Kingsmead Quarry Horton, Berkshire

Volume 1
2003–2009 Excavations

Gareth Chaffey, Alistair J. Barclay, Catherine Barnett, Philippa Bradley, Ruth Pelling and Andy Valdez-Tullett

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with contributions by Phil Andrews, Elina Brook, Nigel Cameron, Nicholas Cooke, John Crowther, Niall Donald, Michael Grant, Jessica Grimm, Phil Harding, Kevin Hayward, David Holman, Grace Jones, Inés López-Dóriga, Paul McCulloch, Jacqueline I. McKinley, Richard Macphail, Lorraine Mepham, J.M. Mills, Quita Mould, Nicki Mulhall, David Norcott, Peter Northover, Ben Roberts, Fiona Roe†, John Russell, Jörn Schuster, David Smith, Emma Traherne and Sarah F. Wyles

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Abstract

Excavations undertaken between 2003 and 2009 in advance of the construction of a processing plant and subsequent phases of gravel extraction at Kingsmead Quarry, Horton, Berkshire, have revealed archaeological evidence from the Late Glacial to the modern periods. This first volume (of two) brings together the results from the investigations by Wessex Archaeology on over 19 hectares of a vast and complex archaeological landscape, which have undoubtedly enhanced the knowledge of the Middle Thames Valley substantially.

The excavation of a series of palaeochannels within and to the edges of the archaeological excavations has also provided information and dating to enhance our knowledge of the contemporary environment in the vicinity of the site. The data recovered has enabled a chronological framework for the development and evolution of the palaeochannels. Two rare and extremely well-preserved Early Neolithic timber buildings and two substantial Middle Bronze Age farmsteads with significant metalwork were found during the 2003–2009 excavations, whilst the evidence retrieved for the Iron Age and Romano-British periods demonstrated the continued development and reorganisation of the landscape. Later periods were also represented.

The discoveries at Horton represent a substantial excavation whose results add to the growing wealth of information surrounding the continued and extensive inhabitation of the valley as a whole. Large quantities of structural evidence, augmented by considerable quantities of artefactual and environmental information, show Horton to be a fascinating archaeological site. This volume represents a detailed and extensive account of the findings, Horton's positioning in the wider archaeological landscape and its relationship with the contemporary sites in the surrounding area.

Résumé

Les fouilles archéologiques entreprises entre 2003 et 2009 en vue de la construction d'une usine de transformation et d'extraction de gravier a *Kingsmead Quarry*, une carrière située à Horton dans la province de Berkshire, ont permis de mettre au jour des vestiges archéologiques datant de l'Ère Glaciaire Récent jusqu'à nos jours. Ce premier volume rassemble ainsi les résultats des recherches menées par Wessex Archaeology sur un vaste et complexe paysage archéologique de plus de 19 hectares de surface. Ces recherches ont sans aucun doute amélioré de façon substantielle les connaissances que nous avions sur la région de la *Middle Thames Valley* (Vallée de la Tamise).

La fouille d'une série de paléorivières présentes sur le site et ses pourtours, a également apporté des informations et des éléments de datation qui ont amélioré nos connaissances sur l'environnement contemporain du territoire avoisinant le site. Les données ainsi mises au jour ont permis d'établir un cadre chronologique pour le développement et l'évolution des paléorivières. Deux bâtiments à charpente datant du Néolithique Ancien, extrêmement rares et bien préservés, ainsi que deux fermes de taille considérable datant de l'Âge du Bronze Moyen et où le travail du métal semble avoir eu une importance significative, ont été mis au jour à Horton lors des campagnes de fouilles successives réalisées entre 2003 et 2009. Celles-ci ont également mis en évidence le développement continu et la réorganisation du paysage tout au long de l'Âge du Fer et de la période Romano-Britannique, et ce jusqu'à nos jours. En effet, les périodes les plus récentes étaient également représentées sur le site.

Les résultats des découvertes effectuées lors des fouilles à Horton ont permis d'élargir nos connaissances sur l'occupation continue et extensive de la vallée de la Tamise. Les nombreux vestiges de structures, auxquelles s'ajoutent les vestiges artéfactuels et environnementaux, montrent à quel point Horton fût un site fascinant. Ce volume reprend donc une liste détaillée des découvertes réalisées sur le site et replace Horton dans un paysage archéologique plus large, et met également en avant les relations qu'elle a pu entretenir avec d'autres sites contemporains situés dans la même région.

Zusammemfassung

Zwischen 2003 und 2009 wurden bei Ausgrabungen im Vorfeld des Baus einer Aufbereitungsanlage und anschließender Abbauphasen in der Kiesgrube Kingsmead in Horton, Berkshire, archäologische Befunde von der Späteiszeit bis zur Neuzeit freigelegt. Dieser erste von zwei Bänden fasst die Ergebnisse der Untersuchungen von Wessex Archaeology auf über 19 Hektar einer ausgedehnten und komplexen archäologischen Landschaft zusammen, die zweifellos das Wissen über das mittlere Themse-Tal erheblich erweitert haben.

Die Untersuchungen mehrerer Gewässeraltarme innerhalb und am Rande der Grabungsfläche lieferten darüber hinaus Erkenntnisse und Datierungen, die unser Wissen zur zeitgenössischen Umwelt in der Umgebung der Fundstelle erweitern. Mithilfe der so gewonnenen Ergebnisse konnte ein chronologischer Rahmen für die Entwicklung und Entstehung der Gewässeraltarme erstellt werden. Bei den Ausgrabungen in den Jahren 2003 bis 2009 wurden zwei seltene und sehr gut erhaltene Holzbauten aus dem Frühneolithikum und zwei große Gehöfte aus der mittleren Bronzezeit mit bedeutenden Metallgegenständen gefunden. Funde der Eisenzeit und der Römischen Kaiserzeit belegen die kontinuierliche Entwicklung und Umgestaltung der Landschaft. Hinweise auf nachfolgende Zeitperioden waren ebenfalls vertreten.

Die Ergebnisse von Horton sind Zeugnis umfangreicher Ausgrabungen und erweitern die stetig wachsenden Datenbasis zur kontinuierlichen und ausgedehnten Besiedlung des gesamten Tals. Die Vielzahl struktureller Befunde, ergänzt durch eine beträchtliche Menge an Funden und Umweltinformationen, zeigen, dass Horton ein faszinierender archäologischer Fundplatz ist. Der vorliegende Band bietet eine detaillierte und umfassende Darstellung der Ergebnisse sowie die Einordnung von Horton in die weitere archäologische Landschaft und seine Beziehung zu zeitgleichen Fundplätzen in der Umgebung.

Chapter 1
Introduction

by Gareth Chaffey, Alistair J. Barclay, Paul McCulloch and Philippa Bradley

Introduction

Excavations by Wessex Archaeology at Kingsmead Quarry, Horton, Berkshire (hereafter Horton), have revealed a vast and complex archaeological landscape, identifying an extensive history of development from around 10,000 BC to the post-medieval and modern periods. The site lies within the archaeologically rich landscape of the Middle Thames Valley (Fig. 1.1), where a large number of commercially funded excavations over the last 20 years on the West London and Colne Valley gravels

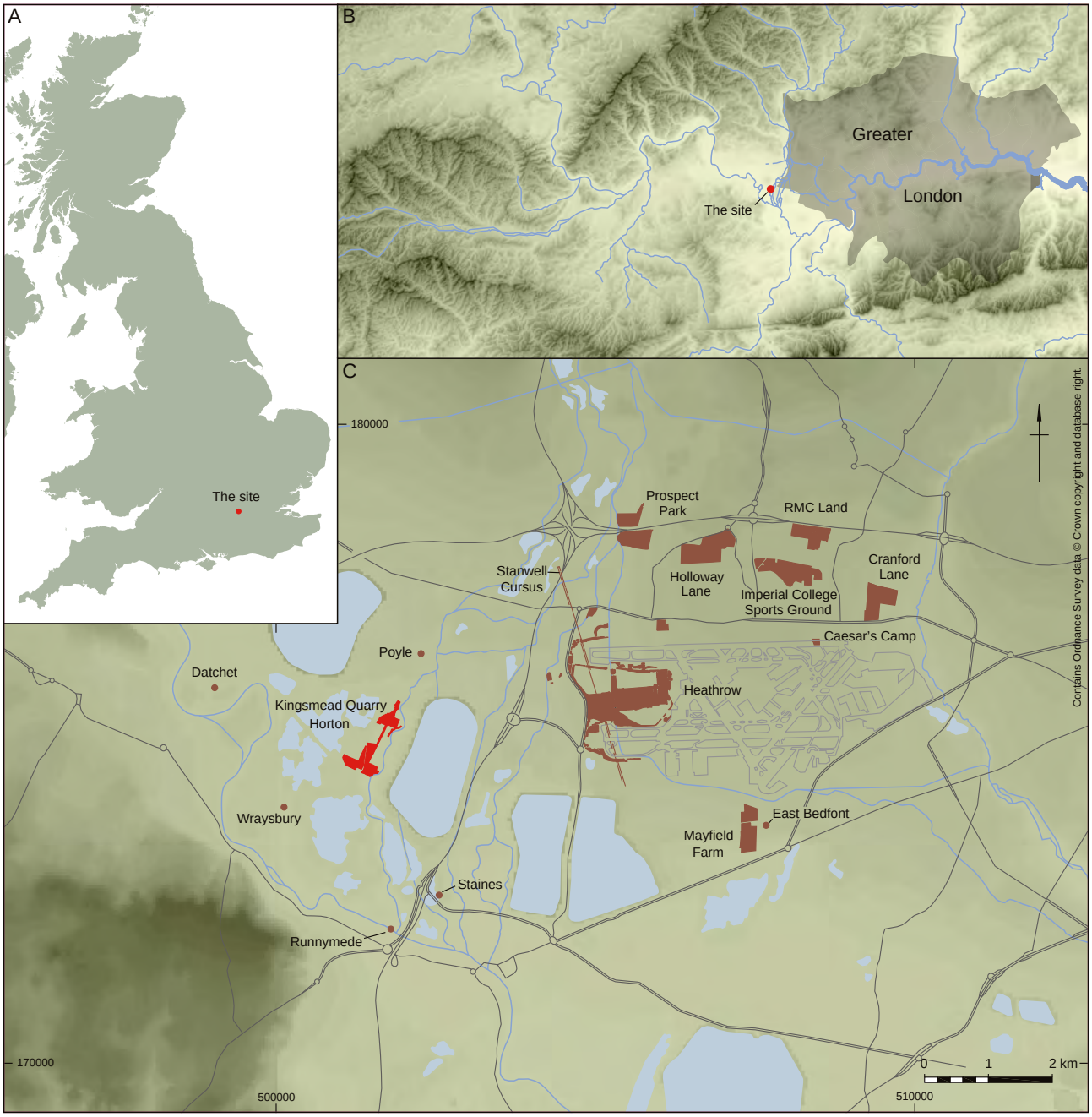

Figure 1.1 Location of Kingsmead Quarry, Horton – topography showing Middle Thames Valley and nearby commercially funded excavations

have greatly enhanced our archaeological knowledge of the area. The excavations at Horton have added to this growing body of information, enhancing our interpretation of the extensive inhabitation of the valley.

This volume presents the results of the archaeological investigation from 2003 to 2009 (centred on NGR 501644 175109), which represented a total of 19.3 hectares of 'strip, map and record' excavation. Wessex Archaeology was commissioned by The Guildhouse Consultancy, acting on behalf of CEMEX UK Materials Limited, to undertake this work prior to the construction of a new gravel processing plant, access road and bund, a conveyor belt and three gravel extraction phases.

A number of palaeochannels were identified across the site, particularly at its edges. They range in both date and size. Evidence of a substantial channel system suggest a watercourse that dominated the area during the Devensian period, joining to the River Thames to the west and Colne to the east. Such evidence reflects the nature of the Mid–Late Holocene environment and its effects on the inhabitants within the wider landscape. Other evidence indicates channel activity during the Neolithic and Bronze Age periods, but with lessening effects on the landscape. The data recovered has enabled a relatively detailed chronological framework for the development and evolution of the palaeochannels to be established.

The earliest artefact recovered from the site is a Middle Palaeolithic cordate handaxe dating to around 300,000 BC, which was found by a quarry worker (see Harding, Appendix 3). No other contemporary Middle Palaeolithic flintwork was identified during the excavations, and the majority of the archaeology dates to the last 12,000 years and includes residual flintwork of final Upper Palaeolithic date and some early palaeochannels. Important Neolithic remains included evidence for two rare Early Neolithic timber buildings, Early Neolithic pits, and a scatter of Late Neolithic Grooved Ware pits. The Early Bronze Age was poorly represented except for a large penannular ring ditch belonging to a barrow or henge. Small quantities of Early Bronze Age pottery, including Collared Urn, were recovered. The Middle Bronze Age saw a major reorganisation of the landscape, marked by the large-scale sub-division of the land by boundaries and rectilinear enclosures. Two farmsteads were identified, both featuring associated roundhouses, waterholes, pits and postholes. Each farmstead featured evidence for cultural and economic activities, including the deposition of animal burials, Bucket and Globular Urn pottery, and the deposition of significant items of metalwork. A decorative pin of 'Picardy' type with incised linear motif decoration and a 'quoit-headed' pin were recovered; both date to the 'Ornament Horizon' of north-west Europe. Evidence for the Iron Age period was limited, with examples of settlement and agricultural activity, whilst a substantial Romano-British farmstead, originating shortly after the Conquest, showed signs of a major reorganisation of the landscape. The agricultural enclosure system included pits, postholes and waterholes, and artefactual evidence suggests a prolonged period of use. Scant evidence of Saxon and medieval activity was recorded, and fragmentary evidence of post-medieval involvement on the site may suggest activity contemporary with the medieval Horton Manor.

Project Background

Gravel and mineral extraction at the quarry had already begun prior to the initial archaeological work by Oxford Archaeological Associates in 1990. This involved the assessment of the archaeological implications of future phases of mineral extractions by Hall Aggregates (Thames Valley) Ltd on land at Horton. The high potential for substantial quantities of archaeological evidence was remarked upon if further work was carried out.

In June 1980, a large incomplete ring with a hint of an outer circle on its south-western side was noted from the air close to the river bank of the Colne Brook, centred on TQ 0168 7495 (Oxford Archaeological Associates 1990, 6). The features were investigated in 1990 by Thames Valley Archaeological Services (TVAS) as part of works associated with the construction of the Lower Horton flood relief channel (Ford and Pine 2003a). The excavation exposed a U-shaped enclosure and an oval barrow of Early Neolithic date, enclosed by a continuous oval ditch dated as Middle Neolithic (Fig. 1.2).

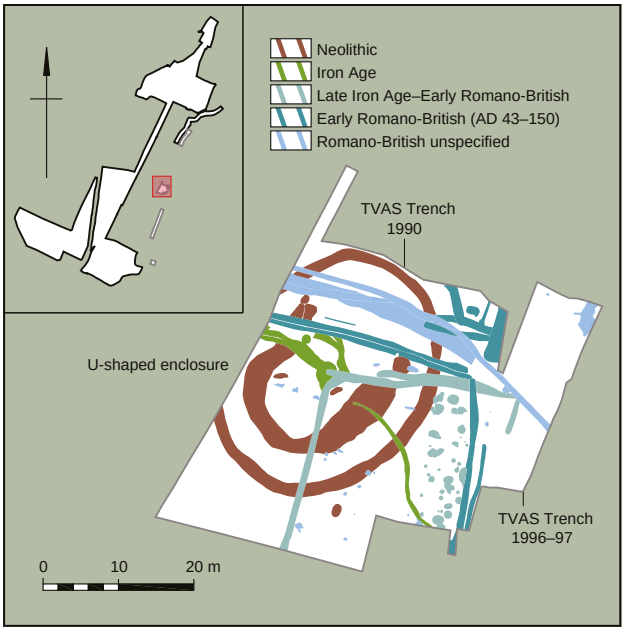

Figure 1.2 U-shaped enclosure and TVAS excavations

The ditches were waterlogged, and the remains of unusual birch bark containers and a complete Fengate Ware bowl were recovered (Cartwright 2003, 52–60; Raymond 2003, 40, fig. 2.16), amongst other finds. The Neolithic deposits were overlain by Late Iron Age and Romano-British features.

During the excavations, a programme of fieldwalking was undertaken across the site, totalling over 43000 m² (TVAS 1991). An expansive geophysical survey of the site was completed in 1993 (Oxford Archaeotechnics Ltd 1993) and was followed by planning permission to undertake phases of mineral extraction. Following a period of watching brief undertaken by Oxford Archaeological Associates Ltd in relation to extraction phases 1–3, Wessex Archaeology began a programme of archaeological investigation in 2003 at the request of RMC Aggregates (now CEMEX UK Materials Ltd.) (Fig. 1.3A). An approximately 9-hectare area associated with mineral extraction phases 4–7, in an area centred on NGR 501400 174900, was investigated. The work was undertaken between October 2003 and August 2004 (Wessex Archaeology 2005a).

In July 2007, the Mineral Planning Authority (MPA) of the Royal Borough of Windsor and Maidenhead granted conditional planning permission for the construction of a new processing plant (planning reference 06/00505). At this time, the numbering of the mineral extraction phases was reviewed by CEMEX UK Materials Ltd, and subsequent excavations encompassed land on several phases (Fig. 1.3B). The proposed works comprised an irregular area spanning the full length of the 70-hectare site, and reflected the nature of the proposed quarrying operations and related groundworks involved in the construction of a new processing plant. Excavations corresponded with various phases of haul road construction and mineral extraction, notably: an access road at the northern end of the site; the tipped subsoil section of the eastern bund boundary; a large block of land for the processing plant and associated lagoon areas; an 832 m-long conveyor belt; and mineral extraction phase 7, located at the southern end of the site. The full archaeological excavation of the area was undertaken by Wessex Archaeology between November 2006 and September 2009 (Wessex Archaeology 2009a; 2010) (Fig. 1.4).

This volume is the first of two publications, describing approximately 19 hectares of the multi-period archaeological landscape that has been investigated from 2003 to 2009, and relates to work undertaken on extraction phases 4–7 (of 16), as well as the proposed construction of a new gravel processing plant and facilitating features. The archaeological

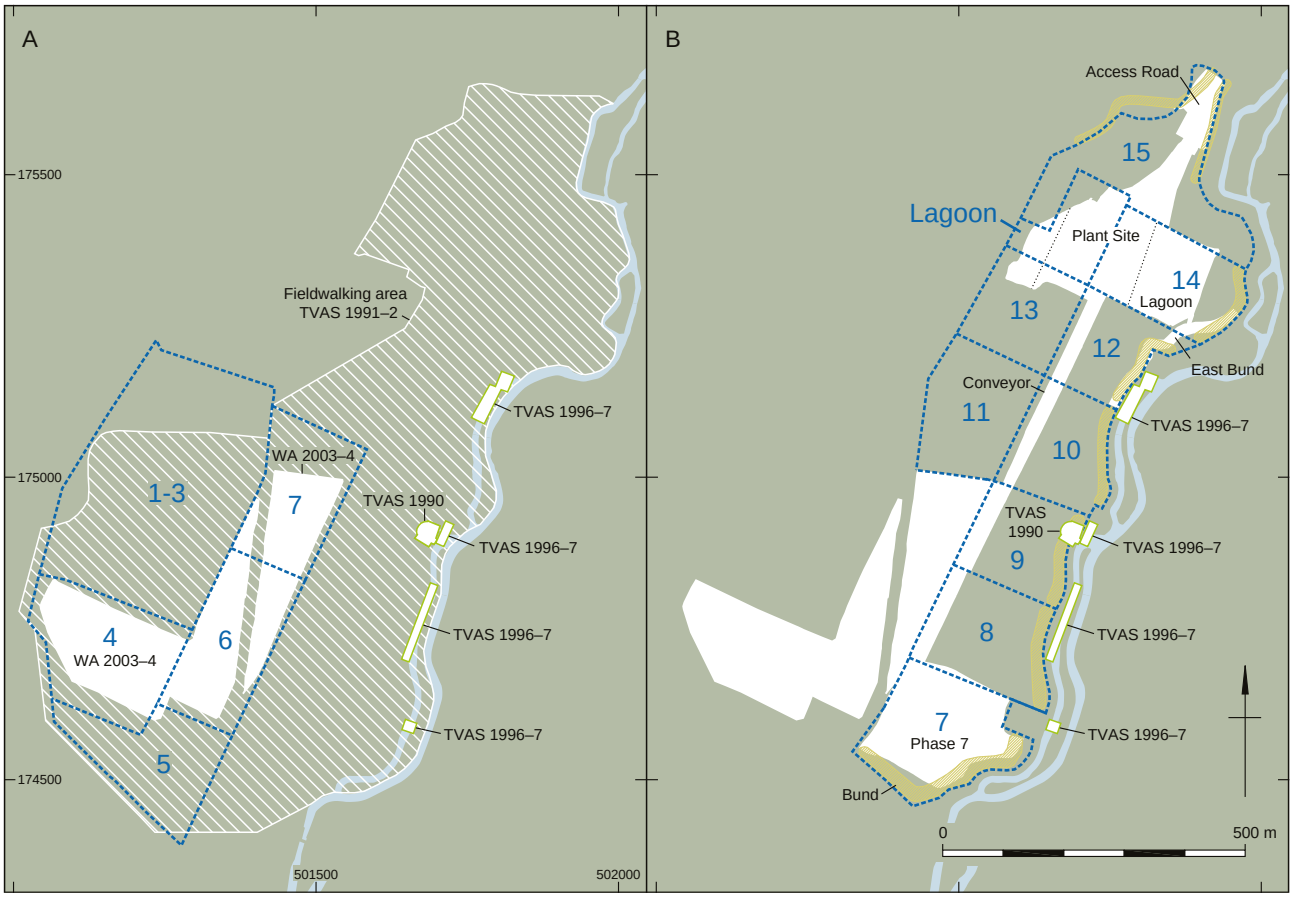

Figure 1.3 A: Former extraction phases; B: proposed extraction phases

results are presented in the form of a chronological narrative that incorporates elements of the finds and environmental data. The Appendices containing full specialist reports are available separately on the Archaeology Data Service website. The second volume will describe the results of the remaining excavations, placing them in context, and will provide an overview of the whole site within its landscape setting.

Site Location, Topography and Geology

The site is located approximately 1 km south-west of the village of Horton, bounded to the north by Stanwell Road, to the east by the present course of the Colne Brook, to the south by a railway line, and to the west by previous phases of gravel extraction now represented by a series of deep-water lagoons. Lying on a very gradual south-facing slope (between

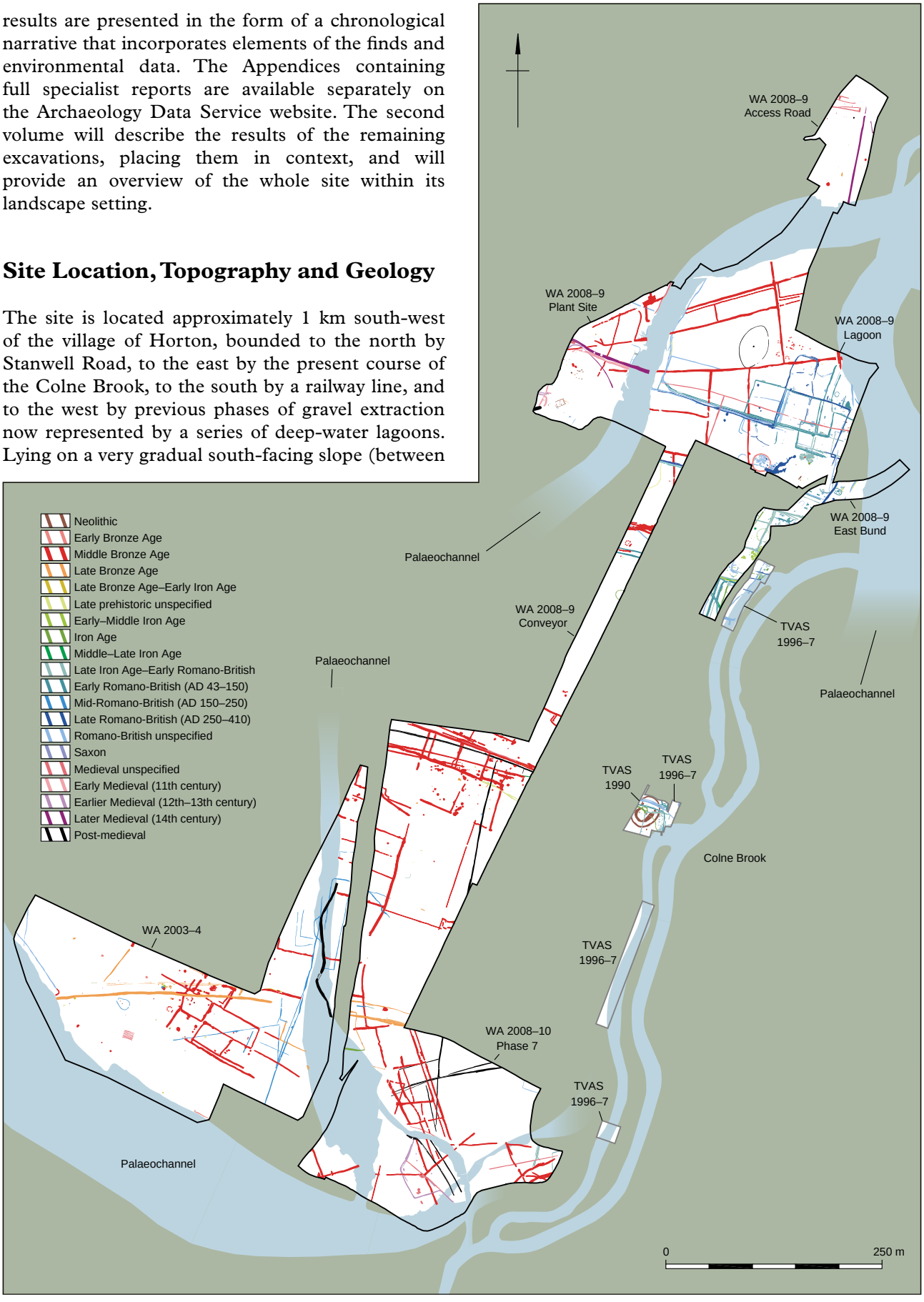

Figure 1.4 General site plan showing excavated areas

17.6 m and 15.9 m above Ordnance Datum (OD)), the site is situated in a meander of the River Thames, around 1.5 km west and 3 km north of the present course of the river. It is situated on northern side of the wide floodplain of the Middle Thames Valley, which in this area is characterised by a series of large, flat gravel terraces stepping down gently from north to south (Fig. 1.5). The basal solid geology is London Clay, and the underlying drift geology is floodplain gravel (British Geological Survey 1981) (Fig. 1.6). Overlying the gravel is a layer of brickearth – a typically stoneless loam deposit derived from a combination of wind-borne and water-borne deposition – which varied in thickness across the site (0.2–1.10 m). Nearly all the archaeological features were defined as cutting into the surface of the brickearth deposit, but occasionally, features were cut into the natural gravel.

Prior to the development of the quarry, the site was arable fields, growing crops such as maize. As such, the site has been subjected to some deep ploughing, which may have truncated underlying archaeological features. Other areas of disturbance included former outbuildings associated with Horton Manor and Horton Farm, post-medieval field boundaries and some intrusions created by modern flood alleviation works. In general, however, there was little modern disturbance.

Methods

Excavation Areas and Context Numbering

The site was an irregular shape, dictated by the nature of the quarrying operations and the groundwork involved in the construction of a new processing plant (Fig. 1.3). The site was divided into seven excavation areas that corresponded with phases of plant/haul road construction and extraction. Initial excavations in 2003 focused on an area designated for mineral extraction. An irregular L-shaped block of land, bisected by a (now) canalised stream channel, lay immediately south of previous phases of extraction, now identified by a lake formed after earlier phases of quarrying (project code 54635). Further investigations in 2006 involved the groundworks associated with the construction of an access road at the north end of the site, the tipped subsoil section of the eastern bund boundary, a large block of land for the processing plant and lagoon areas, an 832 m-long strip running throughout the length of the site, and a new, small section of land set aside for mineral extraction (project codes 54636 and 54637). This area was extended northwards and relates to the fieldwork undertaken in 2009 (project code 71800). Around 19.3 hectares of the site have

Figure 1.5 Looking south from the Plant Site across the Thames Valley. Excavation along the Conveyor area can be seen underway to the left

been subject to archaeological investigation. All excavations were recorded in a continuous context numbering sequence and continued from the initial excavations. Object, environmental, graphics and photographic numbering sequences were treated in a similar way.

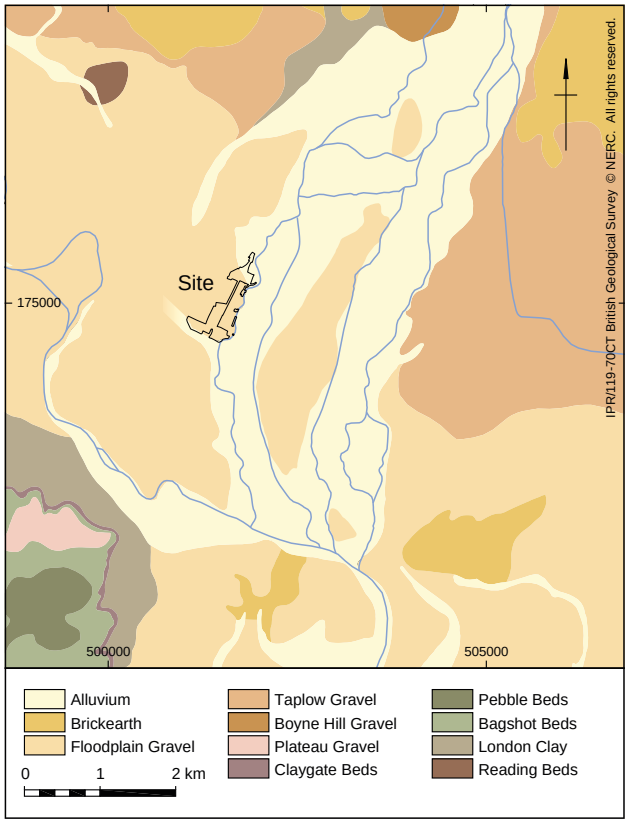

Figure 1.6 British Geological Survey plan showing basal solid geology and drift geology

Field Methods

Topsoil and subsoil overburdens associated with all stages of excavation were removed by 360° tracked mechanical excavators, under constant archaeological supervision, to the surface of undisturbed geological deposits, either natural brickearth or basal floodplain gravels. All archaeological and site features were tied into the Ordnance Survey National Grid using either a GPS unit or an on-site Total Station, which then allowed digitised mapping to be created via AutoCAD.

All archaeological features and deposits were recorded using Wessex Archaeology's pro forma recording system. Where appropriate, significant artefacts were 3D recorded and detailed plans were made of any special or placed deposits. A full written, drawn and photographic archive was maintained. All site plans were drawn at a minimum scale of 1:100, detail plans at 1:20, and sections at 1:10. A full photographic record was maintained using colour transparencies, black and white negatives (on 35 mm film) and digital format.

On average, a total of 10 per cent of all linear features (ditches, gullies, etc.) and 50 per cent of discrete features (pits, postholes, etc.) were excavated. In certain circumstances, discrete features deemed important were 100 per cent excavated. All relationships between intercutting features were investigated, with the total percentages of linear features increasing to 20 per cent in certain archaeologically rich areas as a result. In general, the percentages represented the minimum response to the archaeology present, with a more detailed investigation undertaken of significant deposits (structures, burials, etc.). A total of 10 per cent of all natural features (such as tree-throw holes) were excavated across the site, with a general 1-in-10 approach adopted (Figs 1.7 and 1.8). In many circumstances, those excavated had physical relationships with other archaeological features.

A targeted sampling strategy was employed on all phases of excavation of the site, comprising bulk samples of up to 40 litres from many sealed and dated deposits, ensuring that an appropriate range of feature types were sampled for each period. All cremation deposits were 100 per cent bulk sampled, whilst snail column samples, pollen samples and soil monoliths were taken from appropriately deep and well-stratified features. Where appropriate, magnetic susceptibility, phosphate and micromorphology samples were also obtained. A sampling strategy was also applied in relation to a number of palaeochannels present on the site and included machine-cut sondages and borehole coring.

The Archaeological Background of the Colne/Middle Thames Valley

Much of the Middle Thames Valley is known to be rich in archaeological evidence which, over the last 20 years, has been extensively investigated, predominantly in advance of and during gravel extraction but also for other development such as the expansion of Heathrow Airport (Lewis *et al.* 2006; 2010). Such investigations have revealed a landscape that was occupied and settled from the Palaeolithic (*c.* 12,000 BC) to the present.

Palaeolithic–Mesolithic

A limited number of sites have recorded substantial numbers of Lower and Middle Palaeolithic artefacts in the local area. The majority of these have been recovered from the Lynch Hill Gravel, and a much smaller number from the Taplow Gravel to the north. Late Upper Palaeolithic (12,000–10,000 BC) material of national significance was excavated within the Colne Valley Silts at Three Ways Wharf,

Figure 1.7 Excavation underway along the line of the Conveyor area, facing north

Uxbridge, some 10 km to the north-east (Lewis 1991; Lewis with Rackham 2011), and similar but smaller scatters at Church Lamas, Staines (Jones *et al.* 2013, 55), whilst archaeological fieldwork along the Lower Colne Valley (Lacaille 1963; Lewis 1991; MoLA 2006; Wymer 1977; 1999) has identified the area's potential for the preservation of elements of Late Glacial and early Post-glacial environments, and of the *in situ* remains of those human communities exploiting the river valley. Late Glacial and Mesolithic flintwork and associated environmental remains including waterlogged wood have been found at Denham on the outskirts of Uxbridge, Middlesex (Wessex Archaeology 2009b, 4). At William King Flour Mill, Uxbridge, floodplain deposits provided a palaeoenvironmental background for Three Ways Wharf (Grant *et al.* 2014). Excavations at Heathrow Airport suggest Mesolithic activity pre-dating the Stanwell Cursus (Barrett *et al.* 1999; Framework Archaeology 2005; Lewis *et al.* 2006, 2010) (Excavations at Heathrow Airport were undertaken from 1996 to 2007 as three main phases of work: MoLAS stockpile areas, Perry Oaks sludge works and Terminal 5. For the purposes of this publication, all work associated with the site will be referred to as 'Heathrow', unless specific sites are referred to).

Neolithic

A number of substantial Neolithic monuments identify the Middle Thames Valley as a major centre of ritual and ceremonial activity. Early Neolithic causewayed enclosures are suggested at East Bedfont and excavated at Yeoveney Lodge, Staines (Oswald *et al.* 2001, 112 and 152; Robertson-Mackay 1987), while two further examples are known from near Eton (Eton Wick and Dorney: Allen, T. *et al.* 2004), and a newly excavated enclosure at Riding Court Farm, Datchet, is currently being written up (Anon. 2018, 10; Wessex Archaeology 2022). A number of U-shaped enclosures, a long mortuary enclosure and an oval barrow are known from the Colne Valley terraces (eg, Heathrow, Lewis *et al.* 2006, 2010; Harlington, Powell *et al.* 2015; Wessex Archaeology 2008). The Stanwell Cursus/bank barrow is the most impressive Neolithic monument seen within the wider landscape (Fig. 1.1). It is thought to have had a central bank, so may be more accurately described as a bank barrow defined by two relatively narrow flanking NNW–SSE-aligned ditches that extended over a distance of approximately 3.5 km along the east side of the Colne Valley. Much of its length appears to demarcate the Taplow Terrace/Colne Valley boundary. Other monuments recorded as cropmarks have been interpreted as long barrows and subsidiary cursus monuments (Field and Cotton 1987, fig. 4.5), two of which have been partially excavated by Framework Archaeology (Lewis *et al.* 2006; 2010). Despite the evidence of monumental activity there is less direct evidence to suggest settlement and domestic activity. Flint and pottery were found associated with hearths and post-built structures at Runnymede Bridge (Needham and Trott 1987), and a possible Neolithic structure at Cranford Lane (Nick Elsden pers. comm.; MoLA 1994). A similar structure was identified within the causewayed enclosure at Staines although this is now thought to be later in date (Healy *et al.* 2011; Robertson-Mackay 1987, 51). Traces of earlier Neolithic settlement have been found at Heathrow, Imperial College Sports Ground and RMC Land Harlington. These sites have also produced a large number of Peterborough Ware associated pit deposits (Powell *et al.* 2015). A small number of Grooved Ware associated features have also been identified.

Various pits of Neolithic date have been recorded within the Middle Thames Valley. Often isolated or in scatters/clusters, many contained mixed assemblages of diagnostic finds such as flint tools, waste flakes and fragments of stone axes, and represent Middle Neolithic, Peterborough Ware (3350–2850 BC) and Late Neolithic, Grooved Ware pits (2900–2400 BC), although these latter appear to be much rarer, both locally and regionally (Barclay 1999; Lamdin-Whymark 2008, 189–190).

Beaker–Later Bronze Age

Beaker and Early Bronze Age evidence is rare in the Colne Valley and Middle Thames Valley as a whole. Burials and pits are almost absent, although a number of important finds have been recovered from the River Thames (Garwood with Hey and Barclay 2011, 380–1). A number of ring ditches visible as cropmarks may represent the remains of Early Bronze Age round barrows (although some may date to the Neolithic). In the Middle Thames Valley barrows tend to occur either as isolated monuments or in small clusters, which contrasts with the Upper Thames Valley where large cemeteries containing over 20 monuments are quite common (*ibid.*, fig. 14.24).

Considerable numbers of Middle Bronze Age trackways and field systems were recorded at RMC Land, Imperial College Sports Ground (Powell *et al.* 2015) and at Heathrow (Lewis *et al.* 2006; 2010). These sites have also produced settlement and funerary evidence. During the Late Bronze Age there appears to have been a consolidation of settlement within the Colne Valley. Evidence includes large defended enclosures such as the probable Late Bronze Age enclosure at Mayfield Farm, Bedfont (Framework Archaeology 2003), high status centres like Runnymede Bridge (Needham 1987), and smaller undefended settlements characterised by houses and associated field systems, such as those found at Cranford Lane (Nick Elsden pers. comm.).

Iron Age

A defended enclosure and at least 11 Middle Iron Age (400–100 BC) roundhouses were revealed in the 1940s, prior to the construction of the Heathrow northern runway. Within the enclosure there were numerous four-post structures, a characteristic feature of the period thought to represent grain stores and/or dryers, as well as a square shrine (Grimes and Close-Brooks 1993). Other similar enclosures have been recorded in the area, such as Fern Hill (Sidell *et al.* 2000, 116) and Staines Moor (Brown 1972). Evidence for extensive settlement and the reuse and development of earlier field systems has been seen at Heathrow (Lewis *et al.* 2006). There would appear to have been a shift in agricultural regimes, from arable to pastoral based, and by the Middle Iron Age the field system at Heathrow was no longer maintained. There was a notable reduction in the level of activity in the Late Iron Age. Both defended and open settlements are recorded in the Colne Valley, showing a broad continuation of landscape patterns in the Iron Age traditions from those established in the Late Bronze Age. Open settlements, such as the one

Figure 1.8 Staff arriving on site

at Mayfield Farm, comprised a roundhouse, pits and field boundaries (Framework Archaeology 2003).

Romano-British

Two broad categories of Romano-British activity in the Colne Valley can be identified: semi-urban roadside settlements, and small-scale rural settlements and farmsteads. Posting stations were discovered at Staines and Brentford that occur on one of the principal roads (running west to Silchester, Bath and Exeter) that radiate from *Londinium* (Bird 1987). Both sites were located on the River Thames near important river crossings. The pattern and distribution of rural settlements appears to represent a continuation of the Late Iron Age pattern of undefended settlements. Evidence is normally represented by field boundaries, trackways, pits and wells. Structural and burial evidence, however, is seldom recorded, possibly because these were relatively ephemeral and hence did not survive the post-Roman agricultural impact on the landscape. Such evidence, however, was seen at Wall Garden Farm and Holloway Lane (MoLAS 1993). At Wall Garden Farm, on the north side of Sipson Lane, Harlington, a pair of Romano-British crop-dryers and a timber-lined well were discovered along with associated features and finds (MoLAS 1993). The remains were predominantly 1st century AD, although the well was infilled in the 3rd century.

An apparent break in occupation is evident between the early 2nd century AD and the 3rd century AD, with little evidence of continuity between the two periods. This possibly reflects a general decline in the province during the 2nd and early 3rd centuries. No villas are known in immediate area, although possible buildings have been found at Manor Farm, Harmondsworth, and from further afield at Rickmansworth and Ruislip (Bird 1987, 66).

Saxon

Archaeological and documentary evidence indicates settlement centres at Sipson and Harmondsworth, where the remains of buildings were identified. However, evidence for associated rural settlement and burial is scarce. Harlington, Hayes and Harmondsworth all feature in charters of 8th–10th century date. At Prospect Park, Harmondsworth, four sunken-featured buildings, two timber halls and evidence of a dispersed terrace-edge settlement was found (Andrews 1996; Farwell *et al.* 1999). At RMC Land and Imperial College Sports Ground early and middle Saxon occupation consisted of pits and possible sunken-featured buildings as well as funerary activity in the form of a small cemetery, and an extensive field system which was laid out across these sites in the late Saxon period (Mepham with Stevens, 2015, 109). Ditches, pits and structures of Saxon date have been identified at Wraysbury (Astill *et al.* 1989; Ford and Pine 2003a) and to the east of Horton, the picture is similar (see Mepham with Stevens 2015 for a summary). Further afield, the rich 7th-century burial at Taplow, the site of royal palace at Old Windsor (Wilson and Hurst 1958) and the potential 'market' site at Lake End Road West (Foreman *et al.* 2002) show that this area was of some importance.

Medieval

A number of existing villages of late Saxon and medieval origin, such as Harlington, Harmondsworth and Sipson, indicate medieval settlement in the area of the Colne Valley. These small, nucleated villages situated on the roads leading west from London indicate the apparently prosperous agricultural settlement of the capital's rural hinterland. Fieldwalking at Harlington has recovered large quantities of medieval pottery, though no direct evidence of settlement. Manors are known from Harlington, Harmondsworth and Horton itself.

Post-medieval and Modern

The area remained the rural hinterland of urban London as the pattern of agricultural land use changed very little into the post-medieval period. Most of the area escaped urbanisation, and it was only with the construction and subsequent growth of Heathrow Airport and the increasing demand for sand and gravel to supply the construction industry that the area was widely developed, and subject to intensive gravel extraction. However, villages such as Horton and Wraysbury remain discrete settlements, reflecting their early origins.

Research Aims

All fieldwork was undertaken with regard to a predetermined set of research aims, developed to ensure the enhancement of our understanding of the archaeology, the organisational history and the spatial distribution of human activity within the landscape, particularly associated with the Middle Thames Valley. As such, a series of both generic and site-specific aims were developed (Wessex Archaeology 2003a, 3), which drove both the excavation and post-excavation analysis of the project to ensure the advancement of knowledge of the archaeology, both of the site and the wider archaeological landscape.

Generic aims included the development of the understanding of the exploitation of the landscape, past activities and any evidence of transient human activity, including the potential for domestic and settled activity, burial, industry and agriculture, as well as ritual and ceremonial activities. Such general aims were further developed to produce specific research objectives for the site, which would drive the excavation and subsequent analyses. The objectives were further defined as fieldwork progressed. These predominantly surrounded the determining of archaeological evidence within its contexts and were specifically associated with the understanding of Late Glacial material on the site; determining the survival of the pre-Bronze Age landscape; the clarification of the nature and extent of the Bronze Age activity; assessing the character and nature of the historic landscape; and the assessment of the associated artefactual and environmental assemblages. The aims also sought to clarify the nature of various palaeochannels on the site, and where possible, their impact on land use, settlement and the formation of the landscape. The research aims were further defined to specifically apply to the nature and importance of the archaeological evidence to produce a series of updated research themes. Such themes guided the nature of the post-excavation and analyses programmes. The remaining objectives were then categorised into broad themes to enable them to guide the structure and methods for the post-excavation process, which has led to this publication. Within each theme a number of research questions were also posed (Wessex Archaeology 2009a, 70–2). These themes are listed below:

Theme 1: Development of the organised landscape during the Neolithic (4000–2400 BC) and Early Bronze Age (2400–1500 BC)

Theme 2: Development of the settled landscape. Middle and Late Bronze Age (1500–700 BC) to Iron Age (700 BC–AD 43)

Theme 3: Development of the rural settlement in the hinterland of London. Romano-British (AD 43–410) to post-medieval (AD 1500–800)

Theme 4: Development of the Holocene landscape with specific reference to the dynamics of river channels, riverscape and gravel islands. Pre-Neolithic to post-medieval.

The review of the research objectives identified that the excavations could make a substantial contribution to the understanding of several periods in relation to the Middle Thames Valley. The themes have played a considerable role when considering landscape change between the periods, from the Neolithic evidence to the organised sub-division of land during the Middle Bronze Age; from the small Iron Age settlement to the wide-scale imposition of Romano-British agricultural enclosures. Supporting material for these themes can be derived from sites on the fringes of the gravel terrace and beyond.

Report Structure

An integrated approach has been taken for this publication, with the results presented in chronological order and much of the artefactual and environmental evidence added into the descriptive text. All site-specific discussions and interpretations are also to be found in the main chapters, whilst all the specialist reports (Appendices 1–6) are available online through the Archaeology Data Service (ADS).

The text for this volume was largely completed in 2013 but due to delays in the post-excavation process it did not immediately proceed to publication. Archaeological work continued in the quarry ahead of extraction and it soon became clear that this volume, whilst detailing the results of the first phase of investigation, would form an interim statement in terms of the overall conclusions drawn. In most cases the ensuing fieldwork has reinforced the pattern revealed during the first phase of work but in some instances it elucidated further the site's occupation or lacunae in activity. Thus, whilst Volume 1 makes tentative conclusions based upon the investigations conducted between 2003 and 2009, the definitive conclusions will be presented in Volume 2, which will cover the investigations undertaken between 2010 and 2015 and conclude with a full summary of the archaeological sequence of the whole site and its setting. For example, two Early Neolithic structures were discovered during the first phase of fieldwork and a further three during the second phase but the full implications can only be understood when the chronology of all of the structures is known. This second volume will appear in due course.

Specialist reports were crafted to the prevailing standards of 2013 and, in some cases, these standards have altered in the following 10 years. The specialist reports have not, however, been updated since they were written and should be considered as 'of their time'. Similarly, these reports were created prior to the completion of the second phase of fieldwork and were therefore not privy to all of the discoveries.

Chronology and Timescale

Table 1 summarises the general chronology of the archaeological periods revealed during the excavations and reflects the phasing for the excavations (Fig. 1.4). The phasing was refined through examination of stratigraphic relationships,

as well as artefactual and environmental analyses and selected radiocarbon dating.

Radiocarbon Dating

The radiocarbon dating was undertaken at the Rafter Radiocarbon Laboratory, New Zealand. All radiocarbon measurements have been calculated using the calibration curve of Reimer *et al.* (2020), and the computer program OxCal v4.4 (Bronk Ramsey 2009). The calibrated date ranges cited in the text are those for 95% confidence. They are quoted in the form recommended by Mook (1986), with the end points rounded outwards to 10 years. The ranges quoted in italics are posterior density estimates derived from mathematical modelling of given archaeological problems (see Appendix 6). The ranges in plain type have been calculated according to the maximum intercept method (Stuiver and Reimer 1986). All other ranges are derived from the probability method (Stuiver and Reimer 1993).

Location of the Archive

The project archive (Wessex Archaeology project codes 54635, 54636, 54637 and 71800) has been deposited with Reading Museum, under the accession code REDMG: 2005.60.

Table 1.1. Archaeological periods represented

Period	*General date range*	*Subdivision*	*Specific date range*
Early Post-glacial	10,000–8500 BC	-	10,000–8500 BC
Mesolithic	8500–4000 BC	-	8500–4000 BC
Neolithic	4000–2200 BC	Early Neolithic	4000–3350 BC
		Middle Neolithic	3350–2850 BC
		Late Neolithic	2850–2200 BC
Beaker	2600–1800 BC		2600–1800 BC
Bronze Age	2200–700 BC	Early Bronze Age	2200–1600 BC
		Middle Bronze Age	1600–1100 BC
		Late Bronze Age	1100–700 BC
Iron Age	700 BC–AD 43	Early Iron Age	700–400 BC
		Middle Iron Age	400–100 BC
		Late Iron Age	100 BC–AD 43
Romano-British	AD 43–410	early Romano-British	AD 43–120/130
		middle Romano-British	AD 120/130–250
		late Romano-British	AD 250–410
Saxon	AD 410–1066	early Saxon	AD 410–650
		middle Saxon	AD 650–850
		late Saxon	AD 850–1066
Medieval	1066–1500	earlier medieval	11th–13th centuries
		later medieval	14th–15th centuries
Post-medieval	1500–1800	-	-
Modern	1800–present	-	-

Chapter 2
Development of the Late Glacial to Holocene Landscape and the Evolution of the River Channels

by Catherine Barnett with Philippa Bradley

Introduction

The site of Horton, bounded to the east by the Colne Brook, lies on a wide floodplain 4 km north-west of the modern confluence of the River Thames, which flows 1.5 km to the west of the site, with its tributary, the River Colne, 2 km to the east of the site (see Chapter 1 and Fig. 1.1). The area is mapped as floodplain gravels with occasional fine alluvium, over bedrock of London Clay with patches of brickearth (Geological Survey of England and Wales sheet 269) (Fig. 1.6). Due to the presence of these extensive gravels, which can be up to 6 m thick, the immediate area is heavily quarried and is now the location of a number of reservoirs. Wide Taplow Gravel terrace deposits occur near Heathrow, about 5 km to the east. The soils are mapped as pelo-alluvial gley soils of the Fladbury Association and gleyic argillic brown earths of the Waterstock Association alongside the Colne Brook, but with typical argillic brown earths of the Sutton II Association adjacent to the River Thames (Soil Survey of England and Wales 1983).

During excavations at Horton, a number of palaeochannels (Fig. 2.1) were found within and to the edges of the archaeological areas by augering and trial trenching (Fig. 2.2). These have been studied in detail in order to understand their development, chronology and impact on the Neolithic and later farming communities and the character of the landscape. The presence of these deep, stratified, waterlogged sequences has also enabled the recovery of a range of environmental remains, which in combination have added considerably to our understanding of landscape change during the Late Glacial and Early Holocene periods. This chapter draws on a number of specialist reports and landscape information (mainly wood charcoal, charred plant remains and insects) from archaeological features, which can be found in Appendices 1–2. The results of these analyses and in particular the data they provide on land use and agriculture, is discussed in more depth by Pelling (Chapters 3–5).

Palaeolithic Finds

Notwithstanding the extensive archaeological work within the quarry from 2003 to 2009, no *in situ* evidence for human activity of pre-Holocene date was found in spite of the known Palaeolithic potential of the Colne Valley. The *ex situ* evidence for lithics is summarised below.

While excavations were ongoing, a quarry worker handed in a handaxe recovered from a conveyor, presumably brought up by drag-line gravel extraction works. The cordate handaxe of Wymer's (1968) type J (Fig. 2.3) had suffered post-depositional damage, probably from rolling during transport in river gravels after the erosion of the original land surface, before its reincorporation into the gravel deposits (see Harding, Appendix 3). The handaxe is likely to be at least 300,000 years old.

The excavations at Horton have recovered Late Upper Palaeolithic flintwork (see Bradley, Appendix 3), which although not found within a secure context is an important addition to the known distribution of this material in this part of the Thames Valley (cf. Lewis with Rackham 2011; North *et al.* 2011).

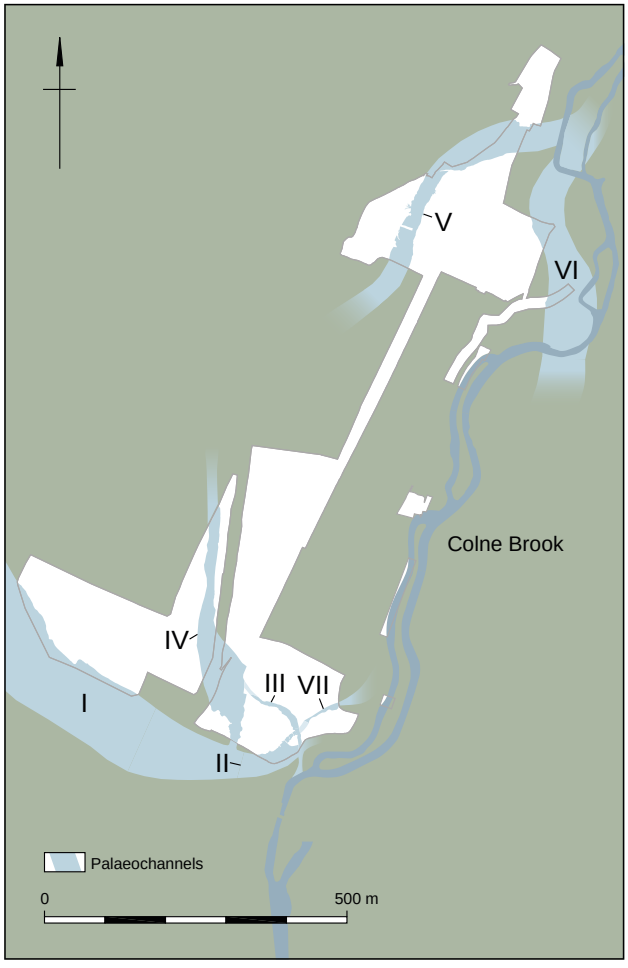

Figure 2.1 Palaeochannels at Horton

Figure 2.2 Trench across Palaeochannel IV (S)

The relatively fresh condition of much of this material would imply that it had not travelled far from its original place of deposition. The majority of the Late Glacial flint was recovered from a loose scatter in the southern part of the site, near *Palaeochannel I.* Two blades were recovered from the east of the site, close to *PalaeochannelVI.* Despite the difficulties with interpreting this material, it is possible to conclude that wood and antler working were probably occurring, given the emphasis on burins. The scrapers may indicate that hide processing was also taking place. Only two flint cores were recovered, possibly indicating that knapping was of secondary importance, but the size of the assemblage may be a factor here.

In contrast, in 2014 a substantial *in situ* scatter of Late Upper Palaeolithic flint, associated with articulating horse bones and large quantities of calcined flint suggesting nearby hearths, was revealed in extraction phase 15 east, close to a palaeochannel (Barclay *et al.* 2017). Radiocarbon dates were obtained on a horse tooth, 9660–9280 cal BC (SUERC-57714, 9920±39 BP); a partial aurochs skeleton, 9740–9290 cal BC (SUERC-62321, 9946±53 BP), from an adjacent channel deposit, and on waterlogged *Carex* sp. remains, 9760–9300 cal BC (UBA-34734, 9977±55 BP) from a third deposit (Barclay *et al.* 2017, 4). Material of this date is rare nationally and its general condition and scale (the scatter appears to be of a minimum of 19,000 pieces of worked flint and potentially up to 43,000) emphasises the site's importance. This date and the potential significance of this material was initially identified by Philippa Bradley and has been recorded by Phil Harding and will be published in detail in Volume 2. It provides a rare opportunity to examine the development from the Late Glacial (Late Upper Palaeolithic) to the early Post-glacial (Mesolithic) period (Barclay *et al.* 2017, 4).

The Devensian Origins of the Horton Landscape

The extensive floodplain gravels at Horton are believed to be of Devensian date. These are mapped as undifferentiated (Geological Survey of England and Wales sheet 269) but may relate to the Late Devensian Shepperton Gravels (Bridgland 1994), while the Early–Mid-Devensian Taplow Gravel Formation lies just to the east of the site, following the far edge of the River Colne. Where encountered during deep coring of the main palaeochannels, the gravels were found to be of small to coarse moderately sorted sub-angular to sub-rounded stones in a sandy silt matrix (sedimentary Unit 8). They represent high-energy and flashy fluvial activity in a poorly vegetated landscape typical of a cold stage or glacial

Figure 2.3 Cordate hand axe recovered by a workman from a conveyor

period such as the Devensian. *Palaeochannel I* proved to comprise a very substantial channel system originating in this period and flowing WNW-ENE at the southern edge of Horton (Figs 2.4a and 2.5), being 110 m wide, edge to edge, and up to 4.5 m deep over the gravels. An apparent lack of major channel recuts (see Barnett, Appendix 1) indicates that this recorded width approximates to the actual size of the former channel rather than just the floodplain of a meandering smaller system. This channel was previously unknown, and it is suggested that it is likely to have once joined the River Thames to the west and the River Colne to the east, forming part of the major cold-stage river system that dominated the area at this time (see Bridgland 1994).

The first layers associated with the channel that can be assigned a date using radiocarbon dating lie well above the recorded gravels, and within a massive body of finer alluvium in two of the palaeochannels investigated (*I* and *VI;* see below). These layers are of Devensian Late Glacial–early Post-glacial age and correspond with the Upper Palaeolithic archaeological period (*c.* 40,000 to 9600 cal BC). While the focus for analysis at Horton was on the more archaeologically visible periods (Neolithic to medieval), a very small amount of environmental data has been gained from the very top of the earlier gravels and basal alluvium in *Palaeochannel I,* where the few preserved ostracods are of *Candona* sp*,* including *Candona neglecta,* indicative of cool permanent water bodies not prone to seasonal desiccation (see Russell, Appendix 2).

In addition to the river gravels, patches of brickearth were encountered at Horton, notably a preserved upstanding triangle of this water-reworked Devensian-age loessic sediment (Fig. 2.6) (Gibbard *et al.* 1987; Lowe and Walker 1997), near the confluence of *Palaeochannels I* and *IV*. Although little analysis has been undertaken of the brickearth locally, where it was encountered (monolith sample 5062), it is described as a dark yellowish brown friable sterile mottled and iron rich silt (see Barnett, Appendix 1), becoming sandier elsewhere where it was found, reworked into and/or slumped into archaeological features.

Late Glacial to Early Holocene Channel Development and Environmental Change

The Evidence from Palaeochannel I

A substantial body of sediments dating from the Late Glacial–Holocene transition to the Late Mesolithic (see Radiocarbon Dating, Appendix 6) was found to infill *Palaeochannel I* (reported in detail in Barnett, Appendix 2).

Unit 7, Alluvium with flood couplets: A thick body of fine soft alluvium, up to 1.65 m thick in the centre of the transect and channel, but thinning to the edges, overlies the basal fluvial gravels. The unit included repeated 1–3 mm bands of fine sediment divided into flood couplets, each grading from fine sand through to clay, with rare very fine (<1 mm) organic laminations, sometimes divided by bands of fine to coarse sand and rarer bands of sub-angular to sub-rounded gravels in a sandy loam matrix. More substantial organic horizons have been described for Core samples 3 and 5 where the brief periods of stabilisation allowed the formation of discontinuous Unit 7ά (at 13.826–13.751 and 12.533–12.523 m OD in Core samples 3 and 5), an organic silt loam (organic alluvium) and two thin bands of peat with twigwood interrupted by alluvium, the latter reflecting a channel-edge position. Twigwood from within the band in Core sample 3 is dated to 10,000–9450 cal BC (NZA-33497, 10,148±55 BP), the early Post-glacial climatic period (corresponding with the Terminal Upper Palaeolithic archaeological period). Unit 7 was missing altogether in the area of Core sample 6, again indicating the edge/marginal nature of that area, only later affected by overbank alluviation.

The sediments, notably the presence of flood couplets, have much in common with those found in tidal areas such as the lower Thames Estuary and Severn Estuary. However, given the timing of the deposition at the Late Glacial to Early Holocene transition, sea levels were far too low to drive tidal influence this far inland (with sea levels at approximately -15.2 m OD

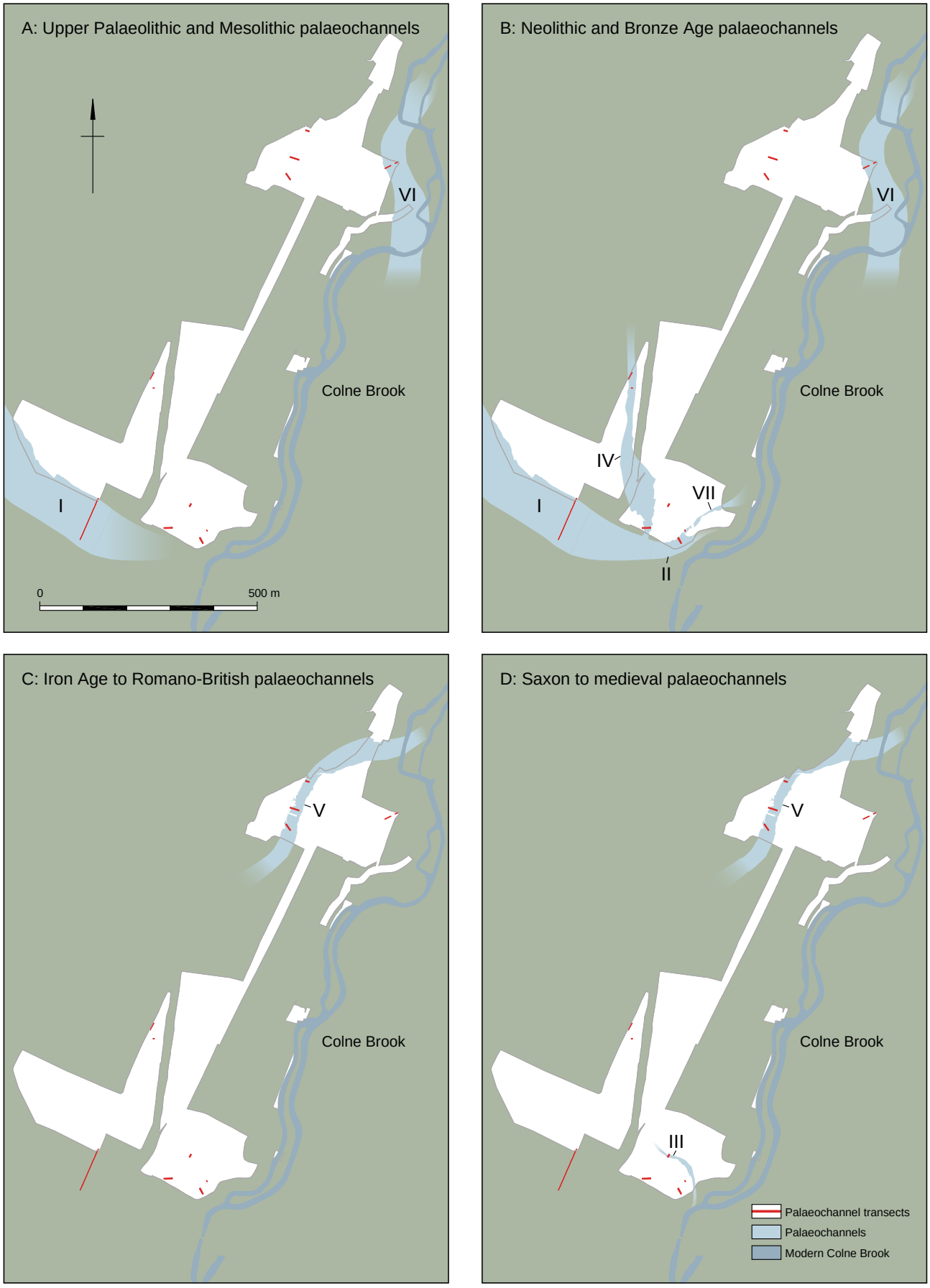

Figure 2.4 Broad phasing of palaeochannels: A: Upper Palaeolithic and Mesolithic; B: Neolithic and Bronze Age; C: Iron Age to Romano-British; D: Saxon to medieval

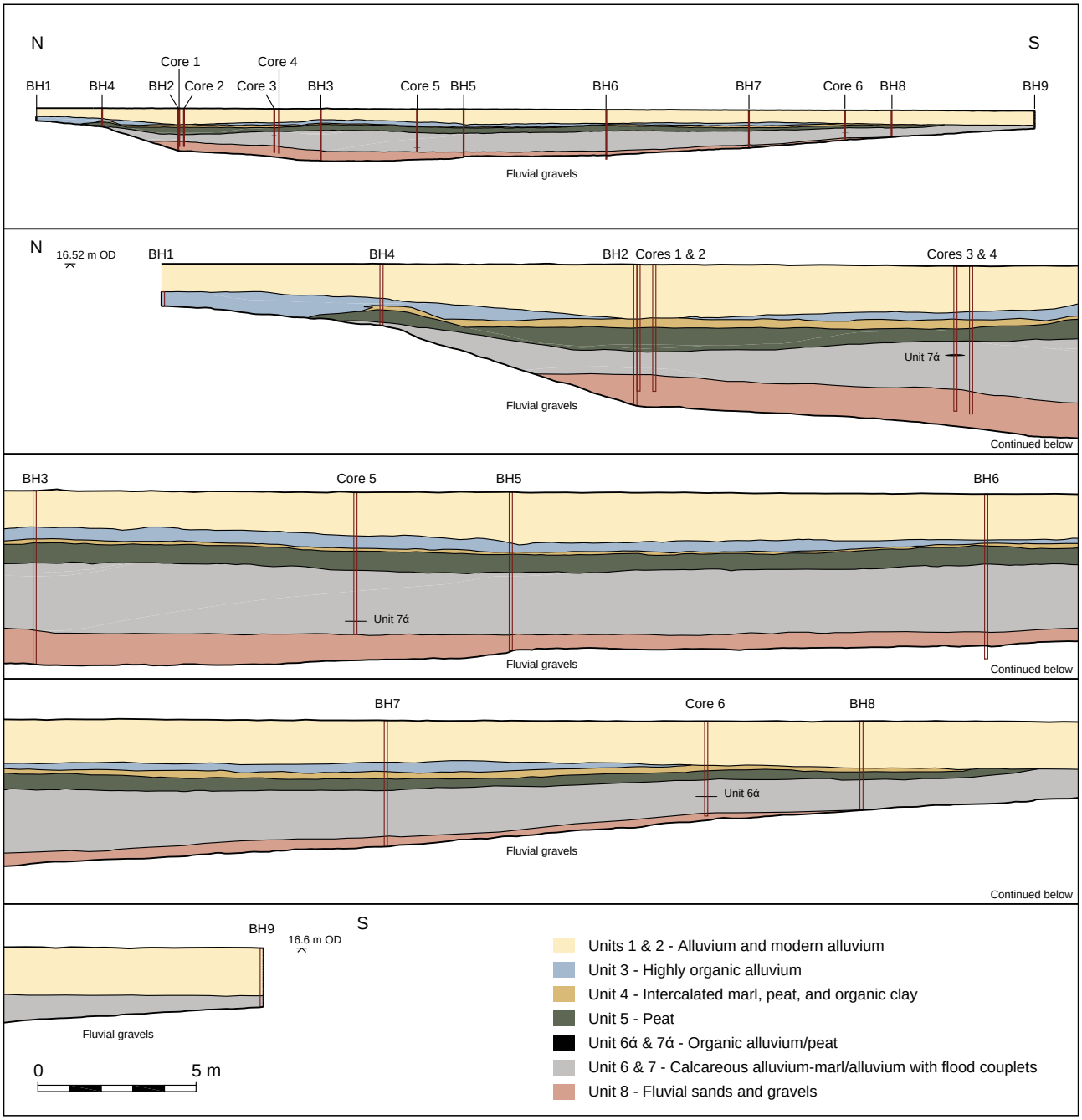

Figure 2.5 Palaeochannel I transect diagram

at the start of the Holocene (Shennan 1989; Simmons *et al.* 1981, 86). Instead, these repeated couplets or laminae are interpreted as forming under repeatedly fluctuating energy of flow, driven by flushes of water/flood events through the catchment, potentially on a seasonal basis. It is suggested that the decrease in overall flow moving into the Holocene prevented the easy crossing of some major topographic feature off-site, such as a raised lip of geology, bank or bar at the confluence with its major source water system off-site (such as the River Thames), leading to the pulsed nature of water and sediment input.

