashville Trading Estate, Abingdon, Oxfordshire (Jones 1978, 110), but this hypothesis cannot be sustained from the few samples available.

Charcoal from Bagnor Road

by Rowena Gale

Charcoal was selected for analysis from 3 samples from Bagnor Road. Samples were associated with the Romano-British corn drier and a hearth. Species identification was undertaken to indicate the type of fuel used and to provide environmental evidence.

Bulk soils samples were processed by Wessex Archaeology and the charcoal extracted from the flots and residues to 2 mm by Sarah Wyles. Most samples contained relatively small fragments; those measuring >2 mm in radial cross-section were prepared for examination using standard methods, see technical introduction. Where appropriate the maturity (ie, sapwood/ heartwood) of the wood was assessed.

The results are summarised in Table 16. The anatomical structure of the charcoal was consistent with the taxa (or groups of taxa) given below. It is not usually possible to identify to species level. The anatomical similarity of some related species and/or genera makes it difficult to distinguish between them with any certainty, eg members of the Pomoideae. Classification is according to Flora Europaea (Tutin, Heywood *et al.* 1964–80).

The species present were:
Aceraceae *Acer* sp., maple; Aquifoliaceae *Ilex* sp., holly; Betulaceae *Betula* sp., birch; Corylaceae *Corylus* sp., hazel; Fagaceae *Quercus* sp., oak; Rosaceae – Pomoideae: *Crataegus* sp., hawthorn; *Malus* sp., apple; *Pyrus* sp., pear; *Sorbus* spp., rowan, service tree and whitebeam. These genera are anatomically similar; Prunoideae: *Prunus* spp., which includes *P. avium*, wild cherry; *P. padus*, bird cherry; *P. spinosa*, blackthorn. It is often difficult or impossible (as in this instance) to differentiate between the species from their anatomy.

This possible settlement or small homestead was sited on a gentle slope at the bottom of the Lambourn valley. The sample from hearth 9107 included a few small knotty fragments of oak and hazel.

Stoke hole 9123 and flue 9145, of the partially collapsed corn drying oven or malting kiln, contained

Table 16. Bagor Road: charcoal (no. fragments)

Feature	*Context*	*Sample*	*Acer*	*Corylus*	*Ilex*	*Pomoideae*	*Prunus*	*Quercus*
Hearth 9107	9103	10031	-	1	-	-	-	21
Corn drier 9104	9093	10032	-	-	1	3	3	9rsh
	9149	10048	1	1	-	-	3	2

Key: r = roundwood (diam. < 20 mm); s = sapwood; h = heartwood

charcoal *in situ* from its final (and possibly only) firing. Samples from these contexts included a range of woods used as fuel including: maple, hazel, holly, blackthorn/ cherry, hawthorn, etc, and oak (narrow roundwood and heartwood). These relatively close-grained, dense woods are capable of providing a hot, brisk fire and may, therefore, have been sought out in favour of less efficient woods.

The local environment would almost certainly have supported a wider range of woody taxa than that represented in the fuel deposits. For example, alders (*Alnus*) and willows (*Salix*) probably grew in the damp valley bottom associated with the river. Other large trees growing here may have included ash (*Fraxinus*), poplar (*Populus*) and elm (*Ulmus*). With the exception of ash, wood from these taxa tends to smoulder and burn slowly.

9. Medieval Finds from Enborne Street, Wheatlands Lane and Hills Pightle

Enborne Street and Wheatlands Lane: Finds

Medieval Pottery
by Lorraine Mepham

The total quantities of medieval pottery recovered from Enborne Street and Wheatlands Lane amount to 5297 sherds (66,016 g) and 1179 sherds (14,805 g) respectively. These totals include pottery from all stages of work on the Bypass route. The two assemblages will be considered together in this report, since they share many characteristics, and the evidence that both represent largely the waste products of pottery manufacture will be discussed.

On both sites the pottery derived from a number of features, ranging from relatively deep pits to shallow and ephemeral cuts (see *Newbury Bypass*, figs 18–20); it was apparent that, at Enborne Street at least, severe truncation had taken place, resulting in the disturbance and loss of a proportion of the original assemblage. Pottery was also collected in some quantity from unstratified contexts at both sites.

In both cases, the pottery recovered presented a visually homogeneous appearance. Sherds are overwhelmingly in variants of a single chalk-/flint-tempered fabric, with a smaller proportion of flint-tempered sherds, and occur in a limited range of vessel forms. Both assemblages are in markedly poor condition; surfaces and broken edges are severely abraded, calcareous inclusions have leached or burnt out, leaving pitted and vesicular surfaces, and the sherds have the soft, powdery texture of underfired or overfired pottery. Despite several large features groups, the level of reconstructability is low; although some complete profiles could be assembled the general condition of the material hampered such attempts.

The quantities of pottery recovered from the two sites, combined with its visual homogeneity and the general appearance of misfiring, suggest that both assemblages resulted from the discard of waste material from pottery manufacture, although the archaeological evidence is more ambiguous. The two main fabrics identified form part of a 'ware tradition' with a wide distribution across west Berkshire, north Hampshire and north-east Wiltshire. No production centres for this ware tradition have previously been located, although one putative centre in the Savernake Forest in north-east Wiltshire has been suggested (Vince 1981, 312; 1997).

The aims of the analysis of the pottery assemblages have therefore been three-fold:

- to characterise the range of wares being produced at these putative kilns
- to examine the implications of this discovery on the existing view of medieval pottery production and distribution in Berkshire and the surrounding region
- to place the kilns within the regional ceramic context of chalk-/flint-tempered and flint-tempered wares in central southern England.

Ceramic Background

Despite the recent publication of a number of key ceramic assemblages from the county, our understanding of medieval pottery production and distribution in the county is still far from complete, although broad trends have been identified, first in the pioneering work of Jope (1947) and recently updated for the west of the county by Vince (1997). It is worth pointing out first of all the limitations of the existing data. Evidence for pottery production in the county is extremely scarce, as is the number of sites producing well stratified assemblages of any size.

Until the present excavations, the only known production sites in Berkshire were the 13th and 15th/16th century kiln group at Camley Gardens, Maidenhead (Pike 1965–6) and the early 13th century kiln at Ashampstead at the foot of the Berkshire Downs (Mepham and Heaton 1995), although there are major production centres to the south-east on the Surrey/Hampshire border (Pearce and Vince 1988), and to the south-west at Laverstock outside Salisbury (Musty *et al.* 1969). Other industries are known in south Oxfordshire, such as Henley and Nettlebed (Mellor 1994, 88, 143). Stratified urban assemblages of moderate size are known from Reading (Moorhouse 1972; Underwood 1997), Windsor (Mepham 1993) and Newbury (Vince 1997; Hawkes 1997), although material from Maidenhead remains unpublished.

Pottery from these major sites provides the basic framework of the medieval ceramic sequence in the county, and serves to demonstrate that on ceramic grounds, the county may be broadly divided in two. Developments in the east of the county are largely independent of those in the west and owe more to influences from the east and south-east. At Windsor, for example, pottery from the local Camley Gardens sandy ware industry is augmented from at least the early 13th century by shelly wares, possibly from the London area

(Mepham 1993), and it is apparent that the Camley Gardens industry, whose distribution covers most of east Berkshire as far west as Reading, faced increasing competition from the 14th century from the production centre of the Surrey/Hampshire border.

Meanwhile in west Berkshire, Newbury provides the key ceramic assemblage (Vince 1997; Hawkes 1997). Three major fabric groups have been defined, based on dominant inclusion type: group A (flint-tempered wares), group B (limestone-/flint-tempered wares) and group C (sandy wares). Group A wares are found from the earliest medieval contexts in the town (?10th/11th century) and this occurrence, combined with evidence from the early 11th century fortification of Silbury Hill, demonstrates a pre-Conquest origin for these wares (Vince 1997, 64). These wares were supplemented and later eclipsed by the group B wares which appear in the late 11th century, but do not occur in any quantity until the late 12th century. Both ware groups occur in similar vessel forms, mainly jars and bowls/dishes with some pitchers. Alongside these two groups run the sandy wares of Group C, occurring in smaller quantities from the late 11th century right through the medieval period. These sandy wares were also used for jars and bowls, but were used primarily for serving wares: tripod pitchers in the 12th century and later for a variety of glazed and decorated jugs (*ibid.*).

The distribution of group A wares extends from north Hampshire through west Berkshire to north-east Wiltshire, with a marked clustering along the Kennet Valley (*ibid.*, fig. 28). The similar, though wider, distribution of group B wares, again centred on the Kennet Valley (*ibid.*, fig. 29), combined with the similarity of vessel forms between the two groups, has led to the obvious conclusion that both types had a similar source or source area. One possibility has been proposed in the Savernake Forest in Wiltshire, where the place name Crockerstrope is recorded in 1257 in the parish of Mildenhall (*ibid.*, 65), but the large size of the distribution area (approximately 80 km east to west by approximately 65 km north to south) in comparison to the average size of a coarseware industry (between 15 and 50 km in diameter: see Vince 1981, 313) would suggest that more than one source was manufacturing these wares.

The group C sandy wares represent a more disparate and less easily characterised tradition, since sandy wares are found widely across east Berkshire, as we have seen, throughout west Berkshire and into south Oxfordshire (Vince 1981, fig. 21:1; Mellor 1994, 71-80), and it is apparent that they represent the products of more than one source. The Camley Gardens products do not seem to have penetrated west Berkshire; they have not been positively identified west of Reading, and are distinct, at least in vessel form, from the Newbury wares. The latter are much closer to the products of the Ashampstead industry, which was in operation at least from the late 12th century (Mepham and Heaton 1995), although the full date range and extent of production there is as yet unknown.

From the mid 14th century the expansion of the Surrey/Hampshire border industry is apparent in Newbury as it is in the east of the county. Group A wares are by this time almost eclipsed, although group B wares continued in use up to the late 15th century.

Methods

The medieval pottery has been analysed following the standard Wessex Archaeology recording system for pottery (Morris 1994), although detailed fabric analysis has not been carried out since the assemblage, with the exception of a very small proportion of sherds, is considered to represent just two fabric types. It is, however, acknowledged that there is variation within these fabrics, for example in the frequency and size of inclusions, and account will be taken of this in the ensuing descriptions and discussion. Fabric types have been allocated numbers within the Wessex Archaeology 'established ware' series (group E fabrics) where appropriate; others are defined on the basis of dominant inclusion type, ie, group Q (sandy).

Type series have been created for overall vessel forms, and for rim profile variants within each form. The definition of vessel forms and component parts (rims, bases, etc) follows nationally recommended nomenclature (MPRG 1998). Rim diameters and percentages have been recorded, to allow the calculation of EVEs (estimated vessel equivalents). Pottery has been quantified by context, including details of individual vessel form/rim form, vessel size, surface treatment, decoration and manufacturing technique. Pottery from unstratified contexts has been examined in slightly less detail, in that vessel forms have been grouped and recorded by rim percentage, without the fine detail of rim profiles.

Petrological analysis

In order to fulfil the third aim of this analysis as stated above, namely to examine the 'ware tradition' of the chalk-/flint-tempered wares, as exemplified by the products of these putative kilns, within the regional context, a series of fabric samples were selected for petrological analysis. Samples of chalk-/flint-tempered fabrics (perceived to constitute a more geologically distinctive group of fabrics than the purely flint-tempered examples) were taken from Enborne Street, as well as selected sites in west Berkshire and beyond: Cheap Street, Newbury and Kintbury in west Berkshire, Devizes in north-east Wiltshire and Brighton Hill South near Basingstoke in north Hampshire.

The petrological analysis was carried out by Dr David Williams, University of Southampton. His full

report is held in the archive, and is summarised here. The results of the analysis were inconclusive. In thin section, there is a certain degree of homogeneity between the samples from Enborne Street and Cheap Street, Newbury in terms of the range and size of non-plastic inclusions (in this case quartz and flint). None of these three samples in thin section were seen to contain the limestone (?chalk) present in the samples from Kintbury and Brighton Hill South, but this may have been contained in the sub-rounded voids seen in the hand-specimens, in which case all five samples show a general similarity in fabric. The mineralogical association of quartz, flint and limestone (?chalk) seems to occur rather frequently in medieval pottery from the Newbury region, which suggests that many of the clays of this area are not lithologically variable. However, the sherd from Devizes does stand out as being different by virtue of a non-clean clay matrix, lack of flint and relatively high content of shell.

The Kiln wares: fabrics

The overwhelmingly dominant fabric from both sites is a chalk-/flint-tempered fabric which falls into the range of Newbury group B wares, as discussed above. The fabric can be described as follows:

E442A moderately coarse clay matrix; sparse–moderate irregular voids <3 mm, representing leached/burnt out calcareous (chalk) inclusions (in a very small proportion of sherds these inclusions survive); rare–sparse subangular patinated flint <4 mm; sparse–common, subrounded quartz grains <1 mm; rare iron oxides and carbonaceous material.

The range of colouring is great and reflects a range of firing conditions: sherds vary from completely oxidised (buff/orange/red) to completely unoxidised (dark grey), although when more complete profiles are present it is apparent that it is rare for a single vessel to exhibit consistent firing throughout. The fabric is generally soft (ie, can be scratched with a fingernail), although some examples, generally those which are in better condition and do not have the appearance of kiln waste, are harder. Severe abrasion has removed much of the evidence for surface treatment, but it appears that the irregularities of the inclusions within the clay fabric were masked, and the surfaces smoothed, with applications of a surface slip or slurry, which appears as a thin 'skin', usually severely laminated.

Vince identified three specific fabric types within the overall limestone-/flint-tempered group at Bartholomew Street in Newbury (1997, 51); the fabric described here as E442 covers the range of variation encompassed by two of these (fabrics 4 and 39), the distinction being based on the coarseness of the limestone inclusions (<1 mm in fabric 39, larger in fabric 4). This distinction is hard to sustain, and no such subdivision has been attempted here. It may be noted also that the original subdivision of the same ware in south Oxford (Haldon 1977) into fabrics AJ (more flint than limestone) and AQ (more limestone than flint) has now been superseded; both are now considered together (along with the flint-tempered fabrics of Vince's group A, for which see below) as 'early to late medieval east Wiltshire ware' (OXAQ: see Mellor 1994, 100–6). At the nearby site at Cheap Street, Hawkes attempted an even finer subdivision of the group B wares into 12 fabric types according to the density and size of flint and chalk inclusions, but noted that no significant chronological or other trends could be observed (1997, 118). At Faccombe Netherton in north Hampshire, the chalk-/flint-tempered wares are included within Fairbrother's fabric group 1, and fabric E442 as defined here appears closest to fabric A within the latter group (1990, 280).