Diatom preservation proved minimal, with only two valves of *Fragilaria pinnata,* a common fresh-water type present in a single level (see Cameron, Appendix 2). However, Unit 7 contained a well-preserved assemblage of ostracods, which were taken for detailed analysis from four levels between 2.97and 4.47 mbg (13.363−12.136 m OD). They are dominated by Candoniid ostracods including *Candona candida* and *Candona neglecta*, which favour cool permanent bodies of fresh water, notably lakes. Other taxa included *Metacypris cordata* (which is described as inhabiting the shallow water habitats of lake margins and being most abundant within masses at lake shorelines) and a number of other fresh-water types (see Russell, Appendix 2). An interpretation of a channel system with developing lacustrine conditions

is supported. While some post-depositional transport is suggested for these dominantly alluvial sediments, and indeed some reworked fossil ostracods were found below 4.2 mbg, a number of united carapaces were recovered, indicating the types are to a degree representative of local water conditions.

Given the early and alluvial nature of the material in the lower portion of Unit 7, unsurprisingly the pollen of Core sample 3, LPAZ Co3-1, also shows some evidence of reworking, with presence of pre-Quaternary spores and pollen of elm (*Ulmus*), oak (*Quercus*) and hazel (*Corylus avellana*) apparently intrusive (see Grant, Appendix 2), most probably reworked from eroded beds of earlier interglacial material from the catchment. However, the assemblage for Units 7 and 6 (Core sample 3 LPAZ Co3-1 and -2) is in the main dominated by taxa of cool, open conditions such as grasses (Poaceae), sedges (Cyperaceae), rock rose (*Helianthemum*), saxifrages (*Saxifraga granulata; S. oppositifolia; S. stellaris*), fir (*Abies*), spruce (*Picea*) and juniper (*Juniperus communis*) and the early appearance of pine (*Pinus sylvestris*) is recorded.

Unit 6, Calcareous alluvium-marl: A clean, soft silt, which became paler and more calcareous up the profile, in places approaching marl. Flood couplets occurred throughout but became diffuse towards the top. The unit was up to 0.5 m thick but thinned to only 0.06 m in (edge) Core sample 1, with its top at 14.5–13.95 m OD. The layer is interpreted as a very low-energy calcareous alluvium approaching a lacustrine algal marl (the latter indicating the cessation in water flow and bloom in algal bodies associated with a lake system), with evidence of repeated rhythmic inwash (flooding events) decreasing up the profile. Arguably, as the system changed to a lake-dominated one (see Unit 6 below), these flood couplets might be interpreted as varves; however, it is suggested that on the basis of the inorganic nature of the majority of the individual layers and the inclusion of higher-energy beds, that the flooding events which repeatedly affected the river and probable developing lake system were driven from beyond the immediate system, rather than being an internal seasonal event.

It has already been postulated that the cause of repeated pulses of water to the system may have been caused by flooding over a major geomorphological feature in the catchment. It may be this that ultimately led to the cutting off of the whole tributary or alternatively that this is a large cut-off meander of a major channel that formed an oxbow lake at this location, with the channel shifting and continuing to flow to the south, though as yet no such channel has been investigated and reported in the area. Given the evidence for the continued repeated input of water and sediment at times of flood indicated by flood couplets, the former explanation is favoured.

A very thin peat band (Unit 6ά) occurred at 14.283–14.273 m OD (2.38–2.39 m below ground) in Core sample 6 only (see Appendix 2, Table A2.2) and the underlying alluvium contained organic-infilled root voids traceable to this layer, which was also heavily oxidised, with abundant iron staining present. An immature/incipient soil is indicated. The layer was overlain by the fine alluvium of Unit 6 but was finer and less calcareous in this location and contained no flood couplets. In addition, this sequence was characterised by relatively abrupt shifts in depositional environment and truncation of units throughout. A more marginal/channel-edge environment prone to change, including shifts in channel position and energy of flow and less affected by rhythmic flooding, is indicated.

Unfortunately, mollusc, diatom and ostracod preservation proved poor in this unit but the

Figure 2.6 Palaeochannel VI

recovery of charophyte oogonia throughout the unit and sometimes in high numbers is significant, (see Russell, Appendix 2), indicating large algal blooms in a slowed waterbody. Seeds of aquatic plant types, horned pondweed (*Zannichellia palustris*) and the crowfoot group (*Ranunculus batrachium*) were recovered from this unit. The delineation of Unit 6 coincides with that of pollen zone LPAZ Co3-2 from Core sample 3 (see Grant, Appendix 2), with a reduction in pine. Whorled water-milfoil (*Myriophyllum verticillatum*) increases coincident with increasing diffuseness of the flood couplets. This and the increase in aquatics such as spiked water-milfoil (*M. spicatum*) and white and yellow water lilies (*Nymphaea alba, Nuphar lutea*) supports the interpretation of lowered-energy flow and expansion of the water body into a possible lake.

The evidence therefore is for slowing down and indeed partial isolation of this channel system, becoming more characteristic of a large lake environment. There would still have been some external input and slow flow, as indicated by the continuation in couplets but for all intents the main river had ceased to exist. The radiocarbon dates given below provide a good chronological framework for these early changes, with underlying Unit 7ά dated to the early Post-glacial period at 10,000–9450 cal BC (NZA-33497, 10,148±55 BP), equating with the terminal Upper Palaeolithic archaeological period and the base of a peat sealing Unit 6, also dated to the early Post-glacial at 9660–9260 cal BC (NZA-33482, 9915±50 BP), demonstrating that there were substantial changes in the nature of this feature over the course of only a few centuries.

Unit 5, Peat: A laterally continuous compact humic fen peat, up to 0.65 m thick with its top at 14.95–14.6 m OD, displayed clearly defined horizontal layering of herbaceous plant material and occasional vertical roots and well-preserved wood fragments increasing to the top of the unit. A stable edge terrestrial environment allowing encroachment of woody taxa is indicated. A clear to sometimes abrupt boundary was noted at its base, unusual for a peat, and formation on an already truncated surface and a rapid drop in water levels or shift in channel position is suggested.

Three AMS radiocarbon dates have been gained for this layer, the base of the peat in Core sample 3 dating to the early Post-glacial (Terminal Upper Palaeolithic, 9660–9260 cal BC (NZA-33482, 9915±50 BP) and the top of the peat deposit in Core samples 3 and 6 dating to the Early Mesolithic (8210–7750 cal BC (NZA-34038, 8835±40 BP); 8200–7720 cal BC (NZA-34039, 8806±40 BP)). These deposits indicate, therefore, that increasingly marshy conditions encroached across the floodplain and channel/lake edges as it shallowed and dried out in the early Post-glacial to Early Mesolithic periods.

A single pollen sample from Unit 5 of Core sample 3 (LPAZ Co3-4) and the assemblage in two samples from this unit in Core sample 6, including that dated to within 8200–7720 cal BC (NZA-34039, 8806±40 BP), shows a typical Early Holocene expansion of pine (*Pinus sylvestris*) with an associated decline in birch (*Betula*) and meadowsweet (*Filipendula*). However, despite these being well-stratified peats, pre-Quaternary spores continued to be present, indicating some reworked source of material, though to a lesser degree in the channel-edge Core sample 6. Diatom preservation proved poor, with only one frustule found, of *Achnanthes minutissima*, a common fresh-water type (see Cameron, Appendix 2).

The study of this major water body is important in its own right in geomorphological and Quaternary study terms, but this water body also had ramifications for the early prehistoric settlers. The main body of sedimentary and environmental data has been shown to date to the transition from cool open (Late Glacial) conditions to the Early Holocene (see below), a landscape likely used by Late Upper Palaeolithic and Early Mesolithic hunter-gatherers but the latter not demonstrably so at the site itself. It does, however, add regional landscape detail to known sites of this period in the wider area, as discussed below.

The later fills (Units 4–1) of *Palaeochannel I* are discussed in the following Mid–Late Holocene section.

The Evidence from Palaeochannel VI

Material dating to the Late Glacial to Early Holocene was also found in *Palaeochannel VI* (monolith sample 7549) (Figs 2.1 and 2.7). This group comprised two (or more) adjacent channels partially divided by a ridge (possible eyot) of coarse sand and gravel believed to be part of the inherited Devensian-age fluvial topography. The braided channel system flowed across the north-eastern edge of the site, orientated SSE–NNW approximately parallel with the modern Colne Brook. Where they were seen in section, both channels were relatively shallow at around 1 m deep and filled with a well-stratified sequence of alluvium and peats. As indicated in Table A2.3c (Appendix 2), after low-energy channel flow laid down a thin body of alluvium, they then began to infill with peat with a high non-calcareous inorganic component (the 'lower peat') and fine alluvium (together forming context 17442), dated in the western one of these channels to the Late Glacial period at 11,540–11,300 cal BC (NZA-34138, 11,503±50 BP) at 0.93 m. This corresponds with a brief warming stage within the latter stages of the Devensian cold stage (the Windermere Interstadial), as discussed below.

Three pollen samples from these early deposits (LPAZ 7549-1 and -2, see Grant, Appendix 2), indicate that pine dominated the dry land and continued to expand, with sedges and grasses along the floodplain. Birch (*Betula*), juniper (*Juniperus communis*) and willow (*Salix*) were also common and, as demonstrated by the results from the lower sediments of *Palaeochannel I*, cold-loving taxa such as rock rose (*Helianthemum*) and saxifrages (*Saxifraga* spp.) persisted.

Higher in the sequence, on a sharp boundary (probably an erosive contact with a possible hiatus or representing a sudden drop in water levels), lay a fibrous black peat with numerous recognisable plant remains (the 'upper peat', context 17448). Some disparity between the radiocarbon dating and the pollen assemblage occurs near its base. The Early Neolithic date (3800–3640 cal BC (NZA-34036, 4961±30 BP), at 0.53 m depth) is in contrast to the continued presence of the taxa described for the lower peat and alluvium and Detrended Component Analysis (DCA), which suggest they originate from a cool, open environment (see Radiocarbon Dating, Appendix 6). It is feasible that part of the upper peat was also formed during the Late Glacial/Upper Palaeolithic period.

Discussion of the Late Glacial to Early Holocene (Upper Palaeolithic to Mesolithic) Environment

The evolution of a complex channel and lake system with evidence for the Late Glacial to Early Holocene has been described. The initial fast-flowing Devensian cold-stage *Palaeochannel I*, a river capable of carrying a coarse gravel and sand sediment load, was in part fed by the smaller braided tributaries to its north. It declined in energy to a substantial Late Glacial–early Post-glacial channel that deposited thick layers of fine alluvium. The apparent lack of recuts indicates the river showed limited lateral movement, neither meandering nor anastomosing, perhaps due to the strong influence of the inherited Devensian gravel topography, creating a very laterally consistent set of sedimentary units. As energy continued to decline moving into the warmer Holocene, with its consequent colonisation of vegetation and stabilisation of soils, the major channel at Horton became increasingly isolated from its major water source and slowed to such a degree that algal blooms began, and lacustrine conditions established.

The lateral continuity of these slack water deposits indicates a substantial lake formed here during early prehistory; however, the continued presence of flood couplets indicates that this was not a closed lake

Figure 2.7 Palaeochannel IV

system but one continuing to receive substantial volumes of flood water and reworked sediment from beyond its boundaries. The lack of recut channels identified within the highly laterally continuous strata described for *Palaeochannel I* suggests that either the source was an as yet undiscovered channel further to the south, or that the system interconnected with the former course of the Thames to the west and/or the former course of the Colne to the east. Given the under- and overlying dates bounding the marl deposits are both early Post-glacial at 10,000–9450 cal BC and 9660–9260 cal BC respectively (NZA-33497, 10,148±55 BP; NZA-33482, 9915±50 BP), the lake system was also clearly of early Post-glacial age and relatively short lived. While smaller channels and springs continued to flow at the site after this time, the major depositional environment from the Early Holocene (and in the case of shallower *Palaeochannel VI*, from the Late Glacial Windermere Interstadial) was the formation of fen peats in a marshy, well-vegetated landscape across the floodplains.

It remains to place the changes described above in their regional and indeed wider climatic contexts. Direct parallels, while not manifold, do exist. The lower date here from *Palaeochannel VI* is comparable with that from the upper organic lens within predominantly gravel braided channel fills at West Drayton, on the River Colne to the north-east of Horton, dated to 11,410–10,890 cal BC (Q-2020, 11,230±120 BP) (Gibbard and Hall 1982). This, like the lower fills of *Palaeochannel VI*, had deposited under slow or still water conditions during the short Windermere Interstadial warm stage and contained remains of willow, birch and herbaceous taxa of marshland.

The sequence at the riverside Upper Palaeolithic to Mesolithic site at Three Ways Wharf, Uxbridge, also on the River Colne (Lewis 1991; Lewis *et al.* 1992) is less complete for the Late Glacial to early Post-glacial period but its firm association with the Upper Palaeolithic and Mesolithic archaeology make it a key comparator. There, shallow overbank alluvium over Devensian river gravels was overlain by a clay loam soil with *in situ* flint and faunal remains, with occupation shown to have taken place in increasingly damp conditions. These remains were in turn sealed by a charcoal-rich black clay, the latter providing the only pollen assemblage suitable for analysis and being of Boreal (later Mesolithic) age, with mixed deciduous woodland and reeds and sedges fringing the river.

A group of sites with similar Late Glacial to early Post-glacial sedimentary sequences have also been described at Uxbridge for Riverside Way (Wessex Archaeology 2006a), Cowley Mill Road (Lewis 1991, 244), Iver (Lacaille 1963) and Denham (Wessex Archaeology 2003b, 2005b), the latter in association with early flintwork. However, the more substantial Late Upper Palaeolithic flint assemblage at Church Lammas lay on brickearth over fluvial gravels, although there was only a limited sedimentary and environmental sequence (Jones 2013, 55; Lewis pers. comm.); similarly the Early Mesolithic flints at the B&Q Depot, Old Kent Road, London are simply on weathered sands over the gravels (Sidell *et al.* 2002). Riverside Way, less than 1 km from Three Ways Wharf, displays the most complete contemporary environmental sequence (though not one associated with archaeological remains) of Devensian river gravels, overlain by approximately 1.3 m of channel fills of calcareous tufa, then intercalated tufa/marl, peats and alluvium, with a more substantial peat (then gyttja) forming from 8540–8270 cal BC (NZA-24079, 9140±40 BP). The peat showed typical pre-Boreal to Atlantic pollen spectra and an influx of micro-charcoal possibly associated with Mesolithic activity. The sequence was found to be highly reminiscent of that at Temple Mills Depot adjacent to another Thames tributary, the River Lea. However, from that site a herbaceous stem from the lowermost peat was earlier, dated to the terminal Late Glacial at 10,520–9880 cal BC (KIA-24051, 10,307±50 BP) (Barnett *et al.* 2013). At Nazeing in the Lea Valley, Late Glacial interstadial and stadial deposits occur in the form of the Nazeing Beds and Arctic Plant Beds, formed of lacustrine calcareous organic silts and clays (nekron mud) with plant remains including dwarf birch and marsh taxa (Allison *et al.* 1952). Substantial early Post-glacial peats again formed on top of these deposits.

The Taplow terrace edge Late Glacial to early Post-glacial site of Moor Farm, Staines, on the confluence of the Rivers Colne, Thames and Wraysbury, comprised a shallow sequence of alluvial sand, peat and clay associated with Mesolithic remains (Ames 1993). The pollen work (Keith-Lucas 2000) indicates the base dates to the terminal Late Glacial and the very start of the early Post-glacial period, with open- and cold-loving taxa such as juniper and dwarf birch and a variety of herb types persisting prior to the main birch then pine rise (9310–8820 cal BC (OxA-6469, 9710±75 BP)). The underlying gravels at this site are believed to date to the Loch Lomond Stadial at around 11,500–10,250 BP (Keith-Lucas 2000, 88). In contrast to the main channel at Horton, but of similar type to the series of parallel tributaries represented by *Palaeochannel VI*, the (earlier) channels investigated at Eton Rowing Lake, Dorney on the Thames near Windsor, were in the form of multiple, anastomosing river systems during the Late Glacial to early Post-glacial prior to the laying down of fine alluvium, marls and peats on a wide ill-drained floodplain, notably behind gravel levees at the floodplain margins (Parker and Robinson 2003, 44).

Long sequences spanning a similar time period have been described for another of the Thames tributaries, within the middle Kennet Valley in

Berkshire, to the west of Horton. At Woolhampton, a distinct sand and silt body, named the Wasing Sand Bed, occurred within Late Devensian gravels (Bryant *et al.* 1983; Collins *et al.*1996; Worsley and Collins 1995), the pollen of which shows a change from a species-poor to species-rich herbaceous and birch woodland vegetation in the latter part of the Windermere Interstadial (Collins *et al.* 1996, 363). The overlying gravels were suggested to form from a braided system re-established under the cold, open conditions of the Younger Dryas Stadial (see below). Subsequently, thick algal marl developed under slow-moving to lacustrine conditions during the Late Glacial–Holocene transition at Woolhampton (Chisham 2004) and across a limited area at Thatcham (Churchill 1962) and is clearly comparable to the situation at Horton. A body of peat and alluvium of Early Mesolithic date overlay the marl at both sites, again as at Horton. More detailed analysis was undertaken of the peat sequence and its record of early Post-glacial vegetation succession and exploitation at Thatcham than here (Barnett 2010; Chisham 2004), because of its close proximity to significant archaeological remains. However, a large hiatus existed at the top of the sequence, spanning the Late Mesolithic to the Iron Age, so the data presented in the following section provides a useful addition to the known sequence in this hydrologically and topographically similar site in the region for the Early Neolithic–Bronze Age periods.

The climatic conditions that drove the large-scale landscape changes recorded at Horton and the other Thames region sites have been increasingly well understood in recent years, and their timing clarified by the study of the GRIP and GISP2 Greenland ice cores and of responses in the North Atlantic region (eg, Alley *et al.* 1993; 1997; Alley 2000; Björck *et al.* 1997; 1998; Dansgaard *et al.* 1993; GRIP members 1993; Lowe *et al.* 1994; 1995; 1999; Taylor *et al.* 1997; Walker *et al.* 1994; 1999). [Author's note: global context not updated from original text] Following the Last Glacial Maximum at *c.*18 ka BP (22 ka cal BP, OI Stage 2), $\delta^{18}O$ levels in the Greenland cores and deep-sea sediments indicate warming between 14.68 and 12.9 ka BP (ice core years, Alley *et al.* 1993). Most of Europe was deglaciated by 13 ka cal BP. Rivers became high-energy and braided because of seasonal melt (Rose 1995) and organic sedimentation and soil formation processes increased. However, this general climatic trend contained a number of climatic oscillations driven by variations in oceanic circulation and associated ice-sheet fluctuations.

Much of Europe experienced a warm period termed the Bølling Interstadial (Mangerud *et al.* 1974) or GI-1e (Greenland Interstadial 1e) (Björck *et al.* 1998; Walker *et al.* 1999), dated to 14.68–14.05 ka BP (ice core years). A cooler period, the Older Dryas or GI-1d, followed, from 14.05–13.9 ka BP (ice core years). The two events have not been clearly shown for most sites in Britain, although work on dry valleys in Kent, notably at Holywell Combe (Preece 1998; Preece and Bridgland 1999, 1083) somewhat reflect this sequence.

The subsequent European Allerød Interstadial or GI-1a-c from 13.9–12.9 ka BP (ice core years), correlates with the British Windermere Interstadial (Pollen zone II, Godwin 1940). The lowest dated layer of *Palaeochannel VI* at Horton (monolith sample 7549, the 'lower peat', 11,540–11,300 cal BC (NZA-34138, 11,503±50 BP)) corresponds with this Windermere Interstadial. The pollen from this early sequence and the lower deposits of *Palaeochannel I* have been described above and the spectrum correlates well with the known UK sequence of expansion of open-loving species, then pioneering plants such as birch and juniper, which occurred as soils started to develop (eg, Godwin 1975; Hunt *et al.* 1984). However, the high presence of pine described deviates somewhat from the norm. Maximum tree and shrub cover for this period occurred at Llyn Gwernan, North Wales at 12.1 ka BP (Lowe and Lowe 1989). The analysis of faunal and Coleopteran remains elsewhere indicates sudden and intense warming (Walker *et al.* 1993, 675) during this time, with a temperature rise of up to 7.2 °C per century (Atkinson *et al.* 1987, 5), perhaps to summer temperatures 1–2 °C warmer than present at 18 °C (Coope 1979; Walker *et al.* 1994, 114). Increased weathering, soil formation and organic deposition occurred (as here) and widespread fine alluvial sedimentation took place (Rose 1995).

A brief but severe climatic downturn, with a rapid fall in temperature, occurred into the Younger Dryas/Loch Lomond Stadial or GS-1 (Greenland Stadial 1) event, which brought the return of arctic, generally arid, conditions. A shutdown of the North Atlantic Deep Water circulatory system and replacement by water from the North Atlantic Intermediate Water system causing dramatic cooling in the North Atlantic area has been proposed as a trigger (Hughen *et al.* 1998, 68). An open tundra landscape and associated permafrost re-established, and small glaciers formed in upland areas of Britain (Ballentyne 2002; Sissons 1979). Plants such as grasses, fat hens and mugwort, able to survive on seasonally frozen, open and disturbed ground, became dominant. A rapid influx of arctic types occurred in the insect fauna (Coope 1981, 219), indicating a sharp decrease in temperatures in Britain, with a drop of 7–8 °C (Lowe *et al.* 1994, 191). Dominantly minerogenic lake and fluvial deposition returned (Roberts 1998, 50), and bare ground/thin soils or loess from aeolian action existed at the end of the period.

Overall, the Younger Dryas/Loch Lomond Stadial/GS-1 is indicated to have lasted from 12.9–11.6 ka cal BP (Alley *et al.* 1997; Hughes *et al.* 2001) but it is clear that corresponding biological signals, notably

the vegetation record, and to a lesser degree the sedimentary record, are time transgressive (Lowe and Walker 1997, 342; Tipping 1991, 14), with the time lag dependent on a number of factors, including distance from refugia, speed of soil development and differing mode and speed of reproduction between species. This means that dates given for the start of the change from the cold-stage flora of the Younger Dryas/GS-1 to that of the warmer Holocene will be more recent than those for change in sediments and the $\delta^{18}O$ signal. Lowe and Walker (1997, 343) have therefore suggested many authors find a less refined, uncalibrated subdivision of the Late Glacial useful, with (in Britain) the Windermere Interstadial/GI-1a-c lasting from 13−11 ka BP, with a thermal maximum at 13–12.5 ka BP and the Loch Lomond Stadial/ GS-1 from 11−10 ka BP, followed by the start of the Holocene interglacial (OI Stage 2/1 boundary).

The Greenland ice core evidence and deep-sea cores indicate the major climate change occurred at *c.* 11.6 ka cal BP (Hughen *et al.* 1998, Taylor *et al.* 1997). In GISP2 the event was dated to 11,640±250 BP (ice core years, Alley *et al.* 1993), while a date of 11,530±20 BP came from ^{14}C matching of the long South German pine sequence (Spurk *et al.* 1998, 1111). An approximate date of 10 ka BP or 11.6 ka cal BP is usually adopted in the literature. There are problems in dating the start of the Holocene precisely in the terrestrial stratigraphic record: plateaux of constant radiocarbon age have been observed at 10 and 9.65 ka BP (*c.* 11.6 and 11.3 ka cal BP), due to fluctuations in atmospheric ^{14}C (Ammann and Lotter 1989; Becker and Kromer 1991; Day and Mellars 1994). Accepted thinking now is that the warming was sudden and broadly synchronous, with a change of 7 °C in Greenland within 50 years. The North Atlantic region became milder and less stormy within 20 years, with a rapid retreat of North Atlantic sea-ice cover (Dansgaard *et al.* 1989, 532−3), and a decrease in wind speeds and increased moisture (Taylor *et al.* 1997, 826). Alley (2000, 220) has proposed a one-year end to the Younger Dryas/GS-1 is feasible. Temperatures similar to today were attained in the UK by 9.5−9.8 ka BP (*c.* 11−11.3 ka cal BP) (Jones and Keen 1993, 272; Walker *et al.* 1994, 115), while the effects on the landscape and knock-on effects of slowed run-off and more gradual percolation of rainwater with increasing vegetation cover and development of soils caused, amongst other effects, decreased sediment load and flashiness of flow within major lowland river systems lagged behind.

The exact point of change from Late Glacial to interglacial conditions cannot be pinpointed in the Horton palaeochannel sequences because of the nature of alluvial deposits, radiocarbon dating issues and a lack of definable sudden change within vegetation and sediment records, but it is likely to have occurred near the base of Unit 7 of *Palaeochannel I* and perhaps within or just above the layer of alluvium separating the upper and lower peat of *Palaeochannel VI*.

With the subsequent expansion of arboreal vegetation and stabilisation of soil and river systems, the early Post-glacial landscape became increasingly hospitable and provided more opportunities for exploitation and settlement, even in very low-lying areas such as Horton. Given the Upper Palaeolithic (Windermere Interstadial) date for at least peat inception in *Palaeochannel VI*, it is of note that two long blades were found on the surface adjacent to and on top of this channel. Generally, evidence for occupation at this time is slight, with a dispersed scatter of Upper Palaeolithic material including long blades, cores and burins mostly found near *Palaeochannel I* (see above) and a small Mesolithic component from the site. The discovery in 2014 (see above) of a substantial *in situ* scatter of Late Upper Palaeolithic flint associated with articulating horse bones and large quantities of calcined flint was revealed in extraction phase 15 east between *Palaeochannels V and VI* (Barclay *et al.* 2017) is clearly of significance here. The limited excavation of this scatter indicates the probable presence of hearths nearby and although preservation is variable, preliminary examination has shown that bones were broken for marrow extraction (Barclay *et al.* 2017, 2; see Volume 2 for a discussion of this material).

However, the environmental data gained demonstrates the plentiful opportunities such riverside environments offered to early prehistoric hunter-gatherers in terms of wild resources and adds to the wider landscape picture provided for nearby sites of similar setting along the Thames tributaries such as the River Colne, with sites including Upper Palaeolithic−Mesolithic Three Ways Wharf (Lewis *et al.* 1992; Lewis with Rackham 2011) and the Early Mesolithic site at Sanderson's Fabric Factory, (MoLAS 2006), both Uxbridge, also Denham (Wessex Archaeology 2005b) and Church Lammas (Lewis 2013) and the very numerous archaeological sites along the Kennet Valley (see Froom 2012 for details), such as Late Upper Palaeolithic Avington VI (Barton 1989; Barton and Froom 1986; Barton *et al.* 1998; Froom 1970) and Early Mesolithic Thatcham Reedbeds (Wymer 1958; 1960; 1962; 1963; Chisham 2004; Barnett 2010) and Wawcott (Froom 1963a, b and c, 1965; 1972).

The Mid–Late Holocene Environment and its Effects on the Inhabitants of Horton

The Evidence from Palaeochannel I

The major water body described above to the south of the site had shrunk in extent and depth by the

Early Mesolithic, with the formation of a ubiquitous fen peat (Unit 5) across the floodplain. The water body would have had a decreased effect on the slightly raised ground to the north by the end of the Mesolithic, with a reduction in flood events enabling the area to be exploited and settled by Early Neolithic groups. Repeated minor flooding from this, or the more minor channels identified at the site, is, however, indicated from the presence of fine overbank alluvium in and over features of all ages. The benefits of the presence of what had clearly been a major fluvial system, one which would have originally been likely navigable, bounding the late prehistoric landscape excavated at Horton would have been lost to the inhabitants and given the chronology, the presence of this channel was not a deciding factor in the choice of the site location for specific economic reasons. However, the access to rich fen resources such as plant foods and fibres, good pastural land, fish and fowl and indeed the likely continued proximity to the former course of the Colne to the east may all have played a part. The floodplain of *Palaeochannel I* by this time is shown to have become a complex mosaic of environment types, including shallow lake edge, potentially emergent springs, encroaching marginal terrestrial fen peats and minor channels.

While the bulk of the sediments discussed above for *Palaeochannel I* pre-date the main periods of occupation found with the quarry, a peat band within the intercalating peats, marls and alluvium of Unit 4 has been dated to the Early Neolithic (see Appendix 2, Table A2.3a and Radiocarbon Dating, Appendix 6).

Unit 4, Intercalated marl, peat and organic clay: This unit varied in complexity and in thickness from 0.06–0.15 m with location (being thickest towards the centre of the transect) but was of banded highly calcareous white silt marl, organic clay alluvium and peat with a top at 15.050–14.75 m OD. Intercalation of marl formed in slow-moving to still calcareous aquatic conditions, organic alluvium formed in low-energy riverine conditions or an edge environment prone to overbank flooding, and of terrestrial fen peat at the wetland edge and/or in patches on the floodplain, is described. A mosaic of sedimentological processes with fluctuating local hydrological conditions and location of channel and wetland edge therefore existed at this time. The uppermost peat band in Unit 4 at 14.816 m OD in Core sample 3 has been dated to the Early Neolithic (3760–3530 cal BC (NZA-33484, 4869±35 BP)). This level also correlates with layers within *Palaeochannels IV* (S) and *VI* discussed below.

The pollen curve (see Grant, Appendix 2) indicates there is a chronological break in the sequence at the boundary between LPAZ Co3-4 and 5 in Core sample 3, at the change from the Early Mesolithic peat of Unit 5 to the Early Neolithic intercalated sequence of Unit 4. Notably this type of break, phased to around the Late Mesolithic, is indicated in the four channel pollen sequences analysed for the site, where older Late Pleistocene/Early Holocene assemblages are found at the base, overlain by somewhat later Holocene deposits, indicating active fluvial erosion or a lack of sedimentation occurred in all the channels at this time.

The pollen in LPAZ Co3-5 (Core sample 3, Units 4, 3 and the lower portion of 2) shows quite a different environment by the Early Neolithic to that described before. The vegetation along the floodplain was still dominated by grass and sedge, but now the typical tree taxa of a warm, wooded interglacial period with elm (*Ulmus*), oak (*Quercus*), lime/linden (*Tilia*), and hazel (*Corylus avellana*) had colonised drier areas. Alder (*Alnus glutinosa*) had started to grow along the wetland margins. No cereal grains were found in any of the four sequences, so there is no indication of agriculture in the immediate environs. However, the presence of ribwort plantain (*Plantago lanceolata*) and rise in bracken (*Pteridium aquilinum*) may indicate an increase in disturbed ground, potentially from increased trampling by livestock or wild animals, while an increase in aquatic types is seen moving into the alluvial sediments of Unit 3.

The mollusc assemblage from Unit 4 in Core samples 3 and 4 provides evidence for both the terrestrial and aquatic environments. The aquatics included species which favour moving water, such as *Valvata cristata* and *Bithynia tentaculata* as well as the amphibious species *Lymnaea truncatula* and *Anisus leucostoma*, together indicating a channel system with slow-flowing, well-oxygenated water with a well-vegetated muddy substrate. The land snails were dominated by *Carychium* and Limacidae and reflect areas of long, damp grass or marsh along the channel edge (see Wyles, Appendix 2).

The dating of the top of Unit 4 to the Early Neolithic is of course of particular interest because of the presence of contemporary archaeological remains further to the north at Horton. Although the related pollen signal for this period is somewhat limited because of the nature of this layer, it can be seen from the sediments themselves that in the lifetime of Early Neolithic *House 1* and *2*, a dynamic system of springs, marsh and small bodies of flowing water existed to the south. Long grasses or reeds grew at the channel margins, adjacent to terrestrial wooded fen environments. Hence fresh water and a fen habitat, one rich in plant and animal resources, was available to the first settlers in terms of wild fowl and plant foods and of rich pasture for grazing of wild or domestic animals.

Unit 3, Highly organic alluvium: this unit was of smooth black highly organic to peaty clay alluvium, 0.05–0.07 m thick, the top of which occurred at 1.5–1.63 m depth (approximately 15 m OD). Deposition of highly organic water-lain

(alluvial) deposits rather than *in situ* accumulation of peat is demonstrated but sporadic stabilisation by emergent vegetation is indicated by the occasional presence of rootlets. The unit has been dated to the Late Mesolithic in both Core samples 3 and 6 (8290–7960 cal BC (NZA-34037, 8975±40 BP), 14.976 m OD; 5640–5470 cal BC (NZA-34139, 6639±50 BP), 15.083 m OD). However, the date from Core sample 3 has been discounted as anomalous on the basis of a date reversal with the underlying (and contextually more secure) Early Neolithic peat Unit 4 and on DCA of the pollen and dating dataset (see Grant, Appendix 2 and Barnett, Appendix 6). The unit in Core sample 3 clearly contains material reworked from Mesolithic strata somewhere within the catchment. However, the date from Core sample 6 has been found to differ considerably from that, though it lies within the same broad period and perhaps should not simply be dismissed as erroneous. A degree of alluvial reworking is likely given the sediment type, but this unit at the edge of the channel likely represents at least a semi-stabilised environment with emergent vegetation, and by its very nature the unit is likely to have been diachronous across the floodplain. The Late Mesolithic phasing is tentatively accepted given the lack of contrary evidence in this particular sequence and it potentially correlates with portions of Unit 4 elsewhere on the floodplain.

Other environmental evidence is scarce for this layer; an increase in spores of bracken (*Pteridium aquilinum*) and aquatic types such as bur-reed (*Sparganium emersum* type) and polypody (*Polypodium*) occurs within this unit (see Grant, Appendix 2). Diatom preservation again proved poor, with only a single frustule of *Fragilaria construens* var. *venter,* a common fresh-water type found in a single level (see Cameron, Appendix 2).

Unit 2, Alluvium: A slightly organic sticky silty clay alluvium, with signs of an incipient soil to its top, while **Unit 1, Oxidised alluvium** was of an iron-stained oxidised alluvium which was weathered and disturbed in the upper 0.5 m. The drying and stabilisation of previously waterlogged fine (likely overbank) alluvial deposits is indicated for both units, allowing the formation of the modern alluvial soil profile. Units 1 and 2 together formed a layer up to 1.6 m thick from the stripped and levelled ground surface at around 16.6–15.05 m OD. It was suggested on-site early in the site's stripping that at some level within Units 1 or 2, Late Bronze Age ditch 2770 cut and in turn was overlain by the alluvium to the south-west of the site. The relationship remains unclear because of poor recovery of saturated amorphous sediments. A monolith sample (5066) was taken from the same long ditch but further to the east and shows no alluvial influence. It appears, however, that the inhabitants did make use of what was now a shallow but slowly flowing channel, either to drain the raised land into, or conversely for irrigation, but given the slight gradient, the former is most likely.

The environmental record from this feature is sadly lacking for the Bronze Age and beyond, since the channel had largely infilled by the Early Neolithic and the upper sediments are inorganic and undatable, and also display poor preservation of environmental remains due to soil formation and oxidation brought about by fluctuating ground water at the site. However, a small molluscan assemblage from the alluvium of Unit 2 at 1.48–1.53 m proved to be almost entirely of fresh-water species, with moving-water species predominant, and there was a high ratio of *Bithynia* opercula to shells, demonstrating a greater degree of movement than seen in Unit 4. A permanent, slow-flowing, well-oxygenated body of water is indicated. An increase in aquatic types is also seen in the two pollen samples from Units 2–1, as well as those types favoured by poor preservation conditions such as Brassicaceae and Lactuceae. This coincides with the resurgence of alluvial activity and increase in post-depositional disturbance and oxidation approaching the modern soil horizons. The accompanying reduction in tree pollen does not imply woodland clearance but simply that the sediment source had changed, with an increase of reworked older sediments deposited on-site (hence the age reversal found in a now discounted radiocarbon date from the top of this sequence in Core sample 3). We can therefore at least say from the sediments, pollen and molluscs that after the Early Neolithic, a slow-moving channel with a vegetated muddy substrate continued to exist across the remaining floodplain, depositing the upper body of fine alluvium.

The Evidence from Palaeochannel VI

Following the inception of peat in the Upper Palaeolithic discussed in the previous section, and a subsequent phase of (undatable) alluviation, *Palaeochannel VI* continued to infill with fen peat and alluvium through to the Beaker period (2290–2030 cal BC at 0.23 m depth, (NZA-34035, 3752±30 BP) and beyond (see Fig. 2.4b; Table A2.3c, Appendix 2, and Radiocarbon Dating, Appendix 6). The direct sedimentary relationship of the dated sequence from monolith sample 7549 with the adjacent sequence 7548 indicates that a similar chronology can be applied there and indeed, this author observed topographic features further to the east of these channels which may indicate the presence of yet more, similar, parallel channels, inaccessible for sampling. A series of shallow, fresh-water channels were therefore initially available to this part of the site, but these soon became waterlogged marshland as the features shallowed, became heavily vegetated

and infilled from early in the Holocene.

Some disparity between the Early Neolithic date gained for the lower portion of the upper peat and the pollen spectrum has been suggested (and is discussed below), so it is unclear whether the material is contemporary with the Neolithic house activity or whether in fact this material dates to the Upper Palaeolithic–Mesolithic periods. However, probably by the Early Bronze Age/Beaker periods, the sediments and pollen (LPAZ 7549-3) show that moist boggy ground with intermittent flowing water was present on this part of the site as archaeological activity increased. Tree types at this time included oak (*Quercus*), alder (*Alnus glutinosa*), lime/linden (*Tilia*) and hazel (*Corylus avellana*).

To have dated waterlogged deposits in such immediate proximity to the Early Neolithic and Bronze Age archaeological features directly to the west is useful. The preservation and resolution of the environmental remains found in that sequence is not ideal but nevertheless these dates give a framework for the findings reported by Grant (see Appendix 2). It was also observed on-site that Middle Bronze Age ditches to the immediate west of these channels had a chronological and physical relationship with them, including ditch 12729, which met the upper fills of the western channel on its north-west edge. The exact relationship could not be established but it may have been that this linear sump was used to encourage drainage from the site. In addition, a series of three large oak (*Quercus*) timbers, not apparently worked, were found orientated east to west across the channel. Although these were seemingly not straight enough to have been driven through, deliberate placement/alignment may have occurred, perhaps representing a casual attempt at revetting or traversing the boggy remains of the infilled channel in the Bronze Age (see Barnett and Mepham, Appendix 1).

The Evidence from Palaeochannel IV

This channel was found to traverse the southern site from north to south, being shallow and ephemeral to the north. It likely arose as a fresh-water spring part way across the site, probably originating in the Mesolithic or Early Neolithic. Although the boundaries of this channel are presented as relatively wide (Figs 2.1 and 2.7), this feature would have been narrower, those boundaries representing the outer limits of its changes in course and meandering over its lifetime. It is only to the south, where sequence 8059 was collected, that the channel deepened a little (to approximately 1 m) as it flowed towards its probable confluence with the more major water body to the south. The latter was, as discussed above, probably still in existence in some form after the Early Neolithic, though substantially reduced in depth by this time, and would have been fed by this small tributary.

Local pollen assemblage zone 8059-1, corresponding with the (undated) humic alluvium of context 24372 (see Table A2.3b, Appendix 2) shows the lower sediments are similar to the early fills of the other channels, with a cold, open-loving vegetation assemblage (see Grant, Appendix 2). The Early Neolithic–Beaker dates reported below for the incipient soils formed within the overlying alluvium are of direct relevance to the archaeology of the site. Clearly this stream had an effect on human activity as a number of Bronze Age features respect the edge of the stream, indicating it was still in existence in some form, albeit potentially filled to become a marshy dip in the landscape by this time. Indeed, it may have been most insubstantial throughout its lifetime, potentially even seasonal in nature or prone to drying up, but would have provided another fresh water source when flowing.

LPAZ 8059-2 contains pollen derived from the Neolithic–Beaker age reworked tufa of context 24372 and the incipient soil in alluvium of context 24373. A gradual increase in oak (*Quercus*), alder (*Alnus glutinosa*) and hazel (*Corylus avellana* type) is reported by Grant (see Appendix 2); that these were immediately local types are confirmed by the presence of alder and oak wood fragments (see Barnett and Mepham, Appendix 1). The incipient soil of context 24373 dated to the Beaker period at 2200–1970 cal BC (NZA-34042, 3697±30 BP), showed the presence of ribwort plantain (*Plantago lanceolata*), indicating local disturbance in the Early Bronze Age before the establishment of the nearby *Farmstead A* of Middle Bronze Age date.

Monolith sample 5062 was collected through a short (0.37 m) undated sequence of tufa over- and underlain by fine gleyed overbank alluvium from the raised dry land near the believed convergence of *Palaeochannels IV* and *I*, lying on a preserved triangle of Devensian-age brickearth deposits. Ostracods were absent, but the few marsh and intermediate mollusc types found indicate this was an area of long, damp grass with occasional flooding during the mid-Holocene.

Later Channel Activity

Channel activity directly affecting Horton became increasingly ephemeral after the Bronze Age. *Palaeochannel III* (see Figs 2.1, 2.4 c and d) contained a shallow oxidised fine alluvial fill believed to be post-medieval in date. The shallow calcareous fills of *Palaeochannel V* to the north of the site are probably phased to the Romano-British or Saxon periods on archaeological grounds, including the presence of a shallow Romano-British ditch adjacent to the channel and seemingly cut and sealed by it (ditch 12711,

intervention 17515). The 0.24 m sequence sampled in monolith sample 7554 was of friable calcareous silt loam alluvium (contexts 17639 and 17634) over large stones (context 17636, fluvial gravels) forming a total observed sequence of only 0.4 m maximum depth. It is believed to be of Romano-British or Saxon age on the basis of its relationship with archaeological features in the area. The shallow, oxidised nature of the fills limited its potential for further analyses, but the abundant mollusc assemblages were dominated by *Bithynia tentaculata*, *Valvata piscinalis, Pisidium* and *Valvata cristata*, types which inhabit large bodies of slow-moving, well-oxygenated water with a muddy substrate and dense aquatic vegetation. The presence of *Vallonia pulchella/excentrica* also indicates an area of water meadow, moist pasture or marsh in the immediate vicinity (see Wyles, Appendix 2).

It appears that feature 5414, although cut or encouraged as a ditch in the Romano-British period, also experienced faster-flowing, almost fluvial conditions. As discussed by Wyles (see Wyles, Appendix 2), moving-water species formed almost half of the assemblage, in particular *Bithynia tentaculata*, *Pisidium* cf. *amnicum* and *Pisidium* spp. These species are indicative of well-oxygenated flowing water, with *Bithynia tentaculata* in particular thriving on a well-vegetated muddy substrate. The occurrence of *Theodoxus fluviatilis* is noteworthy as it is characteristic of larger rivers, favouring rapidly moving water, and is indicative of a fully riverine environment (Boycott 1936, 141). *Theodoxus fluviatilis* and *Ancylus fluviatilis* are indicative of stony substrates. The high ratio of *Bithynia* opercula to apices within the assemblage is indicative of movement of material and the faster-flowing nature of the aquatic environment. There is also an indication of the exploitation of a few niche environments on the ditch edge, such as swampy patches or bare or poorly vegetated ditch margins, by the presence of the amphibious species, *Anisus leucostoma* and *Lymnaea truncatula*. The land snail element of the assemblage was dominated by *Trichia hispida* and may be indicative of areas of moist pasture or long grass in the vicinity during the Romano-British period.

While there are no absolute or relative dates for the complete cessation of alluviation in the larger channels investigated, the upper fills being inorganic and generally oxidised, the succession into marsh and small springs and channels is indicated for the Bronze Age onwards. These features still had some effect on the prehistoric inhabitants, with portions of this landscape boggy and unusable for direct settlement, although they may have continued to prove useful for drainage and/or irrigation, and as a source of fresh water. It is suggested that the site continued to be occasionally affected by flooding, perhaps from the more distant River Colne to the east, for we find fine bands of alluvium in feature fills of a later date. Of more impact, however, were the continuing high water table and the patchily draining brickearth and London Clay geology that still affects this low-lying soggy landscape today.

Feature-based Evidence for the Holocene Landscape

The majority of the broad scale landscape information gained for Horton has come from the relatively deep channel sequences (described above). That from settlement and related features normally provides highly local information, most usefully on land use activities and the adaptation of the immediate environs, as discussed below (see Pelling, Chapters 3–5). However, there are a few elements of the feature-based work worth noting here for their wider landscape significance.

The waterlogged wood (see Barnett and Mepham, Appendix 1), wood charcoal (see Barnett, Appendix 1) and the plant macrofossils (see Pelling, Appendix 1) provide substantial information on both the local vegetation and that exploited in the wider landscape. Of particular note is the fact that trees, including oak and alder, and to a lesser extent hazel, willow and ash, grew directly on the site, including the wet fen areas; there are fallen unworked waterlogged wood remains as well as deliberately introduced worked wood in a number of the prehistoric features and channels. This was not a wholly cleared landscape by any means, even during the Bronze Age.

The Neolithic Landscape

Although oak (*Quercus* sp.) was favoured, a number of tree and shrub taxa were exploited from the surrounding areas for fuel by the Late Neolithic inhabitants, including field maple (*Acer campestre*), hazel (*Corylus avellana*), alder (*Alnus glutinosa*), silver or downy birch (*Betula pendula/pubescens*), cherry type (*Prunus* sp. eg, wild cherry or blackthorn), dogwood (*Cornus* sp.) and pomaceous fruit wood (Maloideae) (see Barnett, Appendix 1). A well-preserved charred plant assemblage from context 3372 of Grooved Ware pit 3370 included a large number of fruits and nuts, including crab apples, sloes (*Prunus spinosa*), two types of hawthorn (common hawthorn, *Crataegus monogyna* and midland hawthorn, *Crataegus laevigata*), alder buckthorn (*Frangula alnus*) and hazel nuts (see Pelling, Appendix 1). Together the types indicate a rich vegetated landscape, with primary woodland, open canopy woodland, woodland edge, scrub/hedgerow and marshy woodland environments all present. Minor exploitation of damp areas such as fen and channel margins is also indicated by the low presence of alder during the Late Neolithic. The

growth of oak and alder in the immediate area is demonstrated by the presence of unworked pieces of wood within a layer of *Palaeochannel IV* dated to the Early Neolithic (context 24371, 3960–3710 cal BC (NZA-34043, 5046±35) (see Barnett and Mepham, Appendix 1). Hazel was commonly used as a food source as well as for fuel, with fragments of charred hazel nutshell found within most pits of Grooved Ware and earlier date.

The sediments and soil micromorphological analysis (see Macphail and Crowther, Appendix 2) undertaken on Neolithic *House 1* are discussed further in the following chapter but it is worth mentioning here that despite it being at no greater elevation than other parts of the site that were settled later (at 17.37 m OD, with the top of the Bronze Age features examined at 17.402 m OD (enclosure ditch 19419) to 15.703 m OD (waterhole 3642 in *Farmstead A*), with the majority at around 16.3 m OD and the Romano-British features at 17.516 m OD (pit 18122/18134) to 17.261 m OD (waterhole 10968)), this piece of land stayed drier and more exposed than its surroundings and was less subject to alluvial or ground water influence, hence the archaeological problems of erosion and conflation of the sequence. It is likely that it lay on a sandier and hence freer-draining portion of the brickearth, and the location was probably chosen for that reason.

The Bronze Age Landscape

A similar range of taxa to the Neolithic were found in the larger number of charcoal assemblages of Bronze Age date examined, with the addition of beech (*Fagus sylvatica*), ash (*Fraxinus excelsior*), willow/aspen (*Salix*/*Populus* sp.), yew (*Taxus baccata*), hornbeam (*Carpinus betulus*) and elm (*Ulmus* sp.) (see Barnett, Appendix 1). Although oak continued to be favoured, both for fuel and structural wood, alder became a dominant fuel type, seemingly reflecting the expansion in the extent and therefore availability of alder carr along the Colne Valley at this time. Willow/aspen and birch seem to have been growing along the wetland fringes of the palaeochannels within and adjacent to the site but also on the edges of the Middle and Late Bronze Age pits and waterholes, with unworked pieces commonly found (see Barnett and Mepham, Appendix 1). The growth of oak and alder in the immediate Bronze Age environs is also indicated by the continued presence of pieces of wood of both types within a late Beaker/Early Bronze Age layer of *Palaeochannel IV* (context 24372, 2200−1970 cal BC (NZA-34042, 3697±30 BP). The presence and use of local scrub or hedgerow areas is suggested for this period, with such types including blackthorn, field maple, ash, hazel and Maloideae (possibly including hawthorn). The presence of ash, yew and beech charcoal also indicate the spread of activities into drier and chalk areas in the wider landscape, and by the late Bronze Age there is also some evidence for the deliberate encouragement of oak by coppicing (see Barnett, Appendix 1).

The insect fauna from waterhole 3541 of *Farmstead A* (see Smith, Appendix 2) indicates the presence of pasture and disturbed rough grazing areas with animal dung. Few woodland types were found, indicating a relatively clear landscape, but the plant evidence presented above somewhat counters this and it is suggested the insect faunas are somewhat local to the feature examined and conversely that the tree types described likely grew as stands and open canopy woodland rather than being evenly spread across the site. The waterlogged plant remains from deeper Bronze Age waterholes indicate disturbed habitats such as pasture and rough grazing (see Pelling, Appendix 1). Plants representing the edge of shallow pooled water included sedges (*Carex* sp.) and rushes (*Juncus* spp.).

A few species typical of shady, scrub or hedgerow type habitats including upright hedge parsley (*Torilis japonica*), sloe (*Prunus spinosa*), bramble (*Rubus fruticosus* type) and hawthorn (*Crataegus* sp.) were also found in the waterlogged and charred assemblages. Such species support the wood and charcoal data for local hedges and/or scrub, while the presence of alder seeds and cones may again attest to their growing in the immediate vicinity of Bronze Age features. While this does not emphatically prove the presence of hedges dividing up the whole field system, it does suggest the existence of hedges in at least some parts of the scheme. As discussed by Pelling in the following chapters, there are also waterlogged and charred weed and crop types associated with cultivated land and cereal processing, while the use of wild food types such as hazelnut seemingly declined.

The waterholes and pits examined for their sediments (see Barnett, Appendix 1) for this period indicate that the settled portion of *Farmstead A* (enclosure A1) was highly prone to repeated wetting and drying, with a series of fine alluvia and sometimes slumps or dumps of brickearth subsequently subject to pedogenic alteration, indicating drying and stabilisation before the next period of deposition. In addition to internally lain fine alluvium, there is some indication of periods of deposition following overland flow due to heavy rain or riverine flooding events. The molluscs from Middle Bronze Age waterhole 3642 were dominated by open country species and indicate that the watering hole was in an area of short grassland with patches of bare earth from trample, with the internal aquatic environment represented by fresh-water *Pisidium* shells (see Wyles, Appendix 2).

The Romano-British Landscape

Again, the waterholes and pits showed periods of deposition under damp or submerged well-vegetated conditions and others with evidence of temporary drying, with mineral translocation under fluctuating ground water conditions. It was noted that the fills of Romano-British pit 18122 were remarkably similar to those of the submerged waterholes, and a thick deposit of horizontally layered herbaceous matter and wood in context 18596 may represent an (unsuccessful) attempt to stabilise and dry out the feature or lessen the silt content of the water.

No Romano-British charcoal assemblages proved suitable for analysis but the (unworked) waterlogged wood types included oak, ash, alder and pomaceous fruit wood, with the addition of willow/aspen in the late Romano-British period, and with all structural pieces being of oak (see Barnett, Appendix 1 and Barnett and Mepham, Appendix 1). That the unworked pieces were found within pits and waterholes, seemingly having fallen in naturally, suggests the five types were all growing directly on the site at this time; however, it is feasible that at least some of these assemblages actually represent cut brushwood used for instance as wattle or layers within these features to stabilise them, and could therefore have been deliberately brought from off-site. The presence of ash does indicate the existence of drier soils nearby, while the continued presence of alder and willow/poplar attest to the continuance of wet fen conditions at Horton into the Romano-British period.

The insect fauna from a number of waterholes were dominated by open grassland and pasture loving types, with those that favour animal dung indicating the presence of grazing animals (see Smith, Appendix 2). Similarly, the waterlogged and charred plant remains showed a range of common ruderal types, indicative of disturbed habitats including arable fields, but also settlement activity or the presence of animals (see Pelling, Appendix 1). Limited evidence occurs for shady conditions, with a few possible hedges or scrub indicated, but the occasional find of fruit capsules of willow (*Salix* sp.) indicate overhanging trees, assuming they were not introduced with discarded vegetation. As discussed by Pelling in the following chapters there are also numerous waterlogged and charred weed and crop types associated with cultivated land and cereal processing.

The Saxon and Medieval Landscapes

The Early Saxon charcoal assemblages proved too small for meaningful interpretation but included alder, beech, oak, Maloideae and probable blackthorn (cf. *Prunus spinosa*) (see Barnett, Appendix 1). A single piece of Saxon oak wood was found. A large number of worked oak pieces were recovered from medieval contexts, along with smaller quantities of ash, alder and willow/aspen (see Barnett and Mepham, Appendix 1). The charred and waterlogged plant remains from Saxon pit 3984 contained a large number of species of pond edge or bankside vegetation (see Pelling, Appendix 1).

The features described for all periods give a picture of a challenging landscape throughout the periods of use, one clearly prone to flooding and to periodic wetting and drying with a fluctuating water table, causing reduced conditions and translocation of mobile minerals through the sediment profiles. The dependability of wet features such as waterholes and, conversely, those which were required to be dry, would have been low and attempts to stabilise with dumps of vegetation have been noted. Some slight differences between periods and variations in topographic position can be suggested but all areas off the bare river gravels were subject to the influence of the patchily draining brickearth and, to a lesser degree, the nearby channel systems. While the ever-present waterlogging at this site would clearly have posed barriers to settlement and land use, it sustained the rich mosaic of habitats described and the opportunities that accompanied that in terms of wild food provisioning and grazing.

Discussion of the Neolithic to Medieval Environment

As described, the channel systems that formally dominated and shaped this area had a lessening effect on the landscape from the Early Neolithic onwards. Peat growth occurred within the channels as the waters subsided and vegetation spread across the floodplains, although minor resurgences in spring and fluvial activity have been described through the settled lifetime of the site. Direct evidence for the prehistoric landscape is somewhat fragmentary but useful snapshots of certain periods of time have been provided. A landscape of increasing mixed deciduous woodland is first described, and, despite substantial clearance through the Bronze Age, trees including oak, ash and hazel persisted directly on the site as stands, with alder, willow/aspen, and birch as well as reeds and sedges fringing the largely infilled channels to the south and east. The increase in settlement activity and establishment of pastureland unsurprisingly led to an increase in disturbance and trampling locally, as discussed further by Pelling in the following chapters. Some interaction with the remaining boggy channel areas has been suggested, with drainage and/or irrigation ditches of Bronze Age and later date respecting, and in some cases joining, these natural features.

Comparisons of the vegetation sequences and exploited woody and herbaceous types with others in the region are made in the relevant specialist appendices and the land use implications considered in depth in the following chapters, but it is useful to briefly place the later sedimentary sequence in context. Sedimentary work on the Heathrow, Harlington and Imperial College sites, Middlesex (Lewis *et al.* 2006; 2010; Powell *et al.* 2015) provide useful comparators for the on-site ecofacts such as charcoal. Several Mid–Late Holocene alluvial sequences have been analysed in association with archaeological sites along the River Thames for the London area (Sidell *et al.* 2000; 2002), but of particular relevance are the palaeoenvironmental and sedimentological investigations of former channels near the Thames at Runnymede Bridge to the south of Horton, undertaken in association with excavations of a Neolithic and Bronze Age landscape (Needham 1992; 2000), where a sequence of Mesolithic–Neolithic calcareous alluvium, dominantly clayey silts, were laid down above (early) basal gravels. At Runnymede, however, repeated cut and fill occurred associated with an anastomosed river system in early prehistoric times (and hence none of the earliest Post-glacial deposits are present), with alluvial units repeatedly cut back and therefore laterally inconsistent (Needham 1992). Although some minor shift and fluctuation has been described for Horton, the stratigraphic layers were consistent, merely shallowing towards the edges of the channel. A more stable channel is therefore indicated. Substantial Bronze Age activity has been identified close to the channel edges at both sites and thick, later prehistoric overbank sedimentation due to flood events proposed.

The increasingly fine alluvial fills of a Late Holocene palaeochannel on the Thames floodplain at the Eton Rowing Lake at Dorney, Buckinghamshire (Area 3), have been dated to the Late Bronze Age to medieval period with interpolated basal and top dates of 850 BC to AD 1550, and are closely associated with substantial archaeological remains of Late Bronze Age to late Romano-British age on raised gravel islands (Parker *et al.* 2008). A series of waterlogged oak timber structures, interpreted as bridges (one Middle Bronze Age and five Iron Age) were also found within the palaeochannel in Area 3. A change in sedimentation seems to have occurred from the Middle Bronze Age and possibly associated with the bridge construction, as well as increasing land clearance at the time leading to increased erosive inwash. Alder trees and occasional willow fringed the channel before declining in the Middle Iron Age, when increasing clearance and the development of pasture then hay meadows has been suggested (Parker and Robinson 2003). Channel flow ceased at Dorney in the Romano-British period, leaving slack water which infilled with peaty silts with a suggestion of the channel being cut off from the modern Thames, perhaps a result of human activity (Parker *et al.* 2008, 482).

Chapter 3
Domesticity in the Neolithic

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Introduction

The area excavation at Horton provided an opportunity to examine the remains of domestic activities, aspects of how people lived during the Neolithic – the 4th and the early to mid-3rd millennia BC – and the traces they left on the landscape through the building of structures, the digging of pits, the herding of animals and the use of woodland and wetland environments. Our understanding of habitation or domesticity at this time suggests that Neolithic communities practised various forms of semi-sedentary activity that left little trace on the landscape. Places and pathways no doubt featured in a landscape that was otherwise marked by the occasional monument and the larger communal earthwork. The scale of some of these constructions and the possible alignment of monuments placed some distance apart indicate that at least parts of this landscape were relatively open. That people returned to some of these places, perhaps episodically and seasonally, and in certain cases persistently, is evidenced by the repeated digging of pits and the accumulations of refuse either in notable concentrations or more sporadically to form surface scatters. Depositions of material can sometimes exhibit a degree of selective formality and deliberate placing but equally the composition of an assemblage can appear random, token and ad hoc. People lived their lives and occasionally left traces of this in the landscape. It is how they created this domesticity that has left the more tangible traces in the archaeological record – the pits they dug and the material they buried as settlements were created, used and abandoned.

Horton sits within an extensive area of known Early Neolithic activity and adjacent to areas with relatively high concentrations of Mesolithic sites (Barclay 2007, 333 and fig. 15.1; Hey with Robinson 2011; Holgate 1988) (Fig. 3.1). As has been noted for other areas of the wider Thames Valley catchment, it is not unusual for clusters of sites from before and after 4000 BC to occur in adjacent geographical areas and/or environmental zones. However, such patterns are very much 'broad brush' and sites like Horton allow for the examination of the archaeological record at a local scale in terms of both space and time. The immediate monumental landscape of the Lower Colne Valley and the adjacent stretch of the middle Thames has been slowly revealed over a period of more than 60 years. At its centre is the Stanwell Cursus, or what is perhaps more accurately described as a bank barrow, and with a length of 3.5 km it would have been one of the most impressive linear monuments to be constructed in Britain and arguably part of a regional monument complex. However, even here the bank barrow was not alone but part of a complex of related linear monuments, some of which are more akin to cursus monuments and mortuary enclosures (Lewis *et al.* 2010, 67–68 and figs 2.18 and 2.23). Probably slightly earlier are a cluster of closely spaced causewayed enclosures and associated smaller mortuary enclosures, of which three have been excavated, the most famous being at Staines (Yeoveney Lodge: Robertson-Mackay 1987). This site was located within the braided floodplain of the River Colne close to its tributary with the Thames. Significantly, Horton, at only 3 km distant, would have been within easy walking distance of this site. As mentioned above (Chapter 1), Neolithic activity was already known from the area of the quarry because of the discovery of the oval barrow and its previous investigation by TVAS (Ford and Pine 2003a). The two phases of the monument fall within the Early and Middle Neolithic and would have overlapped with the construction, primary and further use of the Staines causewayed enclosure. As we shall see below, the people inhabiting the area later defined by the quarry were probably part of the same community that built and used the causewayed enclosure. If the character of the monumental landscape has slowly been revealed, then the same can also be said about other aspects and manifestations of a Neolithic lifestyle. Since the onset of developer-funded archaeology many new sites have come to light, including middens and occupation spreads, and placed deposits within pits and natural features such as tree-throw holes and to a lesser extent other natural hollows (eg, solution hollows).

The earliest Neolithic evidence in the immediate area, anything predating 3800 BC, is still sparse and limited to only a few sites and find spots. The period from about 4200 to 3800 cal BC, which should contain the final Mesolithic and beginnings of the Early Neolithic, is difficult to locate archaeologically and is only known on a few sites. The evidence is at best flimsy and ill-defined. Locally, the most notable evidence comprises the assemblage of classic Carinated Bowl from an occupation deposit within a

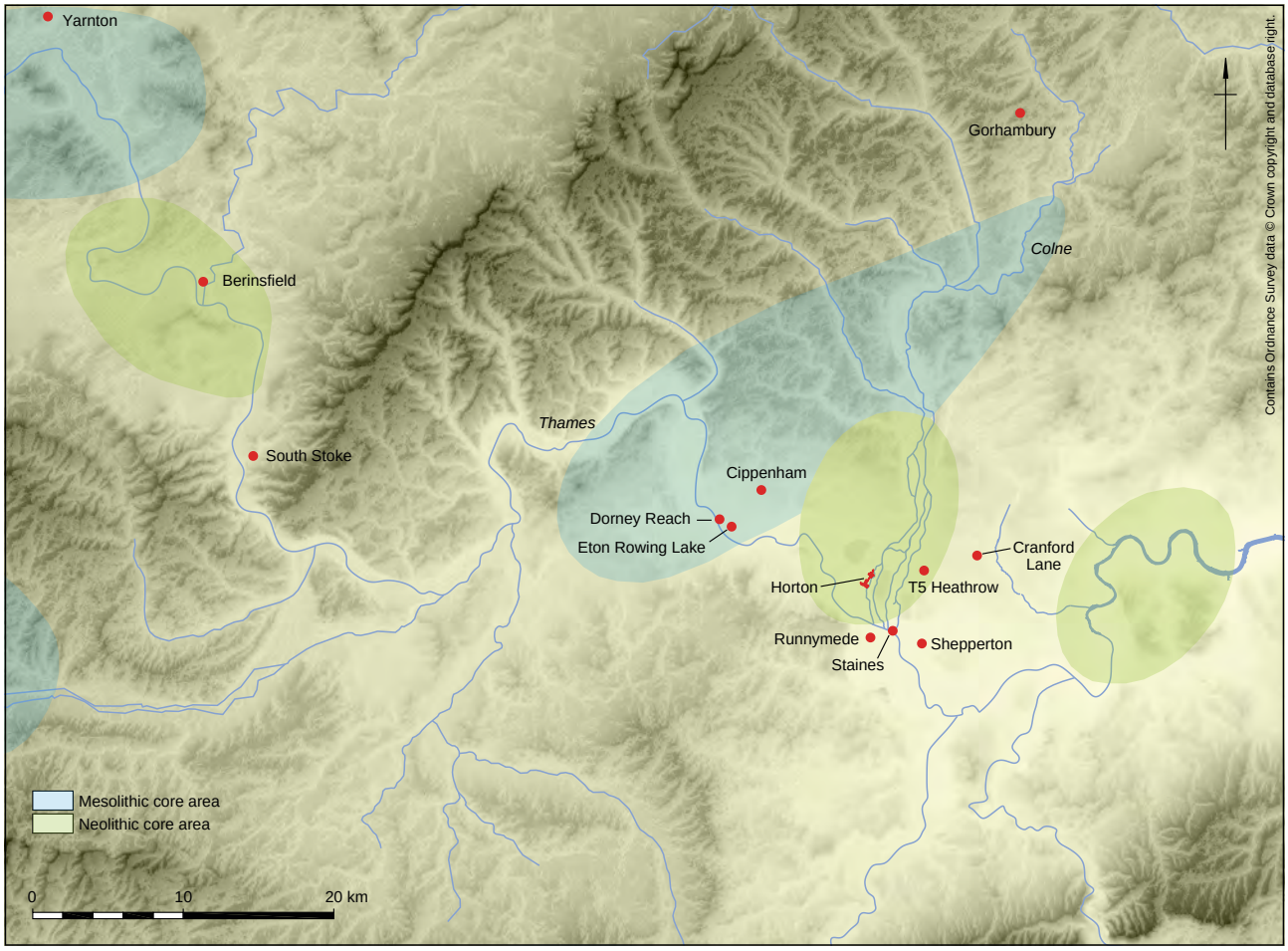


Figure 3.1 Mesolithic and Early Neolithic activity in the Middle Thames Valley and West London gravels

natural shaft at Cannon Hill, Maidenhead (Bradley *et al.* 1976). It is possible that some of the pottery from the middens/occupation deposits at the Eton Rowing Lake also dates to this phase, although the vast majority of the assemblage probably belongs to the period after 3800 BC with the possibility of some overlap with the use of causewayed enclosures and other mortuary monuments (Allen *et al.* 2013). Other occupation spreads have been found at Runnymede Bridge just south of Horton, where the pottery includes vessels with Peterborough traits current at a time when enclosures were going out of use (Kinnes 1991; Longworth and Varndell 1996). It is possible that the Stanwell bank barrow and other linear monuments within the local area belong to a similar phase of activity in the mid- to late 4th millennium BC, although none are precisely dated by radiocarbon (Barclay and Bayliss 1999; Whittle *et al.* 2011, 401). Activity in the last quarter of the 4th millennium BC is mostly represented by pit digging associated with the deposition of Mortlake and Fengate substyles of Peterborough Ware, along with the occasional building of small-scale monuments. The latter can vary, and include ring ditches associated with cremation burials (eg, Imperial College Sports Ground (Powell *et al.* 2015)) or placed deposits including votive offerings of pottery and animal bone (Barclay *et al.* 2015, 30–46). The extent of the pit scatters of Middle Neolithic date that stretch across the two adjacent sites at RMC Land and Imperial College Sports Ground are on a scale not seen at many other local sites (Barclay *et al.* 2015, 33 and figs 2.15–16) or indeed from southern England, although investigated landscapes with large numbers of pits are certainly known from the adjacent regions of East Anglia and the Upper Thames Valley (Anderson-Whymark and Thomas 2012; Garrow 2006; 2007; 2015; Hey *et al.* 2016). Interestingly, such pits are almost absent from Horton and indeed from other sites, perhaps suggesting that the site of RMC Land in particular was a place for intentional mass gathering and pit digging that was not repeated elsewhere. Whether this was connected to the bank barrow and cursus complex at Stanwell is a moot point.

By the early 3rd millennium cal BC there was a change in ceramics with the introduction of Grooved Ware, an indicator of more widespread cultural change within and across much of Britain and Ireland (Bradley, P. 2007, 88). However, unlike other notable areas such as the Upper Thames Valley and Wessex, the area around the Colne Valley did not witness

much in the way of new monument construction or renewed monument building. As with other areas of the Thames Valley and adjacent regions, Grooved Ware and its associated assemblages of material culture have mostly been recovered from pits and the occasional ring ditch enclosure. Increasingly, more Grooved Ware of various substyles has been found in the Middle Thames Valley, although the precise details of its uptake, sequence, duration and tempo remain sketchy. There are hints that it may differ in character from adjacent regions, although at the same time there are also similarities that suggest long-distance affinities and connections across at least southern England (eg, Wessex and the Upper Thames Valley). The tempo and dynamics of how and when the final Neolithic came to an end and how this overlapped with the Beaker period is currently invisible because of the near absence of evidence for a Beaker funerary tradition in the Middle and Lower Thames Valley and adjacent areas (Garwood with Hey and Barclay 2011, 341 and figs 14.9 and 14.10).

Landscape Background and Change

with Ruth Pelling and David Norcott

Settlement activity in the Neolithic is likely to have taken place within a richly vegetated landscape as indicated by the range of charcoal, waterlogged wood and charred plant macrofossils recovered. The pollen record for Holocene deposits within the palaeochannels at Horton is fragmentary and has produced a number of discrepancies (see Grant, Appendix 2). However, some general trends have been identified, which together with the charcoal, wood and macrofossil evidence from the settlement features on the site, as well as reference to contemporary data elsewhere in the region, provide a general vegetation and landscape background for the end of the Mesolithic and through the Neolithic.

Following a break in the sediment sequences between the Early and final Mesolithic, evidence for local vegetation and hydrological activity is provided by deposits dating to the Early Neolithic from Core sample 3 through the large *Palaeochannel I* and in *Palaeochannels IV* and *VI* (Units 4, 3 and lower part of 2). The uppermost peat band in Unit 4 at 14.816 m OD in core 3 has been dated to the Early Neolithic (3760–3530 cal BC, NZA-33484, 4869±35 BP), therefore coinciding with the first known human activity on the more northerly part of the site. Fluvial activity in the major channels had slowed by the end of the Mesolithic with fen peat formation across much of the flood plain and a reduction in flood events (Barnett, Chapter 2). While there would no longer have been a major river channel flowing across the site in the Early Neolithic, a dynamic system of springs, marsh and small bodies of flowing water is suggested by the sediments within the channel systems (Barnett, Chapter 2). Although the related pollen signal for this period is somewhat limited because of the nature of this layer, it is evident that the pine wood of the early Holocene had been replaced by mixed deciduous forest including elm, oak, lime/linden and hazel, with alder appearing along the wetland margins. Long grasses or reeds grew at the channel margins, adjacent to terrestrial wooded fen environments. Evidence for human and/or animal disturbance in the pollen record is scant but may be indicated by the presence of ribwort plantain, while a rise in bracken is more likely to be associated with increased alluvium deposition rather than local expansion within areas of disturbed and open woodland (see Grant, Appendix 2). There is no evidence for cereal cultivation in the pollen record where analysed. However, any cereal plots could have been located on drier ground far enough away from the channels to not register in the pollen record.

The mollusc assemblage from Unit 4 in Core samples 3 and 4 provides evidence for both the terrestrial and aquatic environments. The aquatics include species which favour moving water, such as *Valvata cristata* and *Bithynia tentaculata* as well as the amphibious species *Lymnaea truncatula* and *Anisus leucostoma*. Together these indicate a channel system with slow-flowing, well-oxygenated water with a well-vegetated muddy substrate. The land snails were dominated by *Carychium* and Limacidae and reflect areas of long, damp grass or marsh along the channel edge.

Little evidence is available for the Early Neolithic from the macrofossils and charcoal other than a presence of cereal cultivation and some woodland edge vegetation supporting hazel (*Corylus avellana*), as suggested by the presence of cereal grain and hazelnut shell. The evidence for cereal cultivation is discussed in more detail below. As discussed by Barnett (Chapter 2), the Early Neolithic settlement activity was focused on ground which, while no higher than much of the site, does appear to be significantly drier, therefore experiencing considerably less alluvial activity than many of the waterholes and pits of later periods.

By the Late Neolithic the charcoal, wood and macrofossil evidence confirm the presence of a richly vegetated landscape (see Appendices 1–2). Primary oak woodland is likely to have dominated, with an understorey including midland hawthorn, and particularly on the more clayey soils, hazel. More open canopy woodland, woodland edge and scrub/hedgerow will have supported field maple on the drier, calcareous soils, as well as blackthorn, possibly other cherry types, dogwood, hawthorn and crab apple. Silver or downy birch is likely to have rapidly colonised more open areas of woodland. The channel margins and fen regions supported alder and alder buckthorn.

The evidence for the landscape around Horton fits the pattern seen along the floodplain of the Thames and its tributaries elsewhere in the region. A mixed forest of oak, elm and lime, with alder/willow carr and reed marsh along the channels and edges of the floodplain, appears to have characterised the Late Mesolithic (Branch and Green 2004; Keith-Lucas 2000; Scaife 2000). Pollen work in and around London covering the Early Neolithic to the Early Bronze Age tends to demonstrate localised patches of clearance followed by regeneration of secondary woodland (Scaife 2000, 112–113). Pollen data from a pit of possible Early to Middle Neolithic date at Heathrow (Lewis *et al.* 2006) suggests a forested landscape of oak and hazel with some pine, birch, ash, lime and elm, with alder dominant on the floodplain and Rosaceae shrubs (hawthorn, sloe, bramble, etc.), grasses and other weedy flora established in clearances and on the woodland edge (Wiltshire 2006). At Harlington and Imperial College the charcoal assemblage mirrors that from Horton with oak dominating, and with hazel and Maloideae (hawthorn, crab apple, etc.) and blackthorn/wild cherry being reasonably well represented (Challinor 2015, 271). At Heathrow only limited charcoal was recovered for this period and was again dominated by oak, with ash, Maloideae and lesser amounts of hazel and alder (Challinor 2006). Thus we can expect a landscape of dense mixed woodland with alder carr on the river channels in the Late Mesolithic, with clearances occurring in the Early Neolithic, in association with cereal cultivation. By the Late Neolithic it is possible that some woodland regeneration was occurring, and the overall pattern matches more regional observations for the Neolithic (Robinson 2014; Whitehouse *et al.* 2014; Woodbridge *et al.* 2014). The presence of onion couch grass (*Arrhenatherum elatius* subsp. *bulbosus*) associated with funeral pyres at Harlington (Stevens 2015) would suggest the presence of areas of possibly long grassland by the Early Bronze Age.

The Mesolithic

with Philippa Bradley

If the evidence for the first Neolithic is locally sparse and infrequent, then the picture for the preceding centuries is vaguer still. Very little Mesolithic material has been found despite the extensive investigations at Horton. The area of the quarry had been fieldwalked in the 1990s, the results of which produced only a low-density scatter of 100 flints, although two or three pieces of possible Mesolithic date are noted (Ford and Pine 2003a, 17). It is always difficult to make sense of an absence of evidence, although it can be noted that other residual material was found within the quarry (eg, flintwork of the Late Upper Palaeolithic, see Chapter 2).

Very limited evidence for Mesolithic activity was recovered during the excavations, consisting of three microliths, blade/bladelet cores, and some blades, bladelets and scrapers, all of which were residual finds in later deposits, although 35 pieces of Mesolithic flintwork were recovered from a tree-throw hole and as residual finds from a shallow channel during the 2010 excavations (Wessex Archaeology 2011; and see Volume 2). It is clear that no Mesolithic flintwork was found near or within the two foci of Early Neolithic date, *House 1* and *House 2*. The evidence appears to support the notion of sporadic use of the landscape during the Mesolithic period with no continuity of location with the Early Neolithic activity. This would match the disjunction noted between the two periods recognised by other studies (eg, Serjeantson 2014).

Traces of a Neolithic Way of Life

The archaeological evidence for human activity during the Neolithic at Horton reflects what was taking place in the wider Middle Thames Valley. We begin to see a more definite and physical occupation of a landscape that was becoming increasingly more open alongside the introduction of agricultural practices – albeit on a small scale.

Neolithic activity at Horton occurs in distinct groups (Fig. 3.2) with the earliest excavated archaeological features pertaining to the Early Neolithic. The main focus of activity in the Early Neolithic was centred on the north-western part of the site. This comprises two groups of features roughly 30 m apart and consists of structures 13125 and 13126, which have been interpreted as houses (*House 1* and *House 2*). Three smaller groups of Early Neolithic features are located in the north-east, centre and south of the site (Fig. 3.2) and were discovered by the initial set of excavations. When considering the rarity of Neolithic houses in the British Isles – although this appears not to be the case in Ireland – the discovery of two Early Neolithic houses is remarkable and the importance of the site was reinforced when a further three Neolithic houses were revealed in the later excavations (*Houses 3, 4* and *5*) (Fig. 3.3). These discoveries were initially reported elsewhere (Barclay and Harris 2017) where *House 1* was labelled as Horton 1, *House 2* was interpreted as a pit cluster or house void and *Houses 3, 4* and *5* were labelled as Horton 2, 3 and 4.

No features were positively attributable to the Middle Neolithic, although Peterborough Ware pottery was recovered from several later features. Late Neolithic features consisted of pits situated mostly in the southern part of the site, although a single Late Neolithic grave was located near Early Neolithic *House 2* (Fig. 3.10).

The following seasons of fieldwork adhered to this initial pattern with the discovery of the aforementioned three additional Early Neolithic houses, pits and traces of activity within tree-throw holes and palaeochannels, along with several Late Neolithic pits, which will all be discussed in full in Volume 2.

Early Neolithic

Structure 13125 – House 1

In the very north-western part of the site the ground plan of Early Neolithic structure 13125 (hereafter referred to as *House 1*) was found (Fig. 3.4). Despite severe truncation and modern disturbance in the area immediately surrounding this feature, the preservation of the structure itself was good with the exception of parts of the south-west end (Fig. 3.5). It lay 27 m to the south-west of structure 13126 (discussed below as *House 2*). Its presence here could have been related to the fact that this part of the site may have been slightly drier than elsewhere (see above and Barnett, Chapter 2) and hence appears to have acted as a focus for this and other Neolithic activities.

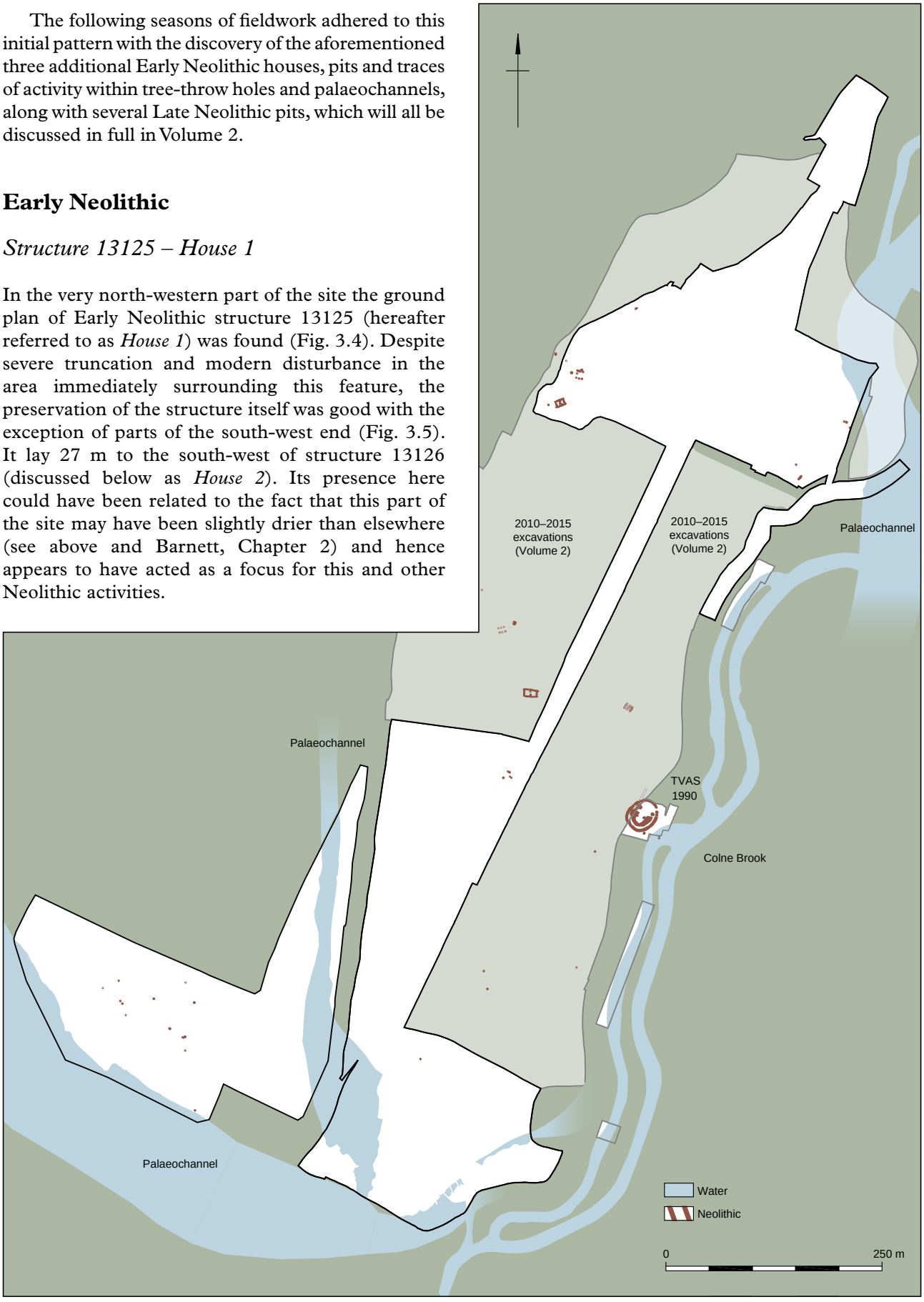


Figure 3.2 Neolithic features at Horton

The building was rectangular in plan, measuring 9.87 m by 6.51 m, and was aligned roughly north-east to south-west. The structure survived as a series of intercutting gullies (wall slots) of variable depths that ran between three pairs of post pits (Fig.3.5). An internal partition is evident from two small gullies that lie perpendicular to the main structural walls and thus divide the internal space into two rooms. The north-eastern end of the structure was bowed inwards, and the south-western end (although more fragmentary) may have been similarly slightly bowed. At the south-western end two short gullies extended from the main body of the building – their function is unclear, but it is possible that they formed some sort

Figure 3.3 Early Neolithic Houses 1 and 2, with Houses 3–5 from the excavations conducted between 2010 and 2015

of 'porch' or externally accessed covered area (Fig. 3.4). The location of the entrance for the building is uncertain and it is unfortunate that the south-western end suffered the most disturbance, as the location of the possible 'porch' may have been associated with an entrance that is not obvious elsewhere on the ground plan of the structure.

A series of large postholes was located at each corner and at the mid-point of the north-western and south-eastern sides of the structure (Fig. 3.4). The diameters of these postholes varied between 0.70–0.80 m (Table 3.1), and it is thought that these would have acted as the principal structural supports for the walls and a probable roof. The size of these postholes supports the notion that this was a roofed structure as opposed to an open fenced enclosure – it is unlikely that such substantial posts would be necessary to support a fenceline.

A number of features were investigated within the interior space defined by the gullies. Two intercutting pits, 22239 and 22241, located in the western 'room' of the structure, contained Early Neolithic material and are therefore likely to be associated with the structure. There was no trace of a hearth (see Macphail and Crowther, Appendix 2) but this could be due to the extent of truncation as no intact floor surface survived.

Material refuse from *House 1*

House 1 and its associated features were 100 per cent hand excavated with all fills collected and sieved for artefacts and ecofacts. Occupation of the building would inevitably lead to small fragments of material becoming trapped in the fills of the wall slots and postholes (Fig. 3.6). Processes such as trample from use and cleaning of the floor would also lead to fragmentation and movement of material. Similarly, the residues from hearths and their cleaning out may also account for charred material such as wood, bone, cereal and hazelnut shell. Inevitably this material would have been incorporated into the gullies and postholes as the fabric of the house decayed, or structural posts were removed for reuse. It is not unusual for Early Neolithic houses to exhibit signs of conflagration (see below) but neither *House 1* nor *House 2* showed any evidence that they had burnt down.

Finds from *House 1* comprised animal bone, worked bone, pottery, worked and burnt flint and a fragment of a worked stone axe; all were recovered during hand excavation and by sieving the fills of all the postholes, gullies and other house-related features. Nothing that can be considered an unambiguous placed deposit, perhaps associated with the construction or abandonment of *House 1*,

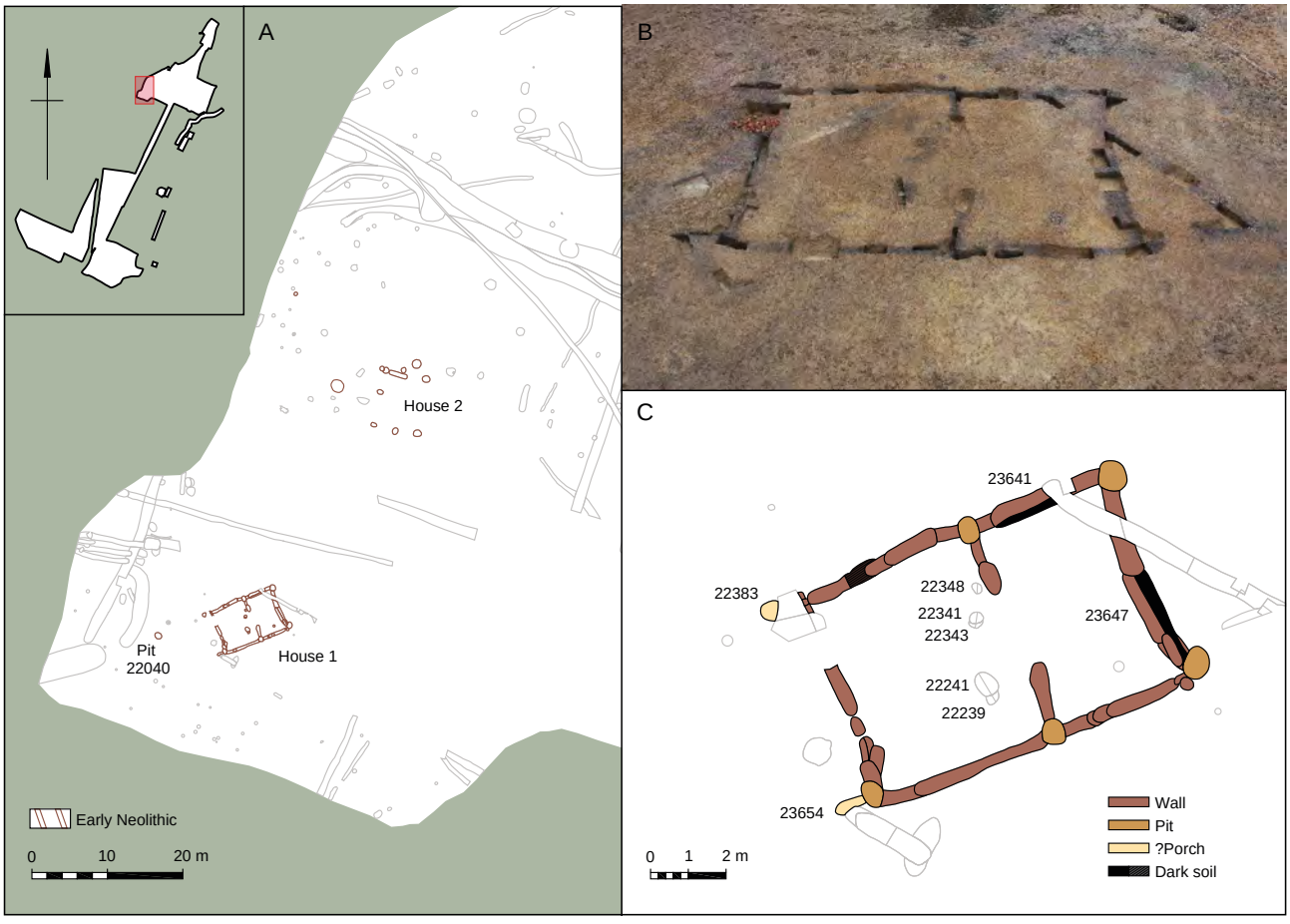


Figure 3.4 Early Neolithic features in the north-west of the site: House 1 and House 2

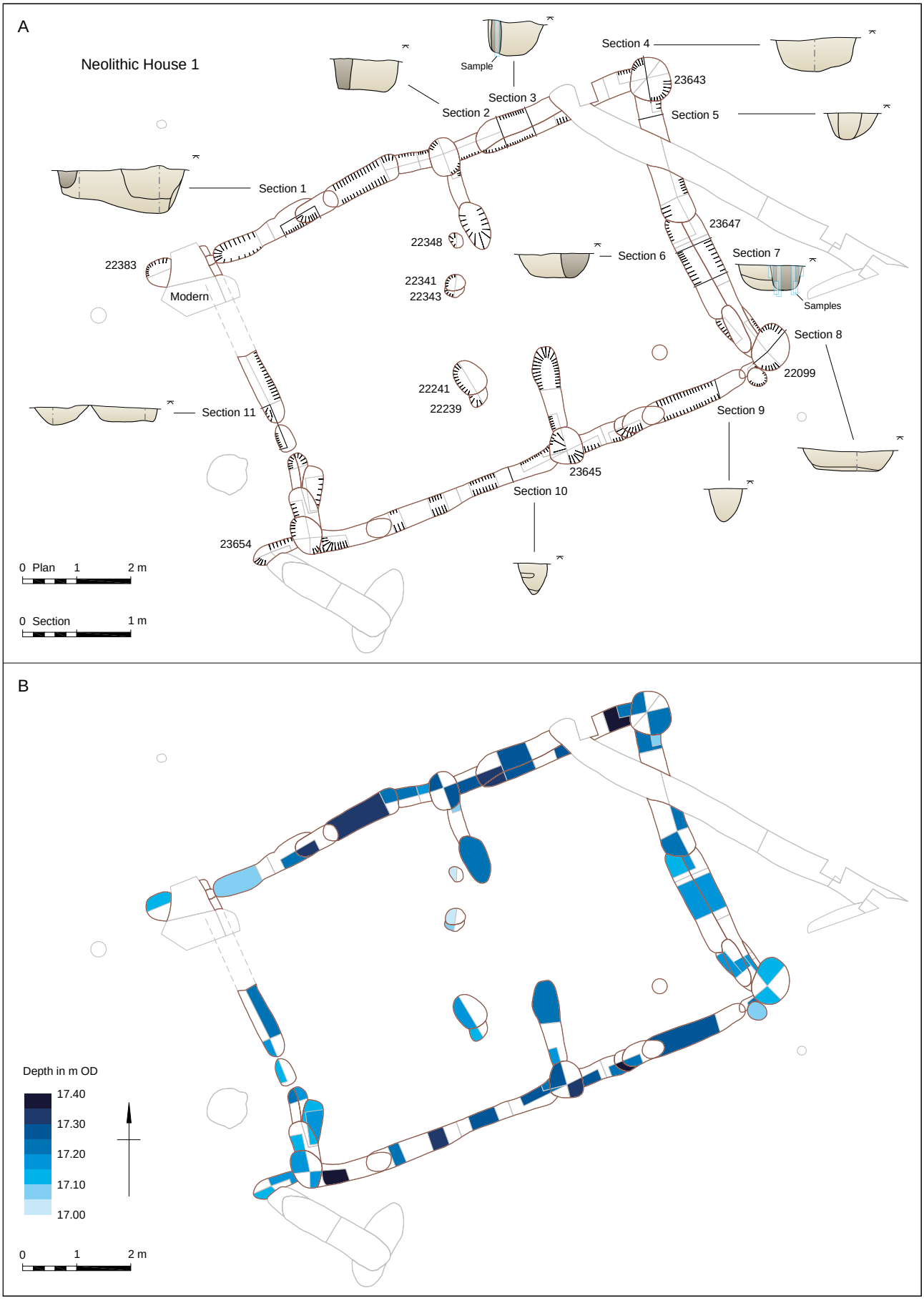


Figure 3.5 A: Early Neolithic House 1 excavated sections; B: plan showing depths of postholes

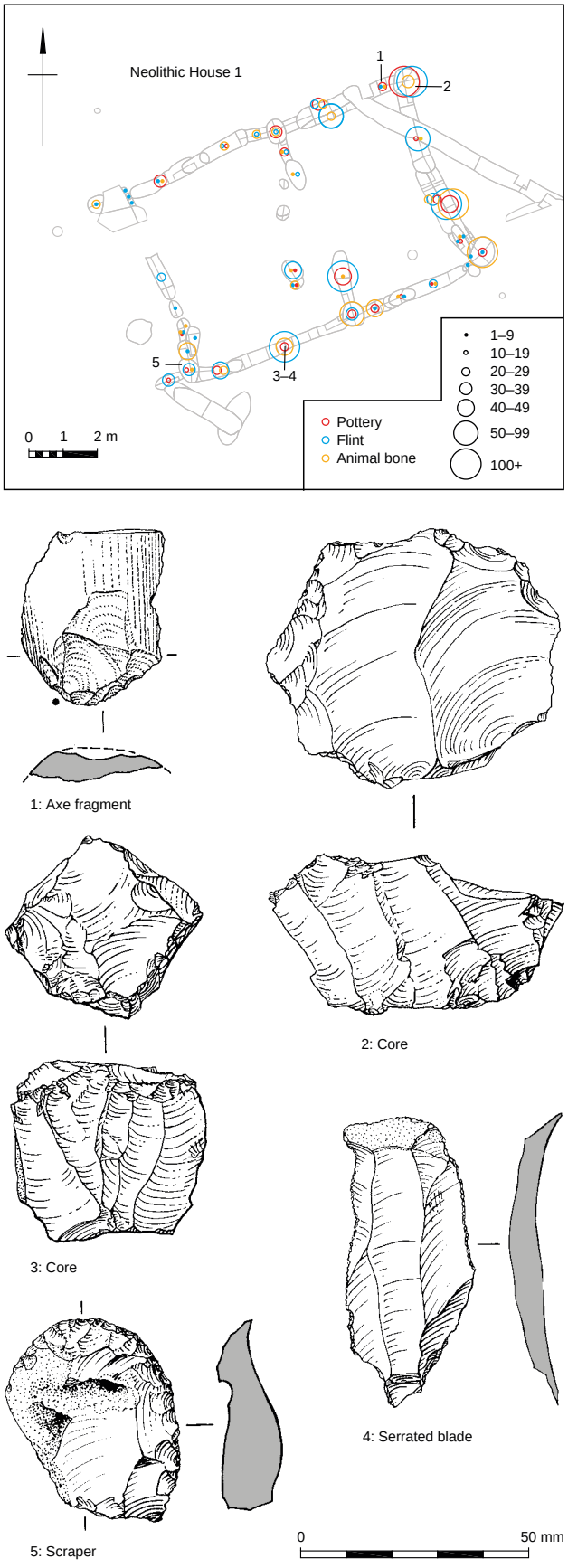


Figure 3.6 Early Neolithic House 1 finds distribution and selected finds

was recovered. In fact, all of the material recovered is characterised by its used appearance and general fragmentary nature. The size and abraded nature of many of the finds is more typical of the residues of everyday living and the taphonomic processes that entails and none of the material appears to have travelled very far post-deposition. This suggests that the material assemblage reflects day-to-day activities taking place in and around the structure.

The pottery assemblage from *House 1* includes sherds that are relatively small in size but in terms of fabric and form are of Early Neolithic date. This assemblage includes rims, rare shoulder sherds and body sherds from fine and coarse bowls, probably of developed Carinated Bowl type that belongs to between the 38th and 37th centuries BC (see Barclay, Appendix 3 and Barclay 2022; Barclay and Case 2007, 280). Pottery of similar type has also been found at other house sites in England, most notably at Fengate, Cambridgeshire (Pryor 1974) and Gorhambury, Hertfordshire (Neal *et al.* 1990) and more recently at Yarnbury, North Yorkshire (Gibson 2017). The assemblage from what could be only a partially excavated structure at Fengate is the most productive in terms of completeness of vessels, sherd size and vessel numbers. In contrast, no pottery of Early Neolithic date was recovered from the massive and somewhat anomalous structure at Yarnton, Oxfordshire (Barclay 2016, 104) and very little was found associated with the similarly large building at White Horse Stone (Kent) (Garwood 2011, 56). The pottery assemblage from *House 1* is arguably earlier than what was recovered from *House 2*, 30 m to the north (see below), which, like the pottery from the oval barrow (Ford and Pine 2003a), could belong to a slightly later period of time, probably when the causewayed enclosure at Staines was in use.

Of the 1013 fragments of animal bone recovered from the Neolithic features as a whole across the site, only 228 pieces were identifiable and as a result the assemblage was seen as too small for analysis (see Grimm, Appendix 5). The identifiable material recovered from *House 1* contained fragments of cattle and sheep/goat, both of which are characteristic for the Early Neolithic. Cattle bone was more common in this small assemblage, and some had butchery marks showing evidence for skinning and filleting of the animal.

The largest quantities of animal bone recovered from *House 1* came from the gully fills 22249 and 22258 located along the north-western and north-eastern sides of the building respectively. It is also worth noting that the post pits from this side of the building (fills 22230 and 22121) also contained some animal bone, but it was more fragmentary, while material from the gullies along the south-eastern side of the building comprised fewer pieces but was less abraded. The animal bone assemblage

Table 3.1 Neolithic pits and postholes

Feature	*Fills*	*Width (m)*	*Length (m)*	*Depth (m)*	*Pottery*		*Flint*		*Burnt flint*		*Animal bone*		*Worked bone*		*Fired clay*		*Stone*		*Cereal*	*Fruits and nuts*
					count	*weight (g)*	*count*	*weight (g)*	*count*	*weight (g)*	*count*	*weight (g)*	*count*	*weight (g)*	*count*	*weight (g)*	*count*	*weight (g)*		
Early Neolithic																				
House 1																				
	House 1 – postholes																			
22099	22100, 22103	0.62	0.78	0.17	8	13	12	7	4	22	23	98	-	-	-	-	-	-	-	-
22120	22121	0.51	0.67	0.26	37	32	35	6	9	5	111	20	-	-	-	-	-	-	-	-
22154	22155	0.52	0.65	0.22	14	9	14	28	11	26	13	3	-	-	1	29	-	-	-	-
22239	22240	0.15	0.19	0.21	5	6	5	6	4	1	16	13	-	-	-	-	-	-	-	-
22241	22242	0.23	0.68	0.25	12	3	13	40	-	-	11	5	-	-	-	-	-	-	-	-
22341	22342	0.32	0.32	0.11	-	-	-	-	1	1	-	-	-	-	-	-	-	-	-	-
22383	22384	0.39	0.39	0.22	-	-	1	1	1	1	2	15	-	-	-	-	-	-	-	-
23643	22230/22234	0.38	0.41	0.31	40	100	56	174	13	9	51	32	1	1	2	3			-	Y
23645	22171/22338, 22176	0.5	0.68	0.32	12	15	17	27	10	17	49	56	-	-	-	-	-	-	-	-
	House 1 – pits																			
22040	22041, 22042, 22043	1.12	1.12	0.51	97	1088	33	84	9	21	13	1	-	-	-	-	-	-	-	-
22239	22240	0.15	0.19	0.21	5	6	5	6	4	1	16	13	-	-	-	-	-	-	-	-
22241	22242	0.23	0.68	0.25	12	3	13	40	-	-	11	5	-	-	-	-	-	-	-	-
22341	22342, 22325	0.32	0.32	0.11	-	-	-	-	1	1	-	-	-	-	-	-	-	-	-	-
22343	22344	0.14	0.21	0.17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
22348	22349	0.17	0.17	0.04	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
House 2																				
	House 2 – postholes																			
22088	22089	0.86	1.08	0.27	56	277	58	125	15	43	89	94	2	2	-	-	-	-	-	-
22104	22105	0.54	0.77	0.27	53	104	37	56	16	34	76	98	1	2	3	15	-	-	Y	Y
22152	22153	0.6	0.82	0.43	24	99	14	6	10	8	47	29	-	-	-	-	-	-	-	-
22179	22180	0.2	0.9	0.25	5	22	15	52	7	19	2	5	-	-	-	-	-	-	-	-
22183	22184	0.3	0.3	0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
22198	22199, 22200, 22201	0.99	0.99	0.21	30	129	53	83	22	52	34	31	-	-	-	-	-	-	-	Y
22580	22581, 22582	0.72	0.92	0.43	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Y	-
22221	22222, 22223	0.3	0.62	0.35	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	House 2 – pits																			
22322	22323, 22324, 22325	1.7	1.7	0.44	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
22162	22163	0.62	1.13	0.22	64	117	11	19	7	4	63	77	-	-	-	-	-	-	-	-

Feature	Fills	Width (m)	Length (m)	Depth (m)	Pottery		Flint		Burnt flint		Animal bone		Worked bone		Fired clay		Stone		Cereal	Fruits and nuts
					count	weight (g)	count	weight (g)	count	weight (g)	count	weight (g)	count	weight (g)	count	weight (g)	count	weight (g)		
North-eastern pit group																				
15735	15736	0.5	1.21	0.09	40	166	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15850	15851	0.45	0.87	0.08	9	47	1	7	-	-	1	1	-	-	-	-	-	-	-	-
19265	19266, 19402	0.62	1.4	0.42	2	48	6	13	-	-	2	1	-	-	-	-	-	-	-	-
19292	19293	0.72	0.94	0.1	14	50	-	-	-	-	116	393	-	-	-	-	-	-	-	-
Central pit group																				
22635	22636	0.26	0.82	0.07	3	2	-	-	-	-	1	1	-	-	-	-	-	-	-	-
22664	22665, 22666	0.36	0.79	0.3	6	5	3	9	-	-	5	8	-	-	-	-	-	-	-	-
22705	22706	1.12	1.18	0.37	13	6	-	-	8	23	4	1	-	-	2	18	-	-	-	-
22785	22786	0.9	1.07	0.32	1	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
22930	22931, 22932, 22933, 22934, 22935, 22936, 22937, 22938, 22969, 22970	0.94	0.94	0.7	2	1	-	-	5	229	1	1	-	-	-	-	-	-	-	-
Southern pits																				
1794	1795, 1885	1.27	1.4	0.33	3	14	1	14	-	-	-	-	-	-	-	-	-	-	-	-
3535	3536, 3537, 3538	1.3	1.32	0.49	7	31	3	191	21	383	11	8	-	-	-	-	-	-	-	-
Late Neolithic																				
1218	1219	0.54	0.56	0.09	52	526	-	-	15	143	7	1	-	-	-	-	-	-	-	Y
1294	1295, 1296, 1297, 1298, 1299, 1300	1.44	2.08	0.6	7	9	3	7	112	2620	-	-	-	-	1	7	-	-	-	-
1508	1509	0.75	0.78	0.1	302	1015	53	774	64	668	-	-	-	-	-	-	1	140	-	Y
1534	1535	0.5	0.59	0.09	21	58	39	18	2	28	5	2	-	-	-	-	-	-	-	Y
1573	1574	0.88	0.88	0.38	32	105	14	76	29	208	53	120	-	-	1	10	-	-	-	-
1658	1659	0.63	0.79	0.47	48	191	4	59	255	6135	169	69	-	-	-	-	-	-	-	-
1770	1705, 1706, 1768, 1769	1.78	2.04	0.57	11	73	5	119	30	121	16	17	-	-	-	-	-	-	Y	Y
3370	3371, 3372	0.7	0.7	0.2	90	324	41	41	26	149	662	556	-	-	-	-	3	1236	-	Y
24918	24919, 24920	1.36	1.36	0.4	26	256	2	12	1	10	60	81	-	-	-	-	-	-	-	-
Late Neolithic–Early Bronze Age																				
1373	1374, 1375, 1376, 1377	0.51	0.51	0.26	11	23	6	69	7	88	-	-	-	-	4	24	-	-	Y	Y
2091	2092	0.91	1.12	0.17	4	9	-	-	-	-	1	1	-	-	-	-	-	-	-	-

confirms the presence of domesticated animals and their consumption both as primary and secondary products (see Grimm, Appendix 5). It supports the suggestion that the building could have been a place where meat was prepared and consumed and sheds some light on the nature of activities taking place. It is also worth noting that the absence of other species is probably due to the poor preservation conditions and should not necessarily be taken as evidence of absence.

A small fragment of a worked bone awl (ON 1406) was retrieved from posthole 22239 of *House 1*. This object is of a simple type that is found throughout the Neolithic and another similar example was recovered from *House 2* to the north.

The worked flint recovered from *House 1* amounts to 308 pieces comprising mainly debitage, including blades/blade-like flakes and 73 chips, together with some retouched pieces (see Bradley, Appendix 3). Its distribution reflects that of the animal bone with higher quantities coming from the gullies and postholes around the north-eastern corner and eastern side of the building (such as contexts 22249, 22121 and 22238). Some evidence for possible use wear such as that on flakes and blades (ONs 1304, 1312 and 1319) suggests the material was of everyday use. It would seem unlikely that knapping would have taken place within *House 1* if it was a dwelling, but material may have accumulated if such activities were undertaken outside the structure (see Bradley, Appendix 3).

Very little burnt flint was retrieved from *House 1* (see Bradley, Appendix 3) – in particular no burnt struck flint was recovered such as that seen from the Late Neolithic Grooved Ware pit 3370 to the south of the site (see below). The small quantity that was recovered appears to coincide with the distribution of the animal bone assemblage.

A small fragment of a Group VI polished stone axe (ON 1320, context 22192; Fig. 3.6) was recovered from a deposit immediately above the gully layer in the north-east corner of the house. Although not retrieved from the actual fill of the gully in this part of the building it is highly likely that it would have originated from the building and has moved due to the later disturbance in this area. Its presence is significant as it confirms the broader context of trade and/or exchange within the Early Neolithic, being from a western British source resembling Langdale tuff from the Lake District (see Roe, Appendix 3). Fragments of this type of axe have been found elsewhere on sites with structural evidence such as Lismore Fields, Derbyshire; Fengate, Cambridgeshire and Ballygalley in Co. Antrim, Ireland (see Roe, Appendix 3). Although not common, such fragments provide evidence for the wide distribution of Group VI axes across Britain and Ireland and are testament to the ability of the pioneering farming communities to rapidly establish long-distance resource procurement networks. It may be significant that they have not been found at the larger timber-framed structures at Yarnton, Oxfordshire or White Horse Stone, Kent (see house discussion below). Roe notes that these axes would have been essential for the construction of such buildings and that subsequent breakages of tool kits would have occurred (*ibid.*) and such is probably the case with the fragment, which is small, from *House 1* at Horton. During the excavations of the U-shaped enclosure located to the south, four fragments, most probably belonging to the same Group VI polished stone axe, were found within the outer ditch (Williams 2003, 32) the deposits of which date to approximately 3000 BC, but which did include some redeposited Early Neolithic material.

The two internal pits at *House 1* (22239 and 22241) contained material of similar Early Neolithic character. While this probably proves their contemporaneity with the structural aspects of the house, little more can be said regarding what these pits were used for.

As noted above, it would appear that the gullies and postholes around the north-eastern 'room' of the house contained a slightly higher number of finds compared to those found within the more southern and western parts of the building (Fig. 3.6). The distributions may also provide evidence for activity taking place outside the building. For example, context 22249 contained high amounts of animal bone and flint – this was the fill on the external side of the foundation gully, whereas the dark fill immediately adjacent to it, 22251 (thought to represent the long-decayed remnant wall planks), contained very few finds. The finds that were present are likely to have come in from 22249 as the wall rotted over time. This suggests material being incorporated into the gully from the outside of the building. This may tie in with the results of the phosphate analysis (see discussion below), which hint at the presence of a possible midden (although small-scale) located outside the northern side of *House 1*.

Environmental evidence from *House 1*

Extensive sampling was undertaken of all areas of *House 1* in order to maximise information about the structure. This included flotation samples from the postholes, gullies and internal pits for the recovery of charred plant remains as well as a number of monoliths and kubienas through the gully deposits. In addition to these, a series of samples which came from a gridded survey covering the area of *House 1* (Fig. 3.7) were taken for geochemical and geophysical analysis in order to determine whether any information regarding the use of the structure could be obtained.

The flots from *House 1* produced only small scatters of remains and included later intrusive

Figure 3.7 Gridded geochemical testing of House 1

grain (of medieval origin) and slightly later (Middle Neolithic and Beaker) hazelnut shell. Direct dating of both grain and hazelnut shell has, however, provided significant evidence for early arable and foraging activity at the site (see Pelling, Appendix 2). A barley (*Hordeum vulgare*) grain from a gully (feature 22318) within *House 1* provided the earliest evidence for arable agriculture at the site, dating to 3710–3530 cal BC (NZA-32879, 4864±25 BP) (see below and Barclay *et al.*, Appendix 6), comparable with a date on a hulled wheat (*Triticum dicoccum/spelta*) spikelet fork from *House 2* (feature 22580) (see discussion below). Early Neolithic dates from hazelnut shell fragments from *House 1* range from 3970–3770 cal BC (NZA-31036, 5075±40 BP) to 3710–3540 cal BC (NZA-32878, 4877±25 BP). The cereal component of the diet was clearly supplemented by hazelnut and presumably a range of wild resources not represented in the deposits, as well as both meat and possibly secondary products provided by sheep/goats and cattle.

It is not possible to establish from the charred plant remains whether they were generated by activities within *House 1* or whether they simply derive from general domestic waste discarded in the pits or scattered and reworked into deposits across the site. Such material could be generated from activity associated with human consumption or from feeding livestock. The paucity of plant remains within these features is likely to be a product of taphonomy and preservation including truncation of features and cannot be directly linked with the scale of food or cereal processing activities.

Magnetic susceptibility and phosphate samples from the interior and immediately outside the wall lines (Fig. 3.8B–C) were analysed to try to identify the location of hearths and to shed light on the use of *House 1*. The magnetic susceptibility proved to be inconclusive. Slightly higher readings may support the suggestion of a possible midden on the northern exterior of the building, and that the eastern room of the structure may have been used for stabling animals (see Macphail and Crowther, Appendix 2).

Structure 13126 – House 2

Located 27 m to the north-east of *House 1* lay a cluster of Early Neolithic pits (13126) (Fig. 3.9). The group is composed of nine individual features: 22088, 22104, 22152, 22162, 22179, 22183, 22198, 22221 and 22580. A short gully (12906) is also associated with this cluster. This small cluster of nine

pits and short gully segment lay in a fairly regular and rectangular arrangement, aligned roughly east–west, with an empty interior and seemingly 'blank' eastern side (see Fig. 3.10). This roughly rectangular arrangement is similar to pit groups at Kilverstone, East Anglia, (Bradley 2007a, 44 and fig. 2.5; Garrow *et al.* 2006, 78). This apparently formal layout led to the initial interpretation that the space between the pits represents a house 'void' or 'ghost' house where pits were dug around a temporary structure, such as a tent, that left little or no trace below the surface. In such a model, the pits were placed around the three sides of the structure through which no ingress was made, with their absence on the eastern side indicating that this was the front or entrance. The footprint of such a structure within the line of pits would have an area of about 32.1 m^2.

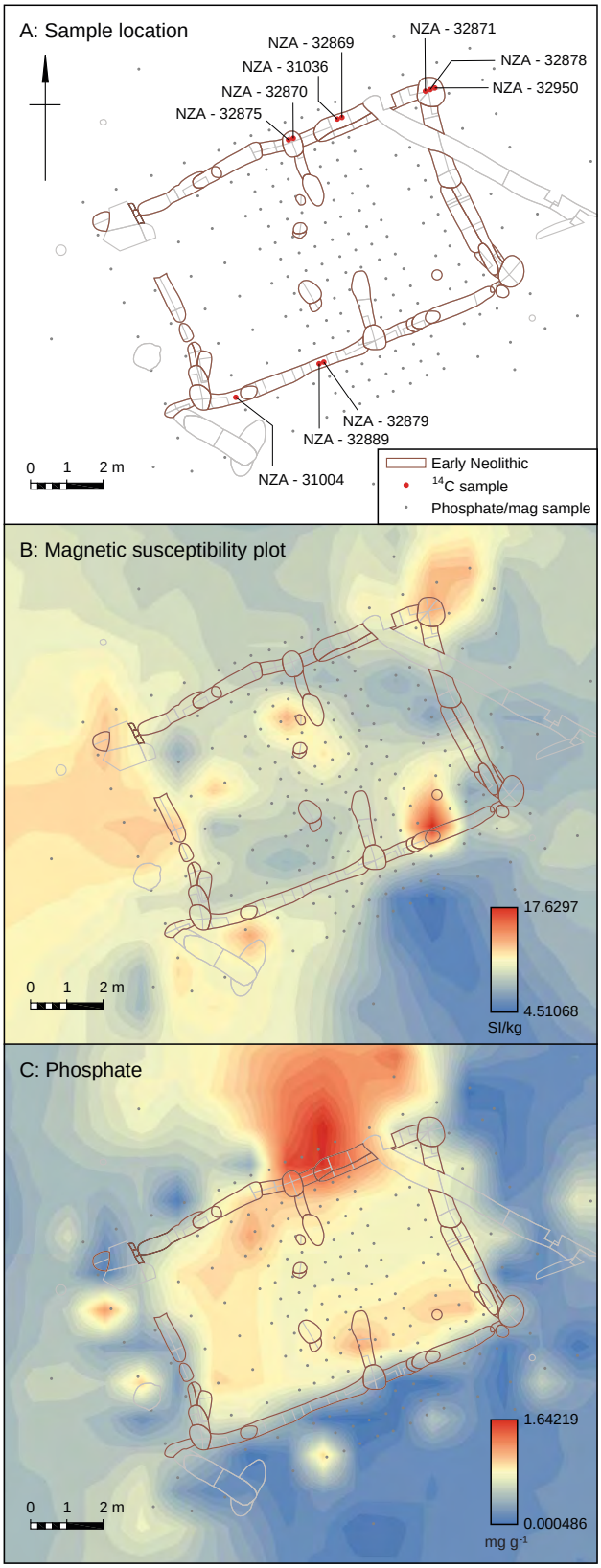


Figure 3.8 Plan of House 1 showing A: location of radiocarbon samples in house; B: magnetic susceptibility plot; C: phosphate plot

This interpretation does carry with it several implications which are worth thinking through. If this structure was something such as a tent that moved with the group, being erected and taken down at each site, it is extremely unlikely that it would be pitched in exactly the same location over several separate visits to the site. There is little impetus to try to locate a tent in exactly the same spot as the previous visit, and locating and orientating the structure in exactly the same place would be challenging. This means that all the features related to it must pertain to a single visit that may have lasted for several months. The numbers of pits found on Early Neolithic sites is thought to reflect the size of the visiting groups and the length of their stay (Hey with Robinson 2011, 245). Early Neolithic pits are usually found in small scatters, and it is rare for clusters to be found. This would denote that Early Neolithic groups either made relatively short visits and/or were composed of small groups. The inference would therefore be that the pit cluster at Horton related to a single visit that led to an uncharacteristically large number of pits being created, and that contrasted with all other Early Neolithic activity at the site that led to the creation of pits. To put this in context, *House 1*, which it is argued may have existed for several generations, is associated with six pits, five of which are located *inside* the structure, while the sixth is situated 8 m away.

An alternative interpretation would be that the pits clustered around something more permanent than a tent, that was not taken down at the end of each visit and stood for several years. In this model the structure could be a light shack-like erection that could be repaired and refurbished at the start of each visit. With one or two new pits being dug each year, it is possible to infer that this structure stood for 4–10 years before being abandoned. It is also worth questioning why, with so much available space, so many pits would have been dug so close to the edges of a tent or shed?

The final and preferred interpretation is that the rectangular arrangement of pits in fact represents the

postholes of an additional rectangular house, *House 2*. This house would consist of postholes 22179, 22198, 22088, 22580, 22104, 22152, 22221 with gully 12906 possibly being a sole surviving wall gully (Fig. 3.10). The absence of a supporting posthole on the eastern side might at first seem puzzling but the position of such a feature coincides with the location of a land drain associated with a post-medieval pig farm that would have either removed or masked traces of it.

Located on the inside of the north line of postholes, gully 12906 had steep, almost vertical sides and was up to 0.45 m deep. It contained four sherds of Early Neolithic pottery as well as animal bone and burnt and worked flint and can therefore be said to be contemporary with the surrounding features. The lack of other wall gullies is by no means unusual for Early Neolithic houses (Fig. 3.11) or indeed prehistoric houses in general, with the other walls being placed in shallower cuts that have not survived.

House 2 shared many similarities to *House 1*, and although slightly squarer in shape, it would have had a footprint of 56.1 m^2, compared with the 64.2 m^2 footprint of *House 1* (Fig. 3.12). The dimensions of the *House 2* postholes are similar to those of House 1 (Table 3.1) and both contained an essentially domestic assemblage (see below) that indicates the same kind

Figure 3.9 House 1 and House 2

of activities were taking place around both structures. On average, a larger quantity of finds found their way into the postholes and pits of *House 1* and *House 2* than the Early Neolithic pits scattered across the rest of the site (Table 3.1). With the exception of three of the postholes (22183, 22221 and 22580, which were sterile of any finds), all contained material datable to the Early Neolithic, including pottery sherds of Plain Bowl type. The number of fills found/recorded within the group varied between one and three. The majority contained a single, dark, charcoal-rich deposit.

Postholes 22221 and 22580 contained two fills, while posthole 22198 was exceptional in that it contained three. This is similar to the postholes from *House 1,* which typically only had one fill with two (22099 and 23643) containing two fills and only a single posthole (23645) that contained an exceptional three fills. Postholes 22221 and 22580 appear to have a primary natural silted deposit below a main secondary deposit. These deposits indicate that the features had probably been open for a short period of time, allowing the sides to start destabilizing and erode inwards without any finds being incorporated. Once posthole 22198 started being backfilled it was filled with a darker-looking deposit that, like the other postholes, contained a number of artefacts including a leaf-shaped arrowhead (ON 1353) (Fig. 3.13) and flint blade (ON 1354). This pattern may indicate that the material finding its way into the postholes was deliberately included rather than just naturally collapsing into the posthole. The nature of the fills of the postholes and lack of post-pipes may indicate that the posts were removed when the structure was decommissioned, with the holes backfilled with material from a nearby midden.

Artefactual and environmental evidence from *House 2*

The finds recovered from *House 2* include Early Neolithic pottery of Plain Bowl type, animal bone, fired clay, charred hazelnut shell and worked and burnt flint (Fig. 3.13). In total, 185 pieces of flint were found in this group (see Bradley, Appendix 3), including serrated flakes, two fragmentary leaf-shaped arrowheads and a broken scraper. The material from *House 1* and *House 2* shared a number of similarities, being burnt, broken and worn – both are everyday domestic assemblages containing the detritus of daily life. Because of the presence of serrated flakes from both *House 1* and *House 2* it has been suggested that processing tasks were taking place in the vicinity of both locations.

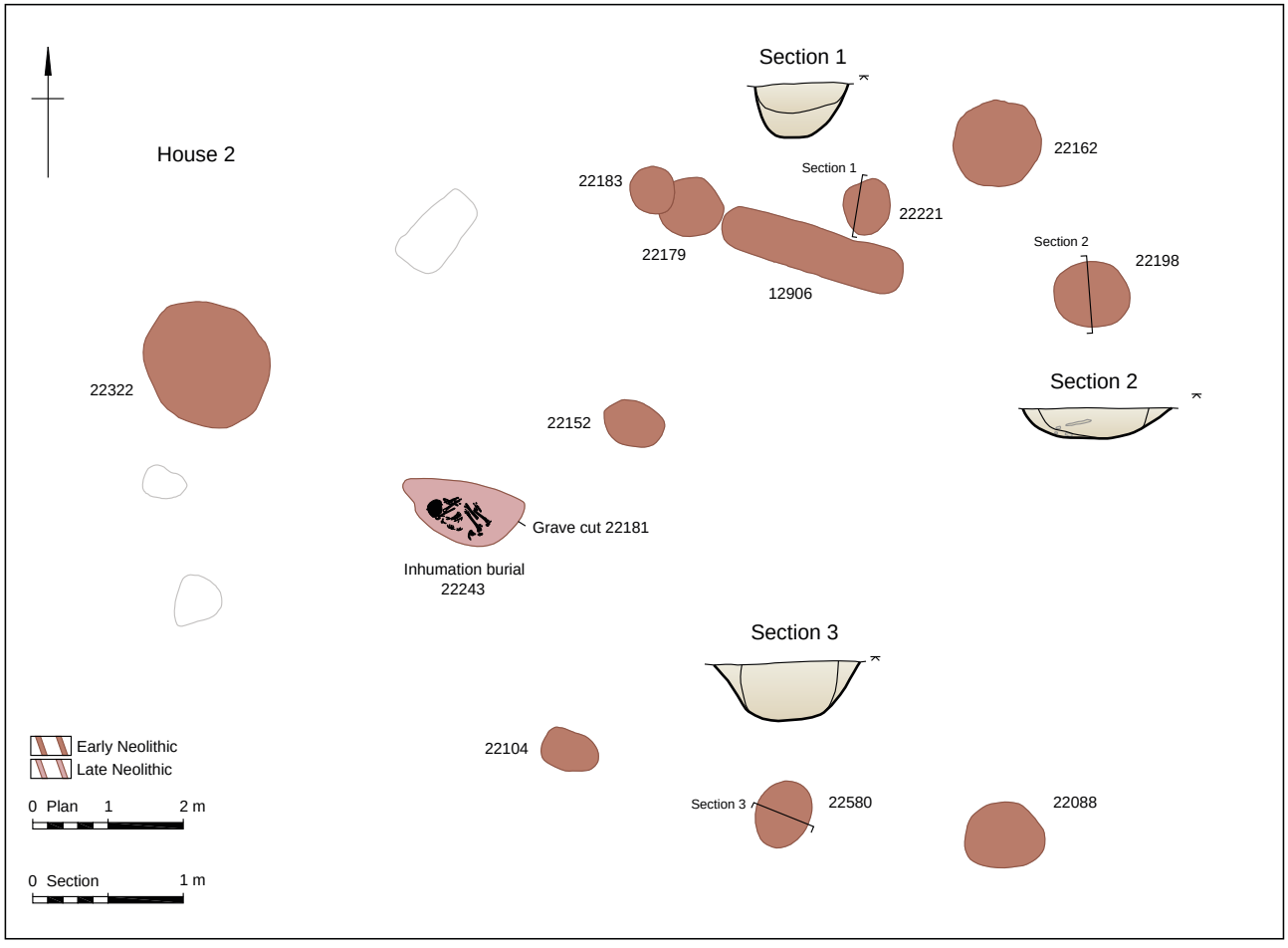


Figure 3.10 House 2 and Late Neolithic grave 22181

As with the animal bone assemblage associated with *House 1*, the material from *House 2* was also very limited in what it could tell us about the nature of activities taking place at the time (see Grimm, Appendix 3). Cattle were the dominant species, (although this may again be due to a preservation bias) with sheep/goat and pig also present. Of particular note, however, were two fragments of worked bone awl (ON 1355 and ON 1405). The former came from posthole 22104, the latter from posthole 22088, both located on the southern side of the house. Even more significant is the fact that these two fragments refit, both being from a single object (Fig. 3.13). Both pieces were quite highly polished, which may be evidence for being used on plant fibres or animal hides (see Grimm, Appendix 3). The evidence suggests that the bone awl had probably been broken and discarded in one location such as a midden or spread and subsequently later deposited into the two postholes. There is no evidence for it having been structurally deposited immediately after it was broken.

Posthole 22088 contained a further fragment of worked bone from the upper half of a bone pin (ON 1407). Of the 44 Neolithic pits that Lamdin-Whymark studied from the Middle Thames Valley

Figure 3.11 Comparative ground plans of Early Neolithic houses

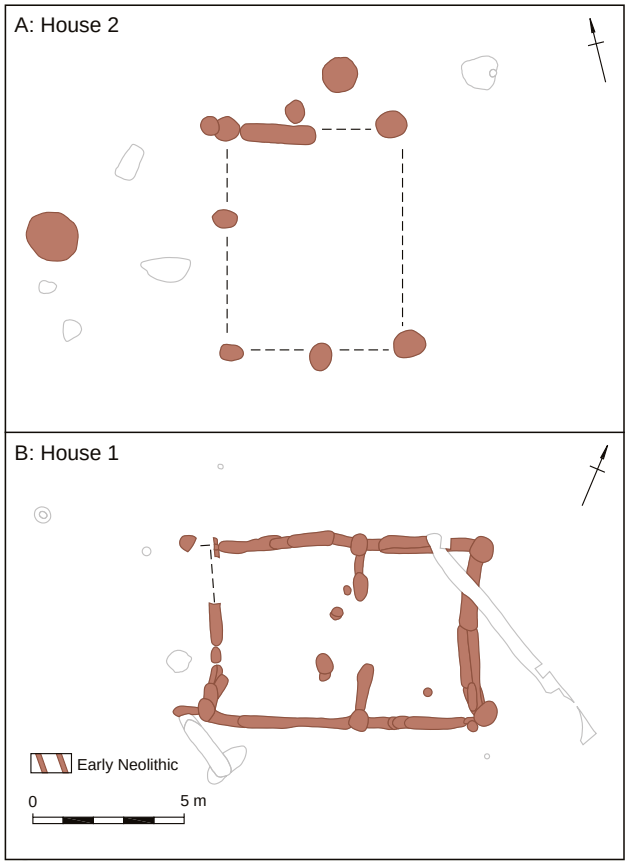


Figure 3.12 Comparative plans of House 1 and House 2

none that dated to the Early or Middle Neolithic (37 of that sample) contained any worked bone. The appearance of worked bone within the Grooved Ware pit assemblages (three of that dataset contained worked bone) has as a result been seen as part of the more formalised nature of deposition during the later Neolithic (Lamdin-Whymark 2008, 121). The three worked bone objects from Horton, including the fragmentary awl in two securely dated Early Neolithic postholes, contrasts with this and perhaps illustrates a different depositional repertoire for structural postholes versus pits. The quantities of material recovered from *House 1* and *House 2* were broadly similar (see Table 3.1) and on average exceed that recovered from the other Early Neolithic pits.