Occurring in smaller but still significant quantities at both sites is a sandy, flint-gritted fabric which falls into the range of Newbury group A wares as defined by Vince (1997). This may be described as follows:

E441 Moderately coarse clay matrix; sparse–moderate, subangular, patinated flint <4 mm; moderate–common, subrounded quartz grains <1 mm; rare–sparse iron oxides and carbonaceous material.

Fabric hardness and range of colouring is as described for fabric E442, and there are similar traces of a surface slip or slurry, applied to mask the coarse inclusions.

Vince's group A wares as defined at Newbury consisted of five fabric types, all of which contained the same inclusions but in differing proportions (1997, 46). No distinction has been made here between these fabric variants. As noted above, the flint-tempered fabrics of group A are grouped with the chalk-/flint-tempered wares of group B in south Oxfordshire as 'early to late medieval east Wiltshire ware' (OXAQ). At Faccombe Netherton the only flint-tempered fabric without chalk is fabric P, although examples comparable to E441 may also occur within fabric D (Fairbrother 1990). Fabric totals for E441 and E442 by site are presented in Table 17.

The Kiln wares: forms

All of the vessel forms occurring in this fabric type are handmade and unglazed. A type series has been constructed for the vessel forms consisting of seven forms and one miscellaneous category:

1. Necked jars with rims thickened externally and sometimes internally
2. Smaller, rounded jars with simple everted rims
3. Dishes or shallow bowls with inturned rims

Table 17. Enborne Street and Wheatlands Lane: pottery fabric totals

Fabric	*ENBORNE STREET*			*WHEATLANDS LANE*			*TOTAL*		
	No.	*Wt (g)*	*% total*	*No.*	*Wt (g)*	*% total*	*No.*	*Wt (g)*	*% total*
E442	5044	61,599	93.3	809	9044	61.1	5853	70,643	87.4
E441	180	3177	4.8	332	5227	35.3	512	8404	10.4
Q400	27	431	0.7	30	314	2.1	57	745	0.9
Q401	12	202	0.3	-	-	-	12	202	0.2
Q402	18	139	0.2	-	-	-	18	139	0.2
Q403	4	206	0.3	7	158	1.1	11	364	0.5
Q404	-	-	-	1	62	0.4	1	62	0.1
Q405	12	262	0.4	-	-	-	12	262	0.3
Total	5297	66,016	-	1179	14805	-	6476	80,821	-

4. Bowls with out-turned necks and rims thickened externally and sometimes internally, as for the necked jars
5. Cauldron with tall tripod feet and sharply angled handles.
6. Jugs, strap-handled, of unknown form
7. Curfews

Table 18 gives the overall number of rims, the number of measurable rims and the EVEs (Estimated Vessel Equivalents) for each type for the two sites. Within types 1, 3 and 4, an attempt was made to construct a type series for all rim variants (too few rims were encountered in types 2, 5, 6 and 7 to make this process viable). This resulted in the definition of 15, 12 and 6 rim variants respectively within types 1, 3 and 4. These are not presented in full here for the simple reason that the type series thus created was not felt to be valid, in the sense that the variants defined do not appear to be discrete and well-defined types but rather represent arbitrary divisions within a continuous range of variation. Certainly the attempt to construct a similar rim type series for Newbury (Cheap Street) revealed no significant chronological trends (Hawkes 1997, tables 19, 20).

Necked jars (Fig. 13, 3–16; Fig. 14, 17–26)

These are generally described in the literature as 'cooking pots' (see for example Vince 1997, 46, 52). The definition as 'jars' here follows recommended nomenclature (MPRG 1998, form 4.1), to avoid a functional connotation where none is implied. These were almost certainly multi-purpose vessels, used (and reused) variously for storage, cooking, perhaps as chamberpots (see Moorhouse 1986; Fairbrother 1990, 328).

The basic profile of these jars is rounded or shouldered (MPRG 1998, forms 4.1.7, 4.1.8 respectively), with a sagging base and thickened rim on an upright or flared neck. The neck/body angle can be quite sharply defined, or more smoothly curving. Body wall thickness varies; the thicker examples tend to be more evenly finished, while the thinner vessels are more irregular.

Rim diameters range from 120 mm to 400 mm, with the majority falling between 220 mm and 280 mm (119 out of a total of 166 measurable rims). Only one jar has a complete reconstructable profile (Fig. 13, 13); the height of this vessel is 370 mm, and the rim diameter 330 mm. Rims are generally thickened in some way. The simplest examples have a slightly

Table 18. Enborne Street and Wheatlands Lane: quantification of vessel types

Form type	*Fabric*	*ENBORNE STREET*		*WHEATLANDS LANE*		*TOTAL*	
		No. rims	*EVEs*	*No. rims*	*EVEs*	*No. rims*	*EVEs*
1: Necked jar	E442	185 (157)	18.91–19.80	65 (52)	4.87-5.11	250 (209)	23.78–24.91
	E441	18 (1)	0.27–0.31	32 (21)	0.91–1.11	50 (22)	1.18–1.42
2: Everted rim jar	E442	2 (1)	0.16–0.22	-	-	2 (1)	0.16–0.22
3: Flared bowl	E442	86 (64)	5.21–5.82	20 (14)	1.06-1.20	106 (78)	6.27–7.02
	E441	2 (1)	0.09–0.11	12 (11)	0.61–0.68	14 (12)	0.70–0.79
4: Necked bowl	E442	36 (28)	1.48–1.56	10 (10)	0.68	46 (38)	2.16–2.24
	E441	2 (-)	-	-	-	2 (-)	-
5: Cauldron	E442	1 (1)	0.14	-	-	1 (1)	0.14
7: Jug	E442	1(1)	0.30	-	-	1 (1)	0.30

Numbers in brackets refer to number of measurable rims

thickened, simple rim (eg, Fig. 14, 22 and 26); more elaborate examples are more noticeably thickened internally and/or externally, giving a 'T'-shaped, hooked, rounded or squared profile (eg, Fig. 13, 9 and 11, 22, 19).

Decoration on these vessels is rare, and is restricted to thumbing around the rim on vessels in both E442 and (more commonly) E441 (eg, Fig. 13, 10 and 11; 22, 21–6) and, but only on jars in E442, impressed 'dimples' around the shoulder (eg, Fig. 13, 5, 7, 8, 13, 16); the incidence of either technique is low (30 and seven examples respectively).

Rounded jars (Fig. 13, 1, 2)
This form is extremely rare; only two examples were recorded at Enborne Street, and none at Wheatlands Lane. The profile is rounded, with a short, everted, simple rim, and the size is generally smaller than the necked jars. Neither of the examples are decorated. One has a measurable rim diameter (140 mm).

Dishes and shallow bowls (Fig. 15, 27–42; Fig. 16, 50–1)
Dishes are defined here, following recommended nomen-clature, as open vessels with a height of between one-third and one-seventh of their rim diameter, while bowls have a height of one-third or more of their rim diameter (MPRG 1998, forms 5.2 and 5.1 respectively). In this instance it has not always been possible to ascertain the height/rim diameter ratio, and so the classification has been left open.

The basic profile is flared or convex (*ibid.*, forms 5.1.5/5.2.5 and 5.1.4/5.2.4 respectively),with a sagging base and inturned rim. Rim variants range from a sharply angled rim inturn with no external thickening (Fig. 15, 27 and 29), through a more curving variant with external thickening to give a 'collared' effect (Fig. 15, 30 and 32), to examples that are both externally and internally thickened, to give a 'T' shaped profile (Fig. 15, 36 and 40). One example has a deeply grooved, almost bifid rim (Fig. 15, 41).

Rim diameters range from 210 mm to 520 mm, with the majority falling between 380 mm and 440 mm (36 out of 48 measurable examples). Only two of these vessels are decorated, one with slight 'notching' around the top of the rim (Fig. 15, 28) and one with stabbing around the rim and on the underside of the base; the basal decoration on the latter is unusual but might suggest that it was actually used inverted, as a curfew (see below).

Necked bowls (Fig. 16, 43–9)
These vessels have a convex profile with a sagging base and thickened rim on a flared neck; there is a definite angle between neck and body. They have been described as 'steep-sided bowls' (Vince 1997, 50, 51). Rim variants are similar to those on the necked jars. Rim diameters range from 320–520 mm. These are the most commonly decorated forms, with curvilinear combing around the inside of the neck, sometimes on the outside of the neck, and with occasional impressions on the top of the rim (eg, Fig. 16, 43, 47 and 49); a few examples have finger-impressed rims (eg, Fig. 16, 45).

Cauldron (Fig. 17, 52)
This form is represented by a single vessel from Enborne Street (E442). The basic form is a type 1 jar, with added tripod feet and rectangular-sectioned rod handles. Rim and handles are decorated with repeated comb-tooth impressions, and there are four applied vertical 'ribs' up each foot; the ribs are 'notched' and they are flanked by rows of stabbed dots. This vessel stands out by virtue of its elaborate decoration, a rarity amongst an almost severely plain assemblage, and it is tempting to see it as an experimental piece, or as a specially commissioned vessel (or more likely one of a batch of such vessels). Whatever the reason, the experiment was apparently not repeated, even as undecorated vessels.

Jugs (Fig. 17, 53)
These vessels have been identified largely on the basis of the presence of strap handles, since rim sherds are very scarce, although the possibility that at least some such handles may derive from curfews (see below) should not be ruled out. The term 'jug' is used here in preference to 'pitcher' (see MPRG 1998, form 3.1); the latter term has been used for vessels which are considered to fall within the 12th/early 13th century 'tripod pitcher' tradition of southern England, but is frequently extended to cover vessels of similar date where no evidence for tripod feet exists (eg, Vince 1997, 52). There is no such evidence here. Jugs from Newbury (described as 'pitchers') in chalk-/flint-tempered fabrics are large rounded vessels with pulled lips and finger-impressed strap handles, sometimes comb-decorated (Vince 1997, fig. 34, 49–54).

Curfews (Fig. 17, 55)
These vessels have been identified from strap handles with pre-firing piercings at the junction of handle and body, and from associated body sherds also with pre-firing piercing. No complete profiles were reconstructable, but it is most likely that the curfews took the form of inverted bowls of type 4 (MPRG 1998, form 8.5.1); examples are illustrated from Faccombe Netherton (Fairbrother 1990, fig. 8.47, 8.54). The decorated dish of type 3 (Fig. 15, 37: see above) should, however, be noted as another possible curfew form.

Other vessels
Some miscellaneous rims may merely represent variants of forms already described, such as a decorated rim from a short-necked jar, perhaps of type 1 (Fig. 17,

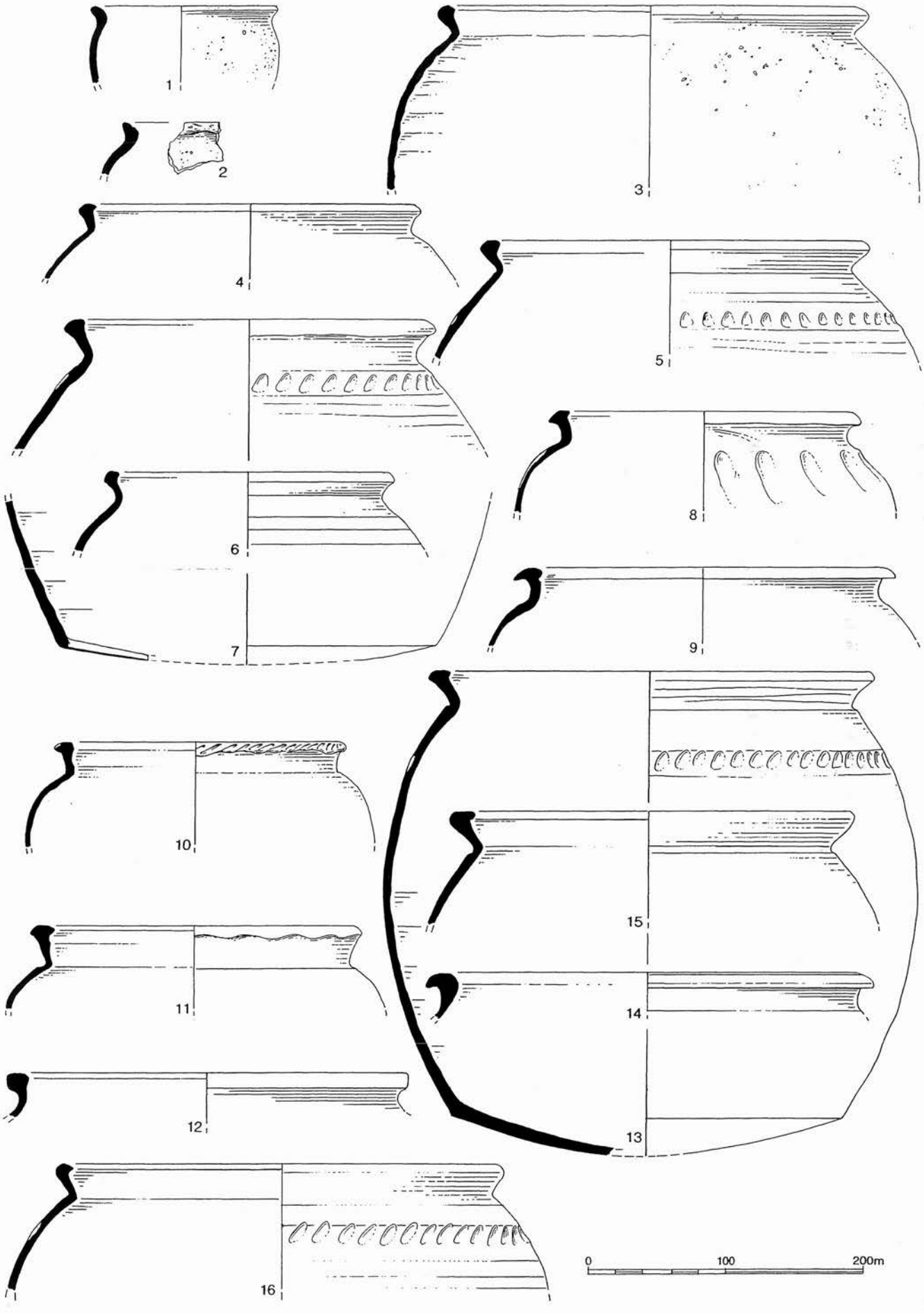


Figure 13 Enborne Street and Wheatlands Lane: medieval pottery

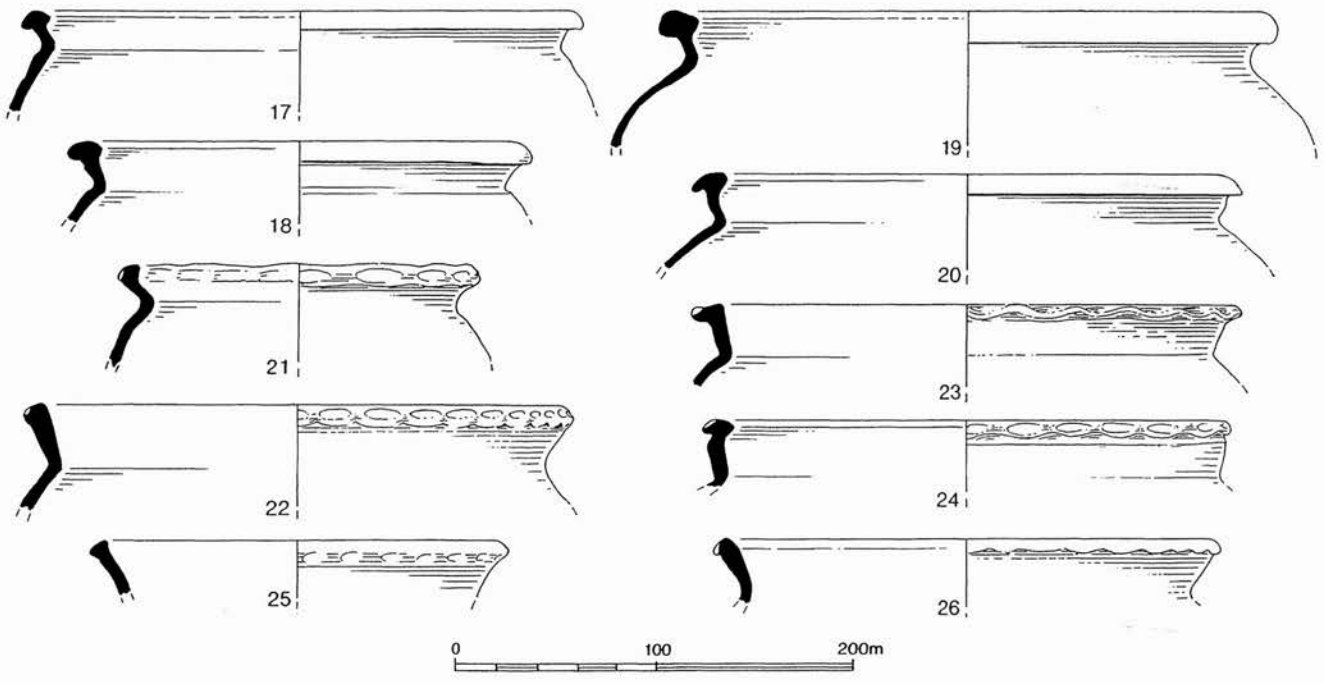


Figure 14 Enborne Street and Wheatlands Lane: medieval pottery

54), and a second decorated rim probably also from a type 1 jar (Fig. 17, 61). A slightly inturned, flattened rim (Fig. 17, 59) seems to derive from a convex bowl. Other vessels are suggested by the recovery of two straight handles, one solid (fabric E441) and one hollow (E442), probably deriving from skillets; both are decorated (Fig. 17, 56 and 57; compare Hawkes 1997, fig. 65, 40). In addition, one unusual thick-walled hollow pedestal base (E442) could be from a lamp (Fig. 17, 58). A straight-sided vessel from Wheatlands Lane with a small rim diameter and pre-firing piercings is not paralleled in Newbury and is of uncertain function, although similar pierced vessels from west Oxfordshire are interpreted as 'fire buckets' or possibly chimney pots (Mellor 1994, fig. 12, 16, 18); the latter are, however, probably of significantly earlier date (*c.* 12th century) than the Wheatlands Lane example.

Other fabrics and forms

Other fabrics occur in much smaller quantities and are unlikely to represent kiln products. These comprise five sandy fabrics:

Q400 Hard, moderately coarse matrix; common, well sorted, subangular quartz <0.25 mm; rare iron oxides; oxidised with unoxidised core (firing pale orange/pale grey); handmade.

Q401 Hard, fine matrix; sparse, well sorted, subangular quartz <0.25 mm; rare iron oxides; oxidised, firing white/grey; wheelthrown.

Q402 Hard, fine, slightly micaceous matrix; moderate, well sorted, subrounded quartz <0.5 mm; rare iron oxides; oxidised, firing mid orange; ?wheelthrown.

Q403 Hard, coarse matrix; common, fairly poorly sorted, subrounded quartz <1mm; 'pimply' surfaces; unoxidised; handmade.

Q404 Hard, moderately coarse matrix; common, well sorted, subrounded/subangular quartz <0.5 mm; both oxidised and unoxidised examples; handmade.

Q405 Hard, moderately coarse matrix; moderate, fairly well sorted, subangular quartz (iron-stained), <0.5 mm; rare iron oxides; oxidised, firing pale orange/salmon pink; wheelthrown.

Fabric Q405, which represents sherds of a single vessel from Enborne Street, a slip-decorated and glazed jug (Fig. 17, 65), is comparable to fine glazed wares of Brill/Boarstall type, produced in west Buckinghamshire and found widely over south Oxfordshire and central Berkshire from the late 12th century (Mellor 1994, fabrics OXAW, OXAM). Fabric Q401 again consists largely of a single decorated jug from Enborne Street (Fig. 17, 66), and is from a similar source area.

The medium coarse fabrics Q402 and Q404 compare well with pottery found at the Ashampstead kiln to the north-west of Newbury (Mepham and Heaton 1995). One internally glazed dripping dish in fabric Q404 was found at Enborne Street (Fig. 17, 67). The slightly finer-grained fabric Q400 is closer to the products of the Camley Gardens kilns at Maidenhead (Pike 1965-6), although it should be noted that such sandy wares, by virtue of their non-distinctive nature,

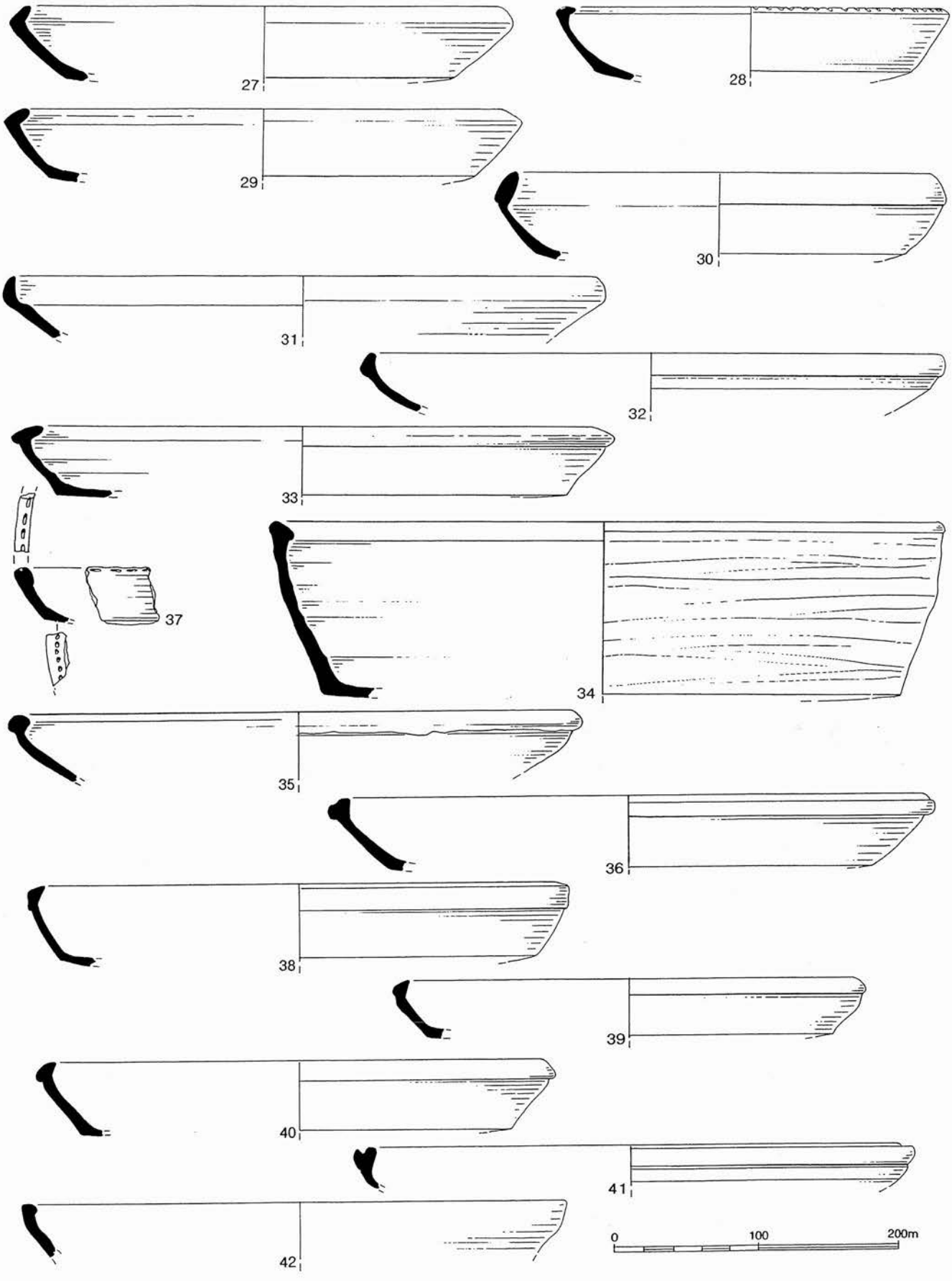


Figure 15 Enborne Street and Wheatlands Lane: medieval pottery

are extremely difficult to characterise and to link to sources. The coarse 'pimply' fabric Q403 is broadly comparable to Laverstock-type coarsewares found in south-east Wiltshire and into west Berkshire (Musty *et al.* 1969; Mepham 2000, fabric E422a) although in the absence of diagnostic sherds attribution to source is not definite.

Pottery by context

The pottery from the kilns and associated major features is discussed below. Tables 19 and 20 give numbers of sherds and EVEs by fabric type within each feature.

Enborne Street

Pottery was recovered from both of the 'kiln' features (7004, 7054), and from the associated charcoal rich layer 7055 (see *Newbury Bypass*, figs 18–19), and these are, of course, the only pottery groups which can with a high degree of certainty be defined as resulting from on-site production. Other pottery from the site, while also likely to represent kiln waste, is less closely associated with the excavated kilns themselves.

The quantities of pottery within these kiln features, however, is low. Pit 7004 produced just seven sherds (54 g) from the basal fill (7007), three sherds (6 g) from the secondary fill (7006), and a further 49 sherds (353 g) from the upper fill (7005). All but one sherd (fabric Q400) are in fabric E442. Diagnostic sherds comprise one probable curfew handle (Fig. 17, 55) and one type 1 jar rim.

Pit 7054 was more productive, containing 109 sherds (1379 g), including four type 1 jars and one type 3 bowl. Layer 7055, which may represent the raked-out fire debris from 7054, produced 12 more sherds, including a type 1 jar rim in fabric E441 (Fig. 13, 6).

Large groups of pottery were recovered from pit group 7061. The three pits which made up this group each produced very similar material. Overall the pit group produced 1501 sherds (20,561 g), nearly all in fabric E442, although sherds of fabrics F400, Q400, Q401 and Q403 are also present. Vessel forms represented comprise type 1 jars (Fig. 13, 3–5, 7, 12 and 15), bowls of types 3 (Fig. 15, 28) and 4 (Fig. 16, 43), a cauldron (Fig. 17, 52), a possible curfew (comb-decorated body sherd with pre-firing piercing) and a possible pitcher (comb-decorated neck sherd). In addition, there is one internally glazed dripping dish in fabric Q404 (Fig. 17, 67), and a slip-decorated jug in Brill/Boarstall type fabric Q401 (Fig. 17, 65).

A second group of three intercutting pits (7021, 7024, 7027) produced smaller quantities of pottery (218 sherds: 1994 g), almost all in fabric E442, with a handful of sherds in fabric E441, Q400 and Q402. Vessel forms comprise type 1 jars (Fig. 13, 16) and type 3 bowls (Fig. 15, 34).

Pottery was also recovered from ditch 7017 and gullies 7042, 7040 and 7033, a total of 1876 sherds (20,292 g). With the exception of six sherds in fabric E441 from gully 7033, and one sherd in fabric Q400 from ditch 7017, all of the pottery from these linear features was in fabric E442. Ditch 7017 produced jars of type 1 (Fig. 13, 13), type 2 (Fig. 13, 1) and dishes/bowls of type 3 (Fig. 15, 27, 30 and 31), as well as a possible lamp base (Fig. 17, 58). The largest quantities, however, derived from gully 7033, where a dense deposit of pottery (1723 sherds) was recovered from a 2 m stretch at the northern terminal of the gully (Plate 4), including jars of type 1 (Fig. 13, 9–11), and bowls of types 3 (Fig. 15, 29 and 33) and 4.

Wheatlands Lane

Both the quantities and the range of pottery recovered from features at Wheatlands Lane are more restricted than at Enborne Street. Pottery from four features is summarised in Table 20. Most of the pottery derived from gully 6017/6019 and ditch 6022 (see *Newbury Bypass*, fig. 20), and this was mainly in fabric E442. Vessel forms comprise jars of type 1 (Fig. 14, 17–20) and bowls of types 3 (Fig. 15, 38, 40, 41) and 4 (Fig. 16, 46–8); a possible curfew handle came from gully 6022, and other possible curfew sherds from gully 6022. Eleven sherds of fabric E441 came from gully 6017 (including a type 1 jar and a type 3 bowl), and sherds in fabric Q400 from both features, including a jug rim from gully 6017 and a possible skillet handle from gully 6022.