House 2, like *House 1*, produced few charred plant remains despite extensive sampling. A sample from pit 22104 produced a small quantity of cereal remains consisting of grain of barley (*Hordeum vulgare*), indeterminate wheat (*Triticum sp.*) and glume bases of hulled wheat. Preservation was insufficient to enable identification beyond the level of spelt or emmer (*Triticum spelta/dicoccum*). Assuming the glume bases are not intrusive, they are likely to be derived from emmer wheat (*Triticum dicoccum*), spelt (*T. spelta*) wheat not being recorded in Britain prior to the late Early Bronze Age (Barclay and Stevens 2012). The preservation of barley grains was insufficient to establish whether a hulled or naked variety was represented. A date of 3630–3100 cal BC (NZA-32951, 4637±64 BP) was obtained from a hulled wheat spikelet fork (the chaff) from pit 22014, slightly later than that obtained from the barley grain in *House 1*. The presence of directly dated grain and chaff indicates the cultivation of barley and hulled wheat (presumably emmer) on or near the site during the Early Neolithic, and their association with *House 1* and *House 2*. They largely match the Early Neolithic dates obtained on hazelnut shell fragments from both *House 1* and *House 2*, which range from 3970–3770 cal BC (NZA-31036, 5075±40 BP) to 3710–3540 cal BC (NZA-32878, 4877±25 BP) for *House 1* and 3630–3360 cal BC (NZA-32890, 4690±40 BP) for *House 2*. Middle Neolithic and Beaker dates on hazelnut shell from *House 1* are assumed to be later contamination, although they do demonstrate the continued exploitation of wild resources at the site. Where dated, all grains of free-threshing wheat (*Triticum aestivum/turgidum* type) present in the *House 1* and *House 2* deposits have proved to be medieval or later, suggesting that they are intrusive. Seeds of vetches or tares (*Vicia/Lathyrus sp.*) were also noted in *House 2* deposits. While vetches and tares commonly occur in grassy conditions, they are consistently found within a restricted range wild taxa associated with cereal remains, and are therefore likely to have occurred as arable weeds (de Vareilles *et al.* 2023).

The Early Neolithic plant remains are generally consistent with food processing waste and include both domesticated and wild resources. The rarity of plant remains from these features is probably the result of taphonomic factors. While it is not possible to speculate on the scale of agriculture at this site, the dates obtained on the grain at Horton are in keeping with other Early Neolithic cereals in southern Britain, much of which tend to cluster in the period 3800–3600 BC (Stevens and Fuller 2012; de Vareilles *et al.* 2023). Locally, Eton Rowing Lake, 10 km upriver and close to the Thames, is the only other site to have produced evidence for Early Neolithic cereal cultivation (Allen *et al.* 2013; Whittle *et al.* 2011, table 8.3).

Dating of the Houses

The artefactual material from *House 1* and *House 2* suggested an earlier Neolithic date, and this was confirmed by a series of radiocarbon dates on short-lived plant material that had been burnt, perhaps on hearths lit within the buildings. No bone was radiocarbon dated due to its general small size and likely poor collagen yields.

In total ten radiocarbon dates were obtained on material from *House 1* (Fig. 3.8A), five of which were on fragments of charred hazelnut shell (NZA-31036, NZA-32875, NZA-32878, NZA-32889 and

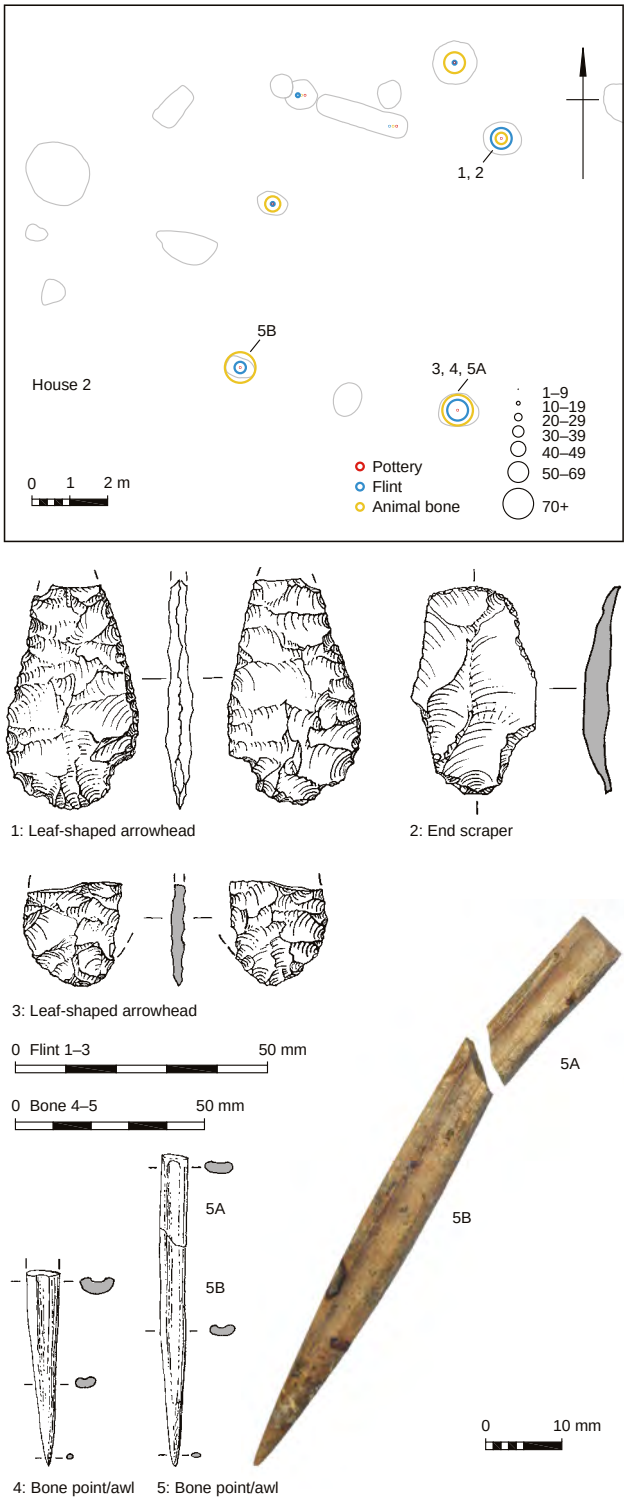


Figure 3.13 House 2 finds distribution and selected finds

NZA-32950), four were on charred barley grain (NZA-32869, NZA-32870, NZA-32871, NZA-32879) and one was on a charred wheat grain (NZA-31004) (see Barclay *et al.*, Appendix 6). There was a problem with intrusive carbonised material, in particular cereal grain (NZA-32869, NZA-32870, NZA-32871, NZA-31004), and this is an issue that has long been recognised on sites of a multiperiod date (Ruth Pelling pers. comm.). One hazelnut shell sample (NZA-32950) was also deemed as intrusive. Based on the chronological model, it is estimated that the construction of *House 1* took place between *3940–3660 cal BC* and went out of use by *3660–3560 cal BC (both at 68% probability)*. This suggests that *House 1* could have been in use for multiple generations.

Two radiocarbon dates were obtained on material recovered from *House 2*, with a third sample returning an inconsistent result that was too old and considered anomalous. A charred emmer/spelt (*Triticum dicoccum/spelta*) spikelet fork gave a date of 3630–3100 cal BC (NZA-32951, 4637±64 BP) while charred hazelnut shell fragments obtained a date of 3630–3360 cal BC (NZA-32890, 4690±40 BP). This suggests that *House 2* started *3560–3430 cal BC* and ended *3500–3340 cal BC (both at 68% probability)* (see Appendix 6). This would imply a gap of at most a few generations between the abandonment of *House 1* and *House 2*.

However, as mentioned earlier, later seasons of fieldwork at Horton revealed a further three Early Neolithic houses (see Volume 2). Analysis of *Houses 3, 4* and *5* is currently ongoing but an initial radiocarbon date obtained from a sample of charred hazelnut from a posthole in *House 3* (34500) was 3909–3665 cal BC (SUERC-47722, 4979±29 BP) and in *House 5* (31314) was 3650–3522 cal BC (SUERC-47721, 4801±31 BP). While this will be explored in more detail in Volume 2, the initial analysis indicates that *House 1* may be the oldest of the buildings, with *House 3* being either contemporary or constructed soon after. *House 5* may then be the next oldest and is followed by *House 2,* which is possibly the last of the structures. *House 4* (34035) is currently unsequenced. While more work is required to model Early Neolithic occupation at Horton (which will be reported on in full in Volume 2), it is apparent that the site was consistently occupied for a major part of the Early Neolithic.

Construction Techniques

It is now believed that there were two main phases of house construction in the Early Neolithic of Britain and Ireland, the first being a group of large houses 18+ m long and 7–11 m wide that have a currency from the 41st to early 38th centuries BC depending upon where they are situated (Sheridan 2013, 289–90). Many of these structures exhibit signs of burning (*ibid.*) and this has allowed the survival of *in situ* construction data (Smyth 2014, 62–70). The second group are usually under 10 m in length and are potentially of slightly later date, contingent on their location (Gibson 2017). Although conflagration of these houses is less common, it is still occasionally

observed, as at Yarnbury, where partial burning of one section of the structure again preserved details of its construction techniques (*ibid.*).

None of the houses at Horton belong to this class of large houses and they evidently pertain to the second group of smaller, later constructions. The two Early Neolithic houses revealed by the first phase of excavations reveal two different styles of construction and it can be argued that this variation in structural styles continues to be exhibited by the houses discovered in the second phase (see Volume 2). Both the smaller and larger houses exhibit significant variation in their form. In some cases gullies survive, joining the postholes, and it seems likely that these were foundation trenches for walls. Where structures only have partial sections of gullies, or no gullies exist, the most likely explanation is that some foundation gullies were created with a shallower depth and this has resulted in variations in their preservation. The variations in morphology between *House 1* and *House 2* at Horton may therefore result principally from differential preservation.

Although the survival of the foundation trenches was good at Horton, the structure did not have the detailed preservation that is seen at some of the Irish Early Neolithic buildings, such as Cloghers, Co. Kerry (Kiely 2003, 184), sufficient evidence was recovered to make some observations. The almost continual (although segmented) foundation trench in *House 1* is similar to that seen at Corbally, Co. Kildare (Smyth 2007, 229; Smyth 2014, 62–4, fig. 4.8) and Ballygalley, Co. Antrim, where split planks were thought to have been used for walls (Simpson 1996, 126–7). At Yarnbury, charcoal recovered from the gullies indicate that rather than planks, the walls were constructed from hazel wattle panels (Gibson 2017, 201).

Possible evidence for the wall construction at Horton came from dark staining, seen at a number of points within the gully fills of *House 1* (Fig. 3.4C). This staining most likely formed as a result of episodic waterlogging and was most notable along the north-eastern side of the structure where it was much darker; it was also visible along the northern part of the north-western side of the structure. As 100 per cent of the building was excavated, a slight textural difference in the fill was also noted running through the centre of the gully along the south-eastern side. Although not identifiable in plan or section, this may again be a further indication of more staining; however, no timber was preserved and the micromorphological analysis proved inconclusive (see Macphail and Crowther, Appendix 2). This staining has been interpreted as the possible trace of rotted timbers, the remnants from upright posts or split planks set into the foundation trench. No evidence for post packing was found other than soil.

The width of this foundation trench varied from 0.33 m on the southern side to 0.93 m along its western side. This variability is due to the almost piecemeal/segmented nature of the foundation gully construction. Allowing for some amount of truncation, which inevitably has occurred over time and is evidenced by the lack of any remnant floor and or activity surfaces, the depth of the foundation trench could have been quite substantial (maximum of 0.34 m depth has survived) and possibly enough to have supported the walls without the need for stone packing. The absence of stone packing seems difficult to explain given the similarity in size to many Irish examples, particularly Thornhill structures B, D and E (Logue 2003) but as has been pointed out (Hey and Barclay 2007, 413; Smyth 2007) the variability of these buildings is one of their many characteristics. It is possible that the variations in the width of the foundation trench could also indicate that the structure may not necessarily have been of uniform construction. There are a number of possible explanations for the almost segmented appearance of parts of the foundation trench; they may denote various repairs or differing types of wall construction for sections of the building. Along the north-western side of the structure around the mid-post the gullies seem to narrow slightly (this is reflected on both sides of that post) before widening again. This may indicate that the planks along the sides of the building varied in size, with those along the main body of the walls being larger than those around the posts. Further variability is seen where the dark staining is evident within the gullies. It is not consistently on either the interior or exterior of the walls (Fig 3.4C); along the north-west side of the structure it is seen on the internal side of the gully, while on the north-eastern wall it is on the external side of the gully. The north-eastern end of the structure also appears to have a wider series of foundation gullies than that of the south-western end. It could be suggested that this may have been the 'front' or facade of the building, designed to have a more imposing appearance. Despite the variability being highlighted here regarding the width of the foundation trench, in general the depth of the trench and the postholes was more uniform.

At Yarnbury, the posts, which charcoal suggests were large oak timbers, were situated on the inside of the wattle panels, 'presenting a fairly uniform external appearance' (Gibson 2017, 206) and maximising the internal space. For Horton *House 2*, the positioning of pit 22221 outside the line of gully 12906 may indicate that it held an external supporting post. It is possible that repairs were made to the structure, with posthole 22183 dug to hold a post replacing or providing outer support for an earlier one in posthole 22179.

With regard to the interior space of *House 1* it is most likely that the internal gullies would have also held split planks, because of their similarity in size and depth to the main foundation trench. These would have formed a double purpose; firstly as physical divisions of the internal space, with a doorway in between, and secondly as additional roof supports in the absence of other structural postholes in the interior. This type of split plank/timber construction is visible elsewhere in Early Neolithic activities such as the construction of the Sweet Track, Glastonbury (Coles and Coles 1986) and timber facades of some long barrows such as Haddenham, Cambridgeshire (Evans and Hodder 2006) and Redlands Farm, Stanwick, Northants (Bradley, P 2007; Bradley 2011).

Other Early Neolithic Activity

In addition to *House 1* and *House 2*, a number of other features contained material of Early Neolithic date. Several were residual within later Middle Bronze Age features, for example deposits 5750, 5799, 5825 and 15027, suggesting that Early Neolithic material was being discarded on the surface in probable middens. Elsewhere across the site, small numbers of features of probable Early Neolithic date were revealed. A small group, consisting of features 15735, 15850, 15833, 19265 and 19292, were located towards the very eastern edge of the northern part of the site (Fig. 3.14). All were identified as pits, with the exception of 19265 which was recorded as a ditch/pit. Pits 15735 and 15850 were located within

Figure 3.14 North-eastern Early Neolithic feature group

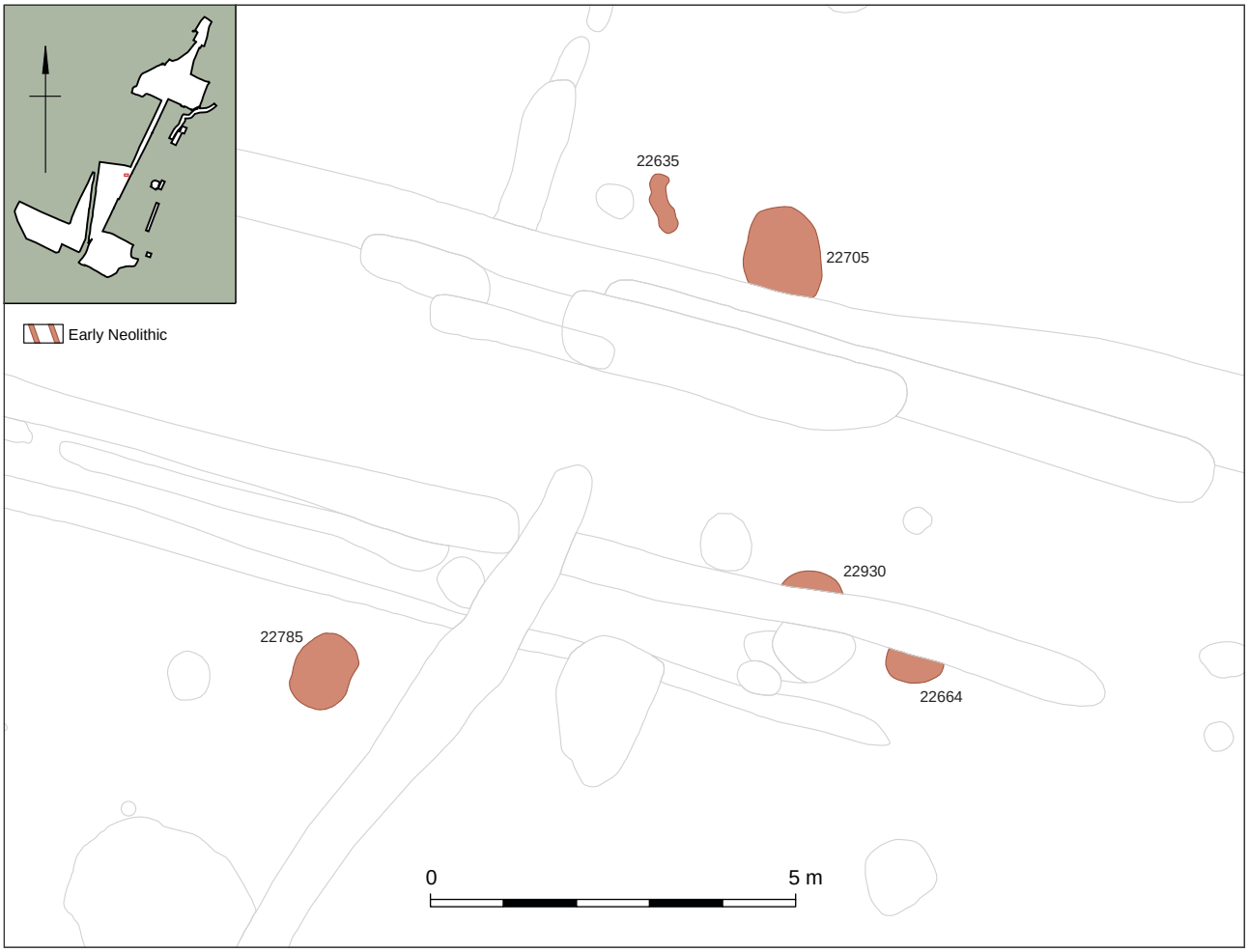


Figure 3.15 Central Early Neolithic feature group

3 m of each other. They were both very shallow (maximum 0.09 m), oval-shaped features that contained Early Neolithic pottery, a piece of flint and a fragment of animal bone. Pit 19292 was situated 67 m south of 15735 and 15850; it was similar in shape and plan, being very shallow, and also contained pottery and animal bone. Feature 19265 was notable among this group of features in that it was much deeper – similar in depth to some of the postholes of the houses already discussed. However, its interpretation as a pit is uncertain; in plan it appears to be a rather elongated irregularly shaped feature and it may be that it was a short ditch segment or part of a series of intercutting features that could not be identified, or even an unidentified tree-throw hole.

Towards the middle of the site a further group of possible Early Neolithic features were found: 22635, 22664, 22705, 22785 and 22930 (Fig. 3.15). Finds were very few, but some included pottery of possible Early Neolithic date along with scrappy fragments of animal bone. Only one deposit from these features contained any worked flint. Feature 22635 was a small 'gully' segment and the material within that may be residual from within pit 22705, which was located almost immediately to the east of it. Although these features are not clustered in any formal arrangement, they are situated with a certain proximity to each other. This may suggest that they were the result of a short period of contemporary occupation. Due to the scarcity of finds, however, these interpretations are uncertain.

Two further features have been tentatively dated to the Early Neolithic and were located to the south of the site, notably within the area where Later Neolithic activity was found (Fig. 3.16). Features 1794 and 3535 were both fairly large and circular and contained fragmentary pottery, worked and burnt flint and animal bone. The nature of their fills is consistent with the features associated with *Houses 1* and *2*, although their sizes are slightly larger. These features were quite isolated in relation to the other Early Neolithic features discussed in this chapter and because of the low volume of material recovered from them, further interpretation or discussion is very limited. If they are dated to the Early Neolithic, it highlights a difference between the houses representing a concentration of activity within one location and the isolated pits noted here.

In a study of Neolithic activity within the Middle Thames Valley, 26 other pits could be clearly dated

Figure 3.16 Southern Early Neolithic features

to the Early Neolithic (Lamdin-Whymark 2008). It is very rare to find clusters of Early Neolithic pits in the Middle and Upper Thames Valley (Barclay 2007, 343) with notable exceptions including South Stoke, Oxfordshire (Timby *et al.* 2005, 228), Benson, Oxfordshire (Ford and Pine 2003b, 135–7), Fairford, Gloucestershire (Hayden *et al.* 2017), and within the Windmill Hill causewayed enclosure, Avebury (Smith 1965).

In a group at South Stoke, three pairs of pits were identified, each pair containing one 'poor' and one 'rich' pit (Lamdin-Whymark 2008, 103; Timby *et al.* 2005, 228). This is not something that can be observed within the Horton Early Neolithic pits (for a potential pair in the Late Neolithic group, see below). The overall character of the material is of everyday domestic discard but as this is a partial collection of the material that must have been used, it raises the question of where was the material curated prior to deposition and what happened to the missing material? As seen elsewhere, such as at Eton Area 6 (Allen *et al.* 2013), middens are a characteristic of Early Neolithic deposition. They may explain the incompleteness of the assemblages that were finally incorporated into the pits.

Garrow (Garrow *et al.* 2006, 75–6) discusses various interpretations associated with the function of pits through the Neolithic in East Anglia, including as quarries, cooking pits, grain-storage pits, containers for food or water, or parts of dwellings. These assume the use of the pits as concurrent with the occupation of the site. The pits at Horton may,

however, indicate the end of occupancy at the site within an annual cycle of movement, being created at the point that people disperse to other locations in the wider landscape. They possibly provide testimony to the temporary nature of settlement, the mobility of people and patterns of departure. It seems probable, therefore, that the activity represented by the Early Neolithic pits at Horton is associated with different periods to those of the houses, with groups of people operating on a smaller scale of occupation.

Middle Neolithic Activity

On the eastern edge of the quarry (Fig. 3.2) an oval barrow had been partially excavated during flood alleviation works (Ford and Pine 2003a). As noted in Chapter 1, and elsewhere, this episode of monument building around 3000 BC had enlarged and replaced a much earlier U-shaped enclosure that contained culturally rich feasting deposits. Within the local context of the Staines causewayed enclosure, and the Stanwell bank barrow and monument complex, the site is of significance. The excavations at Horton, therefore, provided the opportunity to examine the land close to the oval barrow and its local setting. Surprisingly little Middle Neolithic material was found, despite the extensive area excavations. Only a small and varied collection of Peterborough Ware was found, which included a rim from an early Ebbsfleet style bowl, a rim from a Mortlake Ware bowl and sherds from a bone-impressed hemispherical bowl recovered as 'old' material from a Grooved Ware pit.

Late Neolithic Evidence

A series of Late Neolithic (2900–2400 BC) Grooved Ware pits were located within the southern area of the excavation site (Fig. 3.17). Eight features have been securely dated to the Late Neolithic: 1218, 1508, 1534, 1573, 1658, 1770, 3370 and 24918, five of which contained quite large quantities of Durrington Walls style Grooved Ware. All but one of these Late Neolithic features were spread over an area of about 1.1 ha and, with the exception of two (1508 and 1573), were isolated from each other. Pit 24918 was found during excavations in 2009 and is located on its own 322 m to the east of the other pits discussed here. Pits 1508 and 1573 were located 3.3 m apart, so may possibly be considered as a pair. All of these are discussed below in further detail in this section of the chapter; however, a number of features contained material that was either residual, of uncertain Neolithic date or dated to the Late Neolithic–Early Bronze Age. These features were therefore not considered to be part of the clearly dated Late Neolithic pit scatter. They will be noted here but not discussed in detail.

Features that contained residual material dating to the Late Neolithic/Late Neolithic-Early Bronze Age were 1278, 1292, 1442, 1438, 1845, 3119, 3264, 3533, 4030 and 8213 (Fig. 3.18) all of which (with the exception of 1438, 3119 and 4030) were from ditches within the Bronze Age field system. 1438 and 3119 were pits that also contained Middle Bronze Age material, while 4030 was part of a palaeochannel located towards the south of the site. Two further pits (1373 and 2091) also contained material datable to the Late Neolithic–Early Bronze Age. As with the Late Neolithic group, they were both isolated features with no characteristic differences either in shape, form or nature of finds (of which they both contained relatively few). If they are slightly later in date than the Grooved Ware pits, they indicate no difference in the level of occupation or nature of deposition, rather a continuity of practices.

Large pit 1770 (Fig. 3.19) measured 2.04 m by 1.78 m with a depth of 0.57 m. A radiocarbon date was obtained on a fragment of charred hazelnut (*Corylus avellana*) shell from its lowest fill. This produced a Late Neolithic date within the range of 2860–2480 cal BC (NZA-33480, 4077±35 BP). The pit was later recut by Early–Middle Bronze Age feature 1446 that contained a number of flint arrowheads, a whetstone, a bronze awl and other worked flints that had been arranged in a circle around a dump of hearth-like material. Due to the different nature of this feature it will be discussed separately (see Chapter 4). Feature 1294 was similar to 1770 in its dimensions. Although its flint was not particularly diagnostic it could be dated to the Late Neolithic.

The artefact dating for the Late Neolithic pits includes a series of pottery groups with affinities with the Durrington Walls style of Grooved Ware, a type of pottery that was in use from the 27th to the 25th centuries cal BC. This is supported by two radiocarbon dates (NZA-33480 and 33948) from two of the pits, the details for which are discussed in greater detail below. A single inhumation made in a possible flat grave, unaccompanied by grave goods, has a radiocarbon date (NZA-32873) that is very similar to those from the pits and this burial is likely to have been made during the same phase of activity.

The average size of the securely dated Late Neolithic pits was 0.80 m by 0.77 m with depths varying between 0.09 m and 0.47 m (average depth was 0.24 m), although pit 24918 was notably larger, with a diameter of 1.36 m. They were generally more circular than those forming the Early Neolithic pit cluster 13126 (*House 2*). Compared to the average sizes for Grooved Ware pits seen elsewhere in the Middle Thames Valley (Lamdin-Whymark 2008, 101) these are very similar, although it should be noted that in both cases, sample sizes are relatively small. Truncation is not generally considered to have been an issue with the levels of preserved archaeology

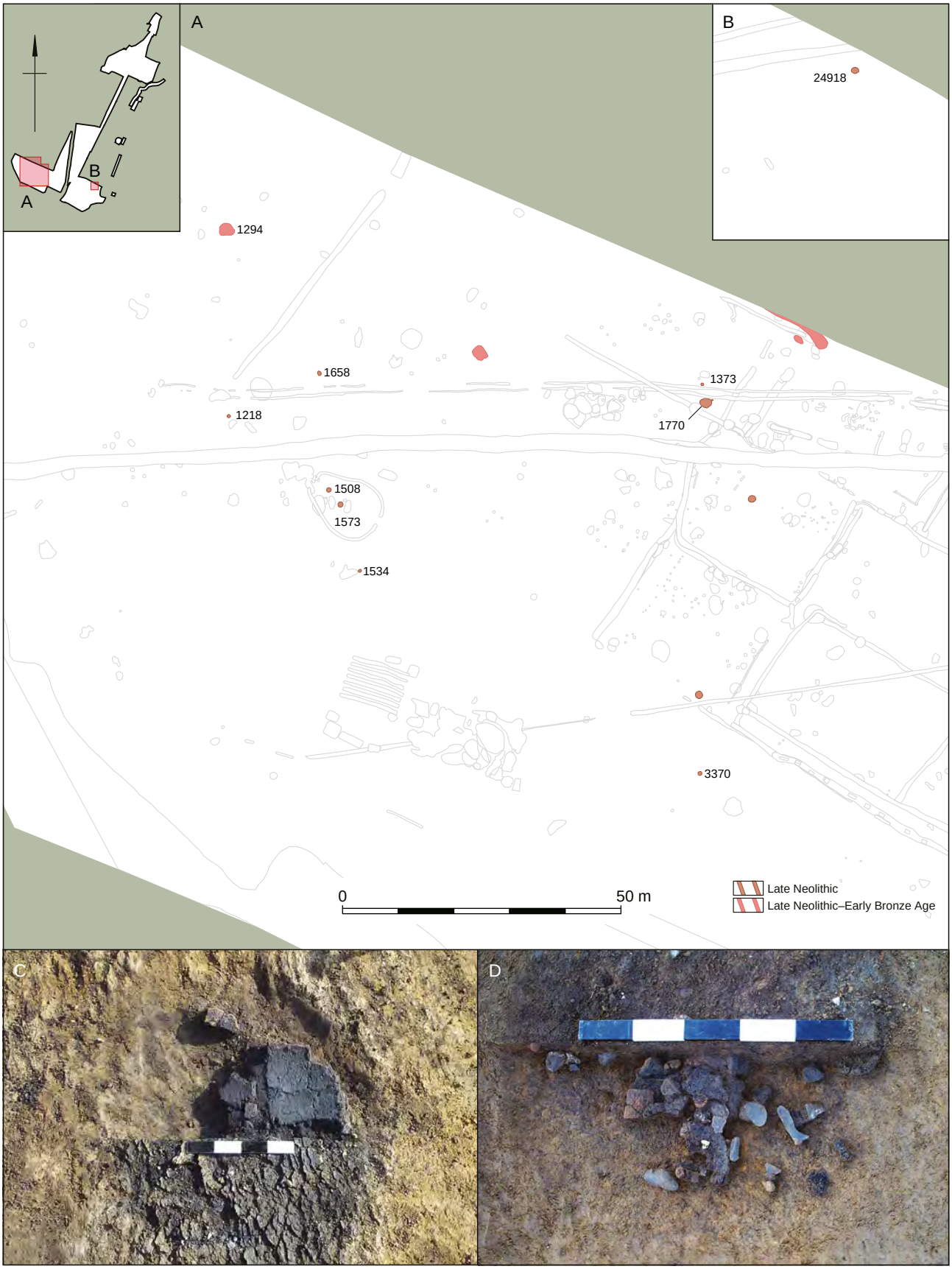


Figure 3.17 A: Late Neolithic; B: Late Neolithic–Early Bronze Age pits; C: Pit 1218 with Grooved Ware pottery in base; D: Grooved Ware pottery, daub and flint tool assemblage in base of pit 1508

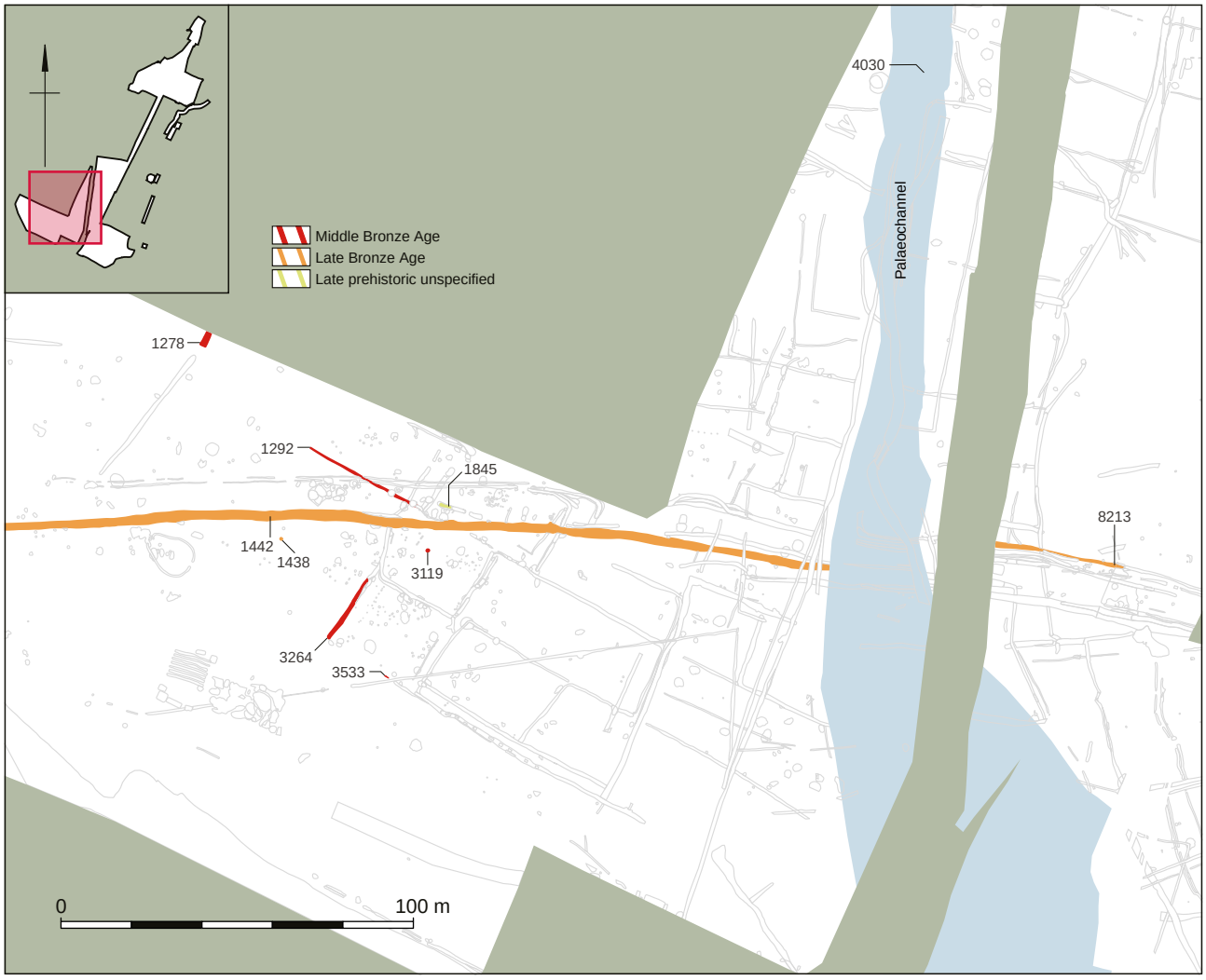


Figure 3.18 Later features containing Late Neolithic and Late Neolithic–Early Bronze Age material

in this area at Horton, so the dimensions can be taken as representative. Five of the pits contained a single fairly dark fill, similar in appearance to the fills of the Early Neolithic pit cluster discussed above. Two pits, 3370 and 24918, contained two fills. It has already been noted that the latter feature was considerably larger than the others of this date and pit 3370 is also notable in the nature of its finds and environmental assemblage, discussed in detail below. On the whole there is little comparable difference between the number of fills seen within the Early Neolithic pit features, which had a maximum of three, and that of the Grooved Ware associated pits, which contained between one to three (1770 was the only exception, containing five).

It is not clear whether the Late Neolithic pits represent a single phase of activity by a community visiting the area seasonally or whether these were created by irregular one-off pauses by different social groups punctuated by gaps of many years. If we presume that the 15 pits represent seasonal activity within an annual cycle of movement, we could see one or two pits dug each year, implying that the site was only attended for a few years. Accepting that some visits might leave little or no trace of activity, we still might only see the site being occupied for perhaps a generation, for a period that lasted 500 years.

Artefactual and Environmental Evidence

The range of material was similar to that seen within the Early Neolithic pit features, including fragments of pottery, worked and burnt flint, and animal bone. In contrast to those earlier features, however, there was some evidence for deliberately broken and placed artefacts. The environmental material also includes assemblages richer in charred plant remains than those from the Earlier Neolithic features, and appears to highlight certain depositional practices.

With the exception of flint, the Late Neolithic pits produced a higher quantity of finds than the Early Neolithic houses or pits (although a detailed analysis comparing volume size of feature and volume of finds was not undertaken). Most notable was the increase

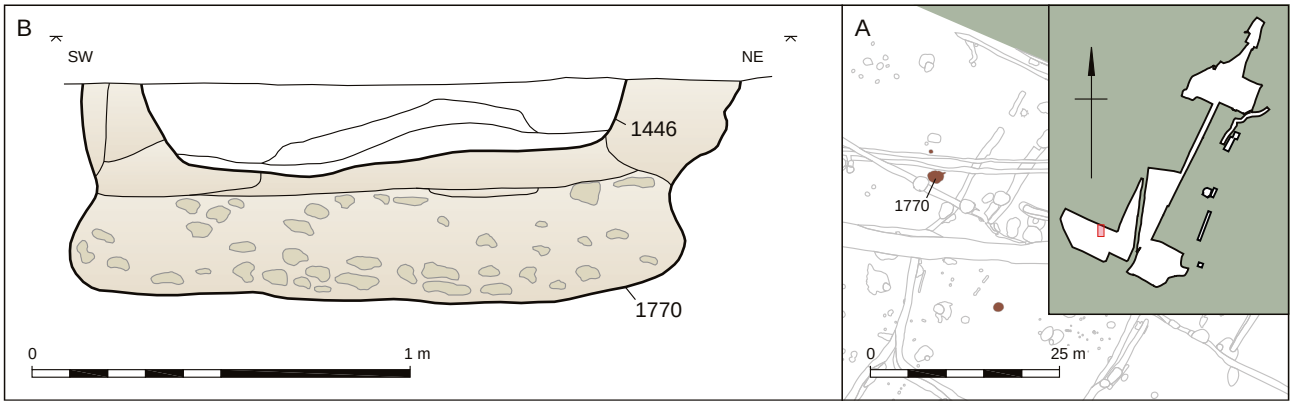


Figure 3.19 Pit 1770

in burnt flint being deposited, from 900 g found within the Early Neolithic group to 10,082 g from the Late Neolithic group, although much of that was found in one pit, 1658 (6135 g). This included some evidence for burnt worked material such as that from pit 3370 discussed below. Unfortunately, the animal bone assemblage was considered too small to allow any detailed comparison (see Grimm, Appendix 5) but of note was a fragment of beaver bone found in pit 3370. Beaver has been found elsewhere within Late Neolithic deposits such as in Peterborough and the Lower Welland Valley (Harman 1993, 24–5), while in the Somerset Levels wood within the Neolithic Baker Platform was found to have been beaver-gnawed (Coles *et al.* 1980; Coles 2010, 109). Within the Middle Thames Valley at Eton Rowing Lake, Dorney, beavers were also found to have been present during the Earlier Neolithic occupation (Allen, T. *et al.* 2004; Allen *et al.* 2013, 46, 302). The presence of beaver indicates exploitation of a further wild resource as their fur could have been utilised as well as the animal being consumed for meat – they could provide a similar amount of meat as a roe deer (Coles 2010, 112). Considerably more fragments of animal bone were recovered overall (see Table 3.1) but only cattle teeth could be identified to species (from pits 1573 and 1658). No evidence for any worked bone was identified within the animal bone groups, although small pieces of worked pins/points could be easily missed. Fragmentary worked bone is often incorporated into the finds assemblages for Grooved Ware associated pits – something which Lamdin-Whymark, among others, has highlighted as often being part of the Grooved Ware pit assemblages elsewhere in the Middle Thames Valley (Lamdin-Whymark 2008, 121). This apparent absence of worked bone from the Late Neolithic features is notable, although it may be a result of very poor preservation. The faunal remains recovered during the excavation of the Neolithic features by TVAS at Horton between 1989 and 1999 were also in a very poor and fragmentary condition, which meant the potential for any detailed analysis of that material was limited (Ford and Pine 2003a, 44).

In comparison to the pottery from Early Neolithic pits and the houses, the Grooved Ware vessels were more complete. This could suggest that vessels were either freshly broken prior to burial or were buried soon after they were broken through use. Grooved Ware was recovered from six of the pits (1218 (Fig. 3.17C), 1508, 1573, 1658 and 3370) with quantities of pottery ranging from two to nine vessels and from 21 (63 g) to 269 sherds (1037 g). Pit 1508 (Fig. 3.17D) contained significantly more sherds than any of the other five pits and the greatest number of vessels (seven, possibly nine). One of these pits, 3370, also contained Peterborough Ware alongside sherds of typical Durrington Walls style (Fig. 3.20). The Grooved Ware assemblage is typical of the local Durrington Walls substyle and includes a range of jar forms. These range from quite large and thick-walled vessels to a number of thin-walled fine ware vessels that include a small number of bowls and at least one cup-sized vessel. Rim forms are generally pointed and internally bevelled, and a number of pots have applied cordons. As is typical of the Durrington Walls-related Grooved Ware of the Middle Thames Valley, a number of vessels are decorated with impressed lines and motifs made by applying lengths of whipped and twisted cord. Some of these sherds had carbonised food residues on the interior surfaces, indicating that the vessels had been used for cooking. One pit, 1508, contained part of a Grooved Ware bowl with internal decoration, which is a relatively rare type of vessel. Apart from the more typical decorated vessels are a group of thin-walled fine jars and/or bowls from pit 1658 that are decorated with either impressed whipped cord or a notched stamp. From the same context is the rim from a jar with a 'floating' lozenge motif. One further comment that can be made is that the pit groups vary in decorative style between those that are of classic Durrington Walls style and others that are more typical of groups found in the Middle and Lower Thames Valley (see Barclay, Appendix 3). In addition, a piece of fired clay with wattle impressions

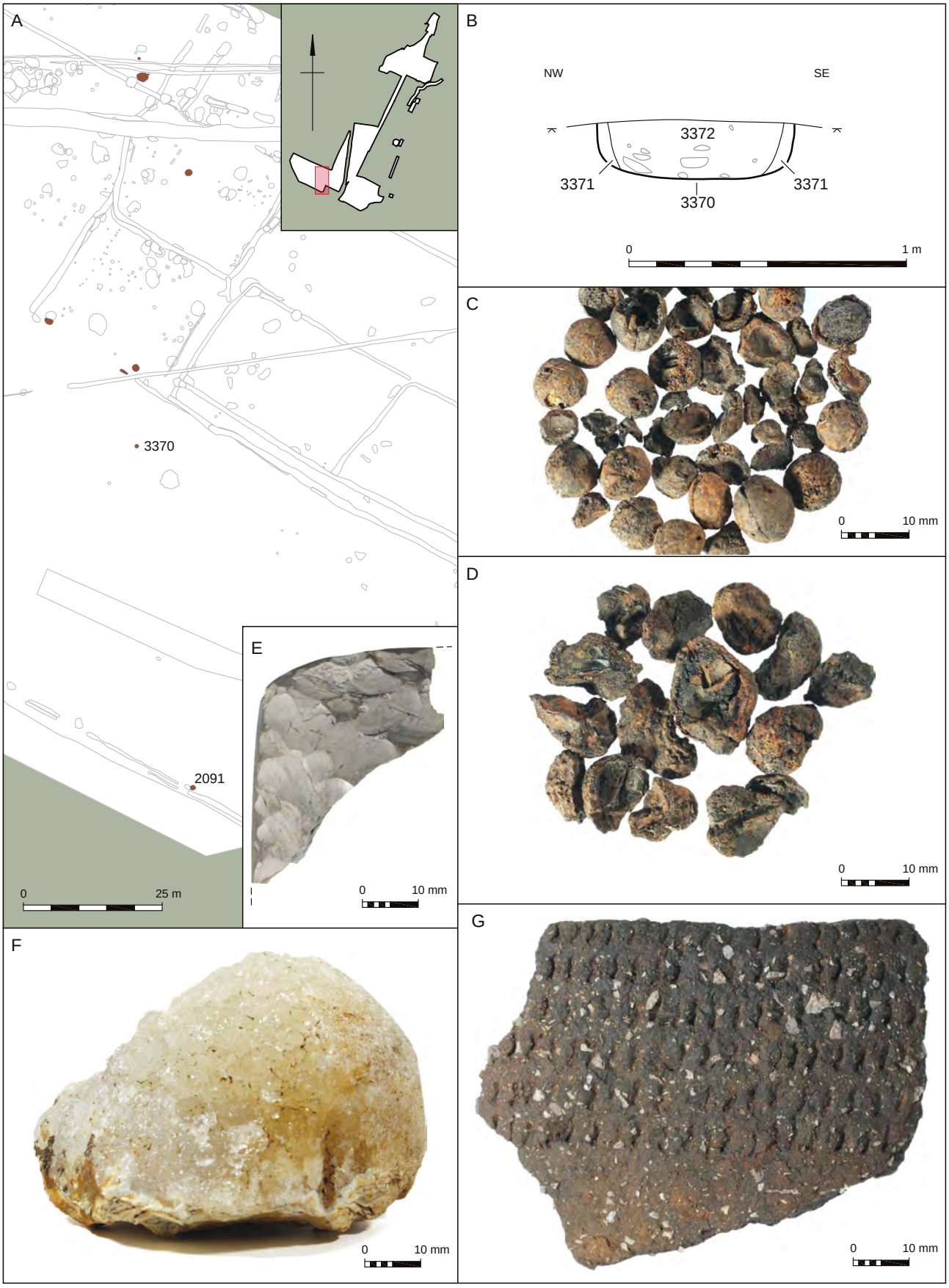


*Figure 3.20 A–B: pit 3370 location and selected finds; C: charred hazelnut shells; D: charred crab apple (*Malus sylvestris*)/service fruits (*Sorbus domestica*); E: broken discoidal polished knife fragment; F: hammerstone with concreted quartz; G: rim sherd from a Peterborough Ware hemispherical bowl*

came from pit 1508. This is clearly structural and provides a tantalising hint at the existence of a semi-permanent structure, possibly an oven or a building such as a stake-built house (cf. Trelystan, Powys: Britnell *et al.* 1982, fig. 4) that has otherwise left no trace in the archaeological record. The possibility that pits marked the place of such short-lived dwellings has been suggested by various authors as has the role pits played in settlement use and symbolic 'closure' – marking the time to move on (Garrow 2015).

The flint assemblage (see Bradley, Appendix 3) included fewer pieces, although its weight was far greater, suggesting that the pieces being deposited into the pits were larger than those being incorporated into the fills of the Early Neolithic features. As with the Early Neolithic groups, debitage and some retouched forms including scrapers were present. Pit 1508 contained a number of tools (Fig. 3.17D), and it has been suggested that this group may be a more specialised assemblage, while the material from pit 3370 was also notable in that it may have undergone some special treatment prior to deposition (see Bradley, Appendix 3). This may imply a greater degree of selection taking place in choosing what is being deposited into the pits. None of the finds assemblages are whole (ie, no complete vessels or refitting flint groups) so the material is being separated out into that 'worthy' of deposition in a pit as opposed to that being left elsewhere, possibly in a midden.

Late Neolithic pits 1508 and 1573 were situated just 3 m apart, contrasting with the wider spread of the other contemporary features. It is possible that these formed a 'pair', and 'pairs' of pits dating to the Neolithic have been identified in East Anglia (Garrow 2006), at South Stoke, Oxfordshire (Timby *et al.* 2005, 228) and a number of other sites. Not only have pits been identified as pairs based on their proximity to each other but also by looking at the distribution of finds between them. At South Stoke and Lake End Road West (on the Maidenhead to Windsor Flood Alleviation Scheme) Lamdin-Whymark noted that between paired pits one was considered 'rich' in its material assemblage, while the other was 'poor' (Lamdin-Whymark 2008, 102–103). When the finds recovered from pits 1508 and 1573 are compared the former contains more material in every finds category (pottery, flint, burnt flint, stone and presence of fruit and nuts) apart from animal bone. As noted above, the flint assemblage from 1508 was seen as possibly reflecting a more specialised activity. Both these factors could support the idea that these were a pair, with one being a receptacle for more selective, although not exclusive, deposition.

Charred plant remains and charcoal recovered from the Late Neolithic pits provide information about depositional practices, the local environment and food procurement activities. There is no reliable evidence for cereals in this period. A small number of cereals noted in the samples have been shown to be intrusive, producing medieval dates, or are in contexts known to be disturbed. In contrast, the evidence for collected wild resources is much stronger, with hazelnut shell in particular being present in large quantities. This absence of cereals in the Late Neolithic has been observed at a number of sites in southern England (Hey and Barclay 2007, 406; Moffett *et al.* 1989; Robinson 2000; Stevens and Fuller 2012; de Varielles *et al.* 2023). While this could be related to changes in depositional practices rather than a shift in the economy, there also appears to be a corresponding absence of quern stones for the Late Neolithic and also of impressions of cereal grains in pottery (Barclay and Bradley 2017). The possibility exists, therefore, that the Late Neolithic represents a period in which food procurement relied on wild resources to a greater extent than it did for the Early Neolithic. The charcoal assemblage from the site is dominated by oak (*Quercus* sp.) but includes a range of tree and shrub taxa including field maple (*Acer campestre*), hazel (*Corylus avellana*), alder (*Alnus glutinosa*), silver or downy birch (*Betula pendula*/*pubescens*), cherry type (*Prunus* sp. eg, wild cherry or blackthorn), dogwood (*Cornus* sp.) and pomaceous fruit wood (Maloideae) (see Barnett, Appendix 1). The charcoal and macrofossils together indicate a rich vegetated landscape, with primary woodland, open canopy woodland, woodland edge, scrub/hedgerow and marshy woodland environments all being exploited. That alder is only rarely present as charcoal would suggest the damper areas such as fen and channel margins were less frequently exploited than the drier oak woodland, presumably in large part reflecting the availability of the oak woodland.

An Atypical Pit – 3370

Regardless of the role of cereals in the Late Neolithic, the charred plant remains from the Grooved Ware pits indicate activity involving the deposition of charred fruits and nuts. Their presence within the pits is noted in Table 3.1. The well-preserved assemblage of charred fruits and nuts from pit 3370 (Fig. 3.20C–D) in particular is of interest for both depositional activity and the evidence it provides for the local environment at this time. The charred assemblage consisted of a range of fruits and nuts including at least 1000 sloes (*Prunus spinosa*), probably deposited as whole fruit (many retained their flesh), a number of complete or nearly complete pyriform fruits that have been identified as crab apple (*Malus sylvestris*) or service fruits (*Sorbus domestica*), as well as the seeds of common and midland hawthorn (*Crataegus monogyna* and

Crataegus laevigata), two seeds of alder buckthorn and a number of hazelnut (*Corylus avellana*) shell fragments, although the nuts were absent. Nine pyriform (pear-shaped) fruits were identified from this feature, these are unusual in terms of their shape, being pear-shaped with protruding ovaries. Given their uniformly unusual shape it is likely that they derived from a single tree (see Pelling, Appendix 1 for a discussion of these fruits). Sloes, common hawthorn and crab apple would suggest the presence of open woodland, woodland edge or hedgerows, while midland hawthorn is more typical of denser woodland. Alder buckthorn, the fruits of which are not edible, is typical of wetter woodland.

The presence of hazelnut in particular, but also sloes and apples, in Late Neolithic Grooved Ware pits is well attested (Moffett *et al.* 1989; Robinson 2000, de Vareilles *et al.* 2023). Alder buckthorn and midland hawthorn are, however, not known from other contemporary pit deposits. The size and range of material included in the charred plant assemblage suggests that it formed a substantial part of the overall deposit, indicating that some care was taken in the selection of this material. The recovery of so many complete fruits is unusual and would suggest that the deposit from pit 3370 is not composed of food waste per se, but rather is likely to be a mixture of food waste (the nutshell) and whole fruits possibly purposefully collected and burnt for some sort of offering. While the remains may therefore in part derive from domestic food waste, they appear to form part of a carefully curated collection of material which, alongside the used and broken flint tools and pottery, may represent some sort of autumnal closing deposit.

The pit also contained a reasonably substantial finds assemblage (see Table 3.1). Although it did not contain the largest volume of pottery from the Late Neolithic pits (which came from pit 1508) it did contain a large amount of broken pottery, which could be identified to be from four separate vessels (see Appendix 3, Figs A3.8: 17 and A3.10: 35, 36a–b and 37). This suggests that the sherds were collected, selected for deposition and tipped into the pit (possibly in a container); they were not broken *in situ* or broken as they were thrown in. Most of the pottery belongs to the Durrington Walls substyle of Grooved Ware with the notable exception of a rim and lower body sherd from a hemispherical bowl of Peterborough Ware type. The rim from this vessel was the largest sherd recovered from the pit and was also in fresher condition than the Grooved Ware sherds. The rim was decorated with horizontal rows of bone impressions (Fig. 3.20G) and, along with the plain body sherd, stand out from the rest of the pottery in terms of condition, firing and fabric (flint-tempered). It had been used as a cooking pot and carbonised food residue was observed on the interior surface. The pottery would have been recognised as different, perhaps old, by those selecting the material for burial. A radiocarbon date on the carbonised food residue from the rim interior has a range of 3320–2910 cal BC (NZA-33785, 4402±35 BP), indicating that the vessel was actually considerably older than the Grooved Ware assemblage from the same pit. A radiocarbon date was obtained on one of the charred *Malus* fruits and falls within the calibrated range of 2850–2480 cal BC (NZA-33948, 4069±25 BP). The possibility that the rim was consciously added as old material must be considered and adds to the unusual nature of this pit deposit.

As well as the unusual pottery, the flint assemblage from pit 3370 also included a burnt and broken discoidal edge-polished knife fragment (Fig. 3.20E), as well as four scrapers and 27 flakes, 12 of which were broken and a couple of which were burnt. A hammerstone with concreted quartz showing much use wear was also found (Fig. 3.20F). The presence of the knife fragment is significant, as few have been found in secure contexts (see Bradley, Appendix 3). The knife may have been considered a prestigious object not intended for everyday use. The blade would probably have been sub-square or rectangular, having been extensively flaked and then polished. The inclusion of burnt worked flint in this assemblage is important; it asks questions of what was happening to the material prior to its deposition – not just where it was being temporarily 'stored' or discarded (such as a midden) but how it may have been deliberately and intentionally treated before being selected for burial in the ground. Was it intentionally burnt or was it accidentally dropped into a fire and subsequently made its way to a rubbish heap as the burnt-out fire debris was cleared away? Considering the 'specialness' of the discoidal knife it seems unlikely that it would have been accidentally lost and more likely that it was an act of deliberate destruction, taking it out of circulation and future ownership. Like the sherds of Peterborough Ware, it could also have been an old and possibly curated object.

In a study of Neolithic pit deposition in East Anglia, the inclusion of both burnt and unburnt material within pit contexts was highlighted as significant as it 'implies the existence of a further *pre-pit* context, in which differentially affected materials were brought together' (Garrow 2006, 38). Pit 3370 shows this being the case at Horton during the Late Neolithic and the symbolic role of fire in destroying and transforming material. The inclusion of burnt worked flint (and other types of burnt objects) was rare in the assemblages of the Early Neolithic pits and this could therefore be seen to reflect the increase in formalisation within deposits during the Neolithic.

Figure 3.21 Late Neolithic crouched inhumation burial (22243)

Inhumation Burial 22243

A single crouched inhumation burial (22243) was found towards the north-west corner of the site just 2.3 m to the west of the Early Neolithic pit group (*House 2*) (Fig. 3.10) and 27 m north of the Early Neolithic *House 1*. The body had been placed on its left side with head to the west (Fig. 3.21), and is thought to be that of a female aged between 45 and 55 years old (see McKinley, Appendix 5). The oval-shaped grave, which measured 1.6 m by 0.79 m, was only 0.10 m deep and was dug into the edge of an earlier tree-throw hole (22293).

Although the preservation of the bone was poor (much of which was recorded on-site was extremely fragmentary) a radiocarbon date was obtained from the left femur, which indicated that the burial was made at some point during 2850–2480 cal BC (NZA-32873, 4066±25 BP). This radiocarbon date places the burial within the Late Neolithic and is similar to those obtained from the basal fill of pit 1770 and from the Durrington Walls Grooved Ware pit activity found in the southern area of the quarry (see above).

A further seven unaccompanied crouched burials in single graves (1453, 10033, 15554, 15897, 21222, 24925 and 19803) were found at Horton (see McKinley, Appendix 5). Grave 24925 contained a tightly crouched burial of an adult female greater than 55 years of age. Six small and abraded flint-tempered pottery sherds (possibly Mortlake Ware) were recovered from the grave fill along with a burnt flint and a flint core. Unfortunately the pottery type could not be defined with enough security and although almost certainly prehistoric, the date could not be further refined. None of the seven burials could be radiocarbon dated due to poor collagen yields. Their date is uncertain, and they could belong to any phase within the prehistoric period as isolated graves with crouched burials can also occur away from settlement sites in both the Bronze Age and Iron Age.

Individual inhumation burials of pre-Beaker Late Neolithic date are not common in the Thames Valley or for that matter Britain, particularly in the south-east of England, and predominantly come from barrow or ditched enclosure contexts (Fig. 3.22) (Mays 2004, 110). Individual inhumation graves from non-monumental contexts are known to have occurred throughout the Neolithic period. Most occur as isolated burials, although occasionally small numbers of graves are found. For example, two crouched burials were found at the Eton Rowing Lake, Area 6 (Allen, T. *et al.* 2004, 97) which date to the Middle Neolithic (3370–3020 BC, BM-3173, 4500±50 BP and 3330–2900 BC, BM-3170, 4400±50 BP) and may be associated with a circular ring ditch. At Goring, a Neolithic inhumation (3100–2880 BC, BM-2835, 4360±45 BP) was placed into a possible Early Neolithic enclosure ditch (*ibid.*, 97*)*. At Barrow Hills, Radley, a Late Neolithic disarticulated burial (2860–2340 cal BC, BM-2711, 4020±60 BP) was found within a series of intercutting pits (Barclay and Halpin 1999), and although of much earlier date, three single inhumation burials were found in individual graves in a different area of the same site (*ibid.*). A crouched burial dating to 2900–2630 cal BC (AA-40353, 4195±40 BP) was also found from Area 3 of the Westhampnett Bypass excavations (Fitzpatrick *et al.* 2008, 117).

The latter two burials are the closest in date to that at Horton and both belong to a single grave tradition that is of pre-Beaker date, being defined by their singularity and in the instance from Horton by an absence of grave goods. The Radley example differs, however, in that it was found among Late Neolithic pits and a hengiform enclosure of similar date, while at Horton no other Late Neolithic activity was found in the immediate vicinity. Its location and proximity to the earlier Neolithic houses is significant as it suggests that this was a place within the landscape that was perhaps inhabited, reused and revisited over a long period of time, perhaps for some intrinsic properties of the location. As the intrusive plant remains indicate, not all human activity leaves a mark in the archaeological record. As with the secondary burial at Goring, the placement of the body referencing an earlier settlement, monument or gathering place is something that recurs in prehistory.

The Horton burial was discovered some 700 m north of the main scatter of pits found in the southern part of the quarry. However, it can also be noted that the burial was close to the quarry's western boundary and unfortunately little of the landscape to the immediate west survives, having been extracted for aggregate at a much earlier date.

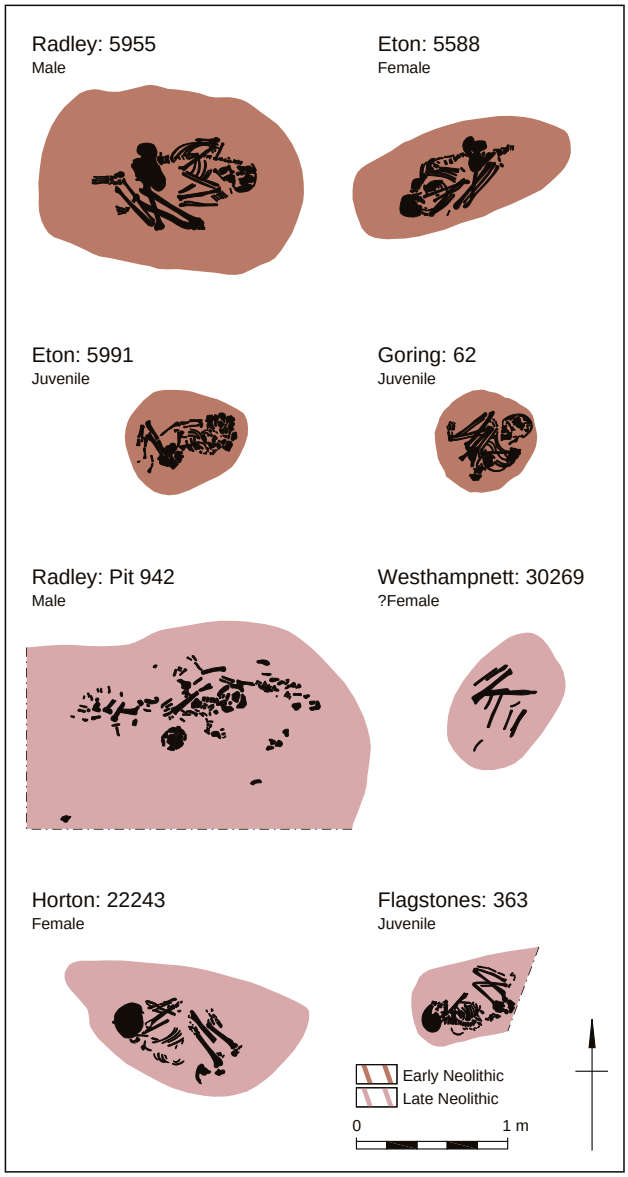


Figure 3.22 Early and Late Neolithic burials in the Middle Thames Valley, with inhumation 22243 from Horton

Discussion

Early Neolithic Settlement Practices

A number of buildings, houses and halls of Neolithic date have been investigated since 1990 (Hey and Barclay 2007), in southern England specifically and across Britain and Ireland as a whole (Darvill and Thomas 1996; Smyth 2014) (Fig. 3.23), largely as a result of developer-funded activity. Larger buildings often described as 'halls' are mostly found in Scotland, while many of the structures in southern England, Wales and Ireland are much smaller and considered to be houses. This picture is complicated by composite or modular buildings that may actually represent more than one dwelling (eg, Lismore Fields and White Horse Stone). Structures are usually divided typologically by whether they are defined by postholes, wall slots, or a combination of the two, although this is unlikely to have been a meaningful division during their lifetime. These buildings tend to be rectangular in shape and internally divided into two spaces or rooms. Not surprisingly, these structures survive as negative features in the ground; occasionally hearths are found and more rarely floor surfaces. Many of these early large house structures in Scotland met their end through fire, as evidenced at Claish Farm, Lockerbie Academy, Doon Hill, Crathes Warren Field, and Balbridie (Fairweather and Ralston 1993; Ray and Thomas 2018, 107). This pattern is repeated in Ireland, which has preserved evidence for timber walls (Smyth 2014, 62–5, figs 4.7–8).

The discovery of *Houses 1–5* at Horton adds to a small number of structures of known Early Neolithic date from southern Britain (Hey and Barclay 2007). Despite the extensive developer-funded work that has taken place in and around the lower Colne Valley and adjacent stretches of the Thames gravels (see Powell *et al.* 2015 and Fig. 1.1), with the exception of an unpublished house at Cranford Lane, Harlington (MoLA 1994; Nick Elsdon pers comm), the Horton *House 1* structure was the first significant discovery to be made in the Middle Thames Valley.

The size of *Houses 1* and *2*, covering areas of 64.2 m² and 56.1 m², are comparable in size to many others (Figs 3.11, 3.23 and 3.24 show the location, plans and variable sizes of a number of the buildings mentioned in this chapter). Among the Neolithic rectangular structures in Britain and Ireland currently published there is great variability in types of construction and size. Those at Horton are considerably smaller than some of the halls from southern Britain, such as Yarnton (231 m²), White Horse Stone (160 m²) (Hey and Barclay 2007, 414), and Penhale Round, Cornwall (133 m²) (Nowakowski and Johns 2015), or from Scotland, such as Doon Hill A (239 m²) and Balbridie (242 m²) (Brophy 2007, 80). At Yarnton, the building appears to have been completely post built (Hey *et al.* 2016, 51) as does the one at Penhale Round (Nowakowski and Johns 2015), while at White Horse Stone (Garwood 2011) postholes were predominant with occasional gully slots on the longitudinal sides. All internal divisions at both sites were post constructed; whether they were 'open' in plan or screened in between is uncertain. At Sale's Lot, Gloucestershire, a possible building constructed of postholes and gullies has been suggested as perhaps

being similar to that at White Horse Stone or Yarnton (Hey and Barclay 2007, 415), although interpretation is difficult considering the limited area of the building that survived beneath the long cairn. Structure A at Lismore Fields, Derbyshire, is also another large timber-post construction (Darvill's 'Type A', 1996) which appears to have a number of internal divisions and two possible hearths. However, this is complicated by the fact that it is actually composed of two slightly different buildings (Garton 1991) and the same has been argued for White Horse Stone (Barclay and Harris 2017, 226 and fig 15.2; Garwood 2011, 67). In both cases the buildings could have started out much smaller, probably only half the size.