Pottery from ditch 6024 and tree throw 6103 consisted entirely of sherds in fabric E441; vessel forms identified comprised one type 1 jar (6103) and one type 3 bowl (6024: Fig. 16, 51).

Chronology

The overall date ranges of the flint-tempered (group A) and limestone-/flint-tempered (group B) wares at Newbury are outlined above. Both appear at least by the 11th century (flint-tempered wares may be pushed back to the 10th century) and have a long lifespan, flint-tempered wares continuing into the 14th century, and the limestone-/flint-tempered wares to the late 15th century.

Assigning a close date to the Enborne Street/ Wheatlands Lane assemblage within this range is therefore not without problems. Even the assumption that the assemblage represents a restricted timespan could be challenged on the grounds that chronological progression may be masked by the perceived visual homogeneity of the assemblage, although the weight of probability, based on both archaeological and ceramic evidence, does rest with this premise.

Three aspects of the assemblage can be examined in an attempt to narrow down the dating:

Table 19. Enborne Street: pottery by context

Feature	*No./wt (g)*	*CHALK-/FLINT-TEMPERED WARE (E442)*					*FLINT-T. (E441)*		*Q400*	*Q401*		*Q402*	*Q403*	
		NJ	*ERJ*	*B/D*	*NB*	*Other forms*	*No./ wt (g)*	*All forms*	*No./ wt (g)*	*No./ wt (g)*	*All forms*	*No./ wt (g)*	*No./ wt (g)*	*All forms*
Kiln 7004	59/413	0.09	-	-	-	-	-	-	-	-	-	-	-	-
Kiln 7054	109/1379	0.50	-	*	-	-	-	-	-	-	-	-	-	-
Burnt debris 7055	11/110	-	-	-	-	-	1/8	Necked jar (0.01-0.05)	-	-	-	-	-	-
Pit group 7061 [7071/ 7031/7030]	512/5540	0.47	-	0.30-0.31	0.28	-	2/30	-	-	7/75	Jug (*)	-	-	-
Pit 7071	75/1156	0.54	-	0.07	0.01-0.05	-	5/53	-	1/21	1/4	-	-	-	-
Pit 7031	677/9752	2.27	-	0.19	0.17	Cauldron (0.14)	9/91	Necked jar (0.15)	3/14	2/112	-	1/4	4/206	Dripping dish (*)
Pit 7030	204/3501	0.93	-	-	-	-	3/17	-	-	1/4	-	-	-	-
Pit 7021	32/272	*	-	-	-	-	1/6	-	-	-	-	15/120	-	-
Pit 7024	166/1567	0.71	-	0.08	-	-	1/10	-	1/4	-	-	1/7	-	-
Pit 7027	-	-	-	-	-	-	-	-	-	-	-	1/8	-	-
Ditch 7017	119/1551	0.44	0.12	0.19-0.20	-	-	-	-	1/4	-	-	-	-	-
Gully 7042	3/16	-	-	-	-	-	-	-	-	-	-	-	-	-
Gully 7040	12/124	0.01-0.05	-	0.04	-	-	-	-	-	-	-	-	-	-
Gully 7033	1735/18274	6.25-6.35	-	1.69-1.71	0.21	-	6/323	-	-	-	-	-	-	-
TOTAL	3714/43655	12.21-12.35	0.12	2.56-2.60	0.67-0.71	0.14	28/538	0.16-0.20	6/43	11/195	*	18/139	4/206	*

Quantification of vessel forms is by EVEs

* = rim(s) present but not measureable; NJ = necked jar; ERJ = everted rim jar; B/D = bowl/dish (with inturned rim); NB = necked bowl

Table 20. Wheatlands Lane: pottery by context

Feature	CHALK-/FLINT-TEMPERED WARE (E442) No./wt (g)	NJ	B/D	NB	Other forms	FLINT-TEMPERED (E441) No./wt (g)	NJ	B/D	Q400 No./wt (g)	All forms
Gully 6017/6019	459/5168	2.33-2.39	0.63-0.67	0.18	?curfew (*)	11/120	0.10	0.06-0.10	8/74	jug (0.30)
Gully 6022	127/1496	0.57-0.61	0.27-0.29	-	?curfew (*)	-	-	-	1/66	?skillet (*)
Ditch 6024	-	-	-	-	-	15/386	-	0.05	-	-
?Tree throw 6103	-	-	-	-	-	6/140	0.01-0.03	-	-	-
TOTAL	586/6664	2.90-3.00	0.90-0.96	0.18	*	34/646	0.11–0.13	0.11-0.15	9/140	*

Quantification of vessel forms is by EVEs. * = rim(s) present but not measureable; NJ = necked jar; ERJ = everted rim jar; B/D = bowl/dish (with inturned rim); NB = necked bowl

- the relative proportions of the two main fabric types
- the range and variation of the vessel forms
- the presence of other (non-local) fabrics, and associated vessel forms

The sequence at Newbury has demonstrated that there is a long period of overlap in the use of the group A and group B wares (late 12th–late 14th century). During that period the proportions of the group B wares increase at the expense of the group A wares, but not overtaking the latter in popularity until the late 13th century (Vince 1997, fig. 26). Looking at the Enborne Street and Wheatlands Lane assemblages together, the overall ratio of the chalk-/flint-tempered E442 to the flint-tempered E441 is approximately 9:1, but if the two sites are considered separately the ratio varies widely; at Enborne Street the ratio is approximately 19:1, while at Wheatlands Lane it drops to approximately 2:1. The predominance of the chalk-/flint-tempered wares would suggest a date range for both assemblages no earlier than the second half of the 13th century (and probably no later than the beginning of the 14th century), with the Wheatlands Lane assemblage possibly dating slightly earlier than Enborne Street, although some chronological overlap between the two sites is entirely possible.

Such a date range would be supported by the evidence of the vessel forms in fabrics E441 and E442, although this evidence rests rather on the less commonly occurring forms. The range is generally limited to one jar and two bowl/dish forms (types 1, 3 and 4), with other types occurring so uncommonly as to represent 'one-offs'. No typological progression was noted within any of these vessel forms at Newbury, beyond an overall increase in the size of jars from the mid 12th century and a corresponding development of the rim form from plain unthickened to thickened internally and/or externally. The type 2 jars, smaller with simpler rims, could therefore be regarded as the survival of an archaic form within the 13th century assemblage. The necked jars and flared dishes/bowls both occur at Newbury from the 12th century, with necked bowls from at least the 13th century. Jope (1947) saw a chronological progression from the flared dishes of the 12th century to the deeper (necked) bowls in the 13th century, but at Faccombe Netherton the necked bowls certainly appear earlier, from the early/mid 12th century (Fairbrother 1990, fig. 8.35), and all three major forms (necked jars, necked bowls, flared dishes/bowls) are found together throughout the sequence at least to the mid 14th century. Curfews occur from the late 12th century (*ibid.*, fig. 8.43).

The cauldron is the only vessel form which can be dated any more closely within this wide date range, and this form suggests a date range within the later 13th or early 14th century. This form was not recognised at Newbury, unless the examples described as 'handled cooking pots' and illustrated as single-handled are in fact cauldrons (Vince 1997, fig. 32, 24). It does, however, occur at Faccombe Netherton in the late 13th century, although not in the chalk-/flint-tempered or flint-tempered fabrics (Fairbrother 1990, fig. 8.59). The form was produced at the Laverstock kilns in the mid to late 13th century (Musty *et al.* 1969, fig. 11, 48), and in Kingston-type ware in the late 13th and early 14th centuries (Pearce and Vince 1988, 46).

The presence at Enborne Street of two slip-decorated jugs of Brill/Boarstall type (Fig. 17, 65 and 66), as well as a dripping dish in sandy fabric Q404, would also confirm the later 13th century/early 14th century date range, although the other sandy wares are not sufficiently distinctive for close dating.

Conclusions and discussion

The excavations at Enborne Street and Wheatlands Lane, albeit limited in scale, have revealed important evidence for pottery production in an area where such activity had not previously been suspected.

First, it is important to stress that very little of the pottery recovered was found physically associated with the kilns themselves at Enborne Street and therefore most likely to represent on-site production. However, the quantities of pottery recovered from other contexts

Table 21. Correlation of Kennet Valley wares with selected published reports

Recommended common name	*WA code*	*Equivalent names/codes*
Kennet Valley flint-tempered ware	E441	Newbury fabric group A (fabrics 1-3, 12, 20) (Vince 1997; Hawkes 1997) Faccombe Netherton fabric group 1 (fabric P) (Fairbrother 1990) Foxcotte fabric 2 (Matthews 1985) Brighton Hill South fabrics 21, 22 (Rees 1995) Oxon: Early to late medieval east Wiltshire ware (OXAQ) (Mellor 1994)
Kennet valley chalk-/flint-tempered ware	E442	Newbury fabric group B (fabrics 4, 19, 39) Reading fabric LSF (Underwood 1997) Faccombe Netherton fabric group 1 (fabrics A, C, D) (Fairbrother 1990) Foxcotte fabric 1 (Matthews 1985) Brighton Hill South fabric 23 (Rees 1995) Oxon: Early to late medieval east Wiltshire ware (OXAQ) (Mellor 1994)

and features on both sites, which by their condition may be identified as kiln waste, are sufficient to postulate pottery production on some scale either on the sites or in the near vicinity.

The products of this local industry have been identified as comprising three main forms: necked jars, necked bowls and bowls/dishes with inturned rims. Other forms are present but in much smaller quantities; these forms, such as jugs and curfews, were presumably not produced on a regular basis. The cauldron is a 'one-off' whose elaborate decoration suggest that this was an experimental piece, or possibly specially commissioned.

Both sites seem to represent relatively short-lived episodes of production in the latter part of the 13th century, and there is some evidence to suggest that the site at Wheatlands Lane may have been in operation slightly earlier than Enborne Street, with some possible chronological overlap between the two sites.

Terminology

The lack of a consistent nomenclature for medieval pottery has recently been highlighted (Mellor 1994b, 13–14). Terms such as 'wares', 'ware types' and 'ware traditions' are not always rigorously defined, and 'common names' are not always consistently used. This report, it is hoped, can go some way towards a solution by proposing a definition and common name for the pottery described here which would supersede earlier nomenclature.

The flint-tempered and chalk-/flint-tempered wares which have been identified on these sites (E441 and E442 respectively) appear under different common names in the literature. First defined as 'Newbury wares' (groups A and B), since this is where they were first recognised (Vince 1981; 1997), they are also known in Oxfordshire as 'early to late medieval east Wiltshire ware' on the basis of the putative source in the Savernake Forest (Mellor 1994). The evidence presented in this report is sufficient to indicate that the wares thus described can now be defined as a 'ware tradition', with a wide regional distribution and including pottery from more than one source. A common name of 'Kennet Valley wares' is proposed for this tradition, which has a wider and more appropriate connotation than either of the two definitions above; this can be subdivided into 'Kennet Valley flint-tempered wares' and 'Kennet Valley chalk-/flint-tempered wares'. A correlation of fabric codes and common names used for these wares in selected reports is given in Table 21.

List of illustrated vessels from Enborne Street (ES) and Wheatlands Lane (WL)

(Fig. 13)

1. Jar (type 2), fabric E441. ES, PRN (Pottery Record Number) 20, context 7011, ditch 7017.
2. Jar (type 2), fabric E441. ES, PRN 316, context 7069, pit 7070.
3. Jar (type 1), fabric E442. ES, PRN 45, context 7016, pit group 7061.
4. Jar (type 1), fabric E442. ES, PRN, 102, context 7019, pit 7031.
5. Jar (type 1), impressed shoulder 'dimples', fabric E442. ES, PRN 131, context 7032, pit 7031
6. Jar (type 1), fabric E442. ES, PRN 251, context 7053, kiln 7054.
7. Jar (type 1), impressed shoulder 'dimples', fabric E442. ES, PRN 121, context 7029, pit 7030.
8. Jar (type 1), impressed, elongated shoulder 'dimples', fabric E442. ES, PRN 167, context 7034, linear 7033.
9. Jar (type 1), fabric E442. ES, PRN 172, context 7034, linear 7033.
10. Jar (type 1), impressed rim, fabric E442. ES, PRN 173, context 7034, linear 7033.
11. Jar (type 1), finger impressed rim, fabric E442. ES, PRN 181, context 7034, linear 7033.
12. Jar (type 1), fabric E442. ES, PRN 129, context 7032, pit 7031.
13. Jar (type 1), impressed shoulder 'dimples', fabric E442. ES, PRN 356, context 8083, ditch 8084.
14. Jar (type 1), fabric E442. ES, PRN 21, context 7011, ditch 7017.

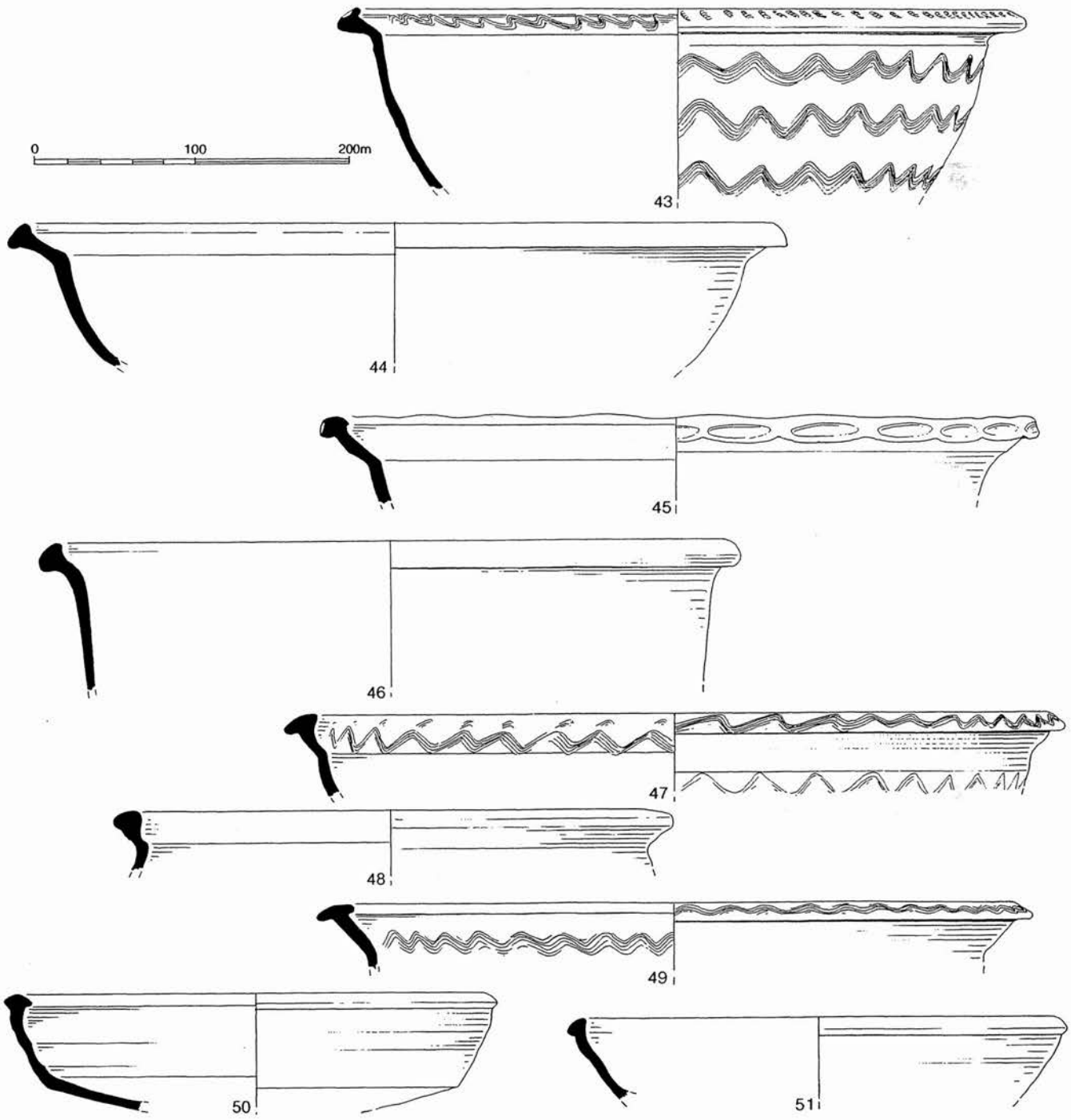


Figure 16 Enborne Street and Wheatlands Lane: medieval pottery

15. Jar (type 1), fabric E442. ES, PRN 328, context 7072, pit 7071.
16. Jar (type 1), impressed shoulder 'dimples', fabric E442. ES, PRN 93, context 7023, pit 7024.

(Fig. 14)

17. Jar (type 1), fabric E442. WL, PRN 462, context 6016, gully 6017.
18. Jar (type 1), fabric E442. WL, PRN 626, context 6101, gully 6019.
19. Jar (type 1), fabric E442. WL, PRN 488, context 6018, gully 6019.
20. Jar (type 1), fabric E442. WL, PRN 596, context 6021, gully 6022.
21. Jar (type 1), finger-impressed rim, fabric E442. WL, PRN 558, context 6020, topsoil.
22. Jar (type 1), finger-impressed rim, fabric E441. WL, PRN 542, context 6020, topsoil.
23. Jar (type 1), finger-impressed rim, fabric E441. WL, PRN 543, context 6020, topsoil.

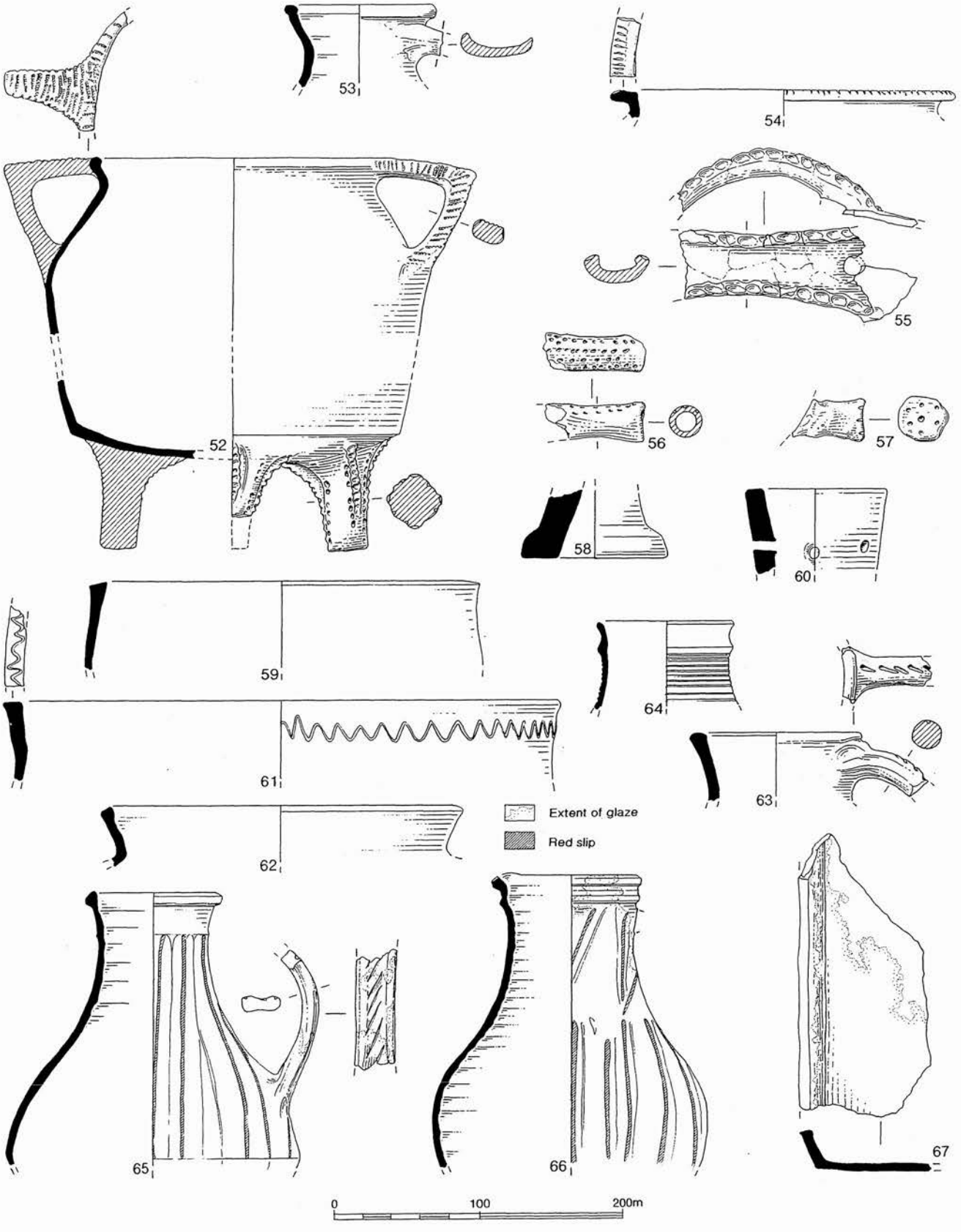


Figure 17 Enborne Street and Wheatlands Lane: medieval pottery

24. Jar (type 1), finger-impressed rim, fabric E441. WL, PRN 546, context 6020, topsoil.
25. Jar (type 1), finger-impressed rim, fabric E441. WL, PRN 564, context 6020, topsoil.
26. Jar (type 1), finger-impressed rim, fabric E441. WL, PRN 556, context 6020, topsoil.

(Fig. 15)

27. Dish/bowl (type 3), fabric E442. ES, PRN 28, context 7011, ditch 7017.
28. Dish/bowl (type 3), fabric E442. ES, PRN 49, context 7016, pit group 7061.
29. Dish/bowl (type 3), fabric E442. ES, PRN 159, context 7034, linear 7033.
30. Dish/bowl (type 3), fabric E442. ES, PRN 29, context 7011, ditch 7017.
31. Dish/bowl (type 3), fabric E442. ES, PRN 71, context 7018, ditch 7017.
32. Dish/bowl (type 3), fabric E442. ES, PRN 233, context 7049, ditch 7051.
33. Dish/bowl (type 3), fabric E442. ES, PRN 157, context 7034, linear 7033.
34. Dish/bowl (type 3), fabric E442. ES, PRN 94, context 7023, pit 7024.
35. Dish/bowl (type 3), fabric E442. ES, PRN 276, context 7059, ditch 7091.
36. Dish/bowl (type 3), fabric E442. ES, PRN 288, context 7060, ditch 7090.
37. Dish/bowl (type 3), stabbed decoration around top of rim and underside of base, fabric E442. ES, PRN 410, unstratified.
38. Dish/bowl (type 3), fabric E442. WL, PRN 482, context 6018, gully 6019.
39. Dish/bowl (type 3), fabric E442. WL, PRN 519, context 6020, topsoil.
40. Dish/bowl (type 3), fabric E442. WL, PRN 597, context 6021, gully 6022.
41. Dish/bowl (type 3), fabric E442. WL, PRN 486, context 6018, gully 6019.
42. Dish/bowl (type 3), fabric E441. WL, PRN 571, context 6020, topsoil.

(Fig. 16)

43. Bowl (type 4), curvilinear combing around inside of rim and outside of body, and impressed 'maggots' around top of rim, fabric E442. ES, PRN 46/106, context 7016/7019, pit group 7061.
44. Bowl (type 4), fabric E442. ES, PRN 349, context 7079, ditches 7081/7083.
45. Bowl (type 4), finger-impressed rim, fabric E442. ES, PRN 406, unstratified.
46. Bowl (type 4), fabric E442. WL, PRN 460, context 6016, gully 6017.
47. Bowl (type 4), curvilinear combing around inside and top of rim and outside of body, fabric E442. WL, PRN 491, context 6018, gully 6019.
48. Bowl (type 4), fabric E442. WL, PRN 495, context 6018, gully 6019.
49. Bowl (type 4), curvilinear combing around inside of rim, fabric E442. WL, PRN 523, context 6020, topsoil.
50. Bowl (type 3), fabric E441. WL, PRN 567, context 6020, topsoil.
51. Bowl (type 3), fabric E441. WL, PRN 616, context 6023, ditch 6024.

(Fig. 17)

52. Cauldron, comb tooth decoration over rim and handles; applied, notched 'ribs' up each tripod foot, fabric E442. ES, PRN 142, context 7032, pit 7031.
53. Pitcher rim, stump of strap handle, fabric E442. ES, PRN 411, trench 1, unstratified
54. ?Jar rim, 'notched' decoration around top of rim, fabric E442. ES, PRN 401, trench 1, unstratified
55. Curfew handle, finger-impressed decoration along edges; pre-firing piercing at handle/body junction, fabric E442. ES, PRN 6, context 7005, kiln 7004.
56. Tubular handle, stabbed decoration in horizontal rows, fabric E442. ES, PRN 416, trench 1, unstratified
57. Solid rod handle, stabbed decoration on handle end, fabric E441. ES, PRN 421, trench 1, unstratified
58. Hollow pedestal base, fabric E442. ES, PRN 78, context 7018, ditch 7017.
59. Rim from unknown vessel, slightly inturned and flattened, fabric E442. WL, PRN 501, context 6018, gully 6019.
60. Plain upright rim, multiple pre-firing piercings in body wall, fabric E442. WL, PRN 443, context 6014, subsoil.
61. ?Jar rim, externally thickened, curvilinear incised decoration around neck and around top of rim, fabric E441. WL, PRN 570, context 6020, topsoil.
62. Jar rim, fabric Q400. WL, PRN 584, context 6020, topsoil.
63. Rod-handled jug, diagonal slashing along top of handle; fabric Q404. WL, PRN 532, context 6020, topsoil.
64. Jug with collared rim, horizontal 'rilling' below collar; no handle or spout survives; fabric Q400. WL, PRN 505, context 6018, gully 6019.
65. Glazed and slip-decorated jug with strap handle; diagonal slashing on handle; fabric Q405. ES, PRN 425, trench 1, unstratified.
66. Glazed and slip-decorated jug with pulled lip and stump of ?strap handle; fabric Q401. ES, PRN 52/53/145, contexts 7016/7032, pit group 7061.
67. Dripping dish. ES, PRN 115/144, contexts 7019/7032, pit 7031.

Ceramic Building Material
by Emma Loader

The assemblage of ceramic building material recovered from excavations at Enborne Street and Wheatlands Lane comprises 1656 fragments (17,119 g). Of this total, 85 fragments (2737g) were recovered during Stage 1, all from the topsoil during a field-walking and test pitting exercise. These fragments are all probably medieval and post-medieval in date, and are not considered further here. It should be stressed that the total quantity represents only a sample of the total observed during the Stage 3 excavation at Enborne Street.

The ceramic building material has been recorded by context, quantifying the fabric, type, distinguishing features such as presence of glaze, presence of peg holes and dimensions where possible. This data is available in the archive.

Fabrics

Though a detailed fabric analysis has not been carried out on this assemblage, broad fabric groups were identified on the basis of visual examination and are as follows:

1. Very fine, sandy; rare grog or natural clay pellets, oxidised, moderately soft powdery texture, some >3mm flint inclusions on underside.
1. Fine; well sorted fine sand, hard texture, oxidised – some unoxidised cores.
3. Hard; natural clay pellets or grog, poorly wedged, oxidised.
4. Moderately coarse, sandy, oxidised.

The overwhelming majority of fragments are in Fabrics 1 or 2. Many of the fragments are soft and abraded, and the majority have been fired in oxidising conditions, though some of the harder fabrics often have an unoxidised core. There appears little to distinguish the Romano-British from the medieval fabrics, as both are quite soft and powdery in texture. The main identifier for the Romano-British material is its form, though it is possible that some of the more fragmented pieces may also be of this date. A large amount of the medieval material appears to be underfired (24,896 g, 65% of the overall weight of identified fabrics).

Forms

The range of ceramic building material types recovered is summarised in Table 22.

The majority of the assemblage consists of flat roof tile fragments (6492g, 72% of the total weight recovered from stratified contexts). This includes 110 (9706 g) tiles with round peg holes and 156 (12,582 g) with clear or light olive lead glazed splashes or strips. An additional 139 fragments (weight unknown) was recovered during Stage 2 and it was noted that several pieces had round peg holes or were glazed. It should be noted that only the lower part of the upper surface of a peg tile would be glazed, and therefore a true ratio of the total amount of glazed tile cannot be calculated here. The thickness of the tiles varies between 11 mm and 13 mm; no complete widths or lengths were noted.