Elsewhere, structures that could be said to be on the larger end of the size scale have been found at Parc Cybi, Holyhead, Anglesey (Kenney 2007); Gwernvale (Britnell and Savory 1984), Llandegai

Figure 3.23 Locations of Early Neolithic houses mentioned in the text

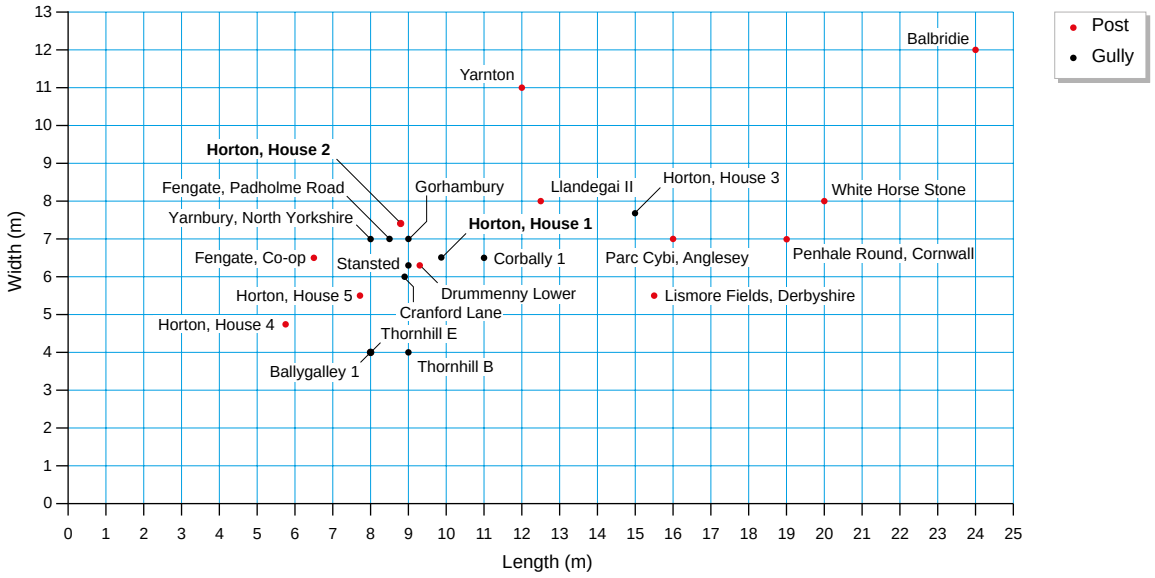


Figure 3.24 Comparable dimensions of Early Neolithic houses

(structures I and II), North Wales (Kenney 2008; Lynch 2001, 6) and Penhale Round, Cornwall (Nowakowski and Johns 2015). These buildings appear to fall into a different category compared to the structure at Horton and many of the Irish examples.

Other smaller Early Neolithic buildings of predominantly gully construction in southern Britain are found at Fengate (Pryor 1974) and Gorhambury, Hertfordshire (Neal *et al.* 1990, 9), which are of a similar size to that at Horton. Gorhambury is located only 35 km distant, beyond the upper reaches of the Colne Valley, and measured 9 m by 7 m with a possible internal division. Despite the fact that parts of this structure were severely truncated by later activity, some of the gullies contained orange clay and charcoal indicating the presence of wattle walls (*ibid.*). The structure at Padholme Road, Fengate, measured 8.5 m by 7 m with gullies of variable width and depth; there was also evidence for at least one posthole in the southern corner (Pryor 1974). Although not of gully construction, a second structure at Fengate was excavated in 1997 at the Co-op site (Evans and Beadsmoore 2009, 89). Defined by a series of postholes, it measured 6.5 m by 6.5 m. Its dimensions and orientation are almost identical to its Padholme Road counterpart, although precise dating of the Co-op site house is uncertain. What could be a similar house, at Cranford Lane, is situated only 8 km to the north-east of Horton (MoLA 1994). In plan this appears to be defined by a series of gullies on its north-west and south-eastern sides and aligned roughly north-west to south-east. The gullies are quite segmented, which is similar to the nature of the foundation gullies at Horton, and it is of a comparable size, measuring 6 m by 8.9 m.

At Stansted, Essex, a possible structure which looks very similar to the Horton building has been recorded (N. Cooke pers. comm.). It was initially identified as being late Romano-British in date, although this was based on material from a feature that post-dates the gullies and the uncertainty of that date was acknowledged at the time (Cooke *et al.* 2008, 169). However, it was noted that residual flint-tempered prehistoric pottery was recovered. Described as 'a two roomed building defined by a series of shallow gullies' (*ibid.*, 169) and aligned roughly north-west to south-east, the building was thought to have been constructed of beams tied in to upright posts (*ibid.*, 169) with a possible entrance along the south-eastern wall. Despite much heavier truncation, its sub-rectangular shape, possible internal division, size (9 m by 6.3 m) and gully construction make this very reminiscent of Horton *House 1*. Further afield, the house at Yarnbury near Grassington, North Yorkshire (Gibson 2017), was situated 60 m to the south-west of a small henge and measured approximately 7 m by 8 m. It was defined by a bedding trench with postholes and an entrance set into its eastern corner. Parts of the structure showed indications of having been burnt, and the evidence that this preserved indicated that oak was used for the supporting posts and the walls used hazel wattle panelling (Gibson 2017), similar to the structure at Gorhambury.

The Gathering Time project consisted of a major dating programme that focused on the Early Neolithic of Britain. Its results indicated that the start of Neolithic activity in Britain and Ireland varies regionally, with the earliest dates for the Greater Thames Estuary being *4315–3985 cal BC (4145–4005 cal BC at 68% probability)* with the Middle Thames Valley being several centuries later at *3860–3700 cal BC (3810–3735 cal BC at 68% probability)*. However, the Middle Thames Valley may be biased by dates

disproportionately associated with Bowl pottery (Bayliss *et al.* 2011, 731–2, 737).

Chronologically within the Thames Valley and Greater Thames Estuary it can be seen that the larger post-built constructions (possible halls) such as those at White Horse Stone and Yarnton occur during the initial uptake of Neolithic practices in southern Britain. The structure at White Horse Stone was probably built in *4115–3825 cal BC (4*065–3940 cal BC *at 68% probability)* while that at Yarnton was built in *4390–3765 cal BC (4000–3805 cal BC at 68% probability)* (Whittle *et al.* 2011, 380, 421). It is postulated that the smaller house structures may be slightly later than the larger halls, though this is based upon a very small sample size for southern Britain. Occupation at Horton is potentially slightly later than Yarnton and White Horse Stone, with the construction of *House 1* taking place in *3940–3660 cal BC (at 68% probability),* but this still places it within the opening centuries of the Neolithic and the uptake of Neolithic practices in the region.

The appearance of halls and houses early within the emergence of widespread Neolithic practices has led some to interpret such buildings as representing collective or communal security structures for incomers as they arrived in a region (Ray and Thomas 2018, 111) and in Scotland Sheridan has suggested that the larger halls were communal constructions during an initial phase of colonisation that were abandoned as roots were set down and households budded off (Sheridan 2013, 292).

However, the houses and halls are largely 'atypical' in the sense that there are so very few of them (Thomas 1996, 12), and this is also true of pits associated with earlier forms of Bowl pottery of carinated and developed carinated type. As with other areas of southern England, it is difficult to know how real the absence of Neolithic houses is in the region, but the typical assemblage of settlement remains in the Middle Thames Valley continues to consist of small numbers of pits, hearths and flint knapping debris that reflect short periods of small-scale inhabitation that reflect the enactment of a transitory lifestyle (Hey with Robinson 2011, 248). At Horton, this is a pattern that fits better with the small groups and scatters of Early Neolithic pits found away from the focus of houses.

This, however, does not prevent us from suggesting that *Houses 1* and *2 were* associated with everyday activities, particularly considering the nature of the evidence that has been found at Horton. The buildings may have served a variety of functions that ranged from a domestic dwelling to a place for more formal events and gatherings. We know from the radiocarbon dates that they could have been in existence for at least a generation and possibly more than a single human lifetime. The sizes of *Houses 1* and *2* are not particularly large and would not have been big enough to accommodate any great number of people, and are more likely associated with a group the size of a small extended family unit.

The volume of finds associated with *Houses 1* and *2* do not suggest large numbers of people being present at the site throughout its life either, although this could equally reflect attitudes to hygiene, refuse and disposal. There are no large quantities of charred plant remains, worked flint, burnt flint or pottery, which characteristically survive better in the archaeological record. Although inhabitants were probably dumping most of their domestic rubbish off-site (such as on middens that have been found at sites such as Eton Rowing Lake), if feasting events were regularly happening there would be far more debris (even if very small or abraded) in and around the vicinity of the building. That said, later seasons of fieldwork recovered Early Neolithic material culture from tree-throw holes and a palaeochannel, suggesting more widespread surface deposition of material that became incorporated into these 'artefact traps' (see Volume 2). It is possible that the material dumped within the ditches of the Horton U-shaped enclosure also derived from the use of such dwellings.

The nature of the finds, as highlighted above, seems to be that of reasonably small-scale everyday occupation. There are no fine material items and no special deposits. It is perhaps the nature and range of finds that is significant. Although on a much smaller scale than quantities found associated with the Irish houses, the range of material from Horton *is* comparable. As Smyth notes on the Irish examples, 'they include objects and materials that we would normally associate with the provision and consumption of food and the manufacture of tools' (Smyth 2007, 236).

The environmental evidence suggests *House 1* may have incorporated a number of functions. Some of the phosphate results indicate that animals could have been present in the eastern end of the building (although it is not clear whether that was contemporary with the human occupation), but with this being the smaller room of the house it may have had a stabling purpose at times of extreme weather. This may also explain the more fragmentary nature of many of the material categories from that side of the building resulting from animal trample, compared to that found from the southern side, where finds were slightly less abraded.

The interpretation of the buildings found in Ireland as domestic structures is generally accepted; they have considerably larger finds assemblages which support that theory, and they also often occur in clusters, such as at Corbally, Thornhill, Ballyharry and Coolfore (Armit *et al.* 2003) – immediately an image of small-scale settlement is easier to see, but individual buildings continue to be found too (Smyth 2007, 231). In some cases, the clusters of buildings

may not have been occupied contemporaneously and may indeed represent a shifting pattern in one location (Smyth 2007, 232). Again this is something mirrored by the five potential houses present at Horton (see Volume 2).

Little other comparable settlement activity is found of a non-monumental nature with the exception of the possible building at Cranford Lane mentioned above. At Heathrow the evidence for pre-cursus settlement activity consisted of a range of features including gullies, postholes, pits and tree-throw holes which have been difficult to interpret (Lewis *et al.* 2006). In Area 49, two postholes and three tree-throw holes were cut by the ditches of the C1 cursus monument, providing evidence for some small-scale activity that may be contemporary with the occupation of *House 1* (Lewis *et al.* 2010).

At Imperial College Sports Ground, located approximately 6.5 km to the east of Horton, very sparse Early Neolithic activity was recorded. The features there included an irregularly shaped feature (G2004) of uncertain function and a number of tree-throw holes (Powell *et al.* 2015, 16–20). At RMC Land, Harlington, a single Early Neolithic sherd was recovered from a further tree-throw hole (*ibid.*, 20). The scarcity of Early Neolithic evidence at Imperial College Sports Ground and RMC Land contrasts with the marked increase of Middle Neolithic, Peterborough Ware activity. The latter is rare at Horton and will be discussed below in relation to the Late Neolithic features, although this absence could just reflect what was revealed within the footprint of the quarry.

Elsewhere in the Middle Thames Valley settlement activity is restricted to scatters of pits and material deposited in middens. At Cippenham, Berkshire, a number of Early Neolithic pits were found (Ford and Taylor 2004), although some of these may possibly be tree-throw holes according to Hugo Lamdin-Whymark, who has re-classified them in a study of Neolithic activity in the Middle Thames Valley (Lamdin-Whymark 2008, 86). No structural evidence was found associated with them and although they are in themselves evidence of occupation, this appears to be of a nature more comparable to the scattered pits at Horton than the houses.

Possible redeposited midden material was identified at Staines Road Farm, Shepperton (Jones 2009), while at Eton Rowing Lake, large amounts of material were found in Areas 6 and 10, consisting of significant concentrations of domestic debris (Allen *et al.* 2013). The activity datable to the Early Neolithic has been classified into middens, finds spreads and tree-throw holes (Lamdin-Whymark 2008). The dating for the four middens in Area 6 suggests that deposition started between 4330 and 4000 BC and ended between 3620 and 3280 BC (*ibid.*, 50) and as such indicates they are contemporary to the period of construction and occupation of *Houses 1* and *2* at Horton. Despite the finds-rich nature of these middens, parts of which were seen to be discrete areas of dumping (Allen, T. *et al.* 2004; Allen *et al.* 2013), no structural evidence was found in association with them. This record appears to be converse to the picture that is seen at the known structural sites such as Yarnton and White Horse Stone (as well as Horton) where we have the structural evidence but little in terms of domestic debris. It seems that the concentrated disposal of everyday rubbish is being kept separate to the lived-in parts of the landscape and may explain why we have relatively little domestic rubbish in and around the houses at Horton. The significant disturbance seen to the area immediately to the south and west of *House 1* means that it will not be possible to gain any further evidence for its broader setting/context.

Throughout the Thames Valley numerous tree-throw holes containing Early Neolithic material have been identified. At Heathrow Terminal 5, tree-throw holes containing Plain Bowl pottery were found across the site and it was suggested that some level of deliberate deposition was taking place (Lewis *et al.* 2010, 53). As noted above, they were the predominant form of dated Early Neolithic features at Imperial College Sports Ground and RMC Land, Harlington, and were also found at Cippenham (Ford and Taylor 2004). At Eton Rowing Lake several tree-throw holes were found, some of which were associated with the middens and finds spreads, while others were found as isolated examples (Allen *et al.* 2013; Lamdin-Whymark 2008).

It seems likely that these activities involving the casual and deliberate dumping of refuse were taking place in small clearances within wooded surroundings as the environmental evidence has shown (see Pelling and Norcott above). This is possibly the landscape in which the Horton house would have been constructed, although the direct evidence for this is sparse. Furthermore, this activity took place on what was a wide floodplain, and which was criss-crossed by a number of streams that flowed into the river Thames just a few miles to the south (see Chapter 2).

If the house at Horton belonged to a community that introduced a Neolithic way of life to this area of the Colne Valley, it probably presented a fixed and permanent space for a whole range of social activities from the domestic through to those that were more overtly ritual and ceremonial. A near absence of Mesolithic activity from the immediate site would support a notion of 'pioneer farmers', or people colonising a new area. Richard Bradley commented that although the house is a feature associated with early farming that implies sedentism, their rarity so far in Britain suggests a more mobile settlement pattern (Bradley 2007b, 347) or perhaps

what Alasdair Whittle has described as 'tethered mobility' (Whittle 1997, 21).

The longevity/continuity of activity during this period will be further expounded on when the precise dating and modelling of the Early Neolithic archaeology revealed by the 2010–2015 works are analysed and published in Volume 2. The initial evidence suggests that *Houses 1* and *3* may have been constructed early in the history of the site, with *Houses 2* and *5* constructed generations or even centuries later, and with *House 4* currently undated but perhaps falling in between. However, any chronology and attempts to sequence the five structures is limited by a relatively small number of samples for radiocarbon dating and issues of taphonomy that can affect charred grains and other plant remains (Pelling *et al.* 2015).

It is tempting to imply a degree of permanence in occupation for at least some parts of the community from this, but it is far from certain. Based upon current evidence it seems likely that the houses disappeared from the archaeological record by the mid-4th millennium BC and at a time when the building of long barrows and related mortuary monuments became more frequent. It is difficult to see why houses were so short-lived and what took their place, but permanent timber-framed houses are not found for most of the Neolithic (with the notable exception of a limited number of structures mostly on the chalklands of Wessex) and only reappear with the construction of roundhouses in the Early Bronze Age.

The construction of a house implies a degree of commitment to a certain place as well as an investment in time and resources when compared to the more ephemeral traces left behind by the pits. Does this pattern show that some groups built houses and became fixed to certain locations that they occupied year-round, while other groups travelled the landscape, moving from site to site in a cyclical progression? Or are our preconceptions of what we interpret as permanence (ie, a building) misleading? Are we simply looking at a building and assuming year-round inhabitation rather than intermittent occupation? While it is possible that the houses were occupied year-round, it is also possible that Horton, like other locations in the Middle Thames Valley, was subject to seasonal occupation. Alternatively, with the fluid social groupings of the Early Neolithic, some elements of the group that occupied Horton may have departed at certain times of the year while others remained on-site. The divide between who stayed and who went was possibly drawn upon age and/or gender lines, roles within society, or perhaps upon factors that inhibited the movement of certain individuals. Even taking this into account, it is clear that not all communities constructed houses during this period and the motive for this apparent distinction and the lifestyles inferred remains unknown. Sheridan has suggested that the reason why some communities constructed houses when others did not exists in the circumstances and social and economic context of colonisation (2013, 295). While it could be argued that this is true for the first house constructed at Horton, it would appear that the ongoing erection of houses after any initial stage of colonisation may have been more a consequence of the formulation of Horton as a place of importance for that community, as well as contingent on the circumstances, social and economic, of daily life and the strategies enacted to deal with it. They were part of a shared building tradition and an element of a Neolithic lifestyle that was bound up with other practices, including the herding of domesticates and the cultivation of cereals.

It is currently unclear where in the Early Neolithic the occupation exhibited by the smaller groups of pits falls. It is possible that all represent unrelated visits to the site punctuated by centuries of absence or precede or follow on from occupation of the houses, with the remains of the structures, either physically or through memory, guiding the visits. Was this an important place, one that people returned to perhaps on a cyclical or episodic basis? Was there an ancestral link or attachment to the area, perhaps created through the construction and habitation of the first house here? Did later generations of a family return to an area but occupy it in a different way, or are there completely different groups of people visiting the site?

In contrast with Horton, Early Neolithic activity elsewhere in the Middle Thames Valley is dominated by larger monumental creations such as the causewayed enclosures at Staines (Robertson-Mackay 1987), Dorney Reach (Carstairs 1986), Riding Court Farm, Datchet (Anon 2018, 10), Eton Wick (Ford 1986), the riverside settlement at Runnymede Bridge (Needham and Trott 1987), and linear monuments at Sonning (Hey and Barclay 2011) and Stanwell (Lewis *et al.* 2006; 2010). The concentration of causewayed enclosures in particular is of note. Their presence in the landscape would have been significant and would have involved some degree of clearance within their local environments. Great and possibly competing communal effort was expended on the creation of this series of massive ceremonial monuments but in their hinterland other small-scale monuments were few and far between. There was an awareness of huge space and a degree of organisation between these places over distances of kilometres, as exemplified by the Stanwell bank barrow and the spacing of the causewayed enclosures. The dominance of cattle remains (and the evidence for their butchery and consumption) within the Middle Thames Valley is thought to be associated with larger numbers of people or 'feasting' due to the supposed lack of preservation techniques (ie, the need to consume

meat relatively quickly). At the Staines causewayed enclosure cattle bone dominated (Grigson 1987, 123), while the animal bone remains from the Early Neolithic middens at Eton Rowing Lake also had a predominance of cattle (Allen, T. *et al.* 2004, 91; Lamdin-Whymark 2008, 47).

The monument building activity at the nearby Staines causewayed enclosure began between 3525 and 3380 BC (Healy *et al.* 2011; Robertson-Mackay 1987), while at the Heathrow excavations none of the four cursus monuments are precisely dated, although a broad date within 3600–3300 BC is suggested (Lewis *et al.* 2006, 29). This indicates that the construction phase of *House 1* pre-dates the beginnings of most of the above-mentioned monumental building activity in the region, but *House 2* could have been contemporary with it. The radiocarbon evidence is also supported by the different styles of Bowl pottery found at the various sites – that from *House 2* is stylistically later than that recovered from *House 1*.

The Middle and Late Neolithic

At Horton the near spatial separation of Early Neolithic and Grooved Ware features, and, by its near absence, Peterborough Ware, indicates different spatial use of the same landscape for certain activities, as is so often found on other sites. A comparison can be drawn with the Neolithic activity at Imperial College Sports Ground and RMC Land, Harlington, some 6.5 km to the east of Horton, where a huge number of Peterborough Ware pits were recorded, with almost no evidence for Early Neolithic or Grooved Ware pits (Powell *et al.* 2015). There are clear spatial differences in the areas of activity throughout the Neolithic period at Horton, with the earliest activity exclusively in a defined area at the higher, northern part of the site, and the later Grooved Ware associated activity located solely at the southern end of the site close to the former course of the River Thames. It would appear that different areas of the landscape held specific values and importance to the inhabitants in the general sense. However, the tantalising evidence in the location of the Late Neolithic inhumation burial does hint that certain places may have been remembered as important, perhaps sacred or ancestral, by later communities – places that were passed through.

Our understanding of the Neolithic communities at Horton is that they practised a semi-sedentary lifestyle and similar traditions regarding the use and disposal of material culture, something that can be glimpsed through their routines of pit digging and depositional practices. Despite the fact that the two pit digging phases were separated in time by over 700 years, there are many similarities that can be drawn. These include the incorporation of used and broken artefacts, charred plant remains and the residue from hearths. Many other subtle but significant similarities can be drawn, such as the fact that material is not deliberately placed but appears to be tipped ad hoc into the pits. The theme of autumnal seasonality is also a common thread, possibly linked with departure from the site. We can only speculate about the purpose of pit digging and deposition, although connotations involving renewal and the marking and memory of place seem attractive. Certainly, these were places within the landscape that were not forgotten but returned to perhaps on an episodic and seasonal basis, and if the numbers of vessels provide a possible guide, then probably by only small numbers of people.

The benefits of a large-scale area excavation are probably self-explanatory from the above given the discoveries that have been made. This strategy allowed the opportunity to look at Neolithic houses in their wider setting. The strategy also revealed what was *not* there, with a near absence of Middle Neolithic activity in the form of Peterborough Ware pits, despite the presence of an oval barrow with placed deposits including near complete Fengate and Mortlake Ware bowls (see Volume 2). The large area covered by the excavations plus the lack of Middle Neolithic material from later features gives us confidence that there was a general lack of pit digging activity at Horton during this period (cf. Thomas and Darvill 2022). In the southern part of the site, area excavation revealed a scatter of Grooved Ware pits. Overall, these Neolithic activities and depositional practices, despite the deep history and the relatively short moments of time they represent, have a number of recurring similarities when it comes to the use of material culture in depositional practices. Although sketchy, these traces provide a punctuated pattern of Neolithic habitation and domesticity that was to last for some 15 centuries.

Chapter 4
New Beginnings – Formalising the Landscape in the Bronze Age

by Gareth Chaffey and Andy Valdez-Tullett
with contributions by Ruth Pelling and Grace Jones

Introduction

The Lower Colne Valley in the Middle Thames Valley underwent substantial reorganisation of the landscape during the 16th century BC. Prior to this time, settlement was sporadic and seemingly dispersed, apparently within a landscape largely cleared of trees, and with occasional ceremonial monuments and barrows (Lambrick and Robinson 2009). Social change led to the rapid abandonment of an old way of life based on herding and semi-sedentary habitation, to be replaced by wide-scale field systems and settlements defined and bounded by the construction of buildings, fences and enclosures (Brück 1999). The development of such components augmented patterns of a sedentary and settled lifestyle, with major economic implications reflected across the wider landscape.

Similar landscapes to Horton are not uncommon in the wider Thames Valley (Fig. 4.1). The West London gravels lie to the north of the River Thames close to the Runnymede–Petters riverside, a Late Bronze Age regional power centre which dominated the confluence of the Thames and the Colne (Needham 2000). Within an area of approximately 150 km^2 bounded by the Rivers Thames, Colne and Crane was an extensive zone of managed farming which proliferated in the Middle and Late Bronze Ages. Excavations at Heathrow have revealed a large-scale land enclosure system that possibly extends over much of the Heathrow terrace (Barrett *et al.* 2001, 222; Powell *et al.* 2015). A system incorporating a number of substantial double-ditched trackways and a series of waterholes appeared to support a pastoral interpretation for the farming regime. Coaxial field systems have also been

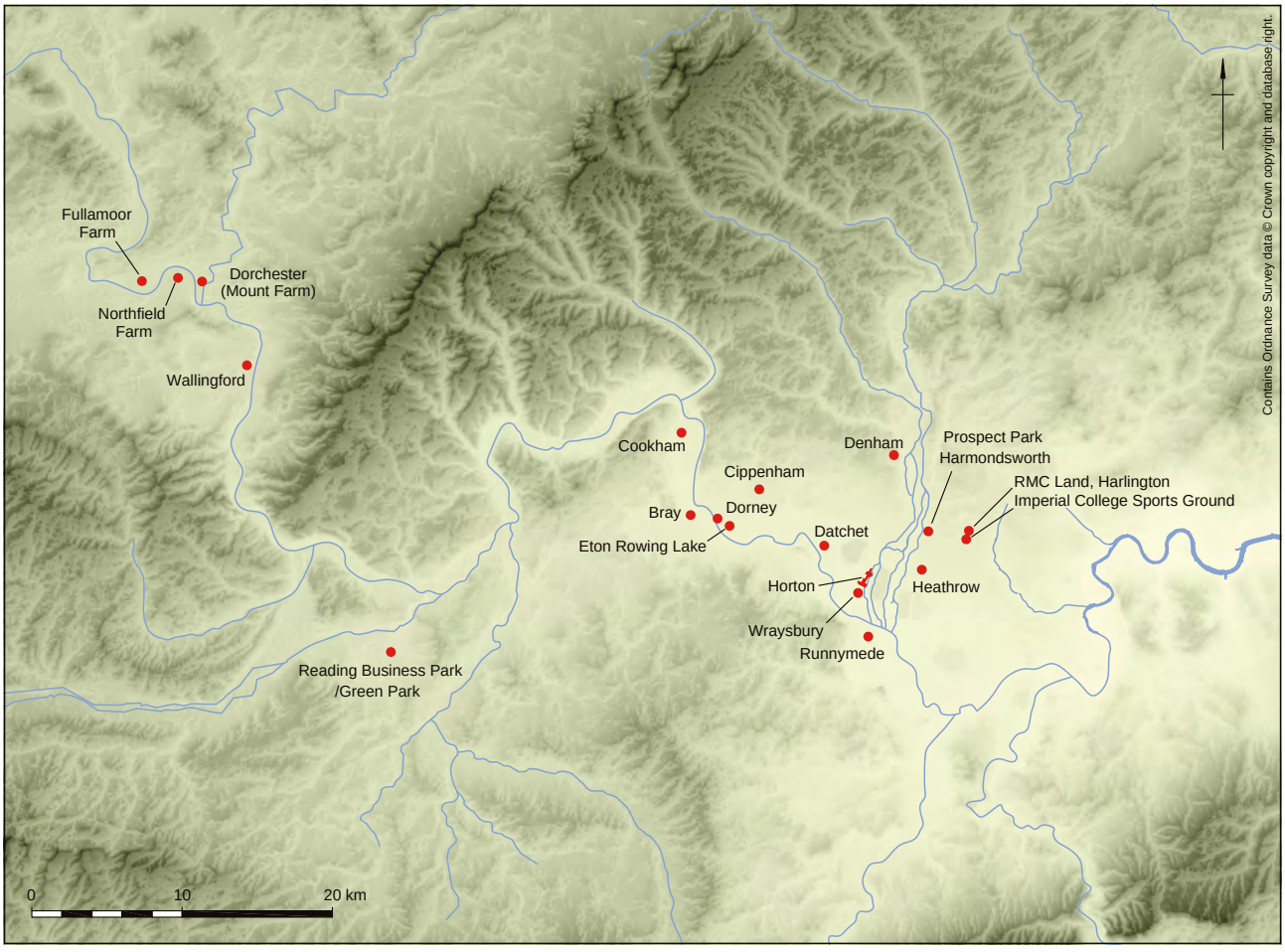


Figure 4.1 Middle Bronze Activity in the Middle Thames Valley and West London gravels

recorded at Denham (Wessex Archaeology 2009b), 6 km to the north, where there were suggestions of land divisions either side of the Colne Brook. A concentration of Middle Bronze Age divisions has been seen from Windsor to Maidenhead, including sites at Datchet (Wessex Archaeology 2022), Eton Rowing Lake (Allen, T. *et al.* 2004; T. Allen pers. comm.), Bray (Barnes and Cleal 1995), and Dorney (Yates 2007, 34). Middle Bronze Age landscapes were transformed by new bounded land divisions located close to the arterial communications link of the River Thames (Yates 1999). Areas seemingly not utilised within the Early Bronze Age (as suggested by a dearth of archaeological evidence) were now being divided and used for the first time.

There is little evidence to suggest how the landscape developed from the end of the Neolithic until the creation of the field systems. Beaker-period funerary activity and pit digging is notably absent in the Middle Thames Valley, although a background scatter of pottery and flintwork, occasional significant deposits and river finds indicates that this may reflect a lack of certain activities being practised here rather than an absence of people. It is only with the spread of Collared Urn pottery from the 20th century BC onwards and a switch to the rite of cremation that funerary practices become more visible in the archaeological record.

There were no concentrations of earlier material associated with settlement at Horton, which would suggest a continuation and reiteration of occupation into the Middle Bronze Age. The only concentration of any significance, accounting for almost all of the Early Bronze Age pottery, was recovered from a penannular ring ditch. The settlement foci found towards the southern end of the quarry have no precursors of Early Bronze Age date. Indeed, the laying out and formation of the widespread field systems – both coaxial and cohesive – appear to be the result of a widespread period of tree clearance and landscape organisation. One focus of activity was situated in an area that had contained a concentration of Grooved Ware pits, suggesting human occupation about 1000 years earlier, although their similar positioning is probably no more than coincidence rather than knowledge and the persistent use of place. The level of occupation material is often sparse, reflected in small groups of pits, postholes, waterholes, concentrations of finds and occasional evidence for houses sited within small paddocks or corners of fields.

Environment and Landscape Change

by Ruth Pelling

The nature of the landscape in the Beaker period and the Bronze Age can be reconstructed from a range of environmental indicators (see Appendices 1 and 2). A number of features were sampled for a range of proxies, with some waterholes and pits being productive. A small number of ditch deposits were also examined. Survival of material was not consistent across the site, with shallow features in particular having undergone significant deterioration and mineral deposition due to a fluctuating water table. Survival of mollusc shells was generally poor in many of the features, while pollen was recovered only from a single waterhole. The interpretation of environmental data from archaeological features is generally problematic given the limited catchments from which the material is recorded, as well as the complexity of both human and natural depositional processes. As a consequence, while the vegetation and environmental conditions within and around certain features can be relatively well understood, the interpretation of the wider landscape is more problematic and a matter of conjecture. The majority of the data for this period is obtained from the archaeological features on the site. Channel activity in the Bronze Age was greatly reduced, although still active (see Chapter 2; Fig. 2.4B).

Palaeochannel IV, which separates two Middle Bronze Age farmsteads (as discussed later), was still active in some form during the lifetime of the settlements, although possibly little more than a marshy hollow or seasonal water source (see Chapter 2). Water was available from the waterholes, which were subject to pedogenic alteration and stabilisation between periods of deposition (see Appendices 1 and 2). There is some indication of periods of deposition following overland flow due to heavy rain or riverine flooding events. The aquatic insect, plant macroremains and mollusc assemblages in the waterholes indicate fairly stagnant water supporting pond weed, while pond-edge species were growing through the muddy silts towards the edges of the waterholes.

The small assemblage of charred plant remains and charcoal from Late Neolithic/Early Bronze Age pit 1534 (Fig. 3.17) hints at a continuation of both the Late Neolithic wooded landscape and the exploitation of hazel. The charcoal assemblage was dominated by oak with small quantities of hazel and dogwood. It is likely that the mixed deciduous woodland of the Neolithic persisted into the Early Bronze Age, with the major period of clearance occurring by the Middle Bronze Age, perhaps associated with the creation of the enclosure systems.

Evidence from waterholes provides some indication of the local environment immediately prior to the period of Middle Bronze Age enclosure. Evidence for woodland was scarce other than a single example of woodworm, indicating the presence of dead wood locally (see Smith, Appendix 2). That animals and/or humans were present in the landscape is demonstrated by the nitrogen-loving plant species

of dry disturbed ground, such as wild parsnip and carrots, nipplewort, stinging nettle, fat hen and chickweed. Seeds of chervils derived from damp grassland, while the presence of beetles further hints at grassland (see Smith, Appendix 2). A large number of alder and elder seeds, the latter presumably derived from elderberries which had fallen into the deposit, possibly from overhanging trees, would indicate nitrogen-rich soils. Burnt waste including discarded cereal grain and cereal processing by-products were also present. While the evidence is slight, it is likely that by the early part of the Middle Bronze Age, areas of nutrient-rich, possibly grazed grassland were already established, while cereal cultivation is likely to have taken place close by.

The physical reorganisation of the landscape during the Middle Bronze Age and creation of a complex field system appears to have taken place within a more open landscape than that of the Neolithic and Early Bronze Age. Trees and shrubs were still present in the wider area, although they may have been somewhat removed from the settlements, separated by areas of open, grazed and trampled grassland and possible arable fields. The evidence for grazing animals in the vicinity of the waterholes is provided by a number of insect species associated with dung and grassland. The plant remains also demonstrate the presence of rough grassland, possibly with some evidence for stock control given the presence of species not particularly tolerant of grazing. Much of the flora associated with nitrogen-rich, disturbed soils may simply reflect human activity within the vicinity of the waterholes, although the presence of insects associated with dung would suggest grazing animals as well. Bare, trampled earth around one of the waterholes, feature 3642, is suggested by the mollusc assemblage.

The evidence for arable cultivation and crop processing activities in the Middle Bronze Age is convincing, with arable crop processing activities taking place on the periphery of the settlements. Emmer wheat and barley continued to be cultivated as they were in the Neolithic. Spelt wheat appears to be a relatively late introduction to Horton, the earliest firm evidence being a date on a glume base of 910–780 cal BC (NZA-33418, 2663±40 BP), (see Pelling, Appendix 1). This is in contrast to Heathrow, where spelt was present from the Middle Bronze Age (Carruthers 2006, CD Appendix 9). Flax was also probably cultivated locally, although the evidence for it is not as convincing as for Late Bronze Age Runnymede (Greig 1991, 254, 259), Heathrow Perry Oaks (Carruthers 2006, CD Appendix 9; Wiltshire 2006, CD Appendix 11) or Bray near Maidenhead, where flax processing appears to have been significant (Clapham 1995, 43).

It is not possible to establish the location of the arable fields themselves, although the presence of barley processing waste hints that either the cereals had not travelled particularly far, or that cereal chaff was being brought into the settlements and later burnt as fuel on the site (see Pelling, Appendix 1). The charred weed seeds associated with the cereal waste indicate the cultivation of both fairly wet, boggy ground and also free-draining alluvial or sandy soils. A number of quernstone fragments and rubbers attest to the processing of grain (see Hayward and Valdez-Tullett, Appendix 3).

Trees and shrubs present in the Middle Bronze Age landscape included hazel (*Corylus avellana*) type, alder, willow type and oak, represented by pollen. Shady scrub or hedgerow-type habitats are suggested by seeds of upright hedge parsley, a single sloe stone and a bramble seed. The presence of alder is confirmed by the remains of the leaf beetle *Agelastica alni* and by seeds, catkins and scales. A few individuals of the 'woodworm' *Anobium punctatum* also demonstrate the presence of some wood. Charcoal was dominated by alder and oak, but included hazel, ash, pomaceous species (such as apple, service fruit, whitebeams, pear and hawthorn) and cherry/sloe type. Mixed, oak woodland and woodland-edge habitats were clearly within close proximity to the waterholes, possibly separated by areas of open grassland supporting grazing and disturbed human habitation.

Insects, plant macrofossils, mollusc samples, charred plant remains and waterlogged wood were recovered from waterholes associated with settlement. Insects from these features produced a similar fauna with terrestrial species being dominated by those of rotting vegetation or grassland (including grazed grassland). Taxa associated with trees formed less than 3 per cent of the overall assemblage, one of the few species associated with trees being a single individual of the Carabidae 'ground beetle' *Dromius quadrinotatus*, which is found under the bark of a range of soft wood trees (Lindroth 1974). The feature containing the beetle also contained the remains of a worked alder stake but no unworked wood.

The plant macrofossils are dominated by species of disturbed nitrogen-rich soils including stinging nettle, fat hen and chickweed, and species of rough grassland including plantains and thistles, while seeds of elderberries were also present. Aquatic species indicative of the presence of standing water were present in some waterholes, including crowfoots, duckweed and stonewort, as well as pond-edge vegetation including gypsywort, water-plantains or arrowheads, sedges and spikerush. Open-country molluscs dominated some assemblages (see Wyles, Appendix 2), indicative of moist vegetation with patches of bare earth resulting from trampling. Varying numbers of *Pisidium* shells through the sequence demonstrate the presence of fluctuating fresh water.

The insects, molluscs and waterlogged plant remains therefore provide a picture of relatively open

landscape during the Middle Bronze Age at Horton, with rough grassland and grazing. Clearly, however, trees and shrubs remained present, with some trees, particularly alder and maybe hazel, overhanging the waterholes. While the presence of unworked twigs and branch wood of oak, alder and willow/aspen may indicate the growth of these species in the vicinity of the waterholes and palaeochannel, the lack of woodland insect species argues for few trees or shrubs on-site. It is also noticeable that alder cones and seeds were few in number and there is an absence of willow/aspen fruit capsules or leaf buds, suggesting at least some of the wood may have been washed into the features during flood events. The hazel pollen from waterhole 3451 conversely does suggest that in this feature hazel catkins were present (see Grant, Appendix 2). The charcoal and waterlogged wood evidence does demonstrate the ready availability of woodland resources even if not directly on the site. A similar range of taxa to the Neolithic was found within the charcoal assemblages, dominated by oak, with evidence for scrub or hedgerow species and open stands of trees with species such as blackthorn/cherry type, hazel, pomaceous fruits (apple, hawthorn, etc.), field maple, ash, hornbeam and elm, with alder and willow/aspen on wetter ground. The presence of ash, yew and beech charcoal also indicate the spread of activities into drier and chalk areas in the wider landscape. By the Middle Bronze Age, alder appears to have been selected more frequently for fuel, perhaps reflecting the expansion and therefore availability of alder carr along the Colne Valley, or possibly a reduction in oak, although oak remains the dominant taxa among both charcoal and worked wood. Towards the Late Bronze Age, there is also some evidence for the deliberate encouragement of oak by coppicing (see Barnett and Mepham, Appendix 1).

Monumental Activity in the Early Bronze Age

Activity within the Middle Thames Valley during the Early Bronze Age appears to be characteristically similar to that of the later Neolithic periods. Evidence suggests a period with limited population and settlement, possibly sporadic temporary habitation. It is likely that, despite the lack of structural evidence, early populations inhabiting the area utilised the land with a predominantly mobile way of life well into the Early Bronze Age. Practices visible throughout the Neolithic that provide evidence, such as pit digging, appear to decline in importance during this transitional period, although the agricultural and economic focus would have remained on stock rearing and herding, the gathering of wild plants and hunting. Previous excavations within the valley have provided only limited evidence for occupation at this time. Indeed, it has been suggested that the period is better defined by the rarity or absence of diagnostic artefacts and monuments rather than their presence (Lewis *et al.* 2006, 89), unlike areas of the Upper Thames Valley, where there is overwhelming evidence for Beaker and Early Bronze Age burials and pits, and for occasional settlements in the form of timber-built roundhouses. Features, therefore, are generally conspicuous by their absence. The excavations at Horton have not changed this perception, with the period poorly represented on the site.

The landscape within the Early Bronze Age continued to be open, with small groups farming the land, probably on a seasonal basis. The dearth of archaeological evidence may indicate limited occupation. Similar gaps within the archaeological record were seen at Heathrow, where the lack of monumental architecture suggests that society remained organised around smaller groups, possibly at kin or clan level (Lewis *et al.* 2006). Despite the limited evidence for activity, the pre-enclosed landscape of the Early Bronze Age is likely to have been one where resources continued to be exploited and possibly competed for (Powell *et al.* 2015). However, the presence of a large ring ditch 12869, revealed at the northern part of the site and from which quantities of grog-tempered wares including Collared Urn were recovered, suggests specific social connotations of organisation and ceremony (Fig. 4.2). Many barrows and henges exist within the wider Middle Thames Valley but few are datable to the Early Bronze Age period (Gates 1975). Often of Neolithic date, such features have been recorded at Eton Rowing Lake (Allen *et al.* 2013) and Heathrow Terminal 5 (Lewis *et al.* 2006; 2010).

The monument had an internal diameter of just in excess of 16 m, with the sub-circular ring ditch enclosing an area of 217 m² (Fig. 4.2). The feature represents a near perfect circular shape, with an enclosure ditch which was, on average, 1.3 m wide, and 0.35–0.55 m deep. The ditch had a shallow to moderate U-shaped profile, and was notably deeper and wider on its southern edge. A narrow ESE-facing entranceway, measuring 1.1 m in width, created an extremely restricted passage into the monument. There was no evidence found during excavation to prove or disprove the existence of a central mound, or indeed an internal or external bank, with no slumping recorded within the fills of the enclosure ditch. There were no signs of recutting or cleaning, suggesting a limited lifespan when considering the importance of the feature. The artefactual evidence recovered was limited and came from throughout the fills, with no concentrations of finds, although two cattle skulls were recovered from opposing positions on the WNW–ESE axis of the ring ditch (see below). Small quantities of Beaker Collared Urn and undiagnostic Early Bronze

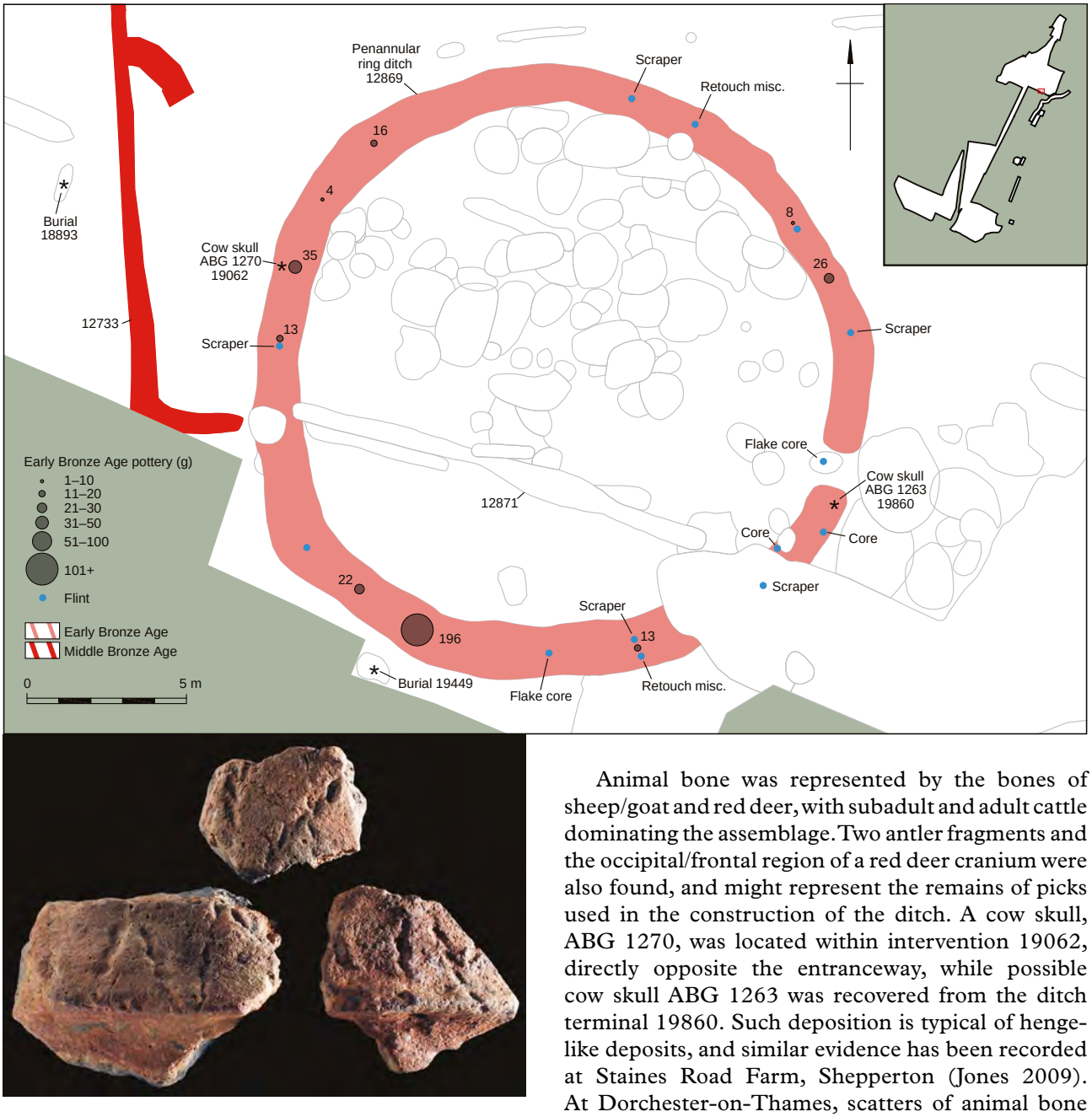


Figure 4.2 Penannular ring ditch 12869. Burials, pottery/flint distribution and Romano-British pits. Inset: fragments of Collared Urn recovered from ring ditch 12869

Age pottery (60 sherds weighing 429 g), both grog- and flint-tempered, were recovered from the ditch (Fig. 4.2). Only six sherds of Beaker pottery (94 g) were recovered from the site (although a Beaker burial (31047, grave 31046) was found in Phase 10, and this will be discussed in Volume 2). Two featured sherds were found, a rim and a base; the former is typical of Clarke's European and Wessex/Middle Rhine groups (Clarke 1970). None of this material was associated with burial deposits (see Barclay, Appendix 3). The paucity of Beaker and Early Bronze Age material and activity in general is a common theme in the Colne Valley and the Middle Thames Valley as a whole.

Animal bone was represented by the bones of sheep/goat and red deer, with subadult and adult cattle dominating the assemblage. Two antler fragments and the occipital/frontal region of a red deer cranium were also found, and might represent the remains of picks used in the construction of the ditch. A cow skull, ABG 1270, was located within intervention 19062, directly opposite the entranceway, while possible cow skull ABG 1263 was recovered from the ditch terminal 19860. Such deposition is typical of henge-like deposits, and similar evidence has been recorded at Staines Road Farm, Shepperton (Jones 2009). At Dorchester-on-Thames, scatters of animal bone were found associated with fragmentary Collared Urn, cremation and inhumation burials around the inside of a flat-bottomed ring ditch (Lambrick and Robinson 2009, 296). Radiocarbon dates were attempted on both skulls from ring ditch 12869, but the collagen from both proved to be insufficient to allow dating to take place. The position of the cattle skull ABG 1263 within the upper fills of the ditch, however, hints at a later date. Twelve worked flints were recovered from the ditch, which included flakes, cores, a broken blade, five scrapers, and knives, one of which was also burnt.

Two inhumation graves were located immediately outside of the ring ditch, axially aligned. Burial 19449 (Fig. 4.3), that of a young female, was located on the south-western edge, while grave 18893 of an elderly female, lay about 7 m from the western edge (Figs 4.2

Figure 4.3 A: aerial shot of ring ditch 12869; B: burial 18893; C: burial 19449

and 4.3) (see McKinley, Appendix 5). Both individuals were buried in a flexed position, and although no dating evidence was recovered, may be associated with the ring ditch. It is not uncommon to find secondary satellite graves outside of barrows or hengiform ring ditches, with a tendency for the special treatment of burials externally to the monument. Similar examples have been recorded at both Shorncote/Cotswold Community, south Gloucestershire (Barclay, Glass and Parry 1995), and Eton Rowing Lake (Allen *et al.* 2000, 71–6). At Shorncote, a number of both Deverel-Rimbury urned and un-urned cremation burials were recorded internal to a Neolithic hengiform ring ditch, while a further five were deposited externally in association with two inhumation burials (Lambrick and Robinson, 2009, 295). Other examples have been recorded at Cippenham (*ibid.*, 298) and Reading Business Park/Green Park (Allen, C. *et al.* 2004, 7).

A total of 55 Romano-British pits were located within the enclosure (Fig. 4.2) (see also Chapter 5). A small, contemporary dividing gully 12871, separating the internal area of the ring ditch, defines the pit-digging area, with all of the pits situated to the north of the gully. The positioning of the pits immediately within the ring ditch's boundaries clearly shows that the monument was extant to a certain degree at the time they were dug. The nature of the features also hints at the presence of an extant internal central mound. All features were shallow, with a maximum depth of 0.18 m, and when compared to the average depth of features associated with the Romano-British farmstead 40 m to the north, this suggests that the features were cut through eroded mound deposits. Residual Romano-British pottery was also recovered from the upper fills of the ditch. It is unclear why the shallow pits were cut immediately within the monument, and why it continued to hold such importance, although it is not unusual for prehistoric earthworks to be reused in the Romano-British period.

There remains some uncertainty as to the exact nature of the ring ditch. Recorded as penannular, the feature could also represent a causewayed barrow, of disc rather than bell or bowl form. The presence of Collared Urn pottery, Early Bronze Age flintwork and cattle skulls could be associated with funerary activities, although the lack of pyre debris and cremated bone is problematic. Indeed, the deposition of the animal bone may indicate the significance of herding within the community, reflected in the special deposition of the cattle skulls. Any evidence of possible internal burials associated with a barrow has been lost to the intrusive Romano-British pits. Most burials under Early Bronze Age barrows were simple cremation burials, and not rich graves (Woodward 2000, 39). It is highly possible, therefore, that any potential funerary practice associated with the monument at Horton has been lost to later truncation. The positioning of two inhumation burials in the immediate locale of the ring ditch may hint at a funerary connection to the monument. Both are relatively closely spaced, located about 12 m apart, but there is no evidence to suggest the close contemporaneity of these deposits. The monument may suggest a placement of strategic or focal importance within the wider landscape during the Early Bronze Age. Such monuments are often associated with influence, control and knowledge. Exactly how the placing of such a monument was articulated with the landscape, and indeed why it was even constructed, is difficult to establish.

The monument later became incorporated into the Middle Bronze Age field system, with enclosure alignments seemingly respecting the pre-existing landscape feature, similar to those seen at Imperial College Sports Ground (Powell *et al.* 2015). Enclosure ditch 12733 lay 3 m immediately to the west but a spur runs east to meet but not cut the ring ditch (Fig. 4.2) in a pattern reminiscent of that of ring ditch 1 at Pode Hole Farm, Peterborough (Daniel 2009, 22). Ditch 12871 continues across the interior of the ring ditch but at a differing alignment and has been interpreted as Romano-British and contemporary with that later phase of pit digging. There is no evidence for the Middle Bronze Age field boundary continuing on from the eastern side of the ring ditch. Thus it appears that it was considered important to join the ring ditch to the field system even though the monument itself did not form part of a physical boundary or land division. This apparently symbolic incorporation does not therefore seem predicated on its use in territorial claims or linkage to ancestral rites as has been suggested by other authors (eg, Barrett 1994; Johnston 2001; 2005; Wickstead 2008). The enclosure in which the ring ditch sits is large compared to the other Middle Bronze Age areas, and was probably part of an area of pasture and possibly scrubland or alder carr associated with the now largely infilled *Palaeochannel IV.*

As Lewis notes (Lewis *et al.* 2010, 125), there are no previously known burials, barrows or large henge monuments of Early Bronze Age date in the Middle Thames Valley. The discovery of three ring ditches and a Beaker burial during the excavations at Horton is therefore of great interest and will be explored further in Volume 2.

The Pre-enclosure Landscape – Early to Middle Bronze Age Evidence

A limited amount of evidence for activity during the Early to Middle Bronze Age was recorded on the site, thought to have been within a mixed deciduous wooded landscape – a continuation from the Neolithic period (see Pelling, Appendix 1). Some extraordinary features provide a glimpse into the low level of human occupation and utilisation of the landscape during this time. Oval pit 1770 (Fig. 4.4), represented an intriguing example of the remixing and re-incorporation of an earlier feature. Specific evidence recovered from the pit suggests that it was singled out for a specific purpose, for long-term interaction with different phases of activity covering several millennia.

The pit, which measured 2.04 x 1.78 x 0.57 m, was largely unremarkable. Located towards the southern extent of the site, the feature lay in the vicinity of Middle Bronze Age enclosure ditches and a cluster of Grooved Ware pits. Four worked flint flakes and a scraper were recovered from its fill, which also included fragments of burnt flint, animal bone and two small fragments of amber (see Bradley, Appendix 3). A sample taken from the lowest fill of

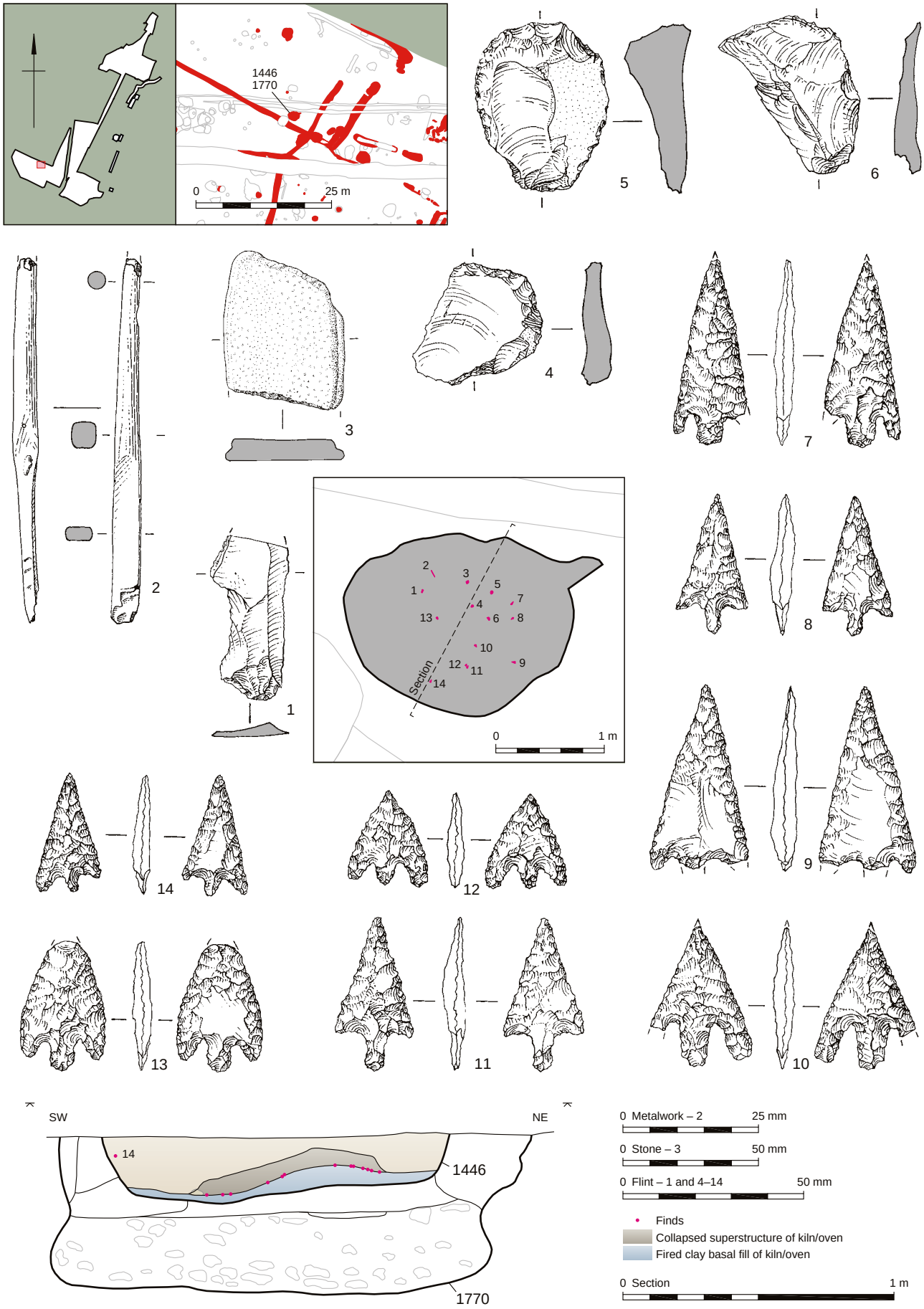


Figure 4.4 Oven feature 1770/1446 with finds

the pit contained a small quantity of hazelnut shell along with four intermediate cereal grains.

The upper fills of the pit were truncated by the insertion of an oven (1446), at a later stage. Associated with this phase of reuse was a remarkable assemblage of objects deliberately deposited directly onto the charred basal fill of the oven in a radial arrangement (Figs 4.4–4.5). These included eight barbed and tanged arrowheads, two scrapers, a copper alloy awl or punch, a possible whetstone, flakes and a broken blade of pre-Early Bronze Age date. All of the arrowheads had been well made and were generally extensively retouched over both faces (see Bradley, Appendix 3). Many showed signs of use, with three broken, and of having been collected over a considerable period of time. The blade is certainly earlier than the arrowheads, and although it may be difficult to suggest curation, the piece was clearly collected and set aside as being 'old'. Analysis undertaken on the copper alloy awl suggests that the object can be best described as a craft tool with a narrow chisel-like cutting edge which could be used to work clay, wood or wax, possibly for decorating bronze, given its high tin content (see Northover, Appendix 3). Fragments of at least two crucibles were recovered from Middle Bronze Age contexts (a pit/well 3248, ditch 3171 and oven 1446), indicating some metalworking was being carried out on the site.

The positioning of the artefacts clearly shows purpose and a deliberate act, the significance of which has been lost. The fired clay fill of the oven was characterised by large quantities of charcoal (see Barnett, Appendix 1), while a small number of other charred remains were recovered, including a few grains, glume bases, weed seeds and fragments of hazelnut shell (see Pelling, Appendix 1).

The dating of the features was problematic. A radiocarbon date of 2860–2480 cal BC (NZA-33480, 4077±35 BP) was obtained from a hazelnut shell fragment, taken from the lowest fill of pit 1770 (Fig. 4.4), giving a Late Neolithic (Grooved Ware) date. The arrowheads recovered from the later oven feature 1446 are datable to the Early Bronze Age. However, the presence of the copper alloy awl/punch suggests that the feature is indeed Early to Middle Bronze Age in date, through superposition. The presence of the earlier objects of the flintwork and possible whetstone, therefore, may suggest that the items were significant, curated or 'heirloom' objects (possibly votive) and that act of deposition is significant – a deliberate link with the past – and possibly associated with ceremonial activity. The antiquity of such items may have been recognised and valued and treated as such. It is possible that the deposit in oven 1446 represents a re-creation of craft activities, namely flintworking (arrowheads and blade) and metalworking (possible whetstone, awl, crucible fragment).

Figure 4.5 Oven 1446 during excavation with finds in situ

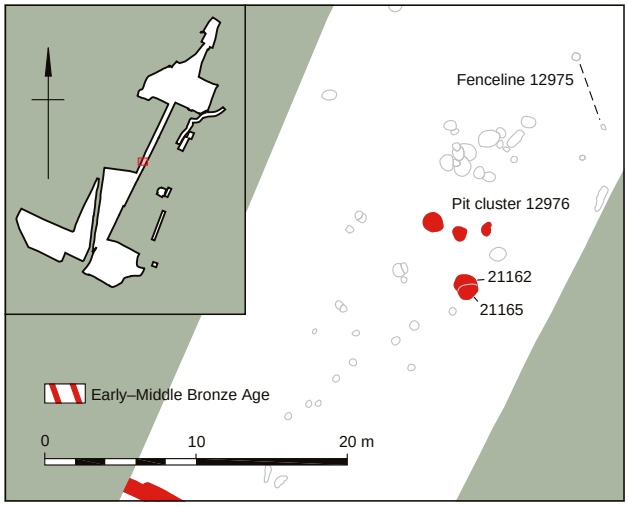


Figure 4.6 Pit cluster 12976

There may be some significance in the location of the feature within the fills of a large Grooved Ware pit. The evidence from this area of the site shows previous landscape occupation and use during the Late Neolithic period, demonstrable by a cluster of Grooved Ware pits (see Chapter 3). The reuse of such a feature, therefore, may have held further significance and complexity, considering the time elapsed between the various acts of deposition and feature use. Such distinct activity clearly shows specific and accurate knowledge of previous landscapes.

Further evidence of a pre-enclosure landscape was noted in the centre of the site. Approximately 22 m north of a Middle Bronze Age farmstead (which later became *Farmstead B*), a group of five features, 12976 (Fig. 4.6), were located within an area of several small postholes and intercutting pits indicative of localised occupation. The features were generally oval to sub-circular in shape, 0.87–1.25 m in diameter and 0.27–0.35 m in depth and were sited in an area 30 m^2. All pits contained between two and three organic-rich fills as well as quantities of animal bone and worked and burnt flint, and are likely to represent domestic waste pits. Middle Bronze Age pottery was recovered from all five pits, with each pit containing different forms and fabrics. A large quantity of sherds from a miniature bucket-shaped jar, a larger bucket-shaped jar, a fineware globular vessel and biconical profiles were all represented (see Jones and Barclay, Appendix 3). A radiocarbon date of 1670–1500 cal BC (NZA-33478, 3312±30 BP) was obtained from a charred grain (possibly emmer), from pit 21162 and may suggest an earlier phase of activity in the area. The pits lay some 74 m from *Farmstead B* and may be associated with possible local occupation suggested by curving fenceline or fenced field enclosure 12975 to the north-east. A single fragment of amber was recovered from pit 21165 and may be significant.

One reason where there may be a general paucity of Early Bronze Age sites is that they generally lack subsurface features. Some Early Bronze Age sites have been detected through the presence of lithics, in some cases poorly dated, collected either by fieldwalking or as residual finds from later features (eg, Mucking – Evans *et al.* 2015).

This cannot be demonstrated to be the case for Horton, which had a low level of dated and poorly dated lithics (see Bradley, Appendix 3) while the fieldwalking conducted by TVAS concluded that the quantities of flint recovered 'can be shown to be low, falling well below both the average density in general (98/ha) and that expected for "sites" (173/ha)' (Ford and Pine 2003a, 17). The 2010–15 excavations did, however, recover what appears to be a modest Early Bronze Age flint assemblage from one of the ring ditches.

Intensification in the Development of an Agricultural Landscape during the Middle Bronze Age

The Inception of the Middle Bronze Age Field Systems

The landscape at Horton underwent a marked change in its use at the end of the Early Bronze Age. A landscape which had been characterised by isolated and limited settlement and monumental and agrarian evidence was followed by a major reorganisation during the Middle Bronze Age (Fig. 4.7). Piecemeal use of the landscape in limited areas was superseded by a thriving period of economic and cultural exploitation of the land. Marked by the creation of major land divisions, field systems and community farmsteads, the site underwent an enormous transformation from an open and monumental landscape to an enclosed, formal and agriculturally productive countryside. A major period of tree clearance created a more open scene than that of previous environments, with areas of open grassland and possible arable fields (see Pelling, Appendix 1). However, the field systems developed during the Middle Bronze Age, and indeed the associated settlement features, appear to have been short-lived, and do not show continuity into later periods.

Artefactual evidence associated with the earlier periods at Horton is sparse and does not enable accurate identification of the true origins of the inception of the new structured agricultural system. The major feature of Early Bronze Age date, penannular ring ditch 12869, contained several sherds of Collared Urn pottery (see above, and Barclay, Appendix 3). Such pottery may suggest a gap in occupation across the site of a few hundred years between a monumental landscape (with no

evidence for occupation) and the inception of the widespread field systems of the Middle Bronze Age. Such a hiatus has not yet been explained archaeologically, and it is possible that occupation of the area during the transitional phase is simply not visible archaeologically, with transhumant pastoralists utilising semi-sedentary settlements that leave no trace in the archaeological record. It may be reasonable to view the settlement patterns within the Early Bronze Age as similar to the Late Neolithic, with almost non-existent evidence for structural elements reflecting fairly transient settlement patterns within large woodland clearings. Excavations at Heathrow have also noted a similar scarcity in evidence from this period, and suggest that such limited evidence may represent a low level of landscape occupation or reflect a general lack of archaeological visibility. Evidence for social and economic changes may be

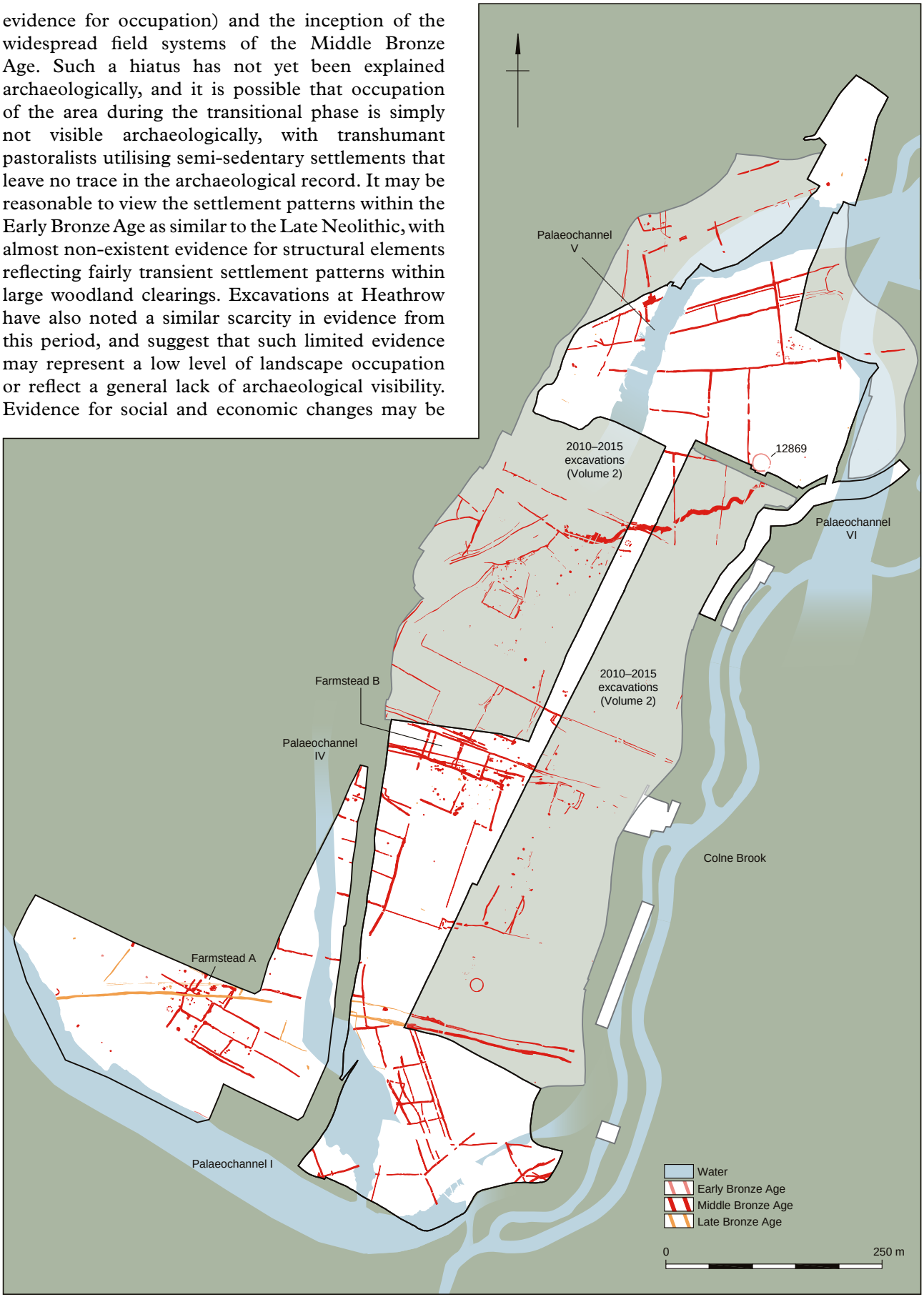


Figure 4.7 Bronze Age features at Horton

sought in the much wider landscape, such as along the River Thames floodplain rather than on the higher river terraces (Lewis *et al.* 2006, 112), as well as further afield in southern Britain (Rowlands 1980; Yates 2007). The Middle Thames Valley is very different to other areas in this regard, particularly the Upper Thames Valley, where much of the evidence of field system construction appears to have started much later, in the Late Bronze Age/Early Iron Age transitional period (Yates 2007, 37).

There are several instances of sites within the Middle Thames Valley with later Early Bronze Age features that provide evidence for the initial foundations for the later settlements. The reasons for the change in land use is not clear, but evidence shows that the undertaking was widespread, occupying a significant number of people. Artefactual evidence at Horton suggests that the first of the Middle Bronze Age field enclosures were laid down some time around 1500 BC, reflecting a period of great social and economic change for the communities within the Middle Thames Valley. Order and organisation were now the dominant characteristics within the area, allowing for the development of sedentary settlements and the emergence of defined farmsteads for arable as well as pastoral agriculture. Such farmsteads, while remaining small and manageable, are seen to have developed over a limited period of time, possibly only a generation or two. Between areas of settlement, a large-scale, widespread, aggregate field system was developed. Stratigraphic evidence shows that many trees were felled prior to the development of the farmsteads, and many ditches show signs of being laid out after a period of clearance. The dominant characteristic of the enclosure was the formation of 'cells', small enclosures connected with track- and droveways, in turn creating a formal or mechanistic landscape with aspects of controlled movement. Each enclosure was different in area and form – often square or rectangular and aligned east–west, some had one open side, some were fully enclosed, while others had a boundary marked by alignments of posts and pits and another was bounded by a double ditch. It appears that the enclosures evolved in an organic manner (an aggregate system), rather than being the result of a single event imposed on the landscape. Aggregate systems of fields are added together on a piecemeal basis (Bradley 1978, 268–9) and have no dominant axis (Yates 2007, 15). Coaxial systems in comparison, seen at sites within the wider Thames Valley such as at Heathrow Terminal 5 (Lewis *et al.* 2006; 2010), have a prevailing orientation and appear to be laid out in a single operation (Fleming 1988). Most of the field boundaries follow this axis or alignment (axial boundaries) or run at right angles to it (Yates 2007, 15).

Evidence suggests that livestock were key in the economy of the farmsteads. Pryor argues that animals only have to be kept in fields when their population reaches a point where the available grazing needs to be managed with greater control (1998, 82). This may be a clue to the sudden emergence of a new economic/agricultural system. Prior to this, it is conceivable that small flocks/herds of sheep/cattle were allowed to freely roam unattended through the wooded landscape or areas of open ground. Now, an ordered landscape allowed for the control and development of the agricultural economy. The ditches (and associated banks) of the field boundaries, as well as functioning as land divisions, would also provide drainage for the brickearth-derived soils overlying the Thames gravels (Leivers 2010).

The development of large-scale land division may reflect the growing success of social practices, as well as wealth and status. Such developments in the Middle Bronze Age are common across the Thames Valley and may also reflect the changing egalitarian and communal need for organisation and order as well as sedentary patterns. Leivers suggests that such social organisation reflects a uniformitarian approach and that pains were taken to avoid the partitioning of the landscape into privately held units to the exclusion of the common (*ibid.*, 206). The generation of wealth may have come from a surplus of agricultural produce, which may indicate the presence of prestige goods such as the bronze metalwork and amber found within Middle Bronze Age features (Barrett and Bradley 1980; see below).

The Formation of the System – the Use of Trackways and Landholdings

The major reorganisation of the landscape witnessed during the Middle Bronze Age was to have notable social implications, such as settlement patterns, wealth and exchange. The changing face of the land was dominated by rectilinear enclosures, boundaries and droveways, and was the result of a planned and organised development on a large scale. Areas of settlement, recognisable as farmsteads with houses, as well as means of supplying water to people and animals in the form of large waterholes and wells dug adjacent to the settlements and fields, were present. Such features will be examined in detail below, and other cultural activities noted, such as burial and trade.

Two separate Middle Bronze Age settlements have been identified at Horton. Both lie within areas of dense aggregate enclosure systems, hereafter referred to as *Farmstead A* and *Farmstead B* respectively, and their locations are suggested by post-defined buildings (such as houses and other structures), posthole groups/clusters and waterholes (Fig. 4.8A). It is suggested that these enclosures evolved in an organic manner, rather than being the result of a single event

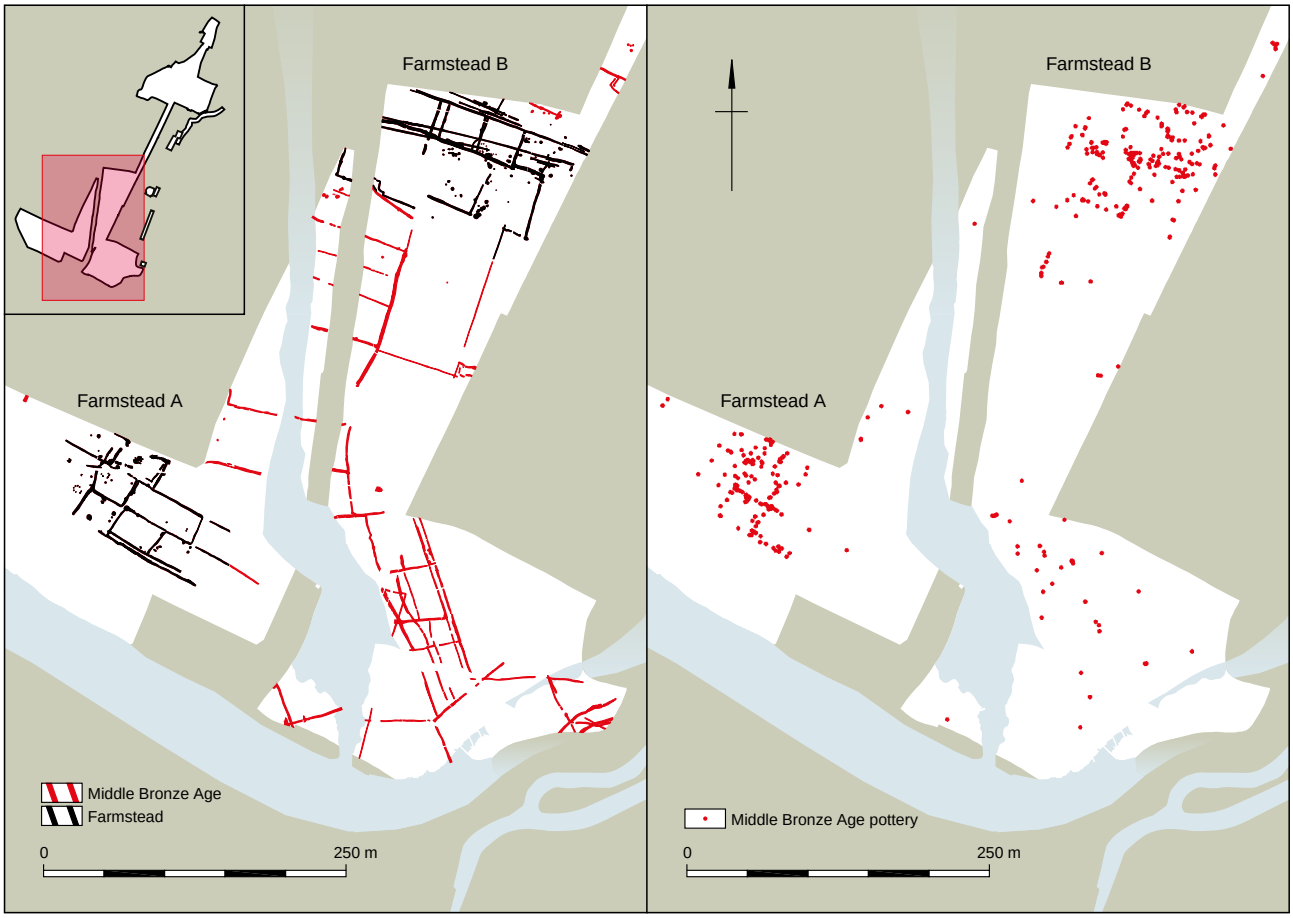


Figure 4.8 A: location of Middle Bronze Age farmsteads; B: Middle Bronze Age pottery distribution plot

imposed on the landscape – within the network of enclosures it is possible to pick out primary ditches and shared alignments. Densities of artefacts and ecofacts highlight locations of possible settlements (Fig. 4.8B). The presence of such diagnostically domestic ceramics such as Globular and Bucket Urn fragments, loomweights, quernstones and worked flint within the foci of the enclosures gives a further clear indication of the domestic nature of the inhabitation. Both farmsteads, including their individual features and characteristics, are examined further below.

The wide-scale Middle Bronze Age field systems surrounding the farmsteads were further developed to incorporate areas of land for agricultural purposes. Such divisions seen in excavations at Heathrow have been interpreted as possibly marking the fragmentation of the community into smaller constituent groups, clearly divided within the landscape by trackways, and suggest that social dynamics and pressures were at the core of the change towards landscape boundaries and divisions (Lewis *et al.* 2006, 105). In order to interpret and discuss the Middle Bronze Age landscape at Horton, the field systems surrounding *Farmsteads A* and *B* have been divided into six landholdings – blocks of land characterised by field systems and clear differential land uses. These will be referred to as *Landholdings* (*LH*) *1* to *6* (Fig. 4.9). Each one has its own unique characteristics and features, and their relationships, to each other and the two farmsteads, are key. While the farmsteads were relatively similar in terms of enclosure size and orientation, the landholdings are all very different, and this may reflect physical differences across the site such as geology, topography or natural boundaries such as rivers, whether active or inactive. In some cases, only further excavation in the coming years will allow the land use to be fully understood, while in others very few stratigraphic relationships have survived, and the paucity of artefacts suggests different agricultural practices and land uses.

Dating the development of the field systems in conjunction with the farmsteads is problematic. Although the farmsteads themselves can be stratigraphically analysed to view their development and expansion, the chronology is not precise enough to provide a sequence to know how the individual farmsteads are related. Beyond this, the wider landholdings also hold similar problems. Dating (where available) is largely only identifiable as 'Middle Bronze Age', and although individual areas have stratigraphic relationships, sometimes over wide areas, it is not possible to know how the site as a whole developed from its inception to its

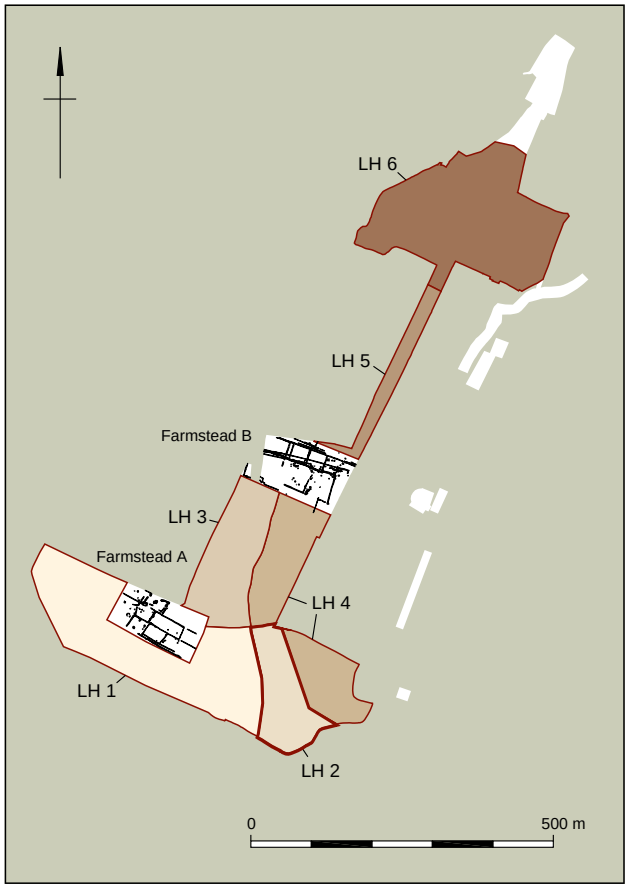


Figure 4.9 Plan of Middle Bronze Age landholding divisions

decline. Pottery distributions show a presence, however sparse, of Middle Bronze Age pottery (most commonly Deverel-Rimbury type), associated with field enclosures across the entire site, and densities which identify the farmsteads. The presence of Middle/Late Bronze Age and Late Bronze Age pottery is equally vague, particularly in the more remote and isolated landholdings within the site. The dearth of evidence allowing a chronological analysis of the site, therefore, hampers any analysis of the subsequent development of the field system as a whole. All landholdings may have been active simultaneously, or indeed, have had chronological evolvement. Unfortunately, the evidence available does not aid interpretation.

***Landholding 1* (*LH1*)**

The area immediately to the south and east of *Farmstead A* is classified as a landholding, largely defined by the excavated site extents, former areas of gravel mineral extraction and modern boundaries (as well as *Palaeochannel I* to the south) (Fig. 4.10). Although the area shows limited presence of archaeological features associated with the Middle Bronze Age, the lack of activity in itself is important. *Farmstead A* has been clearly and carefully set out within the landscape, albeit in a limited area. The wider land use within the landholding may well represent different agricultural uses associated with the running of the farmstead, such as providing grazing areas for cattle, or wooded areas for the exploitation of other resources.

Landholding 2 (LH2)

An area typified by north-east to south-west-aligned trackways and field enclosures was excavated in 2009 105 m to the east of *Farmstead A* (Fig. 4.11). A limited area of land use, the activity appears to have been extremely restricted to an area 47 m wide, bounded on its eastern extent by a double-ditched trackway. The alignments of the enclosure ditches within *LH2* are completely different to any other landholding on the site, and are likely to reflect and respect the presence of *Palaeochannel IV*, likely to have been active to some extent. A radial ditch alignment seen at the southern extent of the landholding may represent further differences in land use in the area, while the northern extents are bounded by what appears to be an important east–west boundary. It is possible that an enclosure ditch (represented by ditches 13060, 9856 and 8776) signified a major boundary within the landscape and appears to separate different areas of land use within the wider landscape.

Four separate phases of ditch construction can be seen within this very limited land use. The first was represented by a series of three east–west-aligned drainage ditches (25757, 25739 and 25735) creating four individual cell-like enclosures (Fig. 4.11). These are bounded to the west by a palaeochannel and to the east by the western ditch of the double-ditched trackway. The alignment of the ditches indicates that the channel was still active at this time. A second stratigraphic phase was represented by the creation of the double-ditched trackway, which also represented the eastern extent of Middle Bronze Age activity in *LH2*. The trackway, (formed by ditches 25744, 25775, 25776 and 25777), was 2.8 m wide and had several phases of recutting and reuse, indicating the continued importance of the feature. It is of note that the trackway was laid out within the cell structure, over stretches of the east to west cell ditches, when it would have been easier to have created it on the outer side of the cell structure. This may indicate that the eastern trackway ditch acted as a formal tenurial boundary between *Landholdings 2* and *4*. Subsequent phases suggest a slight change in agricultural practice sometime after the initial cells went out of use. A series of deep segmented ditches formed a funnel-like feature to the east of the trackway, possibly associated with the management of livestock within the landholding. Two curving parallel ditches, (25071, 25073, 25075, 25077 and 25078), were also recorded in the immediate south-eastern corner of the site, and may represent further activity to the south-east of the excavation (Wessex Archaeology 2010).

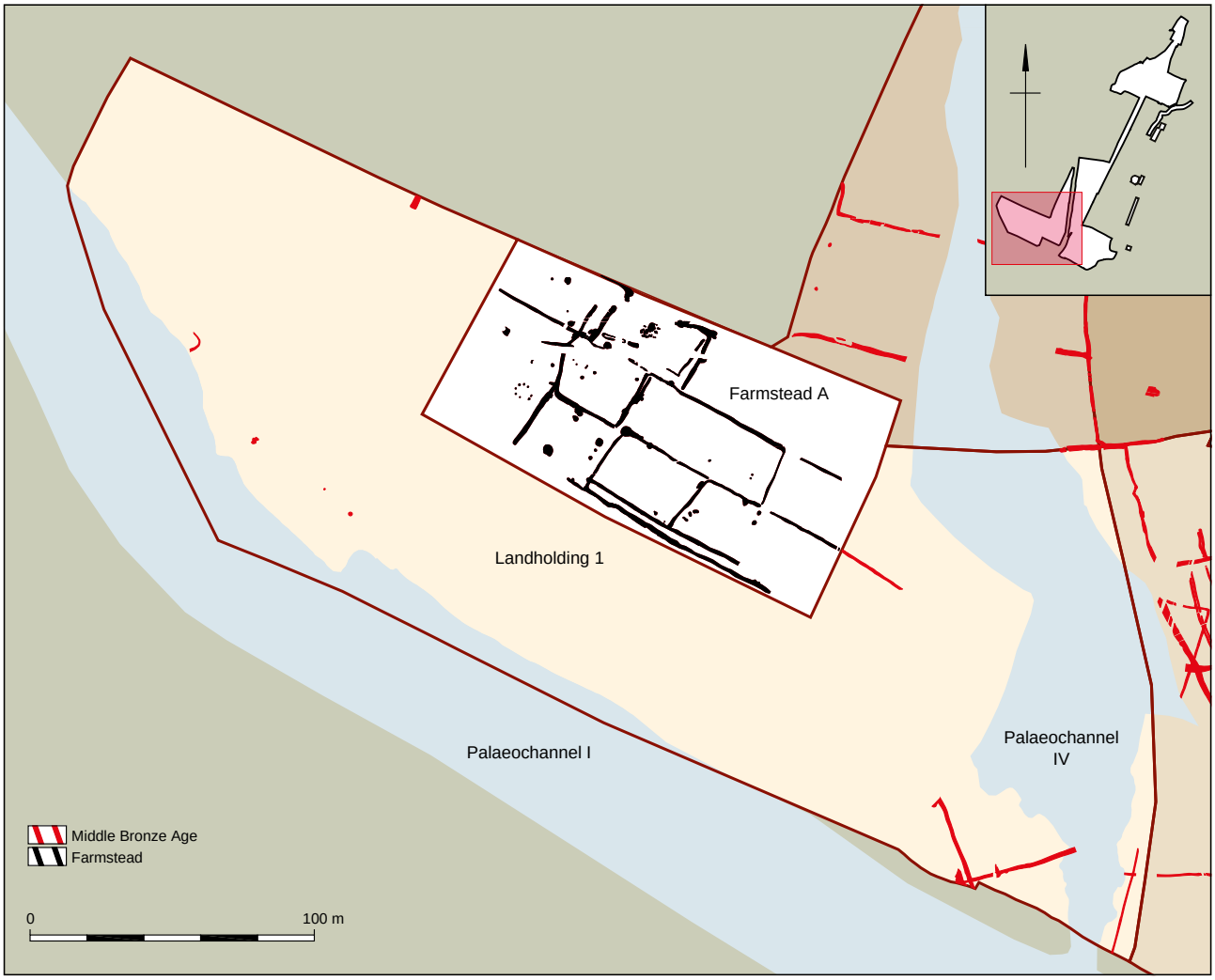


Figure 4.10 Middle Bronze Age Landholding 1

***Landholding 3* (*LH3*)**

Boundary ditch 9922 stands as an important land marker within the wider Middle Bronze Age landscape at the southern end of the site (Fig. 4.12). The feature stretched between the area separating *Farmsteads A* and *B*, and possibly links the two together, albeit not stratigraphically or chronologically. The boundary, 216 m in length, was represented by several segments. The northern half of the boundary, aligned approximately NNE to SSW, curved to a more north–south alignment towards its southern end, possibly to respect the course of *Palaeochannel IV*. Formed by a number of segments of variable depth and size which intercut in a sequence from north to south, the feature shows that the boundary continued in importance throughout its life and acted as a separation between *LH3* and *LH4* and the different agricultural practices that were undertaken either side.

Many lengths of ditch on similar alignments, roughly ENE to WSW, lay on perpendicular, coaxial alignments to ditch 9922 and characterised the northern half of *LH6*. Forming rectangular enclosures in a ladder-like formation, most were poorly dated. Evenly spaced about 20 m apart, the ditches were bounded on their eastern side by the significant boundary, while their western extents were badly disturbed by flood deposits which may relate to *Palaeochannel IV*. In the northern half, the channel may have acted as a western boundary to the enclosures. Several similarly aligned ditches were excavated at the southern extent of the landholding, and in at least one location they appear to continue across the palaeochannel. No stratigraphic links or datable evidence was able to link the ditches in *LH3* with either *Farmstead A* or *B*, although the similar alignment of the system suggests a broad contemporaneity.

Waterhole 4139, located on the extreme western edge of the site (Fig. 4.12), represents an interesting feature situated on the western bank of *Palaeochannel IV*. Although no direct datable evidence was recovered from any of its fills, the positioning of the feature suggests that it played a role in the land use associated with *LH3*. Measuring 5.30 m in diameter and 0.80 m in depth, the feature contained

a large amount of well-preserved waterlogged wood (see Barnett, Appendix 1) (Fig. 4.13). Both worked and seemingly unworked pieces were recovered and may have formed a box-like shuttered structure around the base of the waterhole. A total of nine oak planks (none complete) showed signs of being carefully worked, with well-finished surfaces.

Landholding 4 (LH4)

This landholding is represented by a sizeable area bounded to the west by the large and significant boundary ditch 9922 (Fig. 4.14A). Largely devoid of archaeological features, the landholding suggests a different land use within the wider landscape, probably associated with unenclosed, pastoral agriculture. The presence of several tree-throw holes in the area may suggest that *LH4* remained reasonably wooded, with no evidence for phases of clearance as seen in other areas, and remained an important resource

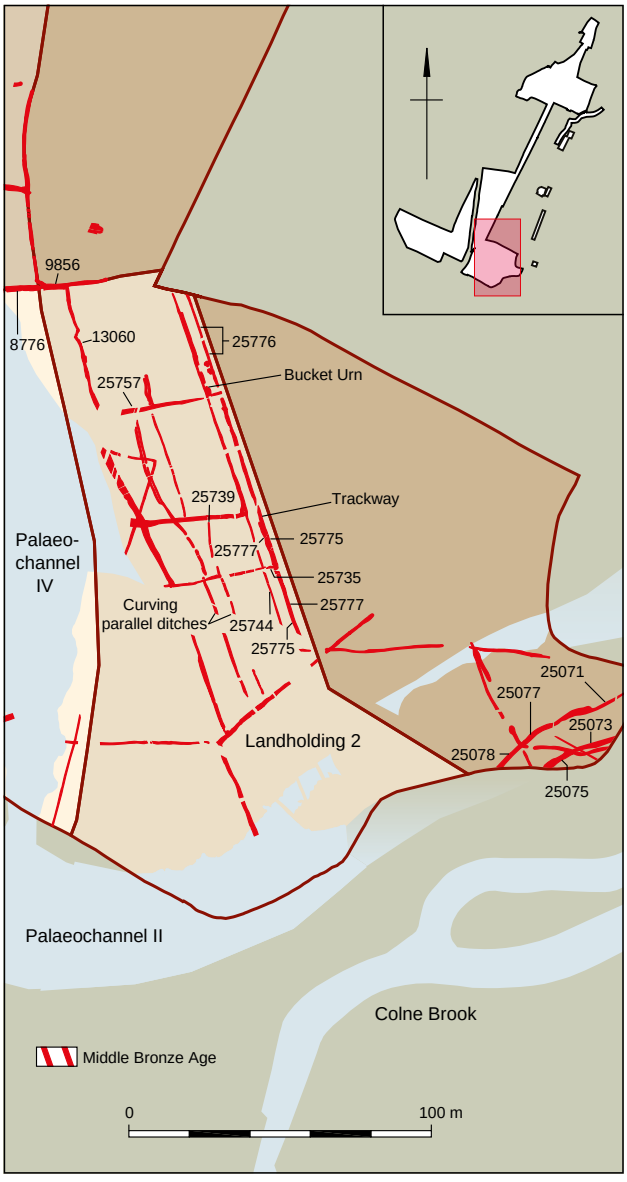


Figure 4.11 Middle Bronze Age Landholding 2

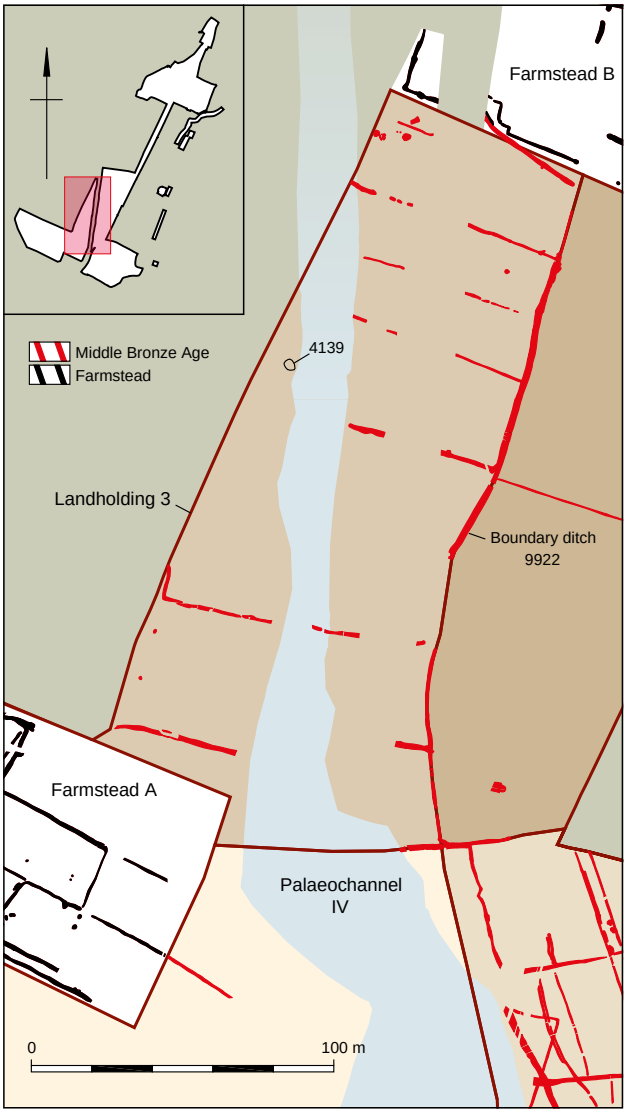


Figure 4.12 Middle Bronze Age Landholding 3

for *Farmstead B*. A segmented sub-rectangular enclosure was recorded on the edge of the site, and was fully recorded in later works. A full discussion will be presented in Volume 2. Land immediately to the east of the double-ditched trackway within *LH2* (Fig. 4.11), was completely devoid of archaeological features that could be assigned to the Middle Bronze Age, and may well represent the extension of this landholding.

A single isolated inhumation burial 24926 (Figs 4.14B and C) was recorded within the landholding, located within an area largely devoid of archaeological features. Although not dated, it is likely to that the inhumation is of prehistoric date. Six small and abraded flint-tempered pottery sherds (possibly Mortlake Ware) were recovered from the grave fill. Tightly crouched in nature, it is possible that the burial relates to the wider Middle Bronze Age activity on the site, with particular reference to the dearth of archaeological features in this landholding. Indeed, excavations in 2010 revealed a large barrow and

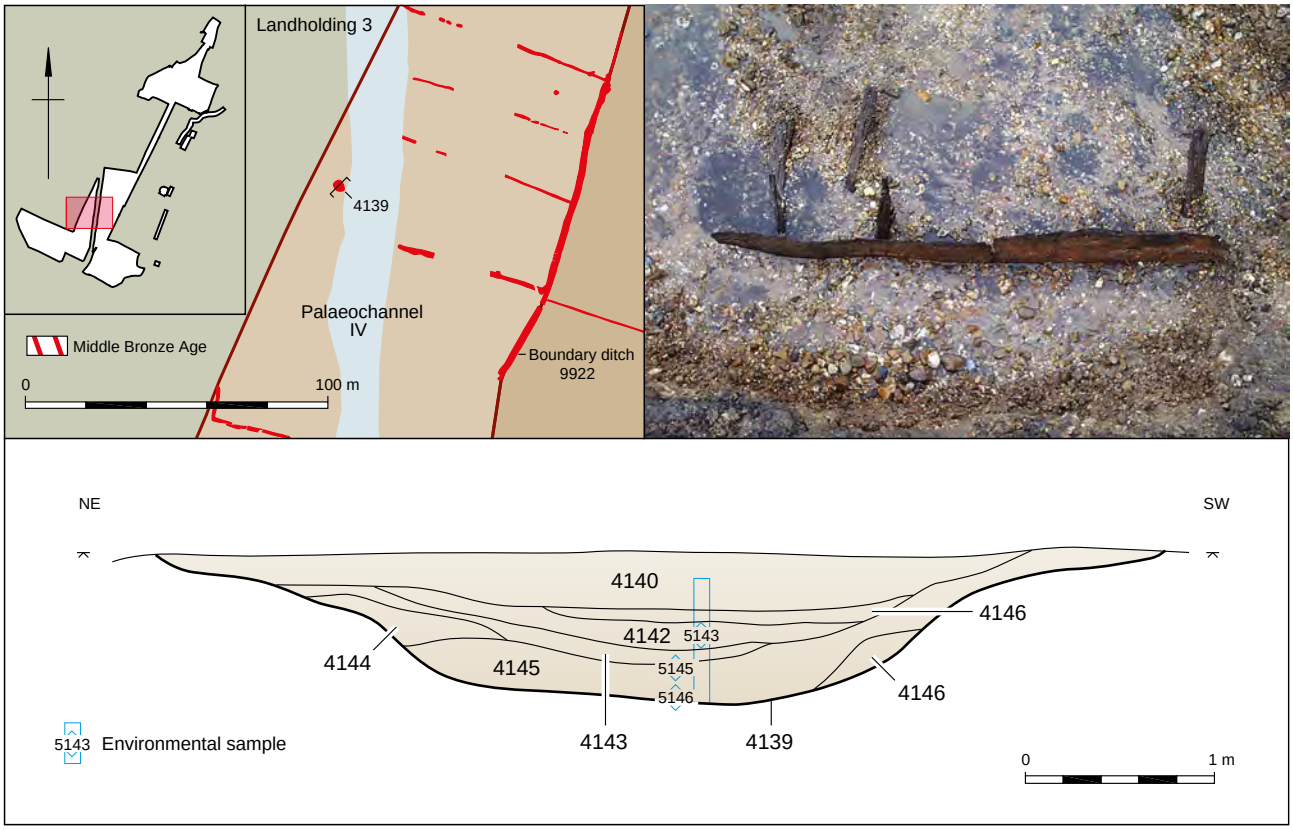


Figure 4.13 Waterhole 4139, with (inset) wood located in its base

associated mortuary evidence including 22 possible un-urned cremation burials, eight urned cremation burials and seven inhumation burials (to be reported in Volume 2; Chaffey and Barclay 2013). Such evidence adds weight to the argument for a large area within the landscape set aside and distinctly different to all other areas utilised within the Middle Bronze Age. The landscape appears to have remained unenclosed for several centuries prior to the large Late Bronze Age boundary being introduced.

Landholding 5 (LH5)

The area immediately north of *Farmstead B* was defined both by the restrictive nature of the excavation and stripping methods determined by the creation of a new conveyor belt associated with the new processing plant, as well as a distinct change in its use within the Middle Bronze Age landscape (Fig. 4.15A) and will be reported in more detail in Volume 2. The archaeological landscape was typified by a paucity of features within an environment similar to *LH4* immediately south-east of *Farmstead B*, in comparison to the tightly enclosed and structured nature of the farmstead itself. Despite being very restrictive because of the nature of the strip, the landholding did show tantalising evidence of further settlement and enclosure evidence either side, to be excavated in coming years.

A stepped entranceway, possibly a staggered entrance to a stock channelling enclosure, was represented by ditches 12978, 12979 and 12980, and showed potential for further excavations to the east. The enclosure lay some 38 m from *Farmstead B* and may be associated with possible local occupation suggested by curving fenceline or fenced field enclosure 12975 to the north-east.

Landholding 6 (LH6)

A substantial enclosure group, 13123 and 13124, dominates *LH6* and covers an area of about 7.6 ha (Fig. 4.16A). Comprising 16 cells or land units of varying size with a general alignment of ENE and WSW, the group is likely to have extended in all directions with each enclosure different in area and form. The smallest was 1144 m² and the largest 7570 m². Some were large, enclosed on all sides with signs of segmentation and re-establishment, while others created a ladder-like formation with much smaller enclosed areas, suggesting that the group evolved in an organic manner, rather than as the result of a single 'enclosure event'. There was some evidence for entranceways, and others may have been obscured by phases of segmentation. The size of the larger enclosures may indicate mixed farming practices. There was some suggestion for trackways or droveways, particularly towards the northern extents of the landholding. These appear to have been associated with the smaller fields, with no defined zones of movement around the larger cells of the enclosure systems.

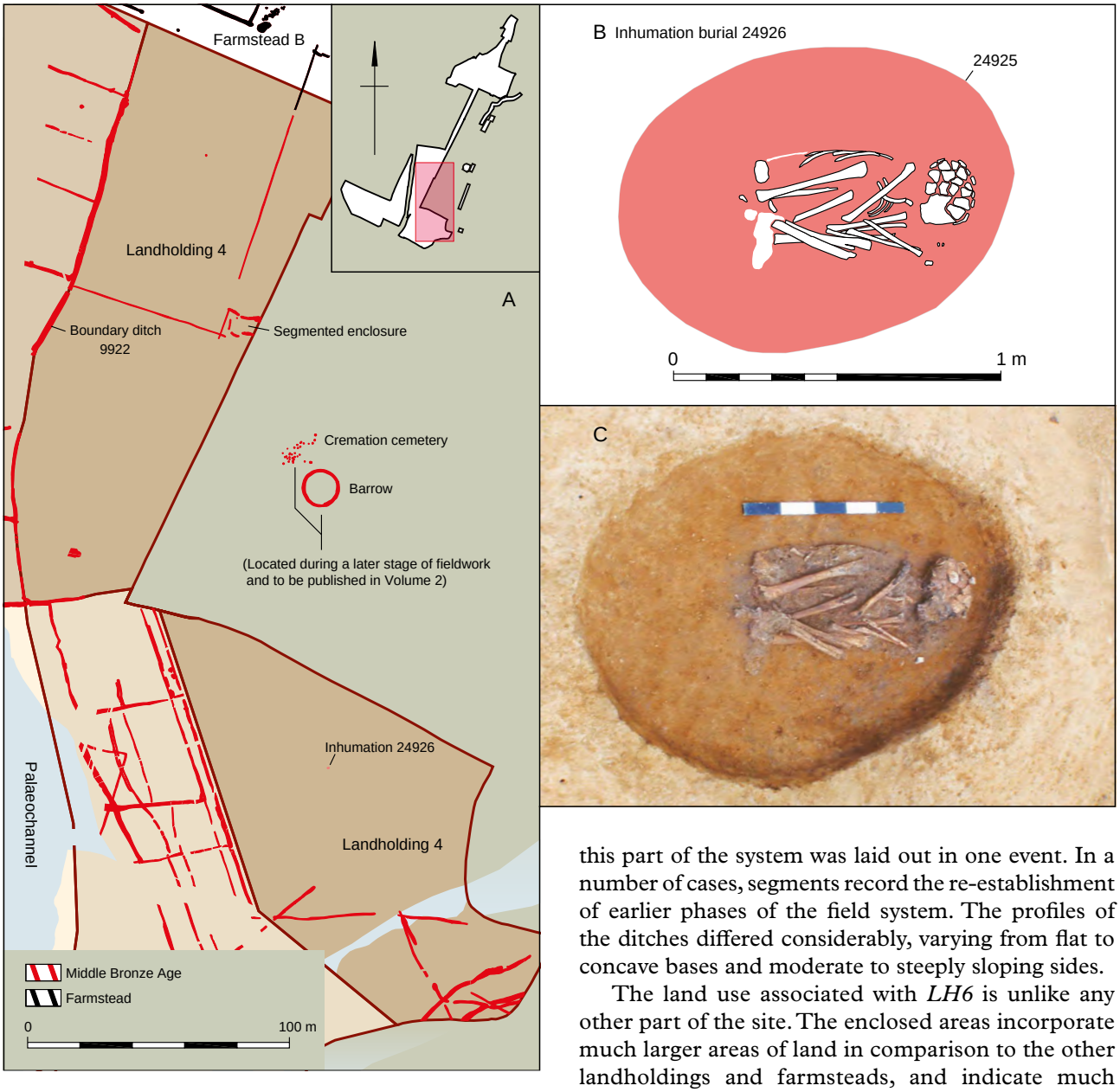


Figure 4.14 Middle Bronze Age Landholding 4 with (inset) inhumation 24926

Although the landholding is poorly dated, it is stratigraphically possible to suggest that the beginnings of the field system in this area originated in the north-west part of the site with limited development. This then expanded across a much wider area immediately to the west, and incorporated a number of larger enclosures. This development included northern parts of the field system, 12694, 12664 and 12727, which form a tight area of ditches with associated trackways and may suggest that this area of the landscape incorporated the movement of animals from one area to another. The ditches were close together and although not quite at right angles to the southern part of the system, they appear to be contemporary. Many of the ditches are of substantial length and show no signs of recutting or segmentation, suggesting that this part of the system was laid out in one event. In a number of cases, segments record the re-establishment of earlier phases of the field system. The profiles of the ditches differed considerably, varying from flat to concave bases and moderate to steeply sloping sides.

The land use associated with *LH6* is unlike any other part of the site. The enclosed areas incorporate much larger areas of land in comparison to the other landholdings and farmsteads, and indicate much more extensive use of land for agricultural purposes. The nature of the activity is uncertain, whether for growing crops or for rearing livestock. Indeed, the lack of water sources in the form of waterholes and wells is distinctly noticeable, suggesting that livestock were not involved in the agricultural practices within the area. In some places the very segmented nature of some parts of the system does indicate longevity and continuity. In many others, however, the ditches were allowed to silt up, and with no indication of cleaning or redefining of the features, this may suggest that the lifespan of the field system was quite limited, possibly to a few hundred years. There is also some evidence to suggest that the use of different parts of the system changed over time, with entranceways and access points to enclosures closed off at later stages.

The discovery of a human skull with associated sheep mandible in the base of enclosure ditch 12709 at the southern edge of the landholding may

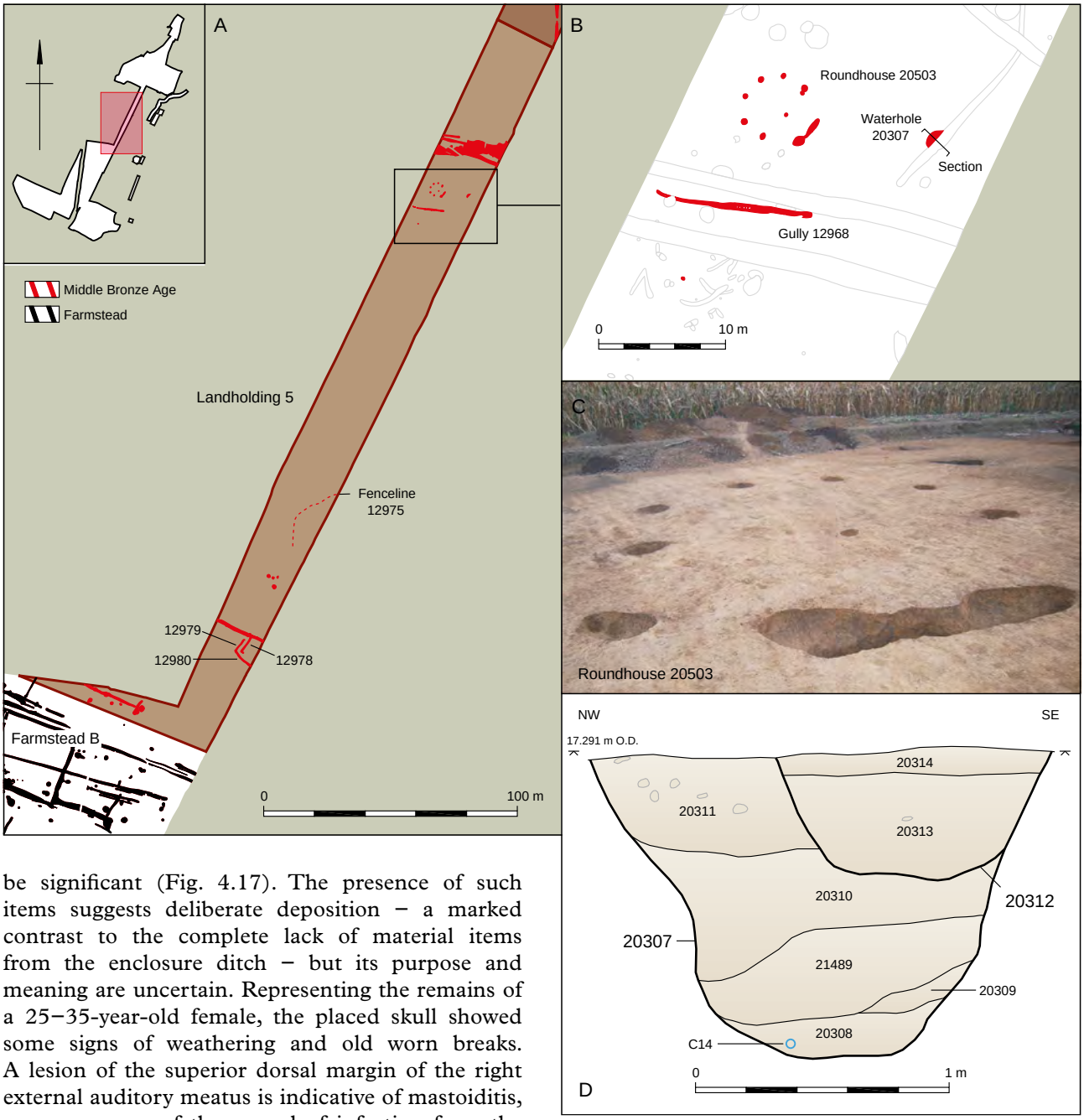


Figure 4.15 A: Middle Bronze Age Landholding 5; B–C: roundhouse 20503; D: waterhole 20307

be significant (Fig. 4.17). The presence of such items suggests deliberate deposition – a marked contrast to the complete lack of material items from the enclosure ditch – but its purpose and meaning are uncertain. Representing the remains of a 25–35-year-old female, the placed skull showed some signs of weathering and old worn breaks. A lesion of the superior dorsal margin of the right external auditory meatus is indicative of mastoiditis, a consequence of the spread of infection from the middle ear. Further pathological changes in the skull were noted in the rhino-maxillary area, resulting in the rounding and widening of the nasal aperture. Such symptoms are characteristic features of leprosy or facial skin/soft tissue tuberculosis (see McKinley, Appendix 5). The poor condition of the bone, however, does not allow for further confirmation. In either case, the recorded presence of the diseases within Middle Bronze Age contexts would represent the earliest known occurrence of the conditions, and as such are of major importance. The placing of the skull is significant. Its location within the base of an enclosure ditch presents many questions. The adult female would have been severely facially disfigured, and as a result, would have been a distinctive figure within her community. This may suggest the reasons why her skull was subjected to this form of mortuary treatment. Redeposited human bone from two other Middle Bronze Age contexts lay at the southern extent of the site 800 m away. The material could derive from the same individual and it is also possible – although unlikely – that the female skull (see McKinley, Appendix 5) could also belong to this individual.

Middle Bronze Age Settlement

Settlement evidence at Horton within the Middle Bronze Age is defined by structural elements, as well

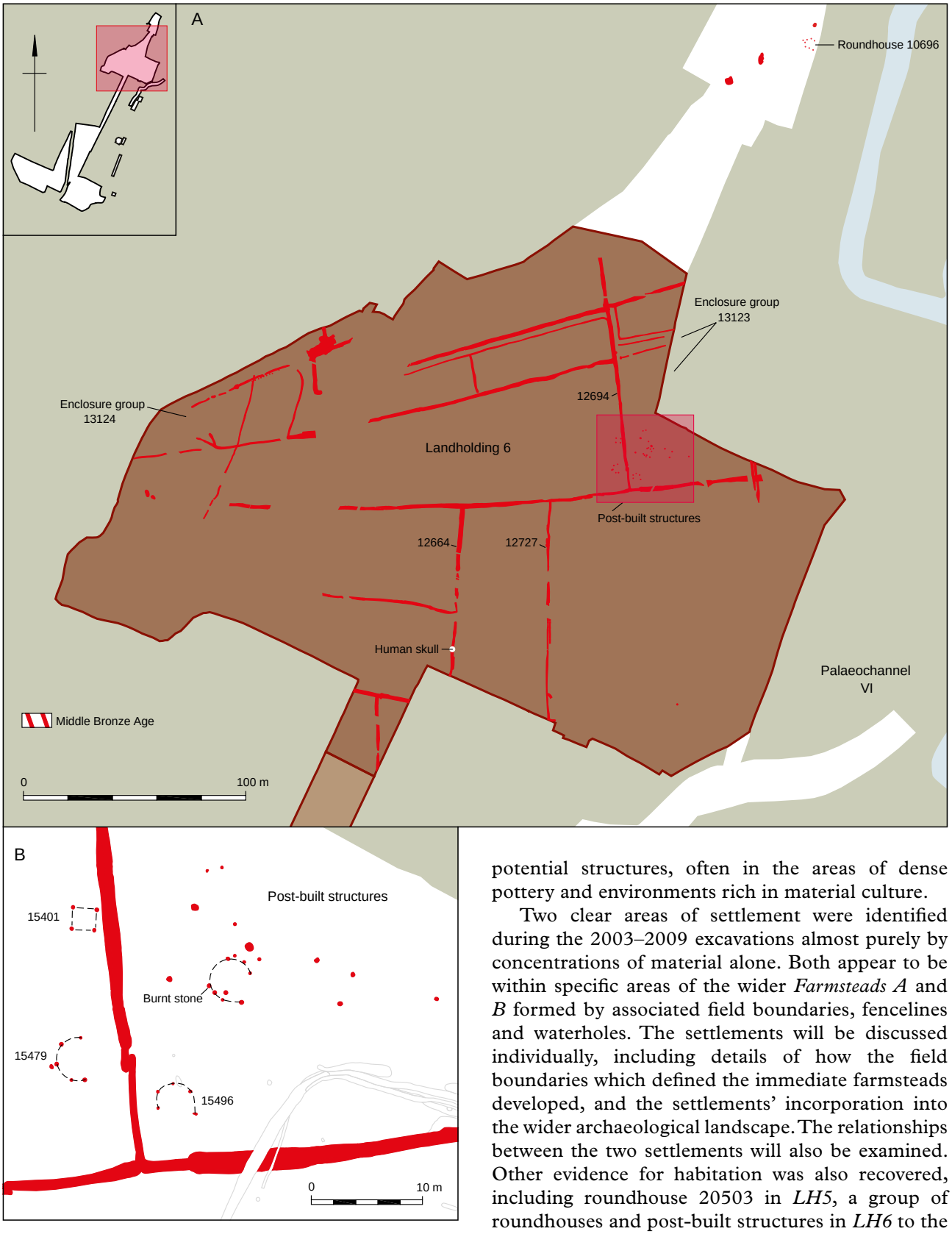


Figure 4.16 A: Middle Bronze Age Landholding 6; B: post-built structures

as by concentrations of artefacts. Structural evidence is present in a few clearly defined examples, while other areas of posthole groups may indicate further potential structures, often in the areas of dense pottery and environments rich in material culture.

Two clear areas of settlement were identified during the 2003–2009 excavations almost purely by concentrations of material alone. Both appear to be within specific areas of the wider *Farmsteads A* and *B* formed by associated field boundaries, fencelines and waterholes. The settlements will be discussed individually, including details of how the field boundaries which defined the immediate farmsteads developed, and the settlements' incorporation into the wider archaeological landscape. The relationships between the two settlements will also be examined. Other evidence for habitation was also recovered, including roundhouse 20503 in *LH5*, a group of roundhouses and post-built structures in *LH6* to the south of enclosure group 13123, and roundhouse 10696 at the extreme northern limit of *LH6*. The excavations of 2010–2015 also identified two further areas of settlement – *Settlement C* located to the west of the *Conveyor* line in *LH5* and *Settlement D* situated in the north-west of *LH6* to the north, and

Figure 4.17 Human skull from ditch 12709

a continuation of enclosure group 13124. These will be fully discussed in Volume 2.

The chronologies of *Farmsteads A* and *B* have proved very difficult to determine. Similar pottery and spatial analysis of ditches could suggest they are broadly contemporary. Although each area of field system and farmstead foci shows its own individual stratigraphic relationships and chronology, there are no direct links to suggest how the landscape developed during the Middle Bronze Age. Pottery analysis can help to a certain degree – indeed it helped in identifying the two likely areas of settlement – as can other artefactual evidence such as the location of quernstone fragments and other 'domestic' items. The chronology of the settlements within the farmsteads is also problematic. While the presence of clusters of postholes suggests structures, only a few can be identified with any degree of certainty. And when they do occur within the farmsteads, there are few or no stratigraphic relationships or artefactual evidence to ascertain how they relate to different phases of the landscape development.

The small settlements display a clear range of domestic and agricultural activities associated with one or two major structures and a range of ancillary structures in their immediate vicinity, and as such are comparable to examples excavated in the wider archaeological landscape. Work at Imperial College Sports Ground, some 6 km to the north-east of the site, identified Middle Bronze Age settlements that were *open*, insofar as the term applies within a wholly enclosed landscape. Similar to Horton, there is no indication as to whether the layout of the field system was determined or influenced by the presence of pre-existing settlement foci (Powell *et al.* 2015). Middle Bronze Age settlements at Heathrow Terminal 5 showed a similar pattern, where none of the six settlements appeared to coincide with concentrations of earlier material, which could suggest continuation or reoccupation of earlier settlement sites (Leivers 2010).

Pottery

by Grace Jones

An extensive range of Middle Bronze Age pottery was recovered from a variety of depositional contexts across the site (Fig. 4.18). The majority of the evidence came from *Farmstead A*, although concentrations were also recovered from *Farmstead B* and *LH3, LH4*, *LH5* and *LH6* (Fig. 4.8B). Twenty-two fabrics of Middle Bronze Age date were recorded, with the fabrics being predominantly flint-tempered, with a small number of flint-and-grog-tempered wares also present. All fabrics have a micaceous silty clay matrix, with the micaceous sand being naturally present in the clay. Six of the fabrics could be classed as finewares – mainly used for thinner-walled vessels – while the remaining fabrics are coarsewares. These contained moderate to substantial amounts of calcined flint fragments. The coarsewares were normally associated with bucket-shaped and neutral profile vessels, but were also used for at least four globular forms.

Various forms were recorded within the assemblage, with the most commonly occurring being bucket-shaped vessels/jars (32 vessels), followed by globular forms (24 vessels). As none of the pottery was associated with evidence of funerary activity, the term 'urn' has not been used to describe the Deverel-Rimbury forms, in order to avoid attaching a functional meaning to a vessel (Gibson 2002, 145). A small number of vessels with open or neutral profiles were also present, including a decorated fineware bowl.

Bucket-shaped vessels varied in form and size, with some decorated with applied cordons bearing fingertip impressions. Examples of applied ledge-like lugs and miniature bucket-shaped vessels were also recovered. Globular vessels were mainly represented by plain, undifferentiated rims.

Farmstead A

Enclosure development

The location of the farmstead coincides with a degree of previous occupation within the southern extents of the site. A series of Late Neolithic pits

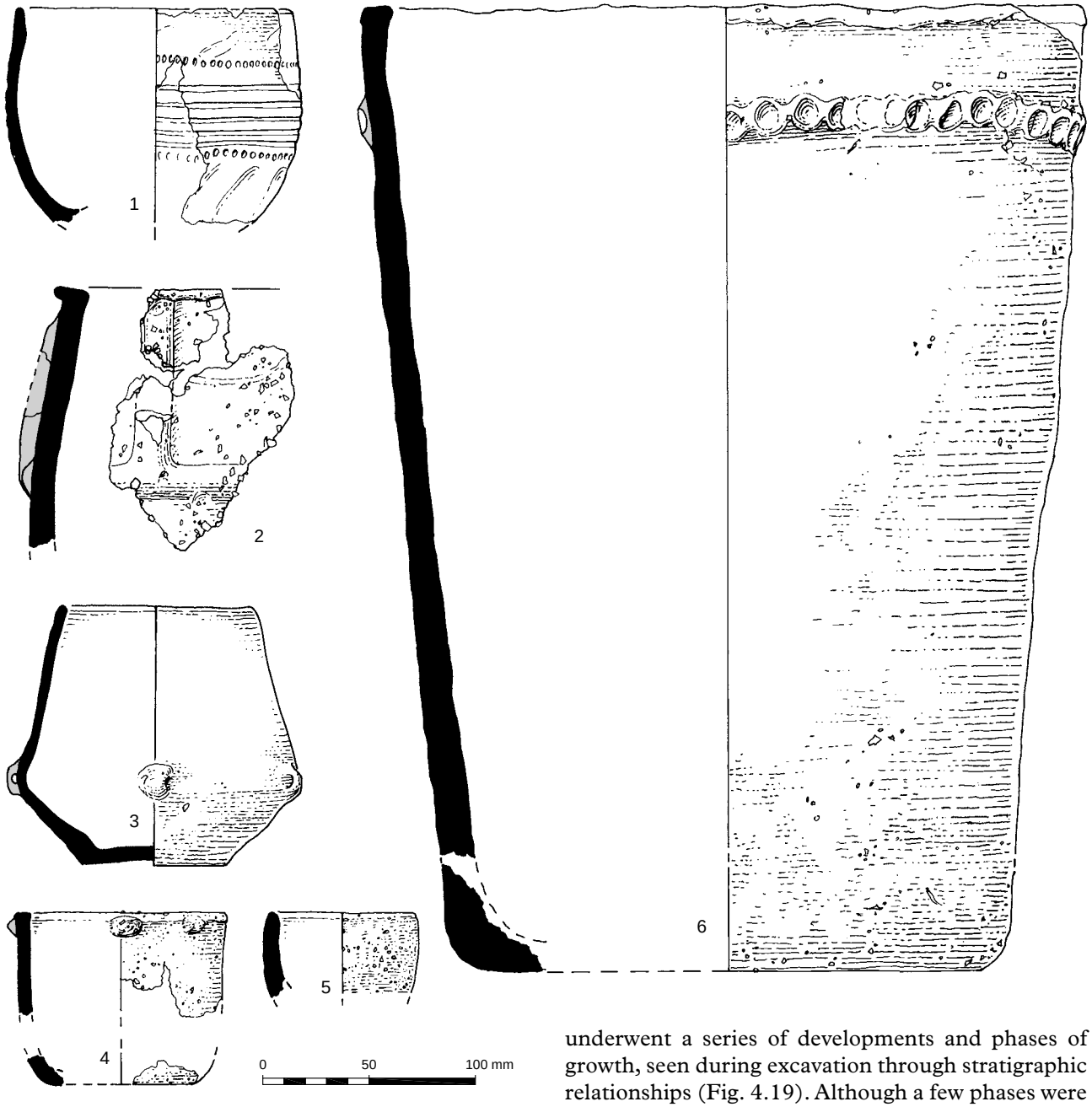


Figure 4.18 Deverel Rimbury vessel types

containing Grooved Ware pottery (see Chapter 3) and the presence of a single, special Early–Middle Bronze Age pit (Fig. 4.4) gives clear indication that the landscape was utilised to a certain degree during the periods prior to the Middle Bronze Age. *Farmstead A* represents a significant change to the society and economy within the communities that settled at Horton. The systematic tree clearance and subsequent laying down of regularly shaped and aligned field boundaries is in marked contrast to that of the Neolithic and Early Bronze Age landscape. By formally dividing and organising the land, the communities were able to exploit the landscape during this period of substantial change and transformation. There is evidence to suggest that the farmstead underwent a series of developments and phases of growth, seen during excavation through stratigraphic relationships (Fig. 4.19). Although a few phases were noted, two major periods of development dominate the farmstead and will be discussed below. Associated features and structural elements were represented in each period, although in some cases it is not possible to know at what stage certain isolated features were created within the wider lifespan of the farmstead.

There was no evidence recorded in any of the enclosures to suggest the presence of banks associated with boundary ditches, although it is likely that hedgerows and associated banks were present within the structure of the farmstead, most likely to provide more substantial barriers to contain livestock. Excavations at Heathrow have provided environmental evidence to suggest the presence of hedgerows, formed by selective clearance, natural colonisation of species or active planting of specific appropriate and available shrub species (Lewis *et al.* 2006, 102). The data at

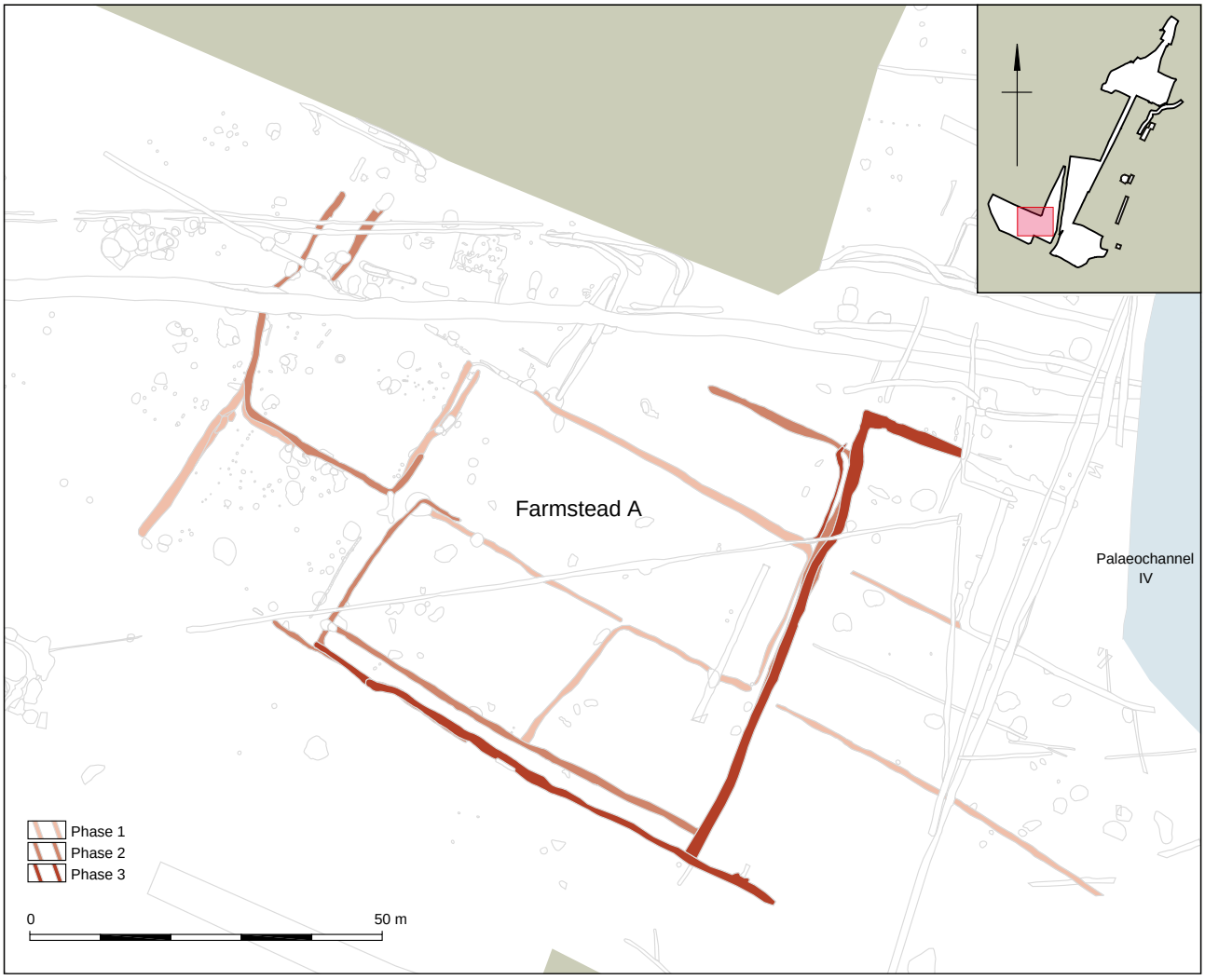


Figure 4.19 Farmstead A – phased plan

Horton indicate a presence of scrub, probably some woodland, and small stands of trees in the vicinity but not any sort of formalised hedgerows.

Radiocarbon dates indicate that activity started at *Farmstead A* around *1510–1300 cal BC*, and ended around *1400–1210 cal BC* (see Appendix 6). Combined with artefactual evidence, it suggests that the lifespan of the farmstead was limited to perhaps a few hundred years. Within this time, evidence suggests that the community did not grow above one or two families, building domestic dwellings, waterholes and a range of enclosures to rear their livestock. Over time, there is little growth or change in the scale of the farmstead. The enclosures are developed, and trackways and fencelines are incorporated, although there is little evidence for the rebuilding of roundhouses or the addition of new structures. The insect evidence from the waterholes with the farmstead indicates a presence of dung and consequently large, grazing animals (see Smith, Appendix 2). The insects, molluscs (see Smith and see Wyles, Appendix 2) and plant macrofossils (see Pelling, Appendix 1) indicate an essentially open landscape of grazed grassland, with bare patches consistent with trampling by animals and/or humans and some control over grazing. The presence of cereal processing waste is attested by the charred plant remains in the waterholes (see Pelling, Appendix 1). It is possible, therefore, that both stock control and cereal cultivation were taking place within the enclosure system.