Table 22. Enborne Street and Wheatlands Lane: ceramic building material types from stratified contexts

Type	*No.*	*Wt (g)*	*% Total wt*
Flat tile frag	1168	86380	97.02
Tegula	2	390	00.44
Floor tile	1	227	0.26
Curved tile	2	164	0.18
Brick	7	1682	2
Unknown	5	36	0.04
Total	1185	88879	100

Seven fragments of brick (1682g, 2% of the total weight recovered from stratified contexts) were recovered from ditch 7077, one of which is glazed. Two curved tile fragments (164g) were recovered from pit 7030, and probably derive from ridge tiles and one fragment of plain, unglazed floor tile was also recovered (227 g).

Fragments of diagnostic Roman material, such as *tegulae* and soft, poorly-wedged brick fragments were noted, though these are residual. The lack of Romano-British pottery or other finds from the site indicates these fragments may have been deliberately collected from a nearby site for reuse.

Distribution

Most of the ceramic building material was recovered from medieval features (85,566 g, 96% of the total weight; see *Newbury Bypass*, fig. 18)) and was associated with large quantities of later 13th century pottery. It is assumed to be of similar date. The remainder, 3362g (4% of the total weight from dated contexts), was recovered from post-medieval features and the subsoil. The largest proportion of stratified ceramic building material (92% by weight) was recovered from pits (1071 fragments, 82,662 g), mostly flat roof tile fragments (1066 fragments, 81,881 g, 99% of the total weight recovered).

The largest quantities of ceramic building material were recovered from pits 7021 (304 fragments, 24,959 g), 7030 (356, 30,968 g) and 7061 (194, 11435 g). Only a proportion of ceramic building material was collected from pits 7030 and 7061 as these were filled almost entirely with this material. It is possible that these pits were originally dug to extract clay but were then reused for the disposal of kiln waste. Ceramic

building material was also recovered in moderate quantities from ditches, gullies and two possible kilns.

Conclusions and discussion

The quantity, condition and type of ceramic building material and the lack of evidence of any structure from which the fragments may have originated indicate that tile production may have taken place on or near the site, as well as the pottery production discussed above, although whether both activities were exactly contemporaneous is unknown. There is also evidence of two possible clamp kilns, probably for pottery production, and associated features including sub-rectangular pits which may also have been part of the pottery/tile production process. The pits were then reused for the dumping of large quantities of inferior tiles.

The products of this site, if it can be identified as a production site, are almost exclusively flat roof tiles made by a repetitive process of moulding the tile using a sanded board and 'form'. The presence of flint inclusions on the underside of many fragments of roof tile indicates that flint fragments were also mixed with the sand to prevent the clay adhering to the board. Though no true 'waster' tiles were noted during the analysis, a large proportion of the tiles appeared to be poorly fired and fragmentary. Whether the breakages occurred post- or pre-firing is impossible to ascertain, though it seems likely from the samples recovered that the large dumps of tiles within the pits and ditches are tiles which were too poorly fired to be functional. No traces of mortar attached to the tiles, nor any other evidence of use was found.

The quantities of other types (curved tiles, bricks, floor tile) are so small as to represent incidental finds incorporated in with the kiln waste, and probably not made on the site.

The ceramic building material itself is not susceptible to close dating; flat roof tiles were in use generally from the 12th century and in Newbury from at least the early 13th century. By association with the pottery, however, a date range within the later 13th or early 14th century may be suggested.

Medieval ceramic tile production in the Newbury area

The use of ceramic tile as a covering for roofs was introduced into Britain by the Romans, but the craft ceased at the end of the Roman period, to be revived again in Britain in the 12th century. The earliest medieval tiles drew from the technology of the Roman roof covering – using *tegula*-type flanged tiles with curved ridge tiles between them to cover the join. There is also evidence that this technique was introduced into England by tilers working on Norman castles and abbeys, for example at Reading Abbey (Cherry 1991, 194). Other techniques for tiling employed flat peg tiles and shouldered peg tiles though the production of shouldered peg tiles soon gave way to the smaller lighter flat peg tiles and flange and curved tile, as these two methods resulted in a lighter roof. By the late 13th century the production of tile incorporated the complete range of plain tile fittings that are available to the modern tiler today and at the beginning of the 14th century the use of smaller peg tiles was widespread in south-east England (Drury 1981, 126).

Hare (1991, 89) notes that tile production in this region was only of a limited scale and appears to have been first established in north Hampshire, with documented kiln sites at Highclere, and later at Odiham among others. A kiln at Highclere was established by 1290 (Dunlop 1940, 71) and kilns here continued to produce tile into the late 15th century. Before 1290, however, the Bishop of Winchester was purchasing tiles for roofing at Highclere, presumably from another local source, perhaps from Enborne Street which is just 5 km to the north.

Many of these early tile production sites were connected to ecclesiastical or lay landowners, for example the Clarendon Palace floor tile kiln, near Salisbury, with the sole intent of supplying their own requirements. Though little documentary evidence has been found for tile production in the Wessex region before the 14th century, archaeological evidence of tile production during the 12th and 13th centuries has been found at sites in Southampton, London, Reading and Battle (Hare 1991, 88; Cherry 1991, 194).

Evidence for flat roof tile production in the Newbury area is limited. Tile kilns are recorded at Great Bedwyn to the west of Newbury (Eames 1985, 4), though this relates to decorated floor tile production, and documentary evidence shows that decorated tiles were purchased at Newbury for Winchester College (Norton 1974). Ambiguous evidence for tile production has also been found at both Bartholomew Street and Cheap Street, in Newbury, where a small number of peg tile 'wasters' were recovered (Vince *et al.* 1997, 68, 129); the evidence is inconclusive since tile waste was frequently sold (Drury and Pratt 1975, 156–7). The evidence from Enborne Street and Wheatlands Lane suggests that the production of tile in the Newbury area was probably being carried out, as for the pottery (see Mepham, above), at small, dispersed production sites, operated seasonally and probably on a short-term basis by individuals or small groups supplementing their agricultural income.

The modes of production of ceramic tile have been identified as being either itinerant or settled production (Stopford 1993; Drury 1981). Itinerant production involved the craftsman moving from place to place, undertaking a series of contracts at sites where buildings were being erected. The kilns would be

temporarily constructed at the building site and tiles would be produced as they were required. Once the building was complete, the craftsman would move onto the next site. It seems more likely, however, that the Enborne Street/Wheatlands Lane production site(s) operated as settled production, a mode in which kilns were set up near a source of continuous local demand (in this instance Newbury), and were dependent on this local demand. This type of production required a good nearby supply of raw materials, clay, sand and fuel, all of which were available at this site.

Tile making is a seasonal occupation, usually carried out alongside another activity, such as agriculture (Drury 1981; Cherry 1991). There is evidence of pottery production at Enborne Street, with poorly fired vessels being recovered alongside large quantities of ceramic building materials. However, Lewis (1987) notes that normal production of roof tiles along side of pottery production would be impractical because of the different organisational methods of manufacture.

Pottery manufacture is more often associated with that of more decorative roof furniture. For example, ridge tiles, louvers and finials were being manufactured alongside pottery at the Laverstock kilns outside Salisbury (Musty *et al.* 1969). There are few such items at Enborne Street, only a few curved tile fragments, and these are apparently plain and unglazed. It seems probable, therefore, that pottery and tile manufacture did not take place on the site simultaneously, but as separate episodes of activity. At Lyveden in Northamptonshire, within a settlement dominated by pottery making, one toft was used for both pottery and tile making in different phases, the changes probably occurring when the holding changed hands (Moorhouse 1981, 104).

Fired Clay
by Emma Loader

Forty-nine fragments (884 g) of fired clay were recovered. Of this total seven fragments (114 g) were from the topsoil at Wheatlands Lane. The remainder were all recovered from medieval features. The fragments are all in similar, moderately coarse-grained sandy fabrics. Many appear to be blackened through heating or burning; 30 (80% of the total weight) have smooth, flat surfaces and edges and the remaining fragments are all small and featureless. Two fragments also had possible stabbed perforations present.

These fragments could represent the superstructure or lining from the putative kilns. Most (29 pieces, 354 g) were recovered from a spread of burnt material (7055) associated with the possible truncated kiln 7054, whilst pit 7030 also contained a moderated quantity (10 fragments, 374 g). Objects of a similar fabric and form, identified as fire bars, were found at Ashampstead Common, Berkshire (Mepham and Heaton 1995). The pieces from Enborne Street are too fragmentary for a direct comparison though it is probable that they derive from a kiln.

Worked and Burnt flint
by Emma Loader

The assemblage of worked flint comprises 57 pieces (899 g) of which 24 (401 g) were recovered from Enborne Street and 28 are from Wheatlands Lane. Of the flint from Enborne Street, 80% was recovered from features dated to the medieval period and the remainder was recovered from unstratified contexts. The assemblage comprises patinated blade fragments and undiagnostic flakes, all of which are edge damaged. The flint derives from a local gravel source.

The flint recovered from Wheatlands Lane was recovered mainly from an unstratified topsoil (26 pieces, 460 g). The remainder was recovered from gully 6019 and 6024; both dated to the medieval period. The assemblage comprises one core and several undiagnostic, slightly patinated, edge damaged flakes in local gravel flint.

Eighty-eight fragments (2595 g) of burnt, unworked flint were recovered from Enborne Street and 61 fragments (2582 g) from Wheatlands Lane, mostly from unstratified contexts during initial clearance. Burnt, unworked flint is intrinsically undatable though it is frequently associated with prehistoric activity. While a prehistoric date cannot be discounted, it is possible that some of this material may have resulted from the industrial activities taking place on the site.

Stone
by Emma Loader

The assemblage of stone comprises 27 fragments, of which 21 (1282 g) of local unworked sarsen were recovered from pit 7021. Two fine-grained sandstone whetstones were recovered, one unstratified and the other from pit group 7061. The latter shows wear on one side and slight grooves are evident on its surface. Both objects are incomplete and neither is closely datable on morphological grounds, although that from pit group 7061 is likely to be of medieval date.

A third piece of fine-grained sandstone with a polished surface was recovered from pit 7030, although it is not certain whether this is a whetstone. The remaining stone consists of three unworked fragments of unidentified stone, possibly burnt, from gully 7014 and pit 7071.

Hills Pightle: Finds

Metalwork
by Emma Loader

Five iron objects were recovered from this site. One, from Stage 2, is a knife and was recovered from a medieval layer. The form is unknown and is highly encrusted. Four highly encrusted iron objects were recovered from Stage 3, one unstratified, the others from pit 7502, ditch 7515 and pit 7523 (see *Newbury Bypass*, fig. 26). All are associated with medieval pottery and are likely to be of a similar date. One object, a nail with a flat topped diamond shaped head, is comparable to nails found at Clarendon Palace, Wiltshire (Goodall in James and Robinson, 1988, fig 76: 45). This is a timber nail, and the shape of the head suggests it was not only functional but was used as some form as embellishment to the object to which it was attached. One tang fragment from a blade was also identified, though the form of the original knife is unknown. The final iron object is a flat fragment.

Pottery
by Lorraine Mepham

The medieval pottery assemblage from Hills Pightle consists of 336 sherds (3420 g). This assemblage has marked similarities with the larger assemblages from the production sites at Enborne Street and Wheatlands Lane but the most noticeable difference is in the condition of the pottery, which in this case is relatively well preserved, if fragmentary (mean sherd weight 10.2 g); there is no sign of the laminating surfaces, powdery texture and heavily leached surfaces of the pottery from the production sites. In other words, this is more likely to represent a normal domestic assemblage rather than kiln waste.

Six fabric types were identified, of which five occur within the larger assemblages from Enborne Street and Wheatlands Lane (see above). Fabric totals are presented in Table 23. One fabric which is not paralleled within the Enborne Street/Wheatlands Lane assemblage is described as follows:

Table 23. Hills Pightle: pottery fabric totals

Fabric	*No.*	*Wt (g)*	*% of total*
E442	179	2003	58.6
E441	112	1018	29.8
Q400	9	76	2.2
Q403	1	14	0.4
Q404	33	298	8.7
G400	2	11	0.3
TOTAL	336	3420	-

G400 Hard, moderately coarse clay matrix; moderate sub-angular, poorly sorted grog <2 mm; sparse sub-rounded quartz <0.5 mm; sparse iron oxides; un-oxidised with oxidised surfaces; handmade.

This grog-tempered fabric is unusual in a medieval context and occurred only as two joining sherds from one context. However, here is no reason to suppose that it is not contemporary with the remainder of the medieval assemblage.

The assemblage is dominated by the two fabrics which are associated with the Enborne Street/Wheatlands Lane pottery production site – the chalk-/flint-tempered fabric E442 and the sandy flint-tempered fabric E441 – in a ratio of approximately 2:1 by weight. Other fabrics occur in small quantities only.

The correlation of vessel forms to fabric type is given in Table 24. Vessel forms are as decribed for Enborne Street/Wheatlands Lane. Only two forms were identified from rims, necked jars and flared bowls/dishes; as well as a rim sherd with pre-firing piercing, probably from a curfew, and a tubular handle, probably from a skillet. Most of the diagnostic forms occur in either E442 or E441 (Fig. 18, 1–2). The exceptions are one flared dish (fabric Q400), which has stabbed decoration around the rim (Fig. 18, 6), one necked jar (Q404) (Fig. 18, 3), and the skillet handle (Q404). One necked jar in fabric E442 has a finger-impressed rim (Fig. 18, 2).

Much of the pottery came from unstratified contexts (236 sherds; 2528 g), and only small groups were recovered from stratified features. The largest groups derive from shallow feature 7502 (38 sherds; 385 g) and ditch 7529 (31 sherds; 252 g); both these groups included both necked jars and flared bowls/dishes. Scattered sherds were also recovered from pits 7501, 7523 and 7525 and ditch 7507. Most of the diagnostic material occurred amongst the unstratified pottery, and this group included the only occurrence of fabrics Q403 and Q404.