Phase 1 enclosure system

A basic rectilinear system comprising five separate field enclosures (possibly paddocks) of varying size and form appears to have been the first major phase of development within the farmstead (Fig. 4.20). *Enclosures A1–A2* (not separated until *Phase 2*), *A3*, *A4* and *A5* all appear to have been contemporary – showing characteristics of a regular ESE to WNW alignment, comprising straight-sided rectangular fields defined by ditches up to 1.20 m wide and generally 0.50 m deep and enclosing an area of 4650 m². It is likely that the enclosures were laid down in a single event following a period of tree clearance. Indeed, 20 tree-throw holes within the locale of the farmstead are seen to be cut by the later ditches, suggesting

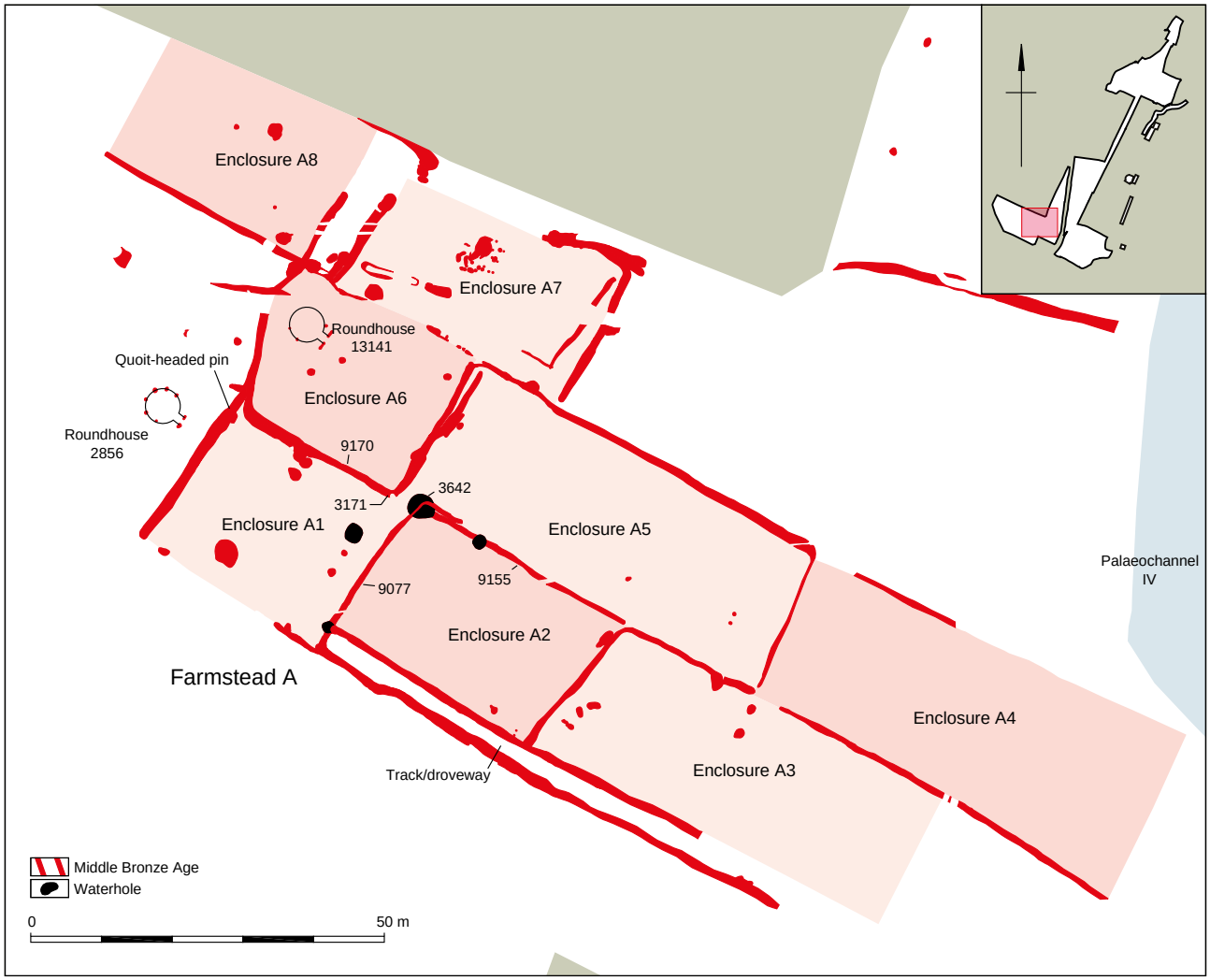


Figure 4.20 Farmstead A – enclosures and roundhouses

systematic and organised tree clearance. Some enclosures, such as *A1*, *A2* and *A3*, do not originally appear to have southern boundaries; *A4* does not have an eastern boundary, while *Enclosure A5* is completely enclosed. Although regular in form, the size/areas of the enclosures show considerable variation, with *A5* representing the largest with an area of 1645 m². Some of the enclosures have entranceways and access into them, with such features always in the corners, possibly for stock control. The main settlement focus is restricted to the western extent of the early farmstead, with clear indications as to areas of human activity and consequently, areas for agricultural activity. Only a single waterhole, 3642, appears to be associated with the initial phase of the farmstead. Despite cutting ditch 9155, the southern boundary of *Enclosure A5*, the feature was likely to have had an important role within the day-to-day running of the farm, both for humans and animals (see *Waterholes* below).

Phase 2 enclosure system

Many of the aspects of the second phase of enclosure development can be seen as later modifications of the earlier system (Fig. 4.19), although the phase also represents a period of expansion to both the north and the south, increasing the enclosed area to a total of 7920 m². The original layout of the farmstead was broadly retained, including ditch alignment and enclosure size. Although changes appear to be slight, the development of the farmstead in certain locations shows clear improvement on the previously used landscape. *Enclosures A1* and *A2* now become separated by boundary ditch 9077 to form two smaller stock enclosures, while ditch 9170 closes an access point to enclosures *A1* and *A6*, changing the focus of the settlement area to *A6* and newly made roundhouse 13141 (see below). A trackway located at the north of the farm was installed, leading directly to the domestic setting, although no further details are known of its actual course, which has been lost in an earlier phase of extraction (Oxford Archaeological Associates 1990). There appears to be a greater emphasis on livestock within the economy of the settlement, albeit on a very localised scale, and more effort is placed on their movement around the landscape. A possible ditched track or droveway at the

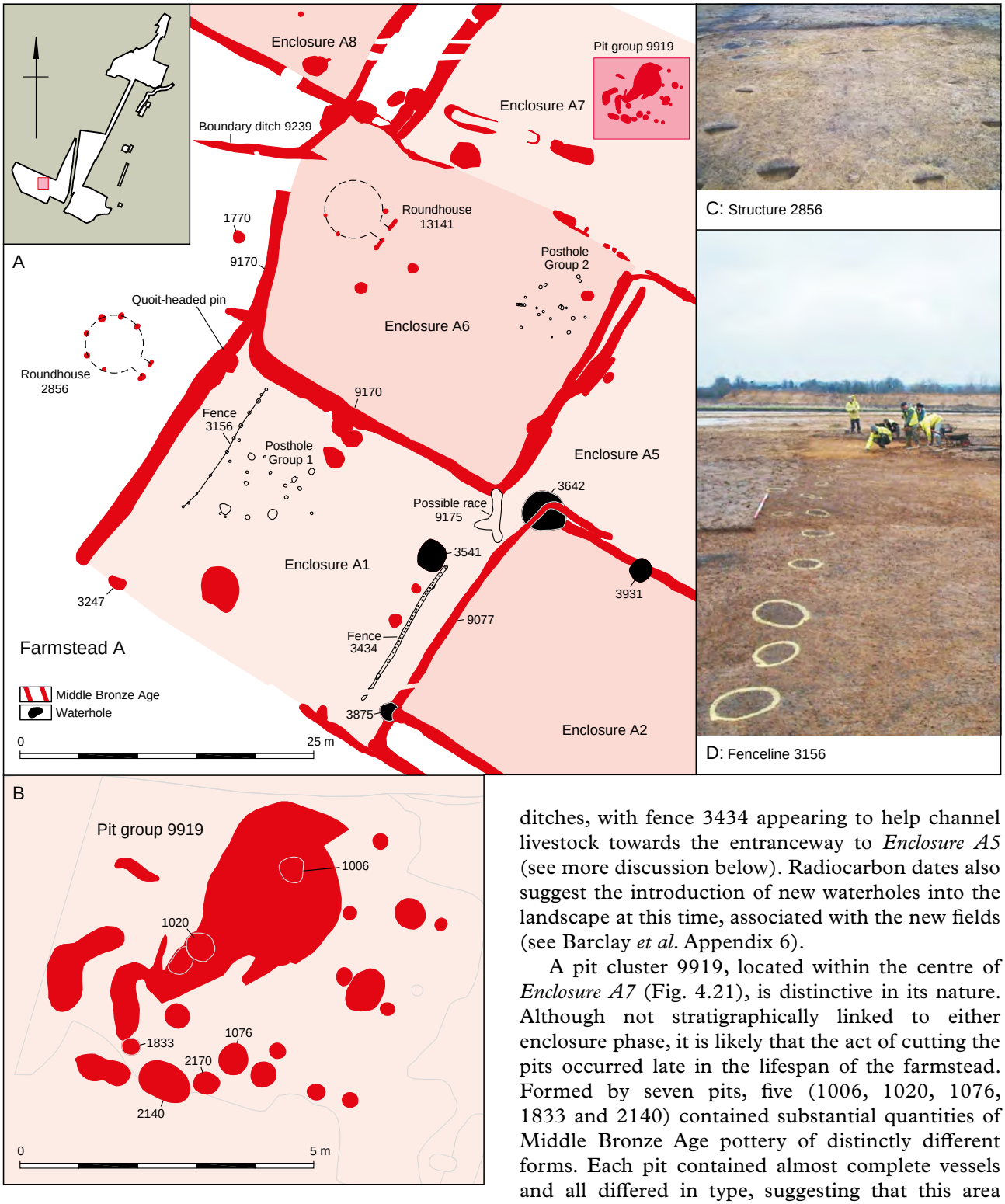


Figure 4.21 Farmstead A – fences, post clusters and waterholes

southern extent of the farmstead was developed, 2.80 m wide, creating a southern boundary to enclosures *A2* and *A3* (Fig. 4.20). The introduction of a defined zone to facilitate the movement of livestock, perhaps selected animals, around the edge of the farm and negotiation of the enclosed spaces is also reflected by the introduction of fencelines within *Enclosure A1* (Fig. 4.21). Both were aligned parallel to the enclosure ditches, with fence 3434 appearing to help channel livestock towards the entranceway to *Enclosure A5* (see more discussion below). Radiocarbon dates also suggest the introduction of new waterholes into the landscape at this time, associated with the new fields (see Barclay *et al.* Appendix 6).

A pit cluster 9919, located within the centre of *Enclosure A7* (Fig. 4.21), is distinctive in its nature. Although not stratigraphically linked to either enclosure phase, it is likely that the act of cutting the pits occurred late in the lifespan of the farmstead. Formed by seven pits, five (1006, 1020, 1076, 1833 and 2140) contained substantial quantities of Middle Bronze Age pottery of distinctly different forms. Each pit contained almost complete vessels and all differed in type, suggesting that this area was subject to repeated deposition of significance and reverence. Pits which did not contain pottery yielded other domestic waste such as burnt flint and animal bone (including burnt animal bone). Pit 1006 contained a near complete fineware bucket-shaped jar (ON 700), and featured abrasion on its interior. It is possible that such abrasion was the result of use, stirring or a reaction to its contents (see Jones and Barclay, Appendix 3). Pit feature 1020 contained 137 sherds from a biconical vessel (ON 701) which

featured an applied cordon decorated with fingertip/nail impressions. A single broken flint scraper was also recovered from the fill of the vessel. Further evidence was recovered from pit 1076, within which characteristic Globular Urn fragments were found within the same fills as two quartz pebbles that may have been used as hammerstones (see Hayward and Valdez-Tullett, Appendix 3). Pits 2140 and 1833 both contained sherds of fineware bucket-shaped vessels. Other pits within the group contained a variety of deliberate depositions, including a polishing stone in pit 2170. A number of other pits and postholes were also located within the immediate vicinity and may be contemporaneous. Such repeated acts of specific and striking deposition within a limited area may hold greater connotations when considering the farmstead as a whole. The positioning of the group within the centre of the enclosure is also interesting and may hold further significance. Animal burials were positioned around the western and southern perimeters of the space (see below), further exhibiting the importance of this enclosure/area. Unfortunately, earlier phases of gravel extraction have already removed further evidence immediately to the north.

Structural evidence

The possible structural elements within the farmstead are defined by concentrations of postholes, some of which have clear circular ground plans that can be interpreted as domestic dwellings. Middle Bronze Age pottery was present in a small percentage of the features, but their location in among the field systems and associated features of a similar date help to suggest a phase of settlement within the farmstead. Immediately to the west of part of the *Phase 1* enclosure system (3.8 m) lay a well-defined post-built roundhouse 2856 (Fig. 4.21). Six postholes form a semi-circular shape with a diameter of 4.12 m, and were 0.30–0.55 m in diameter (average 0.43 m) and 0.04–0.12 m deep (average 0.07 m). It is likely that a further two postholes would have completed the front of the structure, but these may have been lost by truncation, given the shallow nature of those towards the edges of the semi-circle. The postholes were spaced 1.61–1.91 m apart (from centre to centre), with no evidence for internal posts or features. A further three postholes set slightly apart to the east at the presumed entranceway to the structure may suggest the presence of a porch-like feature. Alternatively the semi-circle of postholes was part of an internal ring with the entranceway postholes actually marking the outer line of the roundhouse, 7.5 m in diameter. The entrance postholes, with an average diameter of 0.42 m and average depth of 0.06 m, were spaced 1.32 m apart (centre to centre), and one, a later posthole seen on the southern edge of the 'entranceway', may represent a repair. Possible posthole features to the north-east may also be related to the structure, and two tree-throw holes on the western side of the building may be contemporary. A single sherd of pottery, as well as burnt flint, was recovered from one of the postholes and provided the only datable evidence.

A slightly less clear example was situated 18 m to the north-east of roundhouse 2856, where possible roundhouse 13141, formed by only three well-defined postholes (the lack of postholes mainly due to heavy truncation by the large boundary ditch 9239 of Late Bronze Age date), was identified (Fig. 4.21). Despite the lack of structural postholes, the presence of two possible beam slots on the south-east side may point towards a defined entranceway into the structure. Seen as external linear features, the two slots would have created a 3.12 m façade, flanking a 0.86 m-wide entranceway. Four of the features contained fragments of Middle Bronze Age pottery. Although the chronology of the structure is unclear within the farmstead, and despite no stratigraphic relationships, its phasing within the landscape can be suggested by its relationship with enclosure ditch 9170, about 3 m to the west. Representing a recut of an earlier phase of the farmstead system (part of *Phase 2*), the ditch is seen to physically avoid the house, which was presumably already in place within the landscape. The three postholes would have formed a roundhouse of approximately 4.10 m in diameter, although if the façade of the entranceway marked the outer line of the structure it would have had a diameter in the region of 7.5 m.

Despite the slight differences in the construction of their entranceways, the two roundhouses show many similarities. Both structures are of identical size with south-east-facing entrances. However, roundhouse 2856 was constructed 'outside' and not enclosed by the farmstead field system. It was therefore kept separate from the agricultural practices that occurred immediately to the east. Although there is no artefactual or stratigraphic information to identify chronology or generational development – the pottery can only be seen as 'Middle Bronze Age' – it is possible that this structure represents the initial phase of settlement, associated with *Phase 1* of development. Then perhaps a generation or two later, or indeed at the end of the life of the roundhouse, another structure (13141) was constructed. This phase would have preceded the second phase of landscape development as the farmstead grew.

Two clear fencelines were seen to run NNE–SSW within the south-western-most field *Enclosure A1*, defined by a linear arrangement of stakeholes. Although both were undated, it is clear from their position that they were an integral part of the Middle Bronze Age *Farmstead A*. Both were aligned parallel to the enclosure ditches, and differed in construction. Fenceline 3156 was seen 3.70 m to the east of the western edge of *Enclosure A1*, and although largely

straight, had a slightly sinuous alignment, possibly as the result of episodes of reinstatement and repair over a period of time. Formed by a line of 19 postholes, the average diameter was 0.24 m and depth 0.10 m. The second alignment, fenceline 3434, was parallel with enclosure ditch 9077, set within a gully, and was associated with a number of other features. Formed by 28 stakeholes approximately 0.21 m apart, it is likely that the gully and the deliberate backfill would have supported a wattle fence. Fenceline 3434 is closely associated with the postholes and pits in the immediate area and seems to form some sort of internal boundary within the Middle Bronze Age enclosure. The fence is a possible eastern boundary of the enclosure, which was otherwise defined by a ditch and probably a hedge.

These may have been associated with the *Phase 2* enclosure system, with fenceline 3434 together with ditch 9077 acting as a 2.5 m-wide droveway, leading livestock northwards, through a possible 'race', into another enclosure to the north-east (Fig. 4.21). Pryor, through his work at Fengate as well as his personal experience of farming sheep, has suggested that handling systems involving drafting gates and 'races' were used to funnel livestock, often in very large flock sizes, through paddocks – 'not arable fields' – and that they were used to keep animals apart from other animals and overgrazed pasture rather than from crops (Pryor 1998, 105). Similar use of gateways and races for the management of livestock was suggested at Heathrow (Lewis *et al.* 2006, 153), where long trackways were interrupted with gateways. It was noted that many of the fields had entrances at their corners to take advantage of the funnelling effect of two hedgerows, and that much of the land at Heathrow in the 2nd millennium BC was developed to facilitate animal husbandry.

Pryor (1998) has also suggested the presence of 'community stockyards' where major gatherings of people and animals occurred at the beginning/ end of the dryland phase of grazing, as well as 'farm stockyards', which would serve single farms. The evidence seen in *Farmstead A* at Horton would certainly fit with this model, with animal management on a small scale, associated with a single community.

Loosely defined clusters of postholes, spread over an area of approximately 1300 m² within the locale of the settlement area, formed no obvious structural elements but may represent additional buildings and structures associated with agricultural activities of the farmstead (Fig. 4.21). Immediately to the south-east of fenceline 3156, it is possible to draw several different iterations of structures within *Posthole Group 1*, but the lack of a defined entranceway and the absence of postholes on the south-eastern side may suggest a function other than something structural. None of the features contained artefactual evidence. *Posthole Group 2* is also constituted by a dense cluster of features which may have had a structural function, although this is unclear. Consisting of 20 postholes of roughly similar shape, size and depth within an area of about 42 m², it may be possible to draw arcs through five of them, although with a degree of uncertainty. Although no discernible structural elements can be seen within the cluster, its specifically confined location within the settlement area suggests that they held some important function. None contained finds.

The true location of the Middle Bronze Age settlement activity in *Farmstead A* is probably more accurately seen through the distribution of pottery, and particularly by the presence of diagnostic forms associated with settlement, namely Bucket Urn and Globular Urn fragments (Fig. 4.22). The distribution of such pottery clearly shows a domestic area on the western side of the farmstead, and this density is mirrored in the higher percentage of postholes and waterholes. The artefactual evidence suggests a confined area of inhabitation in an area of 78 x 73 m (5451 m²), and as such is slightly smaller in size than *Farmstead B* (although any extension to the north is not known because of previous phases of gravel extraction). Fragments of Late Bronze Age pottery can be seen across the settlement area in no discernible pattern and may represent residual deposition associated with the large land divisions that later cut across the farmstead. There is no clear evidence to suggest that there was a continuation of inhabitation of the area into the later Bronze Age period, and as such, the farmstead appears to be reasonably limited in its lifespan, maybe even only the duration of a few generations.

Waterholes

Four waterholes can be attributed to *Farmstead A* (Fig. 4.21), and served the wider associated landscape. Pottery and radiocarbon dates suggest that the features were broadly contemporaneous, although stratigraphically there is evidence to suggest that one was associated with the *Phase 1* enclosure system and the others with the later, slightly expanded *Phase 2* enclosure. Excavations have shown that a large distribution of waterholes of two basic forms and profiles reflect different functions within the landscape – one type being steep or vertical sided, the second having a shallow ramped access on one side. Steep or vertical features would have required buckets or access through log ladders to obtain the water, or the need for the gravel-sided features to be revetted, either with wicker or wood, which would also have acted as a filter to obtain a clear pool of water. Such waterholes, common features within lowland fields, would have served to supply water for nearby settlements, meaning human use. In contrast, a number of ramped waterholes, often teardrop-shaped in plan, may have been used to allow easier access for livestock without

the assistance of people. On this basis, the waterholes associated with *Farmstead A* would suggest a wholly human use. All features had steep and sharp sides, with no provision for access by cattle. Similar evidence has been recorded during investigations nearby at Heathrow (Lewis *et al.* 2006). Environmental indicators recovered from the waterholes suggest that deposits within the features formed at variable rates. More concentrated deposits, such as charred material, appear to have occurred through occasional dumping episodes rather than consistent, regularly repeated activities (see Pelling, Appendix 1). Evidence also hints at an increase in the scale of cereal production, although it is difficult to suggest with any clarity the extent to which the fields around the settlement were used for arable production as opposed to/combined with stock management. Evidence provided by the presence of insects also suggests the presence of animal dung lying in the open, and therefore animals grazing in the vicinity of *Farmstead A* (see Smith, Appendix 2). Levels of artefacts within all four waterholes associated with the settlement would also suggest a degree of human interaction. No direct indicators such as log ladders were recovered, although a few of the waterholes contained some seemingly placed deposits (see below).

Waterhole 3642 (Fig. 4.23) represents a major feature within the early phases of *Farmstead A*, located centrally within the farmstead, to the east of the settlement area and to the west of the field enclosures. The feature, which measured 3.6 m x 2.83 m x 1.07 m, was located in the corner of three adjoining field enclosures (enclosures *A1*, *A2* and *A5*), associated with the *Phase 1* enclosure system, allowing access from most sides. Its position reflects its accessibility and importance within the day-to-day running of the farmstead, deliberately placed in terms of its location within the boundary and its positioning close to human inhabitation. The waterhole had steps cut into its edge on the south-eastern side, suggesting that the feature was used by humans as opposed to animals. Middle Bronze Age pottery was recovered from seven fills throughout the feature. These comprised of coarse body sherds with applied cordon decoration with fingertip and fingernail impressions, as well as several fragments of various globular vessels. Worked flint including scrapers, cores and debitage were also recovered. An incomplete point or gouge (ON 912), made from the tibia of a sheep or goat, was located within the lowest basal fill of the feature along with a polishing stone. Aquatic species indicative of the presence of standing water were present in the waterhole, including crowfoots, duckweed and stonewort, as well as pond-edge vegetation such as gypsywort, water-plantains or arrowheads, sedges and spikerush. It would appear that this particular feature contained

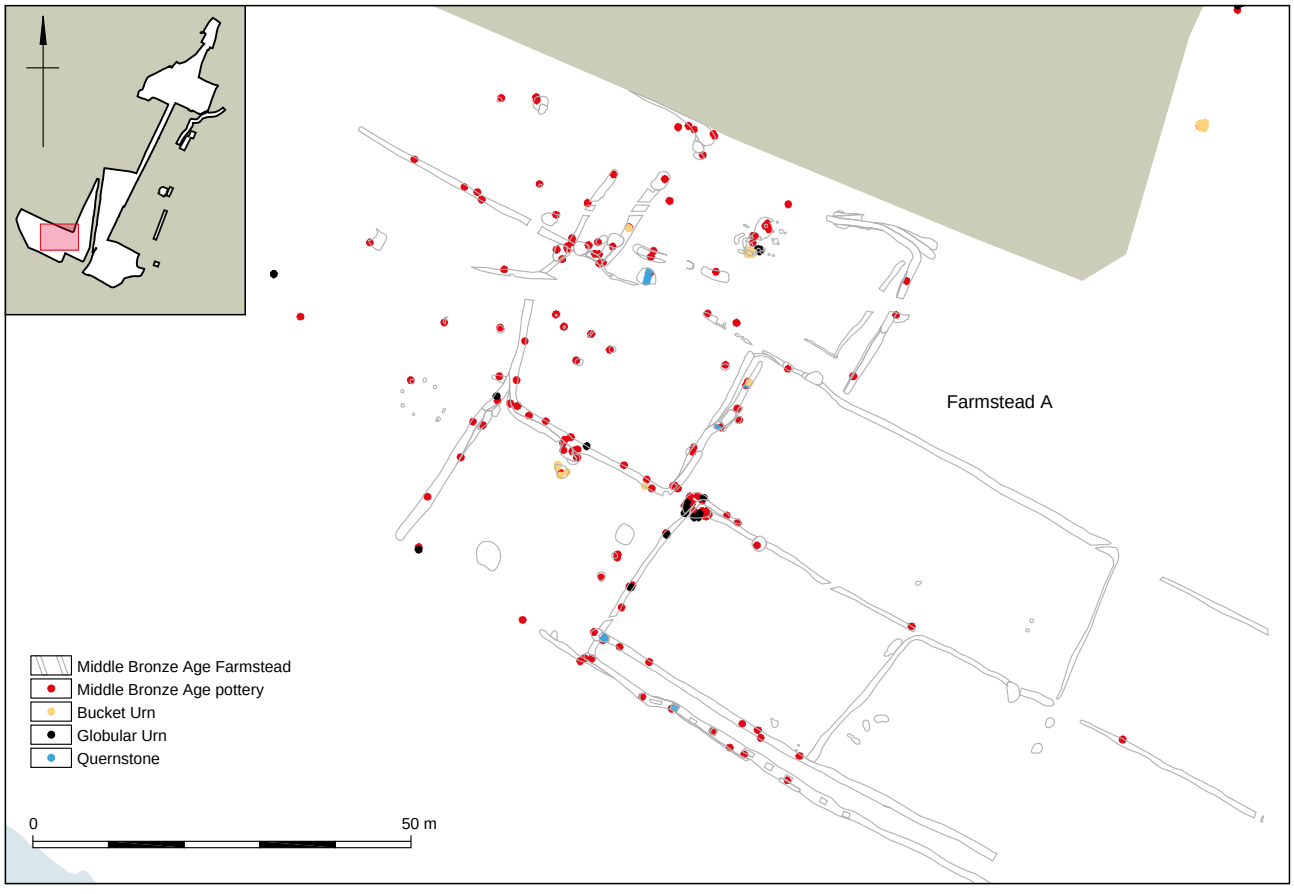


Figure 4.22 Farmstead A – distribution of pottery, Globular/Bucket Urn and quernstone

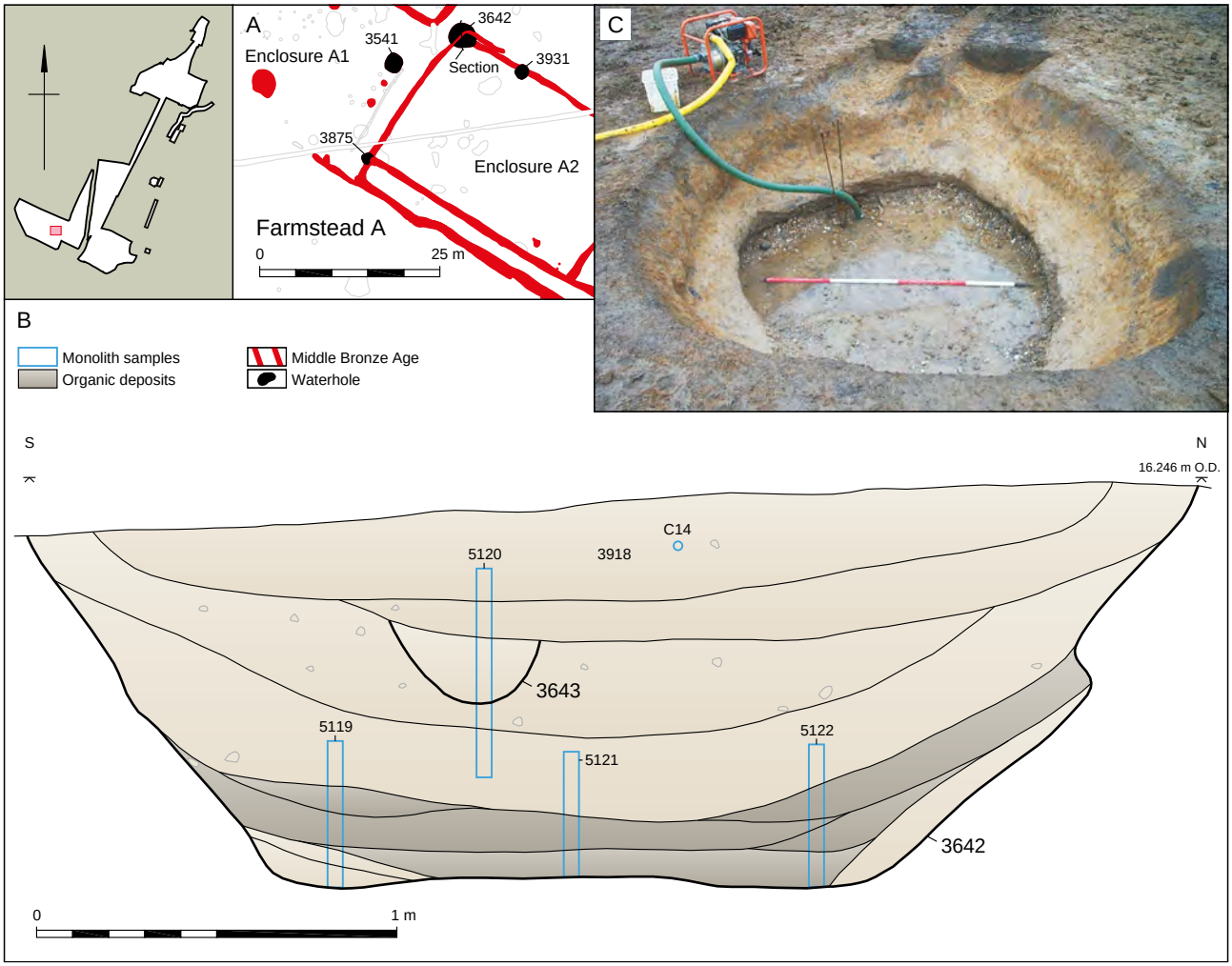


Figure 4.23 Waterhole 3642

shallow, presumably mineral-rich, standing water for sustained periods of time (see Pelling, Appendix 1). After a limited period of time, maybe 5–20 years, the waterhole silted up, possibly after going out of use. The sediment evidence confirms this presence of shallow, mineral-rich water and suggests that the waterhole filled slowly with occasional, additional input from overground flow after heavy rain or alluvial flooding episodes (see Chapter 2). After a substantial period of silting, a ditch (9077) associated with the second phase of enclosure systems cut the feature, indicating a slight change in land use around the settlement area. A radiocarbon date of 1450–1280 cal BC (NZA-33496, 3108±30 BP) was obtained from a charred barley grain taken from the upper fill of the ditch, and represents the final phase of the feature.

A second waterhole, feature 3541 (Fig. 4.24), was located 7 m to the south-west of waterhole 3642 and was possibly open at a similar time. Circular in shape (2.11 m diameter and 1.20 m deep), the feature contained a very complex depositional sequence of fills whereby a shallow organic-rich primary fill was succeeded by a sequence of dumped material and in-washed silt-loam deposits containing organic remains. The waterhole is located in the north-east corner of *Enclosure A1*, and lies immediately east of the northern end of fenceline 3434 – the two features may have been contemporaneous, although the fenceline does turn slightly eastwards at its northern end, which may suggest that it post-dates the waterhole. A highly humic lining, thought initially to be possibly derived from wattle although too degraded for identification, was recorded at the base of the feature. This humic layer in fact produced a particularly rich deposit of plant macrofossils (context 3786) and it is likely that this layer simply reflects a concentrated organic deposit. Pollen from this layer was dominated by hazel-type pollen (85.3%), including some present in clumps, consistent with the presence of catkins in the waterhole, presumably fallen from hazel shrubs surrounding the feature (see Grant, Appendix 2). There was no evidence of the need for revetment within the base of the feature, and excavation revealed that the base of the waterhole only just cut into the upper levels of the natural gravel. Deposits at the base of the cut contained highly preserved naturally formed organic material, as well as evidence for collapse events from

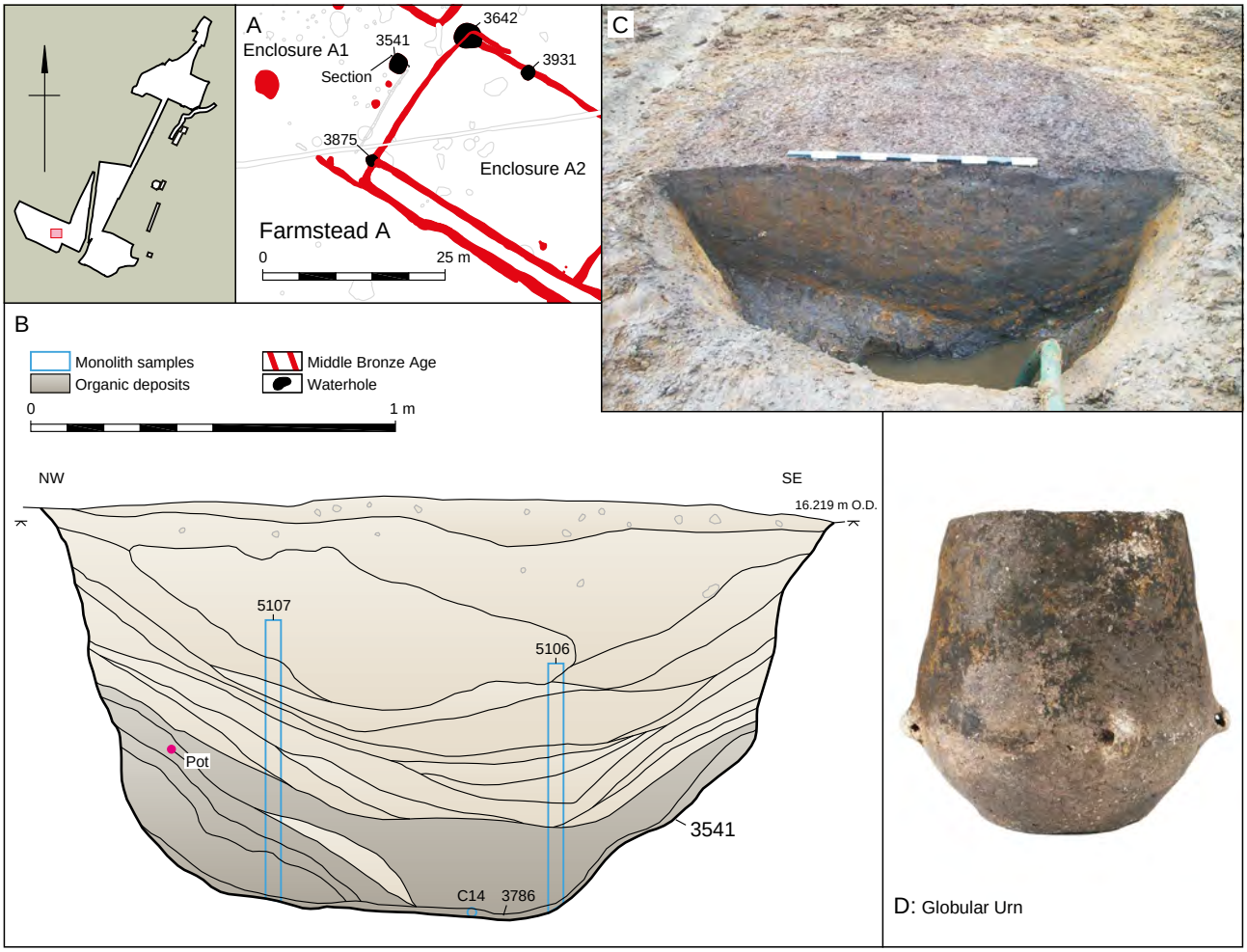


Figure 4.24 Waterhole 3541 with Globular Urn (D)

the edge of the cut, formed while the waterhole was still in use. Middle Bronze Age pottery was recovered from throughout the fills of the feature, with Middle/Late to Late Bronze Age sherds found from higher in the stratigraphic sequence, as well as worked flint, including a scraper.

A complete Globular Urn (ON 894) was recovered from the base of the waterhole, where it was presumably lost, or perhaps deliberately placed as a possible votive offering (a fragment of a similar vessel was recovered from possible well 3247 located in the south-western corner of the same enclosure, *A1*). It has a biconical profile and five equally spaced, horizontally perforated lugs, presumably for suspension, which defined the waist of the vessel. The base is worn, with sooting present above the waist but not below it. Such patterns of sooting are often explained by suggesting that the vessel was sat in a fire for cooking and not suspended above it; however, the lugs were presumably designed for suspension (see Jones and Barclay, Appendix 3). A radiocarbon date of 1510–1400 cal BC (NZA-33829, 3178±30 BP) was obtained from a small amount of burnt residue from the interior of the urn, which is slightly earlier than the date of 1410–1130 cal BC (NZA-33419, 3033±35 BP) taken from a charred emmer spikelet from layer 3786, the lowest fill of the waterhole. This may suggest that the urn was curated before finally being deposited, perhaps as a placed deposit or indeed to signify closure.

The sediments within this feature indicate periodic drying and stabilisation between periods of deposition (see Barnett *et al.*, Appendix 2). Shallow, stagnant water supporting pondweed and aquatic insects were at least periodically present, while organic waste including cereal processing waste and charcoal had clearly been periodically discarded in the waterhole. The feature appears to have been situated within a fairly open landscape supporting rough grassland, with some grazing and general disturbance by humans and animals. A range of insects associated with either pasture or animal dung lying in the field were prominent within the terrestrial fauna (see Smith, Appendix 2) – certain beetles indicate animal dung and grazing animals (Hansen 1987; Jessop 1986). A presence of plant-feeding species also suggests pasture, while others indicate heavily disturbed nitrogen-rich soils with bare patches of trampled ground in the immediate

vicinity of the feature. The pollen assemblage is generally consistent with a background of grasses and sedges derived from wet meadow-type habitats.

Potentially one of the latest waterholes within the settlement, feature 3931 (Fig. 4.25) (*Phase 3* or *4*), is represented by a circular cut of 1.86 m diameter and 1.16 m depth. Cutting through enclosure ditch 9155, the waterhole is clearly later than 3642, 6.70 m to the north-west, because of its stratigraphic relationship cutting the *Phase 1* enclosure system. Unlike the other features of this type associated with the settlement, this was not located within the corner of an enclosure, but was positioned some metres away, cutting through the later fills of the enclosure ditch. Access may have been more restricted, unlike those previously seen in the settlement. The profile was seen to be very steep, and in places undercut the near vertical edge. As such, it was probably restricted to human use only. The central shaft was almost oval in plan, cutting into the gravel, and contained within the waterhole was a remnant worked timber fragment 4045. A heavily damaged alder stake of which only the tip survived (0.58 m in length), the stake was shaped to a pencil point, of which two facets survived (see Barnett, Appendix 1). Limited amounts of Middle Bronze Age pottery were recovered from the fills of 3931 and were generally very abraded and fragmentary. The lower fills were waterlogged and there was good preservation of organic material. This waterhole may have been cut as a direct replacement for 3642 to the north-west or may have been contemporary but serving a separate function. A radiocarbon date on a charred emmer wheat spikelet from the base of the waterhole gave a date of 1400–1120 cal BC (NZA-33420, 3024±35 BP) and is similar to that from waterhole 3642 (see above).

Feature 3875 represents another example of a waterhole dug late within the enclosure sequence associated with *Farmstead A* (Fig. 4.26). Circular in shape (measuring 1.58 m in diameter, 0.96 m in depth), the edges of the cut were near vertical, then became heavily undercut before straightening to the base. A large quantity of redeposited natural was also noted throughout the fills of the cut as a result of side collapse. Located in the south-western corner of *Enclosure A2*, the feature is stratigraphically late in the lifespan of the farmstead, cutting the *Phase 2* enclosure ditch 9077. The waterhole was cut after the silting of the enclosure ditch, and was in turn cut by pit 3823,

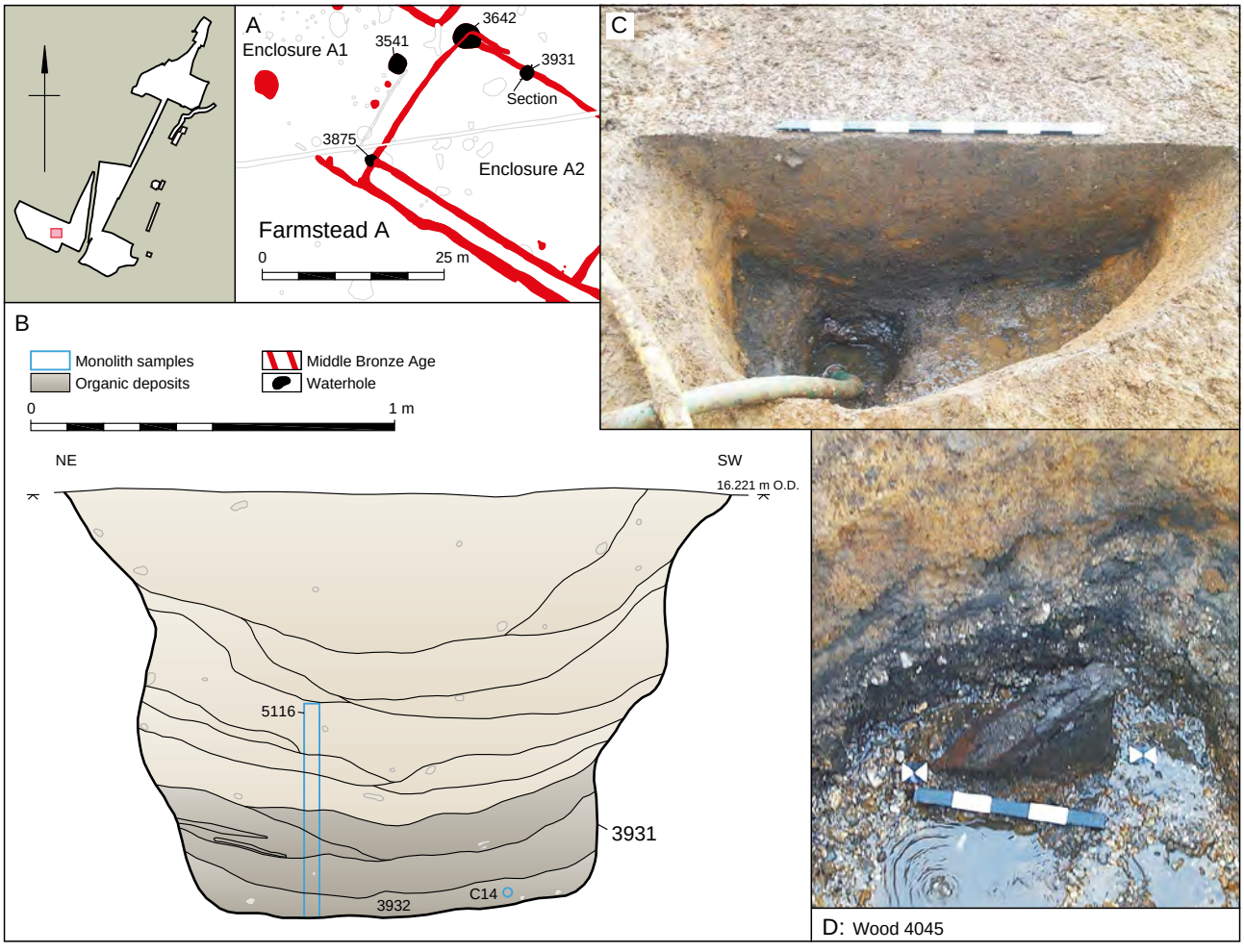


Figure 4.25 Waterhole 3931

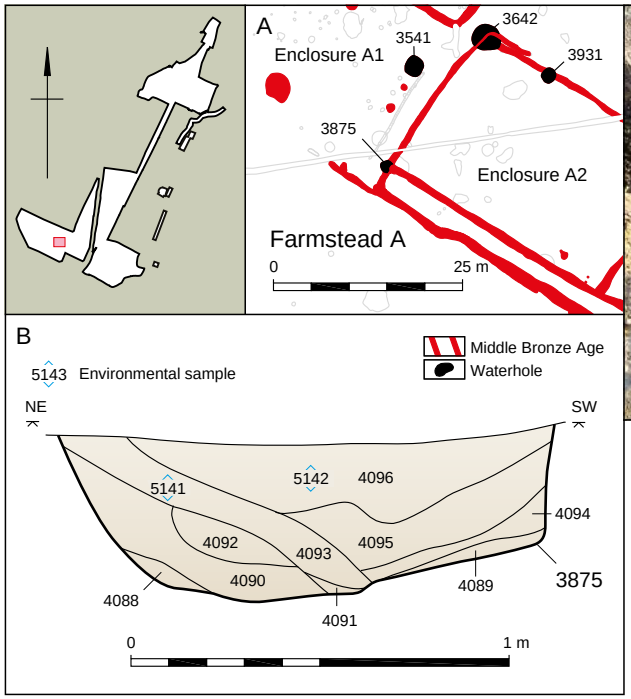


Figure 4.26 Waterhole 3875

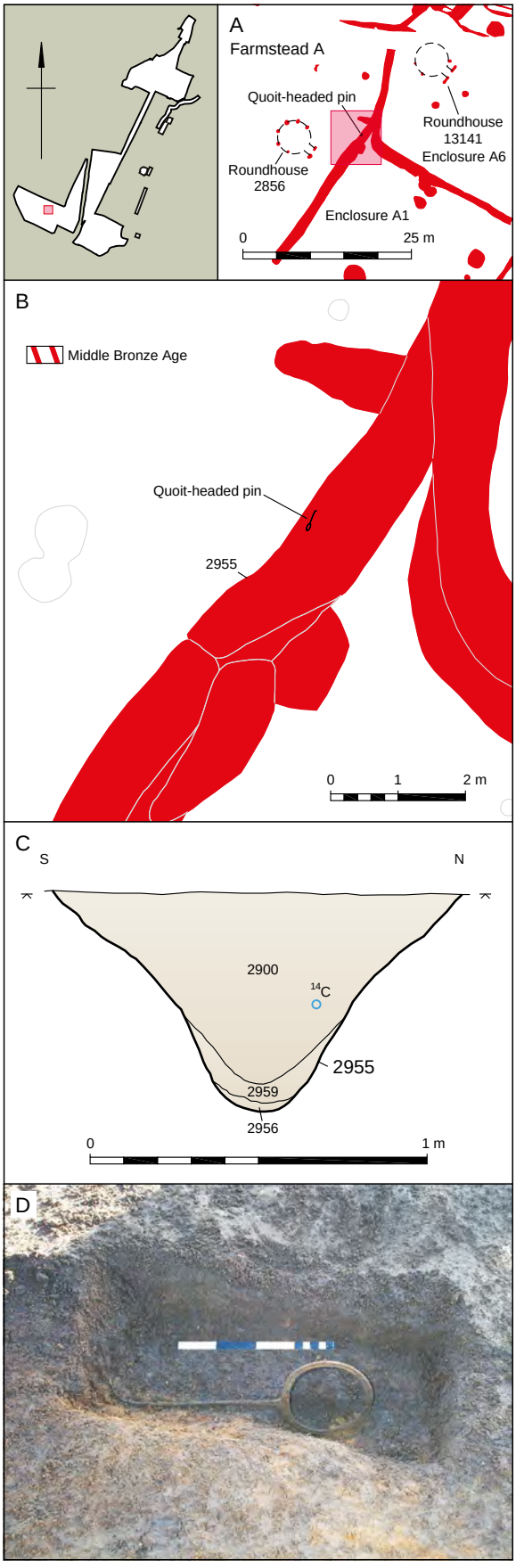
which contained the complete skeleton of a cow, one of many associated with *Farmstead A* (see below).

Metalwork

Further evidence for the significance of the settlement was found towards the western side of the farmstead. A Middle Bronze Age quoit-headed pin, ON 842, was recovered during the excavation of the upper fill of enclosure ditch 2955 (part of the *Phase 1* enclosure system) (Fig. 4.27), 6.50 m to the north-east of roundhouse 2856. A radiocarbon date of 1440–1290 cal BC (NZA-33483, 3124±35 BP), was obtained from a charred barley grain from low down in the main ditch fill (see Barclay *et al.* Appendix 6). Typical of the Ornament Horizon in north-west Europe, the pin comprised a thin shank with a large ring cast onto one end and was shaped to a curved point at the other. The piece, likely used to fasten a cloak or piece of clothing, represents an unusual and rare find, and such items tend to be associated with hoard deposits. Its discovery provides a clear indication of trade and exchange within the area and beyond, and analysis has suggested that the pin had a continental origin (see *Discussion* below). A fragment of a quoit-headed pin was recovered from a Late Bronze Age 'founders hoard' from Hounslow (Rowlands 1976, 87). A similar example was recovered from the River Thames at Hammersmith during dredging operation in the 19th and early 20th centuries (Rowlands 1976, 430, no. 2007, pl. 20).

Animal and human burials

A number of animal burials were associated with *Farmstead A* (Fig. 4.28) and may suggest a unique significance of the animals within the economy of the settlement. Eight animals were deliberately placed in an area of 2675 m², with seven of these clustered together in an area of 980 m² at the northern edge of the settlement. A number of the burials seem to have been associated with the *Phase 2* enclosure system, often cutting through the ditches, and as such appear to represent a later phase of activity, possibly recognising a period of closure of the settlement. The burials appear to have been carefully located within the enclosures, were often arranged in purpose-dug graves and were almost fully articulated. There were no signs of deliberate butchery although poor bone preservation may have masked this. Two of the cattle skeletons were neonatal or very young skeletons and a number of other unusual groups of bone including articulated joints were also noted. There is seemingly no common pattern in their spatial distribution or orientation, although five of the seven burials (1979, 1800, 2544, 2346 and 2499), located towards the north of the farmstead, had a linear alignment, with three being stratigraphically later than the enclosure ditches. This may give an indication as to the settlement's northern limit at the time of the interments, or indeed show an importance of this boundary within the landscape. Their arrangement, predominantly around the western and southern perimeters of *Enclosure* A7, is interesting. Indeed, their placement may be associated in some way with the pit group 9919 located in the centre of the enclosure (see above). The burials were clearly very specifically and carefully placed within the immediate locale of the settlement, some very close to dwellings, and the act of burial may have shown some reverence. The burials may also represent possible abandonment or 'closing' deposits associated with *Farmstead A*. Their locations uniquely within the settlement area are also reflected to the north-east where a further two such burials were located associated with *Farmstead B*. Fragments of Middle Bronze Age pottery were recovered from five of the burials, and other artefactual evidence included burnt flint and worked flint. Cattle burial 1069 also contained a single fragment of Early Bronze



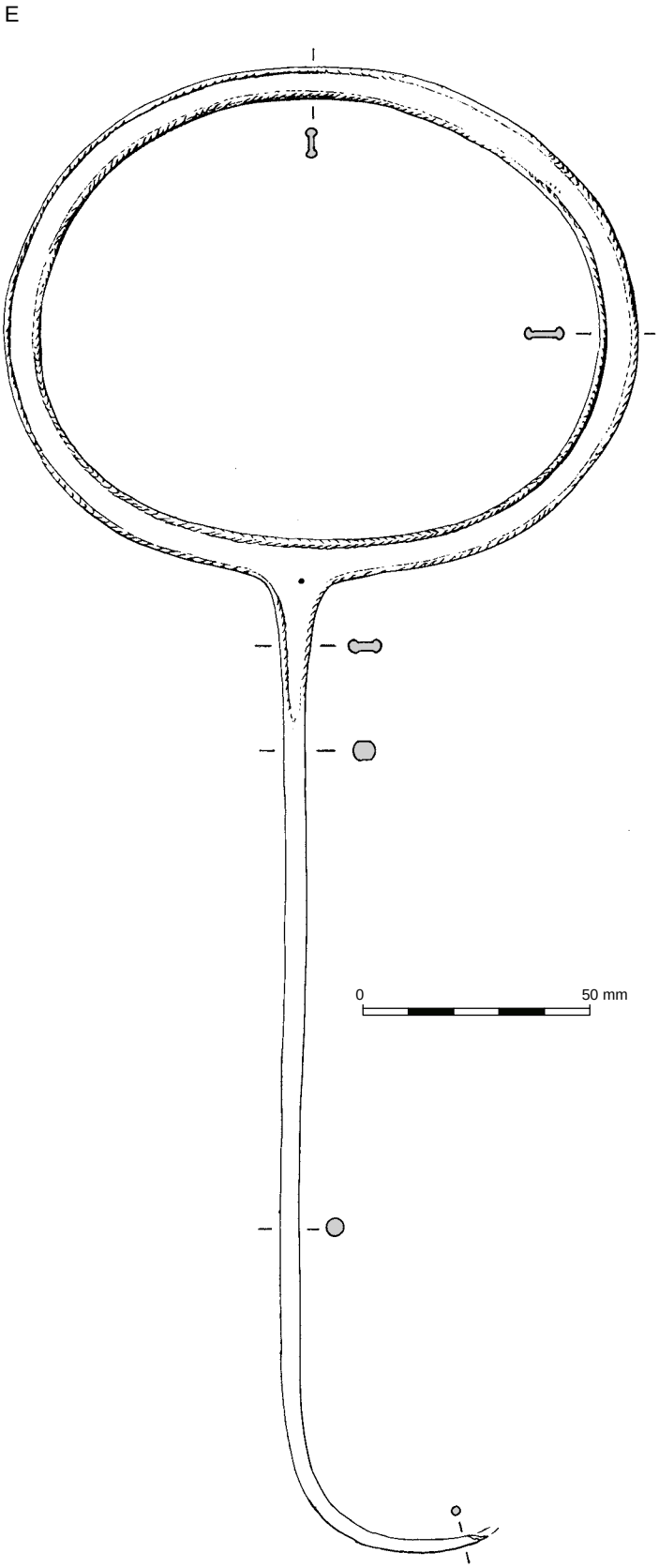


Figure 4.27 Quoit-headed pin

Figure 4.28 Farmstead A – distribution of animal and human bones

Age pottery, and represents the only burial to be physically cut by an enclosure ditch. This may be an indication of continuing cultural and generational similarities in land use and the importance of cattle within the farmstead's economy.

Brück (1999) argues that such 'odd' deposits were related to the lifecycles of Middle Bronze Age settlements and were intimately associated at both a practical and metaphorical level. Animal remains, for example, at Crab Farm, Dorset (Papworth 1992) included the skeleton of a pregnant cow that was recovered from the secondary fill of an enclosure ditch, while the articulated remains of a pregnant sheep were located in a pit cut through an enclosure ditch. At Horton, the predominant practice of cutting specific pits at pre-ordained locations within the farmstead also suggests a more cultural purpose. The evidence possibly indicates the economic significance of cattle, perhaps related to wider exchange and contact with other communities. Yates (2007, 123) suggests that a predominance of livestock rearing within mixed farming regimes and economies may indicate that cattle were used as a unit of value. Although there is limited evidence for Horton being part of a wider network (ie, metalwork) and with the farmstead appearing insular and individual, it is a possibility that the trade of livestock was one of the chief avenues to wealth creation (Yates 2007, 129) (see *Discussion* below). The environmental evidence indicates that pastoral farming, as well as arable cultivation, was occurring in and around Farmstead A. As we have seen from the data recovered from the waterholes, the presence of insects associated with dung (see Smith, Appendix 2) suggests a degree of grazing in the vicinity, although the plant remains suggest this to be intermittent. Although the true levels of livestock management cannot be known, it is clear that pastoral farming was an important aspect of the day-to-day running of the farmstead and is likely to have had significant impact on its development and survival.

A single crouched burial 1828 was located within the area of *Farmstead A* (Fig. 4.29), present within a Middle Bronze Age enclosure ditch terminal (1086), located on the northern edge of the farmstead. Two cattle burials (1069 and 1094) are located in the immediate vicinity, and the similarities of interment may hint a significance as well as suggest the importance of cattle within the community. The burial, possibly that of a child 2–3 years old, was very tightly crouched, apparently within the base of the ditch (no clear grave cut was recorded or identified during excavation) above a deliberately backfilled deposit. Poor preservation and difficult excavation conditions suggest that the individual was truncated and disturbed during a phase of gravel extraction. Redeposited fragments of human bone were also recovered from enclosure ditch 8820 and recut 8822, and represent adult humerus and femur fragments respectively. However, the paucity of human remains precludes any detailed discussion of burial practices during the Middle Bronze Age.

Figure 4.29 Tightly crouched burial of a 2–3-year-old child (1828) placed in the terminal of ditch 1086, within Farmstead A

Farmstead B

Enclosure development

Similar to *Farmstead A,* different phases of a chronological development can be seen throughout the life of *Farmstead B* (Fig. 4.30). Unlike *Farmstead A*, there was no direct evidence for earlier occupation within the locale other than some residual Neolithic pottery. The reasoning behind the farmstead's initial inception and location is less clear as a result. What is discernible is that the initial stages form the largest period of design, with expansion limited in later periods. Perhaps the area was singled out for unknown reasons and underwent a severe and organised period of clearance prior to the development of the aggregate field system. It is clear that the landscape surrounding *Farmstead B* was transformed by the new land divisions in the Middle Bronze Age. Land not previously used in the Early Bronze Age was now being utilised for the first time. The farmstead became a single entity – one large pastoral/arable system, seemingly farmed by a single family or a small community unit for a limited period of time.

As with *Farmstead A*, stratigraphic relationships within the Middle Bronze Age activity associated with the farmstead exist and can help to define the development of the local landscape surrounding the settlement area. Four distinct phases can be seen (Fig. 4.30) and will be discussed below. It would appear that most, if not all, of the farmstead has been revealed by excavations, particularly that associated with the initial phases, and little has been lost to recent gravel extraction phases. However, further excavation to the immediate east of *Farmstead B* will provide evidence as to the size, density and development of the settlement patterns in this part

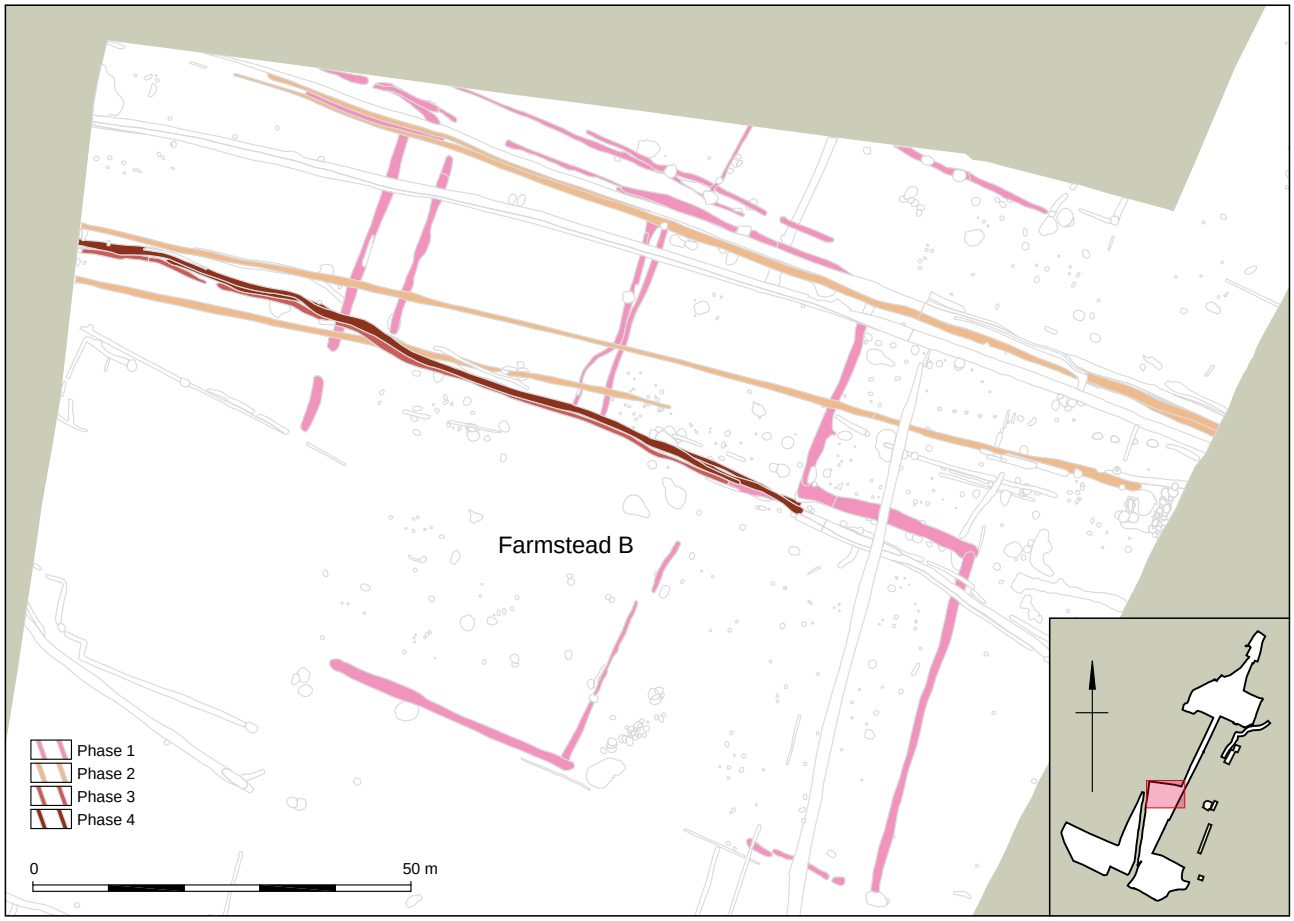


Figure 4.30 Farmstead B – phased plan

of the site, and may provide clues as to the landscape changes seen in the later phases of occupation and the subsequent demise of the farmstead as a whole. Once again, the lifespan of the settlement appears to be short, with limited evidence of Late Bronze Age pottery in the area. The small amount of structural evidence may be a true reflection of the size of the community who were using the land, particularly in the early years of the farmstead, and it is hoped that further evidence of settlement patterns will be seen in future excavations. Radiocarbon dates suggest that the initial phase was undertaken sometime between *1530* and *1270 cal BC* and ended between *1400* and *1200 cal BC*. As such, the activity at *Farmsteads A* and *B* appears to correspond closely, increasing the likelihood that the two sites were intrinsically interlinked. The number of dates associated with *Farmstead B* were fewer in number and as such must be treated with a little more caution.

Phase 1 enclosure system

The initial phase of the farmstead represents by far the most comprehensive and detailed period of growth seen in its lifespan (Fig. 4.30). There is some evidence that the field system had origins within a pre-enclosed landscape. Enclosure ditches such as 13022 and 13023 appear to incorporate and even target pit clusters and waterholes (Fig. 4.31) already present in the landscape, and may represent the replacement of a more open agricultural system prior to the inception of the enclosed field systems. Such features provided the basis for the northern boundary of *Enclosure B4*, and may have been a focus for its positioning. On the whole, however, the setting out of four large enclosures, with associated trackways and waterholes, appears to have been laid out largely with no reference to existing foci of settlement or burial activity.

The true nature and location of the inception of the sub-division of the landscape within the area is difficult to identify. Stratigraphic relationships are limited and often unclear, but it is conceivable that different enclosures were created with different functions to facilitate the farm. Two smaller enclosures to the north of the farmstead, *B1* and *B2*, with an average area of 760 m², may have provided areas for stockraising, while larger enclosures immediately south, *B3* and *B4*, (average 1630 m²) may have provided larger space for grazing and pastoral land. Certainly, *Enclosure B4* was an important feature within the landscape and may have provided a focal point for much of the activities. A single waterhole occupied each corner, and suggestions of posthole structures, particularly

within *Posthole Group 3*, may indicate a more complex stock enclosure.

Each of the enclosures and associated field boundaries follow a similar alignment to *Farmstead A*, with a largely ESE–WNE alignment, and are characteristically similar. The form of each enclosure is slightly different – *Enclosures B1* and *B2* are square in shape, and appear to have been enclosed on all sides (the southern boundary to *Enclosure B1* is unclear due to later truncation). In comparison, *Enclosure B3* is only bounded on its eastern and southern edges, and segmented boundaries mark the southern boundary of *Enclosure B4* (such a characteristic mirrors *Farmstead A*, where *Enclosure A1* is also 'open'). Access between the each of the four enclosures is unclear and appears restricted. *Enclosures B3* and *B4* show the only evidence for access between the two fields along the separating segmented boundary 9661 and 9666.

Trackways are present on the western and northern edges of the farmstead, and suggest restricted movement of livestock around the periphery of the farm – a similar feature to that seen at *Farmstead A*. Formed by boundary ditches 9511 and 9591, the western trackway runs for a total of 41 m, is 6.8 m wide and represents the western extent of *Enclosure B1*. The western ditch shows signs of segmentation towards its southern extent and may have allowed access outside of the farmstead while also providing access for animals into the north-western corner of *Enclosure B3*. A trackway formed the northern extent of *Enclosure B1* and also showed evidence for segmentation. The southern side of the trackway, formed by a number of boundary ditches (9636, 9629, 6101, 9490 and 9481), and the northern boundary (formed by 9447, 9440 and 9379) both showed evidence for several phases of recutting and several possible entrance/exit gaps along its length may have allowed for the selection or movement of specific cattle for animal husbandry.

Phase 2 enclosure system

The second phase of activity of *Farmstead B* sees the disintegration of the aggregate field system, as the landscape takes on a completely different focus and use (Fig. 4.32). The previous enclosure system, carefully laid out to maximise and utilise the landscape in association with the daily productiveness of a farmstead, is now abandoned and replaced by linear boundary ditches with only ESE–WNW alignments.