The assemblage is too small for any patterning indicating chronological or functional differentiation to

Table 24. Hills Pightle: vessel forms by fabric

Fabric	*Necked jar*	*Flared bowl*	*Curfew*	*Skillet*
E442	1.46-1.52 (21)	0.25-0.29 (6)	*	-
E441	0.19-0.21 (4)	-	-	-
Q400	-	0.06 (1)	-	-
Q404	0.03-0.05	-	-	*
TOTAL	1.68-1.78	0.31-0.35	-	-

(EVEs, nos rims in brackets). * = present but no rims

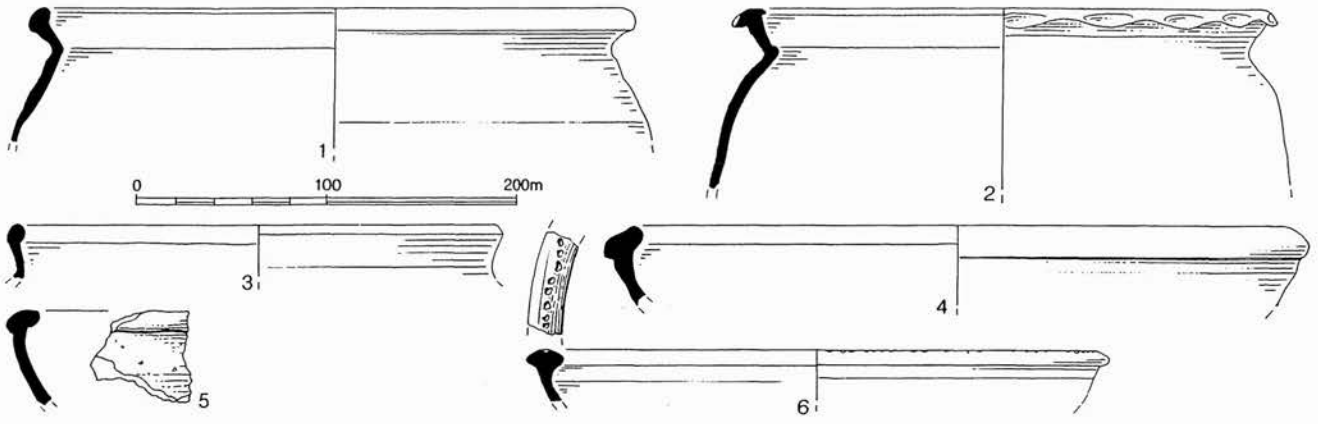


Figure 18 Hills Pightle: medieval pottery

be discerned, but the visual homogeneity and the obvious affinities with the pottery from the production sites at Enborne Street/Wheatlands Lane suggests a similarly restricted date range in the first half of the 13th century for Hills Pightle. Given the proximity of the E442/E441 production centre, however, the occurrence at Hills Pightle of other (sandy) fabric types is interesting and could relate to a period of activity on this site at a time when the production centre was not active, perhaps later in the 13th century.

List of illustrated sherds
(Fig. 18)
1. Jar rim. Rim 325, context 6025
2 Jar rim. Rim 324, context 6025
3. Jar. Rim 347, context 6025
4. Bowl rim. Rim 176, context 7513
5. Bowl rim. Rim 323, context 6025
6. Bowl. Rim 348, context 6025

Ceramic Building Material
by Emma Loader

The assemblage of ceramic building material consists of 93 fragments (4367 g). That recovered during Stage 1 came from the topsoil during test pitting, and is of post medieval date.

The ceramic building material recovered from Stage 2 consists of 39 fragments (1666 g) and can be dated as medieval, on the basis of fabric, form and association with medieval pottery. All fragments were recovered from medieval features, except four (310 g) from the topsoil that are of probable post-medieval date. During Stage 3 46 fragments (4460 g) were recovered. Of this total, 38 fragments (1891 g) were from unstratified contexts. The remaining tile was recovered from ditches 7507, 7529, 7525 and feature 7502 (*Newbury Bypass*, fig. 26). Thirty-four of the fragments (1169 g) are of flat undiagnostic tile. One combed tile and one *tegula* are of Romano-British date and are residual, though it is possible that these have been reused. The flat roof tile fragments have a thickness range from 11 mm to 15 mm. Five have surviving round peg holes, and six have the remains of lead glaze. Though detailed fabric analysis was not carried out on this assemblage, the fabrics noted include grog-tempered and sandy fabrics, all of which are oxidised.

Worked and Burnt Flint
by Emma Loader

A total of 278 pieces (26642 g) of burnt unworked and worked flint was recovered. The worked flint comprises a mixture of gravel and chalk flint of which half was recovered from unstratified contexts and the rest was residual in medieval features. The assemblage comprises cores, blade fragments and undiagnostic flakes and most pieces are highly patinated and edge damaged. A moderate quantity of burnt unworked flint was recovered, mostly from a lens of burnt material within the upper fill of pit 7523.

Stone
by Emma Loader

Of a total of 35 fragments (1768 g) of stone, three (92 g) were recovered from the subsoil during Stage 2 and 32 (1676 g) during Stage 3. All are fragments of sarsen which would have brought into the site from south-central England, the nearest source being the Marlborough Downs. Of the stone recovered during Stage 3, 30 fragments (1476 g) were from unstratified contexts and two were associated with the burnt flint and medieval pottery in pit 7523. There is no evidence of working on any of these fragments.

10. Environmental Remains from Enborne Street and Hills Pightle

Charred Plant Remains from Enborne Street

by Joy Ede

Two 10 litres samples were analysed, one from the possible kiln 7004 (context 7007) and another from a pit 7071 (context 7073) (see *Newbury Bypass,* figs 18–19). The samples were processed following standard methods, the author sorting all flots. All items were identified using up to x100 magnification. The results are presented in Table 25, the terminology following Clapham *et al.* (1981).

Kiln 7004

Charred cereal remains (grain and chaff), other crops (legumes) and weed seeds were present in the sample from context 7007. Most of the cereal grain was unidentifiable but included a variety of cereals – wheat, barley and probably oats. The large seeded grass *Bromus* sp. (brome) was also present. Long, thin grains were the largest element of the identifiable grains. Their shape suggests that they were either oats or *Bromus* sp. Rye grains may also have been present, but because there was no chaff, the presence of this species could not be confirmed. Legume crops were also represented by a fragment of a possible bean and a possible pea, together with four fragments of some other large round seed, also probably a legume.

There were many small round seeded legumes (cf *Vicia* sp.). These may have been cultivated (such as vetches, which are known to be common in England during this period), or could be weeds of cultivation. Hilums which are specific were not preserved. Other types of legumes (perhaps clovers) were also present as well as *Anthemis cotula* (stinking mayweed) and at least 12 other species. All were plants of disturbed and arable contexts. *Anthemis cotula* indicates cultivation or disturbance of heavy soils; this is not unexpected as the site is on London Clay. In addition, one small sharp thorn and seven bud-like objects were also found; these have not been identified further.

Pit 7071

This sample contained few carbonised plant remains, which were rather badly preserved and therefore difficult to identify. Three probable grains of wheat and three of oats were noted. No chaff was present and only six weed seeds, of which four were unidentified, including one *Stellaria* sp. (chickweed/stitchwort) seed and one small round legume seed. A single fragment of a hazelnut was also recovered.

Interpretation and Discussion

The sample from kiln 7004 contained a quantity of charcoal, much of which was visible on excavation. The other plant remains constitute only a small part of this burnt material. The mixture of crops in this context probably indicates a mixed origin representing several different episodes of activity. Material, particularly the weed seeds, may have become incorporated as a small element of fuel used. The weed species may have been growing in and around a woodpile and been collected with the wood fuel for burning, or they may have originated as waste from crop-processing: crop-processing debris could have been used as tinder to start fires. The grains may have been used as part of the fuel, but more likely come from the cooking of the crops for food.

As in the kiln, the sample from pit 7071 was from a large spread of charcoal derived from burnt wood. This may explain the presence of the hazelnut fragment. The low level of other plant remains suggests that these were incidental to the main origin of the charcoal layer.

The carbonised plant remains from this site, other than charcoal, were present only in very low quantities. The two samples analysed were probably amalgamations from several different sources, or could represent different uses of the features. The use of wheat, barley, oats and rye is indicated, with an emphasis on oats indicated in the sample from the kiln. Although samples from other medieval sites in Newbury (Green 1997; Carruthers 1997) have indicated a higher than usual presence of oats as a cereal crop, this cannot be implied from the single sample from the possible kiln on this site.

One sample contained weed seeds with a varied assemblage of at least 14 different species. This included many leguminous species, possibly including vetches which could have been a cultivated crop or a weed. The weeds may have come from crop-processing waste or from vegetation growing in and around the wood pile because all species identified grow in both arable and disturbed ground. *Anthemis cotula* indicates disturbance or cultivation of heavy damp soil but this is not entirely unexpected on this site on London Clay.

Table 25. Enborne Street: charred plant remains

	Feature	*kiln*	*Pit*
		7004	*7071*
	Context	*7007*	*7073*
	Sample	*10020*	*10021*
	Sample size (litres)	*10 L*	*10 L*
Triticum sp grain	wheat	5	-
cf. *Triticum* sp grain	cf wheat	4	1
glume base		-	-
spikelet fork		-	-
cf. *Secale cereale* grain	cf. rye	1	-
S. cereale chaff	rye	-	-
cf *S. cereale* chaff	cf rye	-	-
Triticum/Secale cereale grain	wheat/rye	-	-
cf. *Hordeum* sp grain	cf. barley	2	-
Avena sp grain	oat	-	-
cf. *Avena* sp		2	2
awn frags		-	-
Avena/Bromus sp grain	oat/brome	25	-
Indet grain	cereal indetermined	30	1
Indet frags		+	+
Rachis frag		-	-
culm node		-	-
straw frag		-	-
TOTAL GRAIN		**69**	**4**
TOTAL CHAFF		**0**	**0**
cf. *Stellaria* sp.	chickweed/ stitchwort	2	-
cf Caryophyllaceae indet	campion family	1	-
Chenopodium album	fat hen	6	-
Chenopodicaeae indet		3	-
Leguminosae - Trifolium type	clover type legumes	14	-
cf. Trifolium type		3	-
cf. large bean		1	-
indet round big	pea/vetch type legumes	1 (?pea)	-
indet round small	vetch type legumes	56	-
Rubus cf *fruticosus* agg.	cf. bramble	1	-
Polygonum aviculare	knotgrass	2	-
Polygonum sp	knotgrass/bistort/persicaria	6	-
Rumex cf. *acetosella*	cf. sheep's sorrel	10	-
Rumex sp	docks/sorrel	-	-
Urtica sp	nettle	-	-
Corylus avellana nut	hazel	1 frag	-
Euphrasia/Odontites sp	eyebright/red rattle	7	-
Galium aparine	cleavers	6	-
Anthemis cotula	stinking mayweed	19	-
cf. *Anthemis cotula*	cf. stinking mayweed	12	-
Tripleurospermum inodorum (Schultz Bip.)	scentless mayweed	-	-
Compositae indet	daisy family	4	-
Bromus sp	brome grass	9	-
misc seeds indet	unidentified seeds	27	-
thorn		1	-
bud-like		7	-
TOTAL WEED SEEDS		**190**	**0**

There was, however, no evidence to indicate whether the crops present were brought into the site, or were grown and processed by the inhabitants. Since this was a pottery producing site it is feasible that the crops were a traded element.

Charcoal from Enborne Street

by Rowena Gale

Charcoal was selected for analysis from the possible kiln 7004 and pit 7071. Bulk soil samples were processed and the charcoal extracted from the flots and residues to 2 mm at Wessex Archaeology by Sarah Wyles. The charcoal varied in preservation, for example some large pieces of oak from pit 7071 (*Newbury Bypass*, figs 18–19) were heavily contaminated by extraneous deposits. Most samples contained relatively small fragments; those measuring >2 mm in radial cross-section were prepared for examination using standard methods, see technical introduction. Where appropriate the maturity (ie sapwood/ heartwood) of the wood was assessed.

The results are summarised in Table 26. The anatomical structure of the charcoal was consistent with the taxa (or groups of taxa) given below. It is not usually possible to identify to species level. The anatomical similarity of some related species and/ or genera makes it difficult to distinguish between them with any certainty, eg, members of the Pomoideae. Classification is according to Flora Europaea (Tutin, Heywood *et al.* 1964–80).

The following taxa were recorded:

Betulaceae *Alnus* sp., alder; *Betula* sp., birch; Corylaceae *Corylus* sp., hazel; Fagaceae *Quercus* sp., oak; Oleaceae *Fraxinus* sp., ash; Rosaceae – Prunoideae: *Prunus* spp., which includes *P. avium*, wild cherry; *P. padus*, bird cherry; *P. spinosa*, blackthorn.

The site is situated on a low plateau towards the south of the Kennet valley, and the underlying geology of the site varies from clay to sandy gravels. The excavated area was densely littered with pottery debris and appeared to have been a medieval ceramics and tile production unit. Two large pits with *in situ* scorching were interpreted as being either the remains of pottery kilns or hearths unconnected with firing. Charcoal from pit 7071 was examined.

The remains of high calorie wood fuel would be anticipated especially from pottery kilns, and it is therefore interesting to note that in the sample from the base of the possible kiln hearth 7004, the charcoal consisted of oak (*Quercus*) sapwood and twigs, birch (*Betula*) and alder (*Alnus*). Oak and birch produce high energy fuels although birch is rather short-lived, but alder wood burns slowly and with less heat, and unless it was selected for a particular technique, it seems an unusual choice to fire a kiln when, other more efficient wood was available (eg, ash). Alder however is fast-growing and was obviously a local resource, and if used in a pottery kiln suggests a lack more efficient woods. An alternative use of the pit, for example as a hearth, may be more likely, unless of course, prolonged use of

Table 26. Enborne Street: charcoal (no. of frags)

Feature	*context*	*sample*	*Alnus*	*Betula*	*Corylus*	*Frax*	*Prunus*	*Quercus*
Hearth 7004	7007	10020	5	1	-	-	-	1rs
Pit 7071	7073	10021	-	2	2	1	1	104rsh

r = roundwood (diam. <20 mm); s = sapwood; h = heartwood

the site for pottery firing had drastically reduced local reserves of preferred wood. It is also feasible that alder in this sample originated from wood recycled from discarded artefacts e.g. collapsed hurdles or basketry.

Several pits of unknown function (possibly the result of clay extraction) had subsequently been used as refuse pits for pottery and tiles. Charcoal present in the base of pit 7071 consisted mainly of oak sapwood, heartwood and twigs. Small quantities of birch, hazel (*Corylus*), ash (*Fraxinus*), and blackthorn/cherry (*Prunus*) were also identified. This combination of potentially high energy fuel woods associated with broken pottery suggests a likely origin from the firing process.

The slight acidity of the clay and sandy soils around this site, lying to the north of the river Enborne, provides excellent conditions for woodland development and the region today supports mixed oak and ash woods which include many other woody taxa, such as hazel and birch. It is probable that woodland cover in the medieval period was similar and this suggestion is supported by the species identified above. The life-span of the pottery industry is unknown but the abundance of pottery sherds suggests that it may have been a large-scale operation, in which case fuel resources would have of prime importance. It is unlikely that charcoal would have been used since this was costly to produce and was unnecessary for firing most ceramics. Nonetheless, wood supplies would probably have been used up relatively rapidly unless coppiced/ pollarded wood was used. The charcoal fragments in this case were too small to indicate the use of wood from managed woodlands. Alternatively the craftsmen may have moved on to new ground once local resources were depleted.

Wooden artefacts from medieval Newbury (Vince *et al.* 1997), identified by J. Watson, were slightly later in date than either of the two medieval sites discussed here. The group included bowls made from alder, ash and birch wood, oak and ash pegs, a yew (*Taxus*) ?spatula and a maple-wood knife-handle. These items were mostly lathe-turned and there was no evidence to suggest they were not made from local materials. The environmental evidence from Enborne Street and Hills Pightle indicates that most of these taxa were common in the Newbury area. It is unlikely that yew did not grow on the downland at this time but since yew is rarely recorded in archaeological fuel deposits and it's absence here is not unexpected.

Charred Plant Remains from Hills Pightle

by Joy Ede

Four 10 litre samples were analysed, three from pits 7523 and 7525 and one from ditch 7507. Each sample was processed following standard methods and the results presented in Table 27.

Ditch 7507

The sample was taken from the terminal of ditch 7507. Some charcoal was recorded as the fill (context 7506) was excavated. Other carbonised plant remains were only present in small quantities. There were ten cereal grains (five of wheat, one oat and four unidentified), two rachis fragments and two glume bases. The glume bases are interesting as they represent a primitive type of wheat which was cultivated in earlier periods.

Spelt has occasionally been found in medieval samples (Greig 1988, 110), possibly indicating a low level continuation of cultivation of these older types of wheat. The few weed seeds present in the ditch are from plants of arable or disturbed ground, but are too few to interpret. Two carbonised hazel nut fragments among these seeds may indicate the use of hazel nuts as food.

Pit 7523

The basal fill (context 7522) produced very few carbonised plant remains other than some charcoal. The seeds include ten cereal grains of wheat, barley and oat, five weed seeds, two fragments of hazel nut shell, and four fragments of an unidentified nut shell. The upper fill (context 7521) produced 17 cereal grains (either wheat or unidentified), eight weed seeds (including small round seeded legumes, *Anthemis cotula* and *Urtica dioica* (nettle) seed) and one unidentified seed.

Pit 7525

This sample (context 7524) was rather different in having more charcoal, grain and chaff. Only a few weed

Table 27. Hills Pightle: charred plant remains

	Feature	*Ditch*	*Pit*	*Pit*	*Pit*
		7507	*7523*	*7522*	*7525*
	Context	*7506*	*7506*	*7521*	*7524*
	Sample	*10022*	*10023*	*10024*	*10025*
	Sample size (litres)	*10 L*	*10 L*	*10 L*	*10 L*
Triticum sp grain	wheat	-	6	3	3
cf. *Triticum* sp grain	cf wheat	5	4	-	7
glume base		2	-	-	2 (cf)
spikelet fork		-	-	-	8 (cf)
cf. *Secale cereale* grain	cf. rye	-	-	-	1
S. cereale chaff	rye	-	-	-	11
cf. *S. ceceale* chaff	cf rye	-	-	-	5
Triticum/Secale cereale grain	wheat/rye	-	-	-	2
cf. *Hordeum* sp grain	cf. barley	-	-	1	1
Avena sp grain	oat	1	-	2	-
cf. *Avena* sp		-	-	-	28
awn frags		-	-	-	1
Avena/Bromus sp grain	oat/brome	-	-	1	
Indet grain	cereal indetermined	4	7	4	36 n.o.
Indet frags		+	+	+	++
Rachis frag		3	-	-	-
culm node		-	-	-	1
straw fragment		-	-	-	1
TOTAL GRAIN		**10**	**17**	**11**	**78**
TOTAL CHAFF		**5**	**0**	**0**	**29**
cf. *Stellaria* sp.	chickweed/stitchwort	-	-	-	-
cf. Caryophyllaceae indet	campion family	-	-	-	-
Chenopodium album	fat hen	1	-	-	-
Chenopodicaeae indet		-	-	-	-
Leguminosae - *Trifolium* type	clover type legumes	-	-	-	-
cf. *Trifolium* type		-	-	-	-
cf. large bean		-	-	-	-
indet round big	pea/vetch type legumes	-	2	-	5
indet round small	vetch type legumes	-	1	1	1
Rubus cf. *fruticosus* agg.	cf. bramble	-	-	-	-
Polygonum aviculare	knotgrass	-	-	-	-
Polygonum sp	knotgrass/bistort/ persicaria	-	-	-	-
Rumex cf *acetosella*	cf. sheep's sorrel	-	-	-	-
Rumex sp	docks/sorrel	1	-	-	-
Urtica sp	nettle	-	1	-	-
Corylus avellana nut	hazel	2 frag	-	2 frag	-
Euphrasia/Odontites sp.	eyebright/red rattle	1	-	1	-
Galium aparine	cleavers	-	-	-	-
Anthemis cotula	stinking mayweed	2	1	1	-
cf. *Anthemis cotula*	cf. stinking mayweed	1	2	-	3
Tripleurospermum inodorum (Schultz Bip.)	scentless mayweed	-	-	1	-
Compositae indet	daisy family	1	-	1	-
Bromus sp	brome grass	-	-	-	-
misc seeds indet	unidentified seeds	-	-	1 (4 frag)	2
thorn		-	-	-	1
bud-like		-	-	-	-
TOTAL WEED SEEDS		**7**	**7**	**6**	**11**

n.o. = not oats

seeds were present. Grain was badly preserved, so most remained unidentified, but included wheat, oats or possible rye (*Secale cereale*) and barley. The chaff confirms the presence of rye as the most numerous crop represented, followed by a free threshing hexaploid wheat (bread wheat, club wheat) as would be expected on a medieval site. A culm node and a straw fragment indicate the presence of crop processing waste or straw. Weeds include *Anthemis cotula* (indicating damper ground) and round seeded legumes of two sorts.

Few carbonised remains other than charcoal were present. Of these both cereal grains and weed seeds were consistently present and indicate the use of wheat, oats, barley and rye. The possible cultivation of damp soils, or land adjoining damp habitats is indicated by the consistent presence of *Anthemis cotula.*

Table 28. Hills Pightle: charcoal (no. of fragments)

Feature	*context*	*sample*	*Betula*	*Corylus*	*Pomoideae*	*Prunus*	*Quercus*	*Sambucus*
Pit 7523	7521	10023	21	1	8	1	5rs	3
Pit 7525	7524	10025	-	4	1	1	4sh	-

r = roundwood (diam. <20 mm); s = sapwood; h = heartwood

Charcoal from Hills Pightle

by Rowena Gale

Charcoal was selected for analysis from pit 7523 and pit 7525. The origin of the charcoal was less certain than on other sites analysed but species identification was undertaken to indicate the type of fuel used and to provide environmental evidence. Processing and recording were as for Enborne Street, above.

The following taxa were recorded:

Betulaceae *Betula* sp., birch; Caprifoliaceae *Sambucus* sp., elder; Corylaceae *Corylus* sp., hazel; Fagaceae *Quercus* sp., oak; Rosaceae – *Pomoideae:Crataegus* sp., hawthorn; *Malus* sp., apple; *Pyrus* sp., pear; *Sorbus* spp., rowan, service tree and whitebeam. These genera are anatomically similar. Prunoideae: *Prunus* spp., which includes *P. avium*, wild cherry; *P. padus*, bird cherry; *P. spinosa*, blackthorn. It is often difficult or impossible (as in this instance) to differentiate between the species from their anatomy.

Hills Pightle was sited at the northern end of the Bypass route in the bottom of a dry valley in chalk downland. Several irregularly shaped pits were excavated and found to contain refuse (burnt flint, pottery, bone, stones, and charred wood and plant remains). Their original function was not clear.

Charcoal from two of the pits (7523 and 7525), was examined to provide environmental information. Pit 7523 contained birch (*Betula*), oak (*Quercus*) sapwood and twigs, hazel (*Corylus*), blackthorn/ cherry (*Prunus*), elder (*Sambucus*), and hawthorn type (Pomoideae). Pit 7525 included oak sap- and heartwood, hazel, blackthorn/cherry and hawthorn type. With the exception of birch, these taxa are characteristic of downland and may have been abundant on the moister soils at the base of the valley. Birch, more typically, occurs on acidic or poor degraded soils and, probably grew here in areas of leached topsoil overlying the chalk or in patches of colluvium in the valley bottom.

Land Snails from Hills Pightle

by Michael J. Allen

During excavation no samples were taken specifically for land snails because of the generally poor preservation of calcium based materials (especially bone, etc). Nevertheless, shells were noted in the flots of the four large (10 litre) samples from the fill of medieval ditch 7506 and from the pit and recut 7523/5. The presence of species favouring marshy environments was noticed in assessment and, despite the lack of normal processing methods for land snails (Evans 1972), they were extracted from the samples and are reported here. The 10 litre samples had been processed for charred plant remains so, although the flots were retained on a 0.5 mm mesh, the residues were only retained on a 1 mm (rather than 0.5 mm) mesh and the loss of apical fragments less than 1 mm is inevitable. Apical and diagnostic shell fragments were extracted from the flots and residues (to 1 mm) and were identified under a x10 –x30 stereo-binocular microscope. The results are presented in Table 29; note that the *Candidula* genus have not been split into their two species for this analysis.

Ditch 7506

Too few shells (only 4) were recovered from the sample of the main fill (context 7506) to permit an interpretation. However, all the shells were terrestrial with no marsh or damp-loving species recorded.

Pit 7523/5

Contexts from pits are not ideal for palaeo-environmental reconstruction (Thomas 1977; Shackley 1976) as the origin of the shells recovered is not certain; they may have entered the pit with refuse or material with which the pit was filled, the snails may have lived in the shady microhabitat which the feature created, or the shells may have eroded from the soil though which the pit was cut. Nevertheless, the examination of the species can provide some indication of environmental conditions within the locality.

The basal layer (7524) is all that survives from pit 7525, and the snail assemblage from here is relatively diverse (Table 29). The large proportion of shade-loving specimens (61%) do not necessarily reflect a very shady environment, but some species (*Trichia striolata*) are synanthropic and thus represent the man-made 'garden' environment created by settlement.

Table 29. Hills Pightle: land mollusc data

Feature	*ditch 7506*	*Pit 7525*	*Pit 7523*	
Sample	*10022*	*10025*	*10024*	*10022*
Context	*7506*	*7524*	*7522*	*7521*
size (litres)	*10*	*10*	*10*	*10*
MOLLUSCA				
Carychium minimum Müller	-	-	1	-
Carychium tridentatum (Risso)	-	-	4	1
Carychium spp.	-	1	-	-
Cochlicopa lubrica (Müller)	-	1	1	-
Cochlicopa lubricella (Porro)	-	-	3	-
Cochlicopa spp.	-	6	13	-
Vertigo pygmaea (Draparnaud)	-	-	1	-
Vertigo moulinsiana (Dupuy)	-	2	-	-
Vertigo cf. *moulinsiana* (Dupuy)	-	-	+	-
Pupilla muscorum (Linnaeus)	-	-	-	-
Vallonia pulchella (Müller)	-	7	4	-
Vallonia excentrica Sterki	-	-	1	-
Vallonia spp.	-	1	-	-
Acanthinula aculeata (Müller)	-	-	-	2
Ena obscura (Müller)	-	-	1	-
Punctum pygmaeum (Draparnaud)	-	3	1	-
Discus rotundatus (Müller)	3	-	9	1
Vitrina pellucida (Müller)	-	4	-	-
Vitrea crystalliuna (Müller)	-	-	1	-
Aegopinella pura (Alder)	-	1	5	-
Aegopinella nitidula (Draparnaud)	+	50	40	1
Oxychilus cellarius (Müller)	-	4	12	1
Zonitoides nitidus (Müller)	-	2	-	-
Limacidae	-	1	4	2
Cecilioides acicula (Müller)	-	47	34	102
Clausilia bidentata (Ström)	-	-	1	1
Candidula sp.	-	17	15	5
Trichia striolata (C. Pfeiffer)	-	2	4	1
Trichia hispida (Linnaeus)	1	2	3	-
Cepaea spp.	-	-	1	+
Cepaea/Arianta spp.	-	-	1	-
Helix aspersa (Müller)	-	2	1	-
Taxa	2	16	21	9
TOTAL	**4**	**106**	**120**	**15**

Most of the assemblage can be seen as representing this type of local environment. The presence of *Vallonia pulchella* (which is the most rarely encountered and the most mesic (moisture-loving) of this genus and enjoys damp grassland and meadows (Ellis 1969) and is present in marsh), is significant. Similarly *Vitrina pellucida* is sometimes a marsh species, whereas two species (*Zonitoides nitidus* and *Vertigo moulinsiana*) are true marsh species. *Z. nitidus* is restricted to marshes and characteristic of very wet habitats never very far from water. It can survive being immersed; *V. moulinsiana* is found in marshes, especially on reeds and sedges (Cameron and Redfern 1976). Neither of these species has been positively identified in the pit (7523) which recuts this pit. The fills of recut pit 7523 contain similar assemblages, but generally indicate drier habitats. The presence of *Discus rotundatus* and *Clausilia bidentata* tend to suggest the presence of more leaf-litter, rotting wood and general rubbish.

Discussion

The land snail evidence reflects typical occupation and 'garden' habitats, but the presence of species more typical of marshes is interesting. There are several possibilities to explain their incorporation into pit 7523/5. If they were local and indigenous, they might indicate the presence of damp marshes, sedges and fens in the base of the now dry valley, possibly associated with the sink holes to the north of the site. We cannot, however, discount the possibility that they were incorporated amongst debris discarded into the pit. If so, we might suggest that they were brought onto the site with mud from the riverside, or on reeds which were cleared from floor levels or thatching. Such interpretations have been made from Iron Age pits at Winklebury (Thomas 1977); and Balksbury (Allen 1995), both in Hampshire.

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