The 138 m-long northern boundary showed two separate phases (represented by 9475 and 9921). The southern boundary consists of two parallel

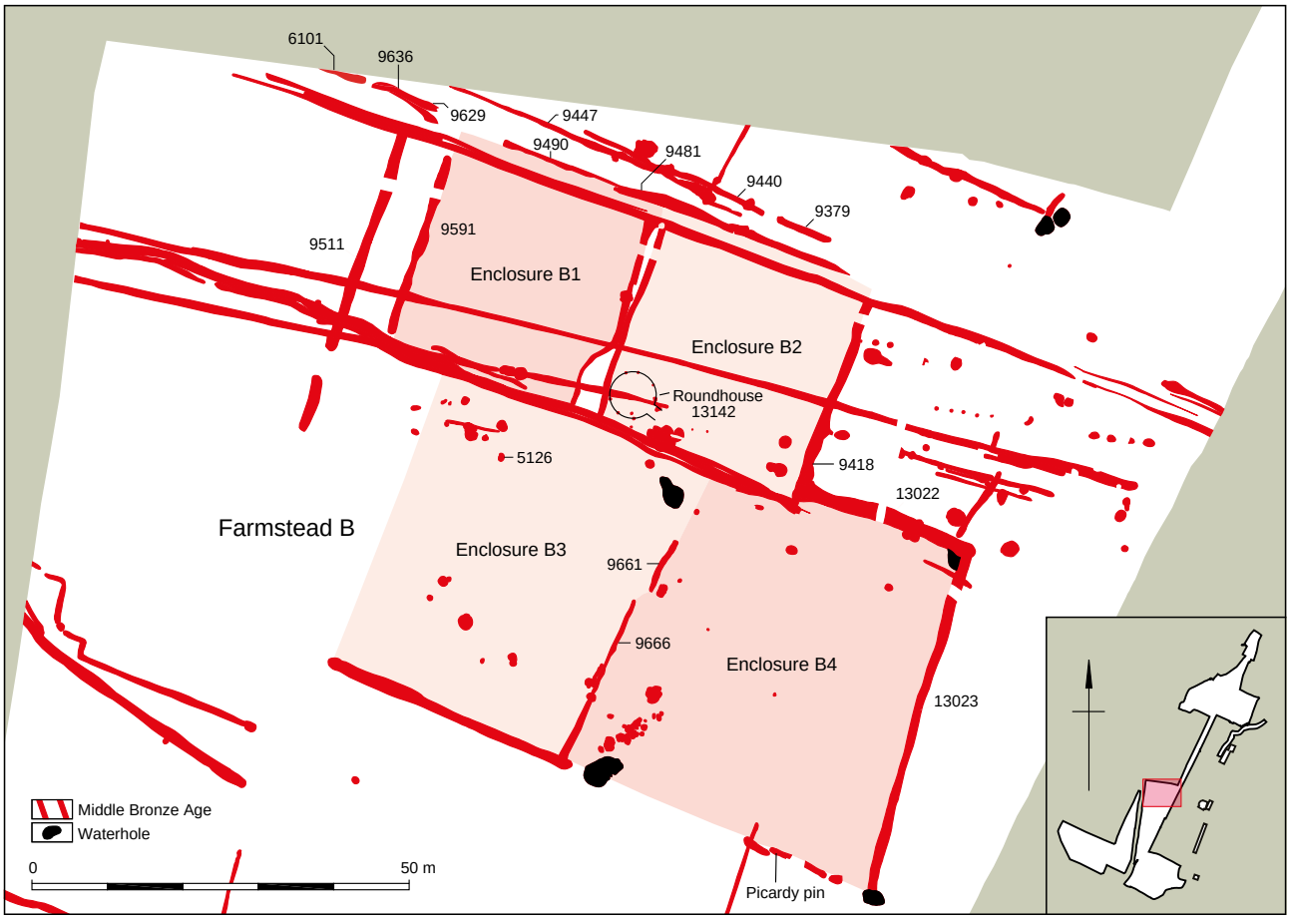


Figure 4.31 Farmstead B – enclosures

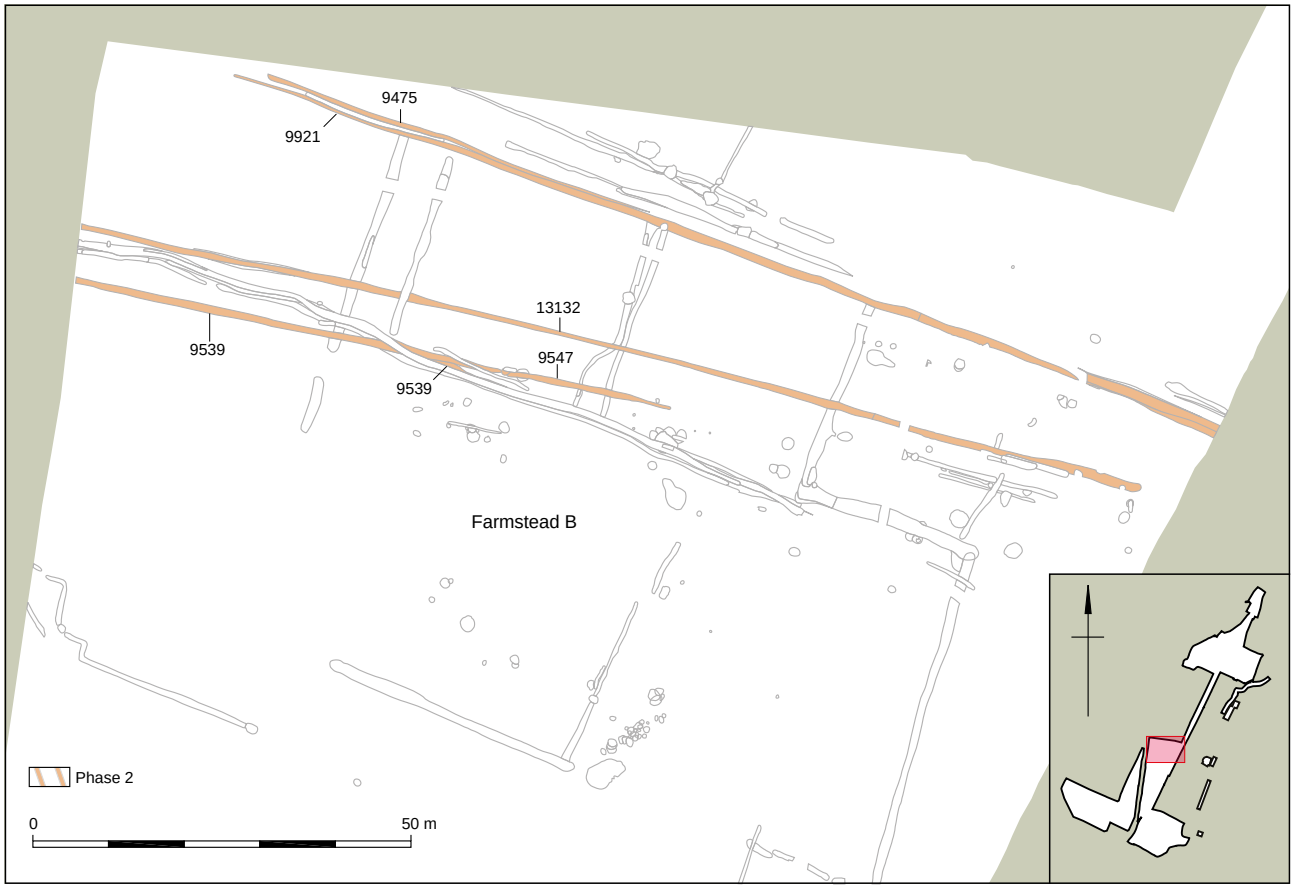


Figure 4.32 Farmstead B – phase 2

features (13132 to the north and 9539 and 9547 to the south). Ditch 13132 ran for at least 144 m, and the southernmost ditch for 80 m. The ditches lay 6 m apart and probably acted as a droveway. Due to the nature of the features and their position on the site, it is difficult to know how such an arrangement was utilised in the Middle Bronze Age. The relationship between the northern and southern boundary ditches may provide some suggestion to their function. At the western end, the separation between them is 25 m, before closing to just 7 m at the easternmost end. This funnelling effect may have had implications as to their use and function within the wider agricultural landscape, associated with stock control or management on a grand scale.

The features do not relate to any contemporary structural elements within the landscape, which suggests that the settlement was completely abandoned once the *Phase 1* elements became defunct. However, the time elapsed between enclosure *Phases 1* and *2* cannot be established from the stratigraphy, other than to say that one clearly follows the other. Middle Bronze Age pottery is present within the boundary ditches from both phases, albeit in sparse amounts. This suggests a continued presence in the area, but with a clear and distinct change to the way that the landscape was used.

Phase 3 and Phase 4 enclosure systems

A final phase of boundary cutting is attributable to *Farmstead B*, as the area continues to develop and change its focus and land use. It would appear that the life of boundary ditches cut as part of *Phase 2* was short-lived. *Phases 3* and *4* can be related to one another, acting as continued phases of recutting and re-establishment of the same 146 m-long boundary over a long period of time (Fig. 4.30). The phases are represented by a single alignment, roughly ESE–WNW, similar to the alignments of *Phase 1* ditches. There is some suggestion of segmentation along its length, and the boundary was recut at least 11 times. Because of its continual phases of recutting, the ditch has an organic look to it, with a slightly sinuous line that is distinct from the very straight ditches of previous phases. The presence of several sherds of Late Bronze Age pottery within the boundary, as well as within surrounding and associated features, suggests that the boundary served well into the later periods of the Bronze Age. There is little evidence to suggest the function of the feature other than forming a distinct boundary between north and south. However, with an average depth of 0.32 m and width of 0.75 m, the feature would not have been substantial or imposing.

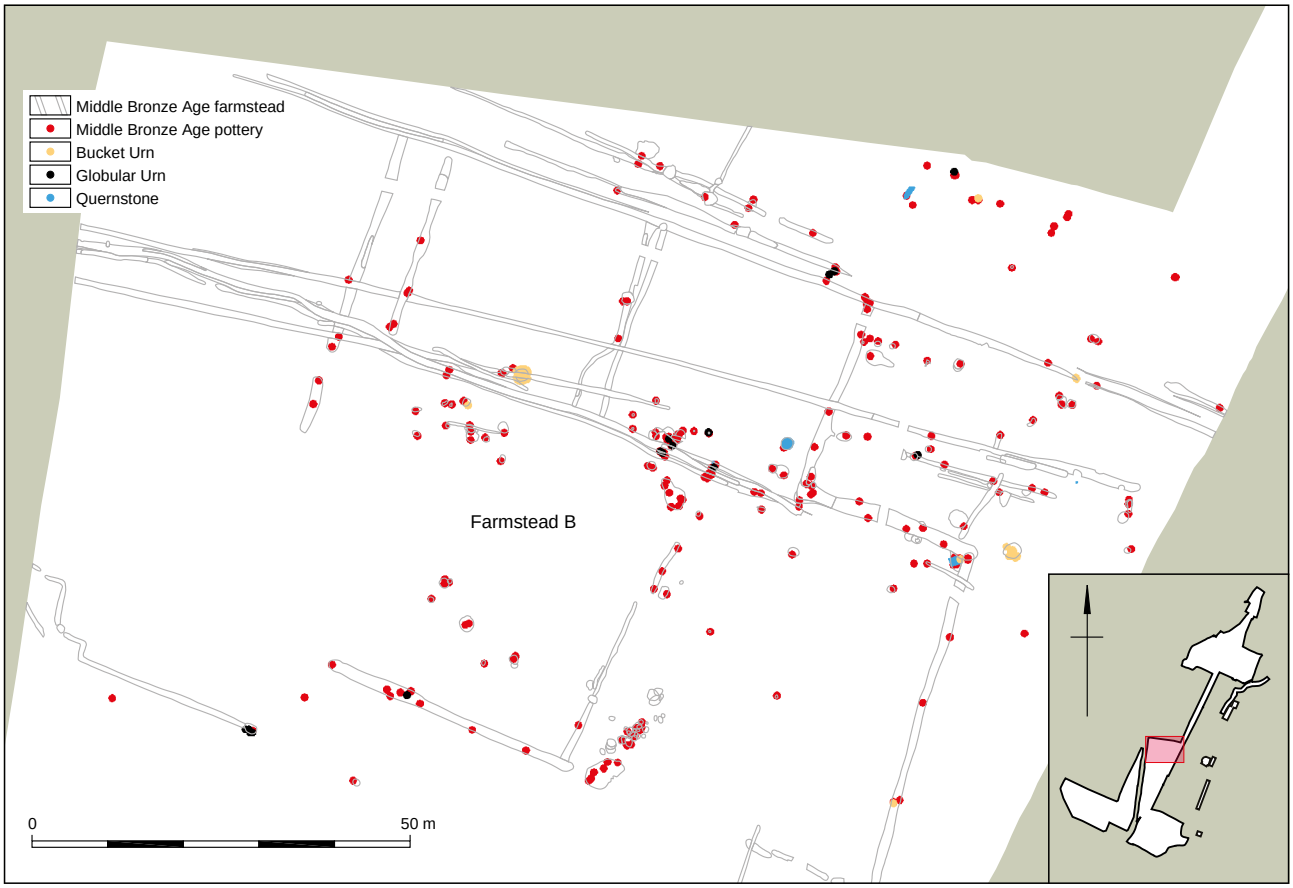


Figure 4.33 Farmstead B – distribution of pottery, Globular/Bucket Urn and quernstone

Structural evidence

Although no clear structural evidence was noted during the excavation of *Farmstead B*, further analysis has provided some possibilities. Like *Farmstead A*, high densities of artefactual evidence helped to identify and locate the settlement area (Fig. 4.33). Within these densities further clusters of finds, in particular Middle Bronze Age pottery, helped to identify potential locations for structural entities and domestic dwellings within the farmstead (Fig. 4.34). A possible roundhouse 13142, identified during the analysis phase, is one such feature. Located immediately to the east of enclosure ditch 9614 (part of the *Phase 1* enclosure system), and truncated by ditch 9547 (*Phase 2*), a near-complete circular shape is represented within a cluster of postholes. With a diameter of 5.65 m, the structure is defined by nine postholes which were 0.21–0.41 m in diameter (average 0.29 m) and 0.13–0.19 deep (average 0.15 m). The postholes were spaced 0.40–2.40 m (from centre to centre) apart, and a possible entranceway of 1.94 m is located on the south-eastern side. Several postholes are located within the structure, loosely forming a square shape, and as such could be contemporary and utilised in some way. Three postholes in the vicinity contained Middle Bronze Age pottery as well as other artefactual evidence. There is no stratigraphic relationship between the two enclosure ditches (9614 and 9602) immediately to the east of the structure, but the roundhouse is likely to be contemporary with ditch 9602, 3.80 m to the east. Similar to roundhouse 13141 within *Farmstead A*, the ditch appears to curve and physically avoid the structure, which was presumably already standing when the ditch was cut.

A large pit group lay 3.80 m to the south-east of the entranceway of the roundhouse 13142. Typified by pit 9560, the feature contained an interesting sequence of Middle Bronze Age pottery which included fineware vessels in the same tradition as the 'knobbed cups' described by Needham (1987, 111), as well as fragments of Globular Urn, bucket-shaped jar and coarseware body sherds (see Jones and Barclay, Appendix 3). A number of other pits within the locale of *Farmstead B* also contained high quantities of pottery. Pit 6184 produced the largest group, comprising a near complete bucket-shaped jar as well as a cylindrical loomweight (ON 985) and an articulated cattle leg, apparently placed on either side of the vessel. Large pit feature 9560 contained a number of sherds from at least four vessels, while pit 23043 contained 2110 g of Middle Bronze Age pottery from at least three, if not four, vessels. Other pits, including 6692, 6706, 6694, 6488, 6635, 6636 (Fig. 4.34) and 5126 (Fig. 4.31), all contained similar material, and all lay in the central area of

Figure 4.34 Farmstead B – possible settlement area, roundhouses and waterholes

Farmstead B. Again, bucket-shaped jars and globular vessels were represented.

A larger arc of postholes lay 5.65 m to the east of the roundhouse 13142. This consists of nine postholes that create a wide semi-circle shape open on the north-western side. This feature may represent a curving fenceline or perhaps a penning area, 8.65 m at its widest point. However, the full extent of the feature was obscured by tree-throw holes in the area, and by truncation caused by the *Phase 2* enclosure ditch 13132. Several postholes were located towards the eastern side of the farmstead in and around enclosure ditches and waterholes. Two posthole clusters have been identified – *Posthole Group 3* covering an area of 124 m ² and *Posthole Group 4*, with an area of 100 m². No clear arcs or post-built structures were identifiable within the groups, but their densities and spacing, about 9.5 m apart, may suggest structures not discernible in the archaeological record. None of the postholes within the *Posthole Groups* contained datable evidence, but they are thought to be associated with the wider Middle Bronze Age farmstead. Further potential structural evidence was seen immediately west of *Posthole Group 4*, where a possible four-post structure and a five-post arc were seen.

To the north-east and east of *Posthole Group 4* lay potential alignments of postholes and pits which may represent fencelines. Posthole row 13012 and pit row 13009 (Fig. 4.34), were seen to run on a similar, roughly east–west alignment around 14 m apart. Despite remaining undated, they share a similar alignment to the *Phase 2* enclosure ditches 13132 to the south and 13004 to the north, and are likely to be contemporary. The alignments were located in an area of dense archaeological features that contained Middle Bronze Age pottery close to the centre of the main settlement, east of *Enclosure B2*. Although the exact nature of some of the features is unclear, it is evident that a reasonable amount of activity was taking place in this area at the time of the settlement that appears to be associated with *Phase 1*.

The structures appear to have had a short lifespan, perhaps a generation or two, and are stratigraphically sandwiched between two phases of enclosure layout and landscape use. They could represent the initial structural settlement elements, located within a defined enclosure, close to waterholes and pits at the heart of the farmstead. Indeed, the settlement is likely to have gone out of use by the time *Phase 2* occurred, characterised by a change in land use.

Waterholes

As with *Farmstead A*, waterholes appear to have played an important role in the life of the farm and its day-to-day functioning and operation. There were six such features associated with *Farmstead B* (Fig. 4.34), four of which were located within the corners of *Enclosure B4*, within an area of 2130 m². Such a focus on a single area may suggest the importance of the enclosure within the wider use of the landscape, as well as with the running of the farmstead. Pottery dates suggest that the features were largely contemporary with each other and the *Phase 1* enclosure system – two of the waterholes had stratigraphic relationships with the enclosure ditches. The features themselves draw comparison with those associated with the settlement area within *Farmstead A*, which were identified by two basic forms and profiles, possibly reflecting different functions within the landscape. Steep vertical sides were recorded in four of the features, and a shallow ramped profile in the remaining two. There are differences between *Farmsteads A* and *B* in that the waterholes associated with the latter appear to be more associated with the agricultural practices of the farm, and are located away from the main foci of the settlement. This may suggest the features were more likely used by animals penned within the enclosure, as opposed to being used by the settlement's inhabitants. The limited artefactual evidence recovered also hints at a more livestock-orientated primary function for the two shallow ramped features, although the presence of pottery was generally low in all of the six waterholes.

Waterhole 13033 (Fig. 4.35) represents a large sub-oval feature located within the north-eastern corner of *Enclosure B4*. The feature is likely to represent an earlier phase of activity within the local area, as it is clearly cut by the Middle Bronze Age *Phase 1* enclosure system, represented by 13022 and 13023, suggesting that the feature may have acted as a boundary marker when the field system was laid out. The sub-oval feature (measuring 3 m x 1.59 m x 1.08 m) was fairly steep sided, with slightly stepped edges and a flat base. Its shape and size suggest that the feature may have been solely for human use. The waterhole was located at the junction or corner of the system, which has a 90° corner directly over the feature. The terminal could not be detected during excavation because of the similarities in the fills, and the full extent of the waterhole was unclear as it had been truncated by the enclosure ditches. Abundant waterlogged materials were recorded in the lower deposits because of a high water table, within which Middle Bronze Age occupation debris was recovered. The feature had a large amount of brickearth deliberately backfilled on its south-eastern side, which may have originated from the enclosure ditches or nearby pits when the waterhole went out of use and the land use focus changed. Similarities between the pottery from the waterhole and the later enclosure ditches, including fine fabric bucket-shaped jar sherds (see Jones and Barclay, Appendix 3), may suggest that the features were chronologically similar, and separated by only a short amount of time, perhaps 5–20 years. This is

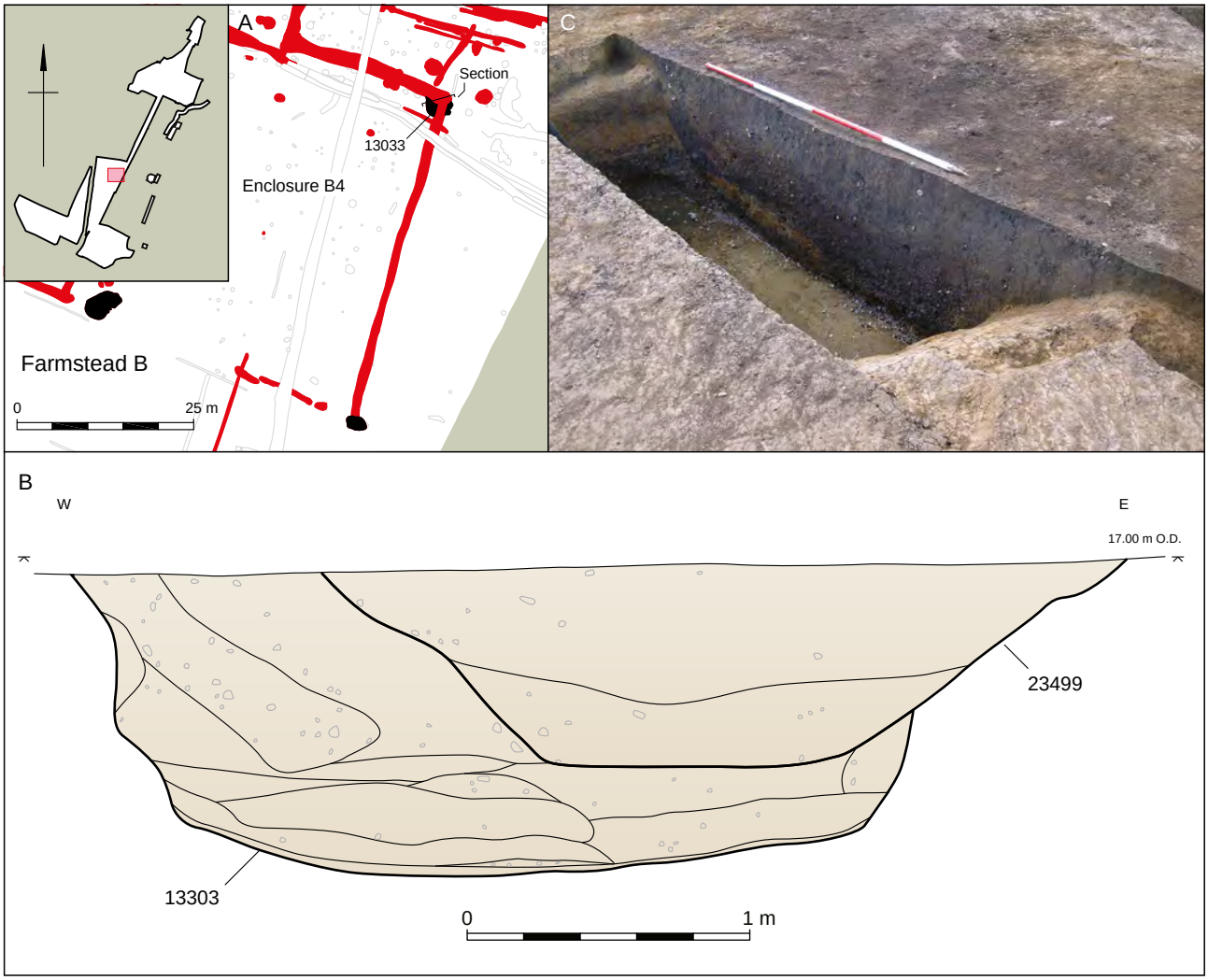


Figure 4.35 Waterhole 13033

supported by radiocarbon dates obtained on material from both the waterhole and the enclosure ditch. A date of 1410–1220 cal BC (NZA-33502, 3050±30 BP) was obtained on an emmer spikelet from a lower fill of waterhole 13033, while a charred barley grain from enclosure ditch 22967, 3 m to the south, produced the similar date of 1420–1220 cal BC (NZA-33479, 3062±30 BP). A worked bone point or awl, ON 1398, was also recovered from the lower fill of ditch 23315, made from the tibia of a sheep or goat (see Grimm, Appendix 5).

A second waterhole, feature 5650 (Fig. 4.36), was located in the north-eastern corner of *Enclosure B3*, and the north-western corner of *Enclosure B4*. The waterhole, teardrop-shaped in plan, measured 4.56 m x 2.70 m x 0.90 m and had a gently sloping profile, ramped towards the north-west, possibly to enable easier access for animals, and had a steep south-eastern side. Thus, although it could serve both *Enclosures B3* and *B4*, it was most likely used to water animals in *Enclosure B3*. Waterlogged deposits located at the base of the cut contained Middle Bronze Age pottery, worked flint (including flakes and cores), fired clay and worked stone, including a utilised pebble (ON 959). Preserved wood was recovered from the lowest fill of the cut and may suggest evidence for the feature's edges being supported at some point during its early life. Another large waterhole, feature 6912 (Fig. 4.37), lay within the south-west corner of *Enclosure B4*, along the southern (and open) *Phase 1* boundary. The feature, 5.25 m x 3.15 m x 1.20 m, was a large teardrop-shaped waterhole not dissimilar to 5650 to the north. It was gently stepped on the north-eastern side and steep sided on the opposite south-western side. This could point to a role watering animals within *Enclosure B4*. Organic deposits were seen throughout the stratigraphic sequence of the feature, and Middle Bronze Age pottery was recovered from most of the layers. Additional artefactual evidence was provided by worked flint, including flakes, cores and debitage, as well as worked bone fragments including a possible awl, ON 1003. Wood fragments and possible timbers survived in the lower organic deposits at the deepest part of the feature, and possibly represent an attempt at stabilising the feature sides. Waterholes 6912 and

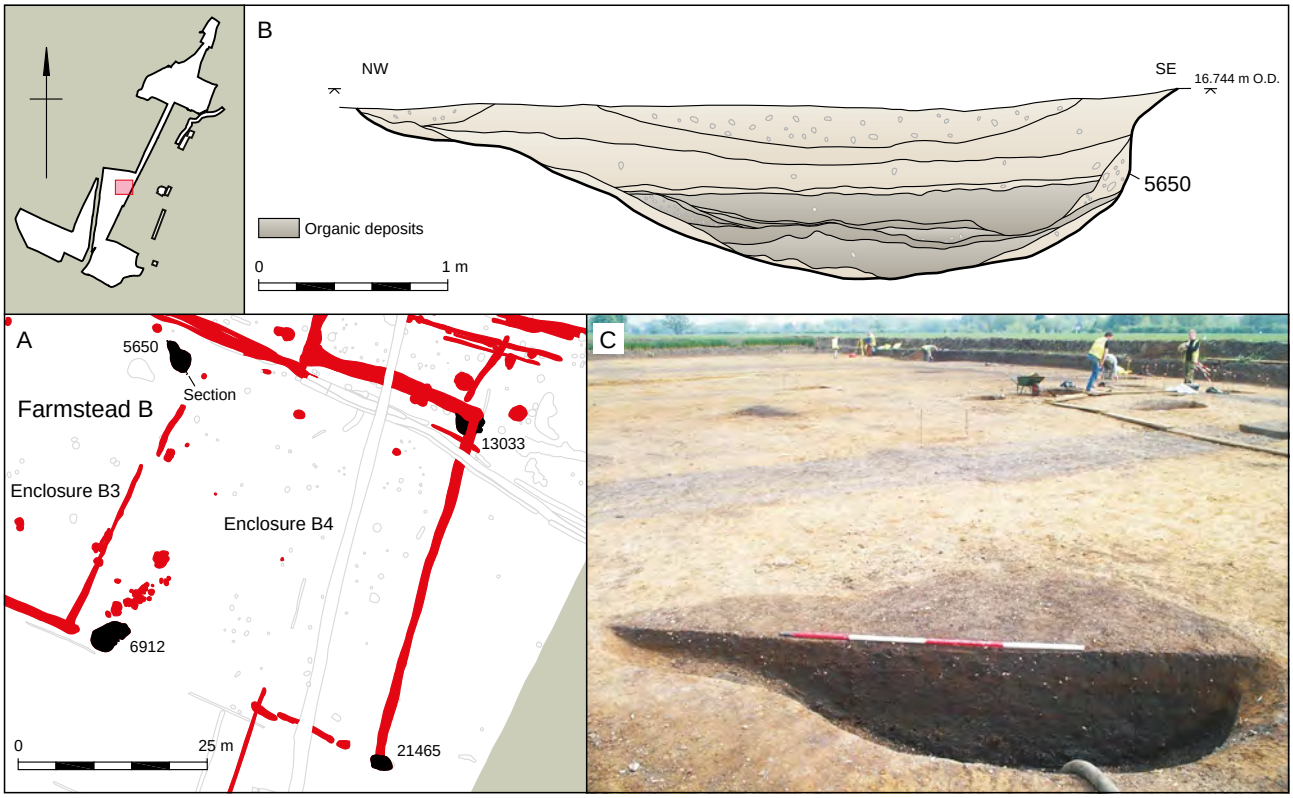


Figure 4.36 Waterhole 5650

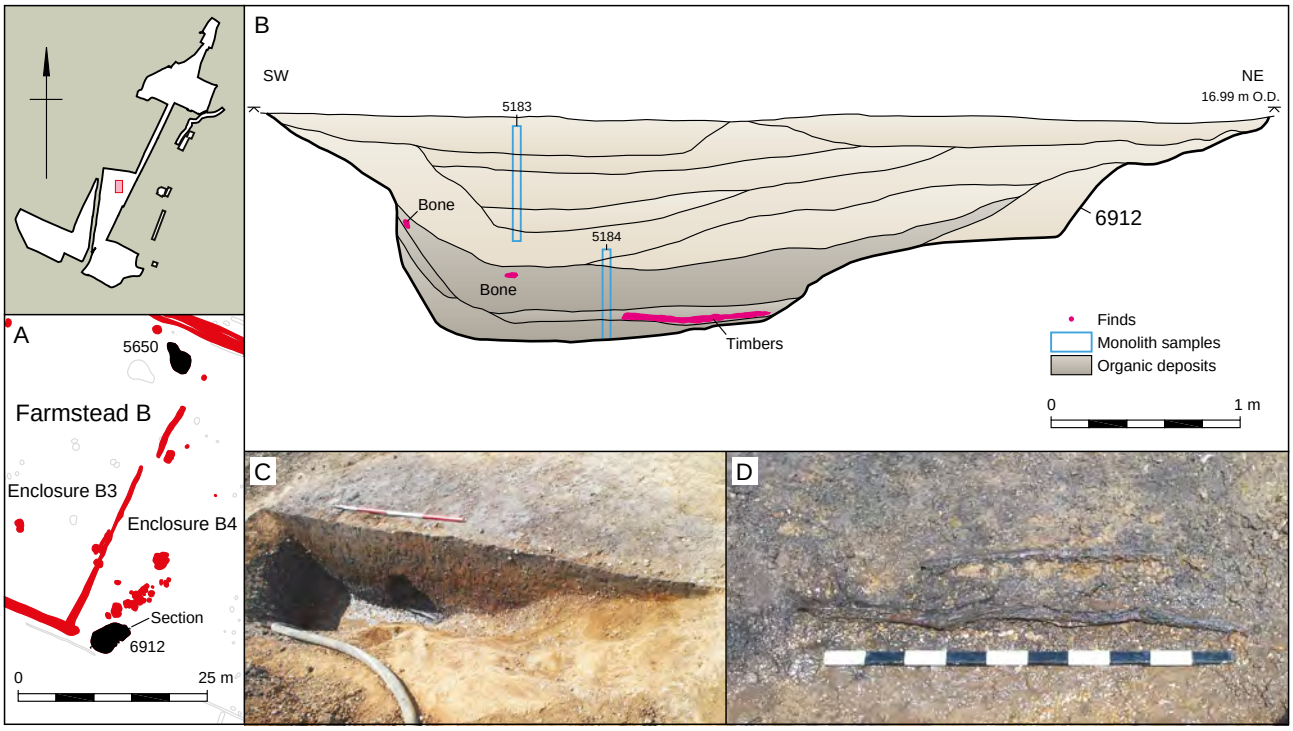


Figure 4.37 Waterhole 6912

5650 were separated from each other by segmented enclosure ditches 9661 and 9666.

Insect remains were retrieved from waterholes 5650 and 6912 and comprised faunas indicative of open conditions and grazing animals. Indicators of foul, rotting conditions form 39.6% of the terrestrial assemblage from waterhole 6912. This group, as well as indicators of grassland and pasture, were well represented in both features. Species associated with trees form only a small component of the terrestrial fauna (2.4% and 4.2% respectively). Aquatic beetles form a slightly greater proportion of the assemblage

in feature 5650 than 6912 (see Pelling, Appendix 1; Smith, Appendix 2).

Possibly representing the latest waterhole associated with the farmstead, feature 21465 was located in the extreme south-eastern corner of *Enclosure B4* (Fig. 4.34) and is stratigraphically later than the *Phase 1* enclosure ditch 13023. The feature, measuring 2.72 m x 1.88 m x 1.12 m, had steep, convex sides with a moderate break of slope from the surface, changing to sharper sloped sides towards the base of the cut. Finds recovered from the later fills of the feature included Middle Bronze Age pottery, as well as a single scraper. Waterlogged organic fills at the base of the feature also contained redeposited natural deposits, possibly deliberately backfilled in an act of stabilisation. Its steep sides would have proved difficult for animals to access, and the upper fills appear to have silted up naturally once it had fallen out of use. This waterhole was the furthest from the settlement area – unusual if it was for human rather than animal use.

A further two waterholes, 13000 and 21158 (Fig. 4.34), were located in close proximity to one another (0.30 m apart) and were associated with field enclosure ditches 12999, 12993 and 13001. Both were of a similar size, shape and depth. A revetment was possibly inserted into waterhole 13000 to avoid slumping of the sides. Neither waterhole was particularly rich in finds, although both contained Middle Bronze Age pottery, and they lay some distance from the main *foci* of settlement, and on the northern edge of *Farmstead B*.

Metalwork

A rare and important Middle Bronze Age decorative pin ON 1318 of 'Picardy' type was recovered from short segmented ditch 13041 which formed part of the southern edge of *Enclosure B4* (Fig. 4.38). The copper alloy pin was bent in a gentle S-shape towards the point, and was highly decorated. The form and decoration of the pin corresponds closely to one of three pins found inside a Deverel-Rimbury Urn at Fowey, Cornwall (Pearce 1983, no. 53) although the Horton pin is slightly smaller. The depositional context in an enclosure ditch is comparable to the 'quoit-headed' pin, ON 842, from *Farmstead A* at Horton (see above), as well as other contemporary bronze ornaments throughout southern and eastern England. 'Picardy' pins are a relatively rare but distinctive pin type distributed throughout central-southern and eastern England as well as north-west France. The main concentrations of these objects are on the channel coast, the Thames Valley and the Somme Valley. On the English side of the channel, it is associated with the Taunton metalwork phase or early Penard phase (*c.* 1400–1250 BC) (Hawkes 1942; O'Connor 1980, 76; Roberts 2007). This places it within the Middle Bronze Age Ornament Horizon (Smith 1959a; 1959b) which now appears to be two distinctive ornament traditions of bronze and gold with different chronologies, distributions and depositional practices (Roberts 2007).

Other Settlement Evidence

Landholding 5

A well-defined roundhouse 20503 (Figs 4.15B and C) was located among Middle Bronze Age features towards the northern extent of *LH5* and shows similarities to roundhouse 2856 associated with *Farmstead A* (see below). Eight postholes formed a semi-circular shape with a diameter of 4.47 m and a south-east facing entranceway, and were 0.18–0.57 m in diameter (average 0.44 m) and 0.14–0.31 m deep (average 0.20 m). The postholes were spaced 1.77–1.97 m apart (from centre to centre), and a central supporting post, slightly off-centre, was also recorded. A further four features were located on the south-eastern side and may have represented possible beam slot-like features associated with a more elaborate and defined entranceway to the structure, such as a porch, which would have created a 2.77 m façade. Five of the features associated with the structure contained pottery of a Middle Bronze Age date, and other artefactual evidence such as worked flint (including a single scraper, flakes and other pieces of debitage), animal bone and burnt flint. Analysis of pottery distribution plots show extremely limited activity in the immediate area surrounding the roundhouse, which may suggest a shelter-like function rather than sedentary, long-term occupation. A 12.49 m section of gully 12968 lay 5 m to the south of the roundhouse and is likely to have formed a fenceline, barrier or palisade associated with the structure. The entire length of the feature contained a series of 20 closely spaced (between 0.09–0.18 m) stakeholes through its centre. The ditch is likely to have silted up slightly before the palisade/stakes were placed in. Although the exact function of this feature is not clear, it is conceivable to think that the feature would have acted as a wattle barrier to the house, possibly even as a windbreak.

A possible small waterhole (20307) (Fig. 4.15D) was located close to the Middle Bronze Age roundhouse 20503 and may have served as a contemporary water source. Situated 9 m east of the structure, the waterhole lacked any datable evidence. However, organic-rich deposits at the feature's base have produced some interesting results. A radiocarbon date of 1610–1430 cal BC (NZA-34041, 3245±25 BP) from a sloe stone suggests that the waterhole may predate the Middle Bronze Age field system, or at least date to its inception. The ecofacts recovered provided a quite different and unusual vegetation component within the landscape in comparison to

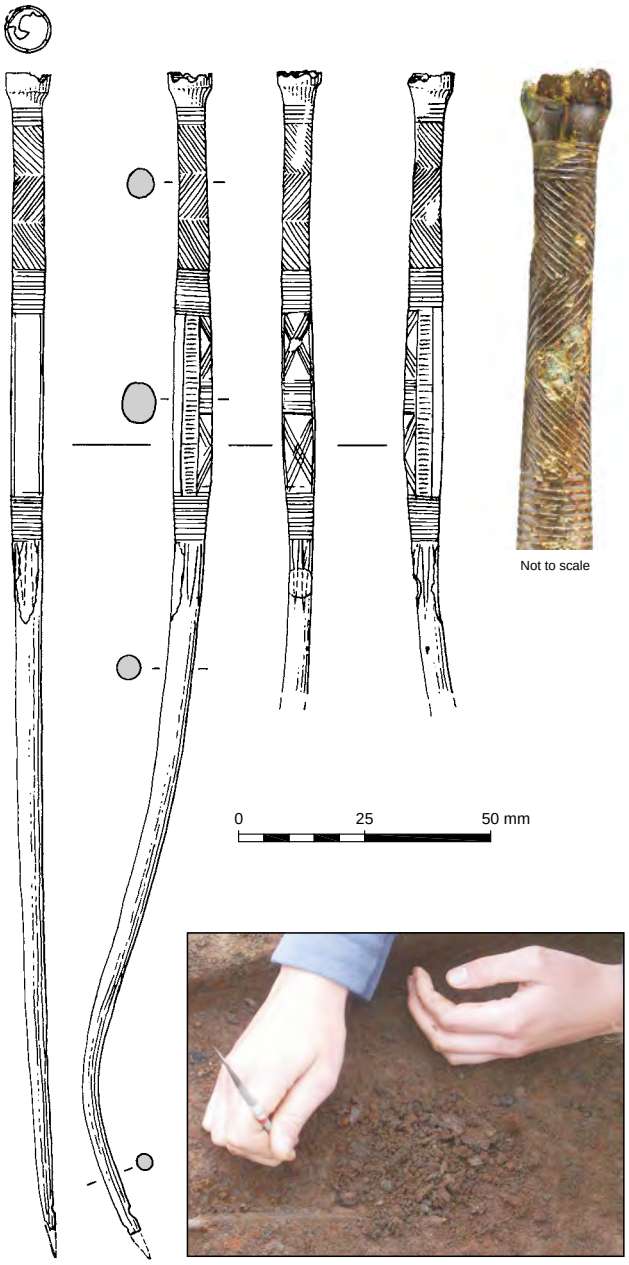
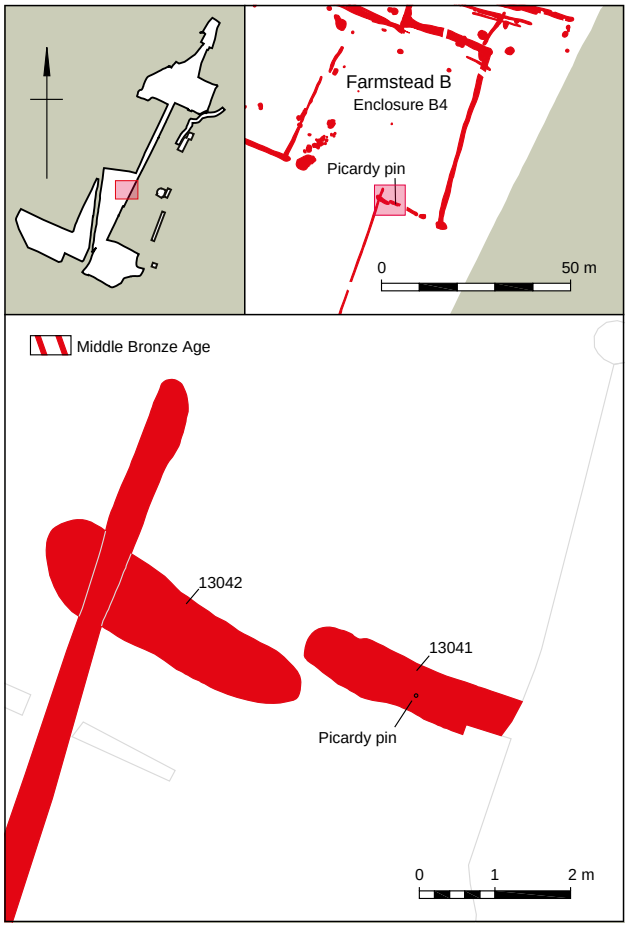


Figure 4.38 Picardy pin

other such features from the site. A presence of carrot and wild parsnip seeds, along with a concentration of elder seeds and nipplewort, were noted (see Pelling, Appendix 1). Similar evidence was recovered from Harlington (Powell *et al.* 2015), although carrot is generally regarded as a Romano-British introduction into Britain (van der Veen *et al.* 2009). It is therefore likely that the carrot is the wild variety (see Pelling, Appendix 1).

Between 2012 and 2014 another area of settlement (*Settlement C*) was located in *LH5*. This was situated about 100 m to the south-west of roundhouse 20503 and consisted of six possible roundhouses and structures, waterholes, pits, and a two-phase rectangular enclosure. This will be fully discussed in Volume 2.



Landholding 6

Further evidence for settlement was identified in *LH6* to the north of the site in two different areas. A cluster of four post-built structures were identified in a 380 m² area either side of enclosure ditch 12694 (Fig. 4.16B). This included four-post structure 15401, a five-post roundhouse 15496 (diameter 3.65 m), a six-post roundhouse 15479 (diameter 3.5 m), and a cluster of Middle Bronze Age postholes that possibly formed a third roundhouse (diameter 3.6 m). Further postholes may have represented other structures – arguments could be made for another roundhouse, four-post structures and a fenceline, but these are not clear.

The positioning of four-post structure 15401 to ditch 12694 suggests that the two are not contemporary and that one was constructed after the other had gone out of use. There is no evidence for a point of access through ditch 12694 to connect the two halves of the settlement and no evidence for deliberate back-filling of the ditch, so it seems most likely that the settlement preceded the ditch although not necessarily the rest of the enclosure system. Unlike *Farmsteads A* or *B* no waterholes were associated with these structures. Further excavations to the north-east of this area (see Volume 2) did not reveal any further evidence of Middle Bronze Age structures.

A second habitation area was revealed at the extreme northern tip of the site/*LH6*. This consisted of roundhouse 10696, which had a diameter of 4.54 m. Because of the limited area of excavation in this part of the site it is unclear whether this was part of a more extensive area of settlement.

In 2014, the area to the north of enclosure group 13124 was excavated to reveal further enclosures. No definite structures were identified but there was a general increase in the quantity of finds recovered from pits and ditches that suggests occupation within the local area. This will be explored further in Volume 2.

The Evolving Landscape in the Late Bronze Age

Changes in Land Use and the Focus of Activity

After a period of about 300 years during which the landscape was divided up into small parcels of land, Horton undergoes a distinct change in land use. Evidence suggests that the need for rectilinear enclosures with associated settlement was no longer required. Such changes are seen stratigraphically towards the south of the site and show that the change was wholesale across the entire landscape. Phases of ditch realignment were undertaken across both *Farmsteads A* and *B*, where the previously regular and cell-like enclosures of the formal and organised agricultural land use were superseded by a more open, but still divided, landscape. The inception of such change may be suggested by the Middle Bronze Age *Phase 2* to *4* enclosure systems associated with *Farmstead B*, where a series of similarly aligned segmented ditches represent the introduction of a new system of livestock control and management. Several sherds of Late Bronze Age pottery were recovered from the boundary as well as from surrounding features. Evidence for Late Bronze Age activity was generally sparse, although there is some suggestion of the continuation of use of the boundaries and enclosures developed in the preceding period. Late Bronze Age pottery was evident in the upper fills of many earlier ditches and suggests a continued use of the enclosures. However, these ditches do not appear to be cleaned out and maintained, and it is unclear how long the process of abandonment took. The limited amount of artefactual evidence does not allow accurate interpretation, while ecofact data suggests a continuation of open landscape with a presence of grazing animals. Evidence for the environment in this period is provided by insects and waterlogged plant remains recovered from deposits from the large boundary ditches.

A statement of landscape change and development was made by the introduction of a substantial boundary ditch 9239, towards the southern part of the site (Fig. 4.39). This ditch was the largest on the site attributable to this period and cut across earlier enclosure ditches, indicating a period of their discontinuance and obsolescence. The full extent of the ditch was not recorded by excavation because of the continuous nature of the feature, with the western end obscured by the presence of *Palaeochannel I*. The full exposed length of ditch was at least 360 m, the longest boundary ditch investigated on-site, and showed evidence of segmentation and recutting on its extreme eastern end. Aligned approximately east-west, the feature has a slight curve in plan. Its profile and depth changed along its length, with a depth of 0.31–0.78 m (average 0.57 m) and width of 1–3.20 m (average 2.01 m). Up to five deposits filled the ditch although not all were continuous along its length, perhaps reflecting the changing nature of the natural brickearth, with some places more prone to erosion. A pair of gullies apparently formed another boundary just to the north. For much of their length they run parallel, appearing to mark out a narrow pathway, while in others they have a more braided appearance and so may indicate successive boundaries. They were extensively segmented, probably as a result of truncation, but followed the same alignment as the major ditch to the south. Artefactual evidence was limited within the shallow features and it is unclear whether both the gullies and ditch 9239 were contemporary or if one superseded the other. It is possible that ditch 9239 superseded the gullies as the major division in the area, or alternatively they may have functioned together to create a 7.50–9.50 m-wide droveway for the movement of livestock across the landscape, possibly to expedite movement to and from water sources. The waterholes of the preceding period could only have been used by small numbers of animals at any one time and the creation of such a droveway in the Late Bronze Age would facilitate the management of increasingly large herds of animals.

The change in alignment of landscape features during this period implies a substantial reorganisation in the land use and an end of the use of the earlier enclosures. Such divisional introductions within the Late Bronze Age have been noted within the wider Thames Valley, where a number of boundaries of significant length divided the landscape, in some cases large areas of gravel terrace. 'Meander cut-offs' (a term referring to prehistoric land division) have been suggested at sites such as Northfield Farm (Boyle *et al.* 1998, 33) and a 500 m-long boundary ditch at Fullamoor Farm, Clifton Hampden (Fig. 4.40). Such landscape features are identifiable where large areas surrounded on three sides by water channels (either a large meander or the confluence of two rivers) were enclosed in the later Bronze Age (or earlier Iron Age) by digging one or more boundary ditches across the fourth

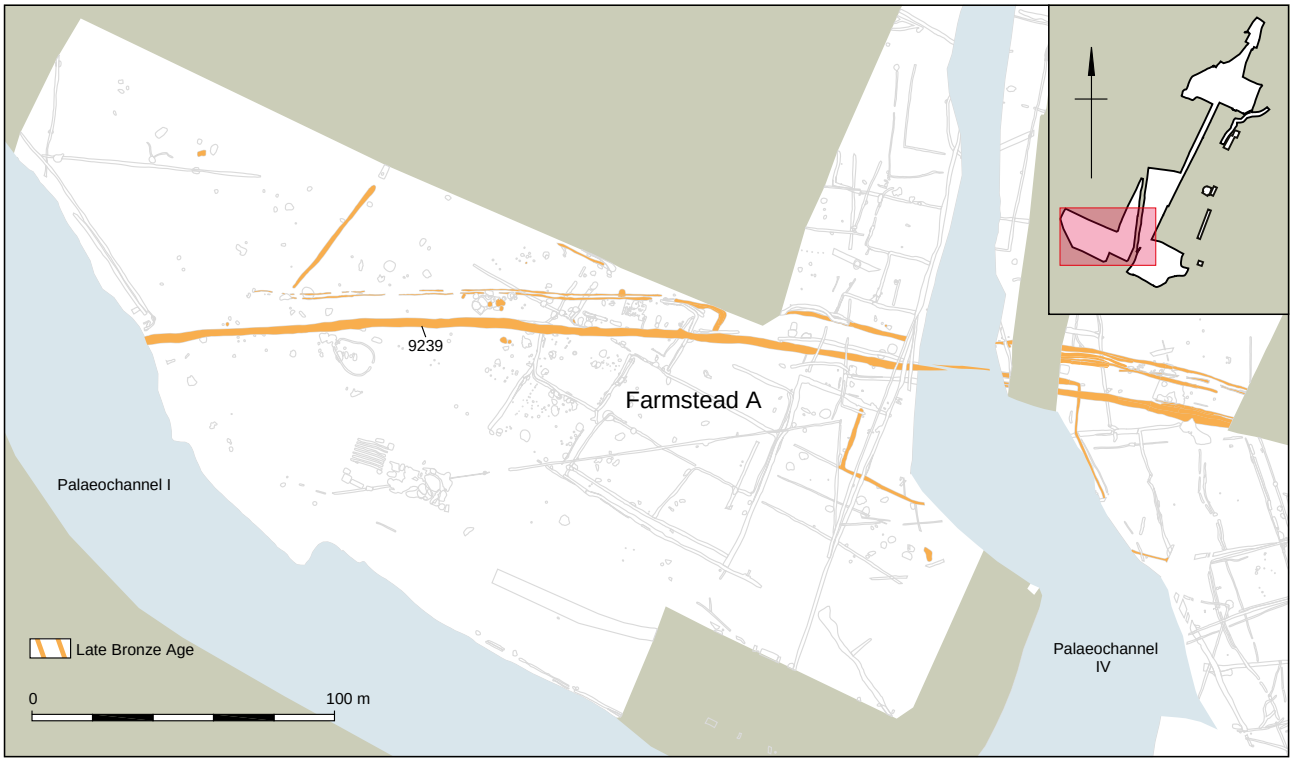


Figure 4.39 Late Bronze Age boundary ditches

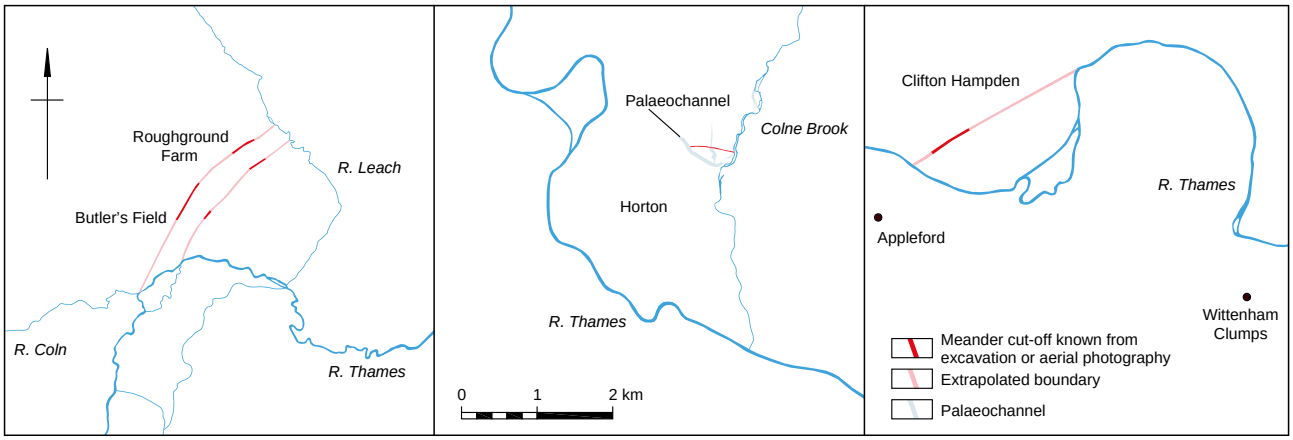


Figure 4.40 Examples of 'meander cut-offs'. Lechlade (left), Horton (centre) and Clifton Hampden (right) (adapted from Lambrick 2009, 64, fig. 3.7)

side (Lambrick 2009, 64). Examples at Wasperton, Warwickshire (Hingley 1996), and in the Lechlade area, at Roughground Farm, Gloucestershire (Allen *et al.* 1993, 46), have been suggested, and Yates (1999; 2007) has identified possible locations for such features within the Middle Thames Valley, such as at Datchet and Cookham, but none have been proven by excavation. There is a possibility that the boundary at Horton can be classified as a 'meander cut-off'. The presence of channels to the south and west, represented by the possible former course of the Thames *Palaeochannel I*, and the Colne Brook to the east, may provide the three aquatic boundaries with which the ditch interacts (Fig. 4.41). Further excavations will reveal the eastern extents of the boundary and may show its relationship with the Colne Brook in more detail.

The Late Bronze Age represents a significant period of change within the landscape development of the site and is predominantly characterised by the wide-scale sub-division of the land for agricultural purposes. The dearth of artefactual evidence associated with the period suggests a change in settlement foci and patterns for communities at the time, away from those with a Middle Bronze Age origin. More evidence from the later Bronze Age was seen at RMC Land and Imperial College Sports Field, Harlington (Powell *et al.* 2015) and suggests the continued development of a mixed pastoral/arable economy. A comparatively large number of

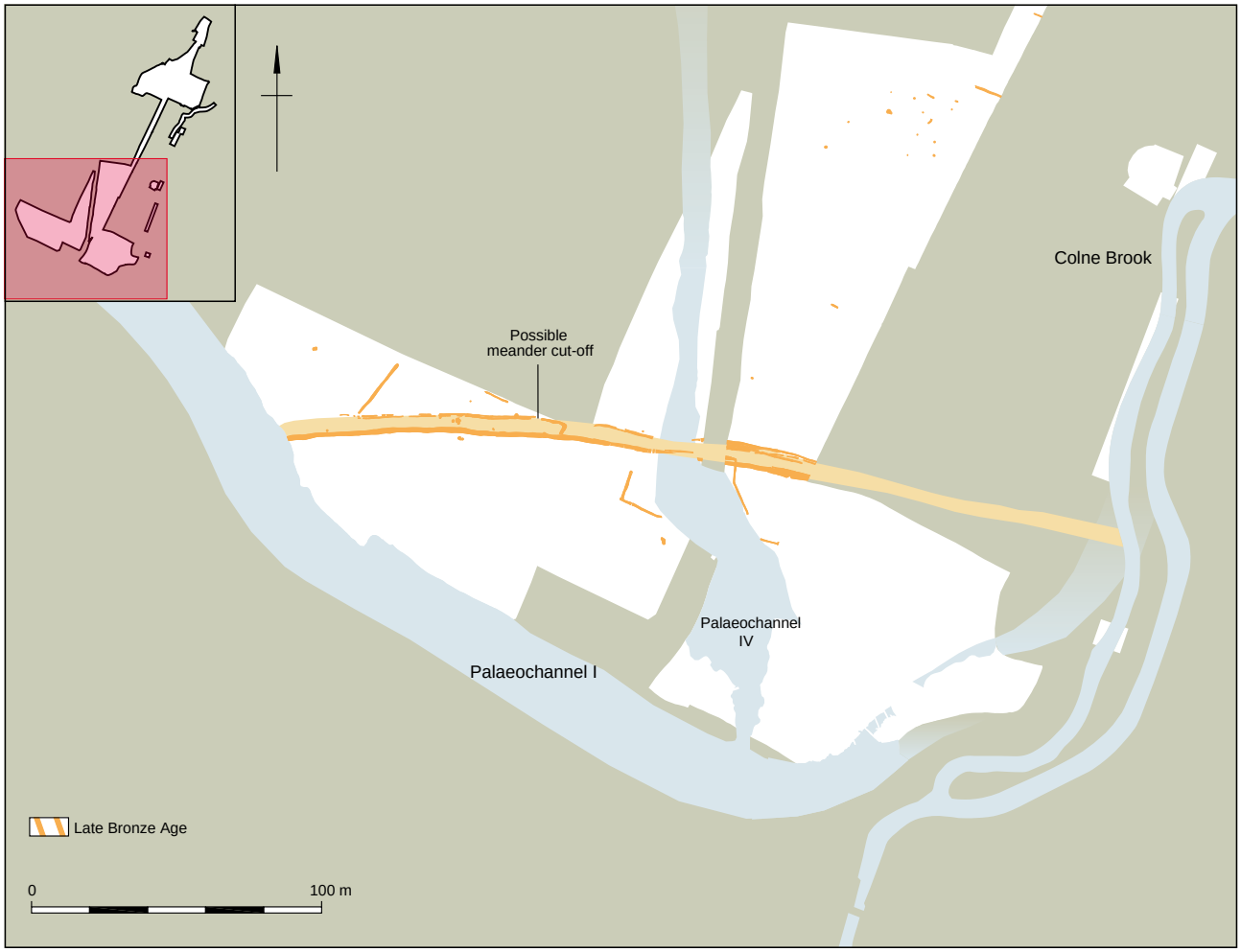


Figure 4.41 Possible meander cut-off at Horton

discrete features with associated domestic debris were dated to the Late Bronze Age at RMC Land and Imperial College Sports Field (Powell *et al.* 2015, 67–8), including pits, wells and waterholes, in addition to possible structural evidence (although no clear settlement structures were identified).

The location of settlement and inhabitation at Horton during the Late Bronze Age is not clear. The presence of a limited number of features that can be assigned to this period does not help when considering the importance of the landscape during this time. There is no evidence to suggest the size of the communities active in the area during the later Bronze Age, as the pre-existing land use of a settled farming economy is abandoned. Such a distinct change could signify the development of a more pastoral agricultural practice, and as such, reflect the economic development of the Middle Thames Valley as a whole and southern Britain in general (Valdez-Tullett 2017).

During this period we have the first conclusive evidence for the cultivation of spelt wheat (*Triticum spelta*). A glume base recovered from the lower fill of waterhole 3931 produced a date of 910–780 cal BC (NZA-33418, 2663±40 BP). The glume base in this context is interpreted as intrusive, given the assemblage is dominated by emmer wheat, a glume base of which produced a Middle Bronze Age date of 1400–1120 cal BC (NZA-33420, 3024±35 BP). While the transition to spelt wheat occurred at different times in different parts of the country, it is generally associated with a shift in arable patterns.

Discussion

The evidence recovered from the excavations at Horton has identified the presence of landscape occupation throughout the Bronze Age, and as such, enhances our knowledge and impression of the period when considering the Middle Thames Valley as a whole. Following a period of limited population and settlement of during the Neolithic, the Early Bronze Age evidence is restricted but also suggests a landscape whose resources continued to be exploited. A single feature dominated the landscape during this period and would have had greater implications for the social and ceremonial aspects of the communities who inhabited the wider area. The presence of penannular ring ditch

12869 suggests a diverse population with a greater understanding of monumental architecture and possibly, although direct evidence was not recovered, of associated mortuary rites. We do not yet know if the ring ditch acted as an isolated feature, and as such, became a focal point over a large area. Similar features, albeit of a Neolithic date, that have been excavated at nearby sites such as Heathrow (Lewis *et al.* 2006), and Harlington (Powell *et al.* 2015), were seen to potentially have been positioned with regard to both local topography and existing historic locations of significance. The feature may have been a visible and notable marker within the valley and was later incorporated into both the Middle Bronze Age field system and the Romano-British landscape. As such, the monument continued to hold a certain amount of importance and prestige well into the later periods, long after its construction.

It is impossible to suggest whether the presence of monuments or other landscape features dictated the location or layout of the Middle Bronze Age farmsteads. What is clear is the relatively sudden transformation of a pre-enclosed landscape into one dominated by an extensive network of ditched field enclosures and widespread field system boundaries. Such significant developments may suggest a wider social and economic change across the valley as a whole and point to the economic success of the preceding Early Bronze Age communities. The lowland area of the Middle Thames Valley emerged as a large-scale area of managed farming landscape, which generally continued to develop well into the Late Bronze Age. A vast amount of evidence of the network of field systems and the nature of the agricultural intensification of the area has been gathered in recent years (Yates 1999, 157), mainly as a result of the growth of developer-funded archaeological investigation. Excavations have shown that Horton was situated within an area on the Heathrow gravels, at the confluence of the River Colne with the Thames, with extensive areas of Middle Bronze Age field systems and enclosures. Concentrations of both large coaxial and aggregate field systems have been recorded at Eton Rowing Lake, Dorney, Datchet and Bray to the west of Horton, and Heathrow and Harlington to the east. The landscape appears to have undergone a sustained and simultaneous transformation, with large-scale division of substantial tracts of land. Such a development implies a corresponding increase in economic growth and associated wealth, with the emergence of settlement and farmsteads with some regularity across the valley. Evidence suggests that such a transformation in agricultural practices and social implications was focused more on the eastern and lower part of the Thames Valley, with little such activity noted within the upper reaches of the valley. The change appears to have been relatively rapid, and with little evidence to suggest that the field systems were focused on earlier field divisions. Some areas are likely to have been occupied and utilised for the first time. Such a transformation would have required widespread tree/scrub clearance to make way for the new agricultural regime. It is possible that there was co-ordinated development across much of the area, with active communication between clans or social groups. Evidence from Horton is certainly comparable to both Heathrow and Harlington nearby (Fig. 4.42), where radiocarbon dates obtained from the Middle Bronze Age field enclosures and associated settlement features such as waterholes indicate a similar date, suggesting that wide areas (about 6 km between Horton and Harlington) were being subjected to a similar landscape clearance and subsequent division at similar times (ie, *c.* 1600 BC). The alignment and general character of the systems show unerring similarities.

The large-scale development of the land, even considering its piecemeal accretion over time, reflects a huge investment in time, labour and resources and reveals the successes of the preceding Early Bronze Age communities in the accrual of livestock, population and cleared land. The division and demarcation of specific areas of land is generally thought to have been designed to improve the management of pastoral and arable resources (Lambrick 2009, 56). Such an intensive agricultural practice, focused on yield and efficiency, would have been predicated on permanent settlement and the sedentary lifestyle that goes with it. At Horton, evidence suggests that there was a focus on pastoral agriculture rather than arable cultivation, although ecofact data does indicate cereal production associated with the two farmsteads. Indeed, its occurrence is on a sufficient scale to leave a good assemblage which would appear to coincide with the development of the field systems and boundaries (see Pelling, Appendix 1). Such a pattern differs with other sites across the Middle Thames Valley, where large-scale and increased productivity of crops did not reach its height until the Late Bronze Age or Iron Age (Lambrick 2009, 56). Scant evidence for cereals was noted as such sites as Prospect Park, Harmondsworth (Hinton 1996), and Wraysbury (Jones 1989), while they were recorded in higher quantities at Harlington (Powell *et al.* 2015) and Heathrow Terminal 5 (Lewis *et al.* 2006).

While it may be difficult to establish the extent to which the fields around the settlements at Horton were used for arable production as opposed to stock management, the increase in activity does suggest a certain amount of social interaction and the definition of territory. Two separate and individual farmsteads were noted at Horton, only 300 m apart, while *Settlement C* in *LH5,* revealed in later excavations, was about 130 m north of *Farmstead B*, and the settlement activity in *LH6* was about 250 m north-east of roundhouse 20503, 180 m south of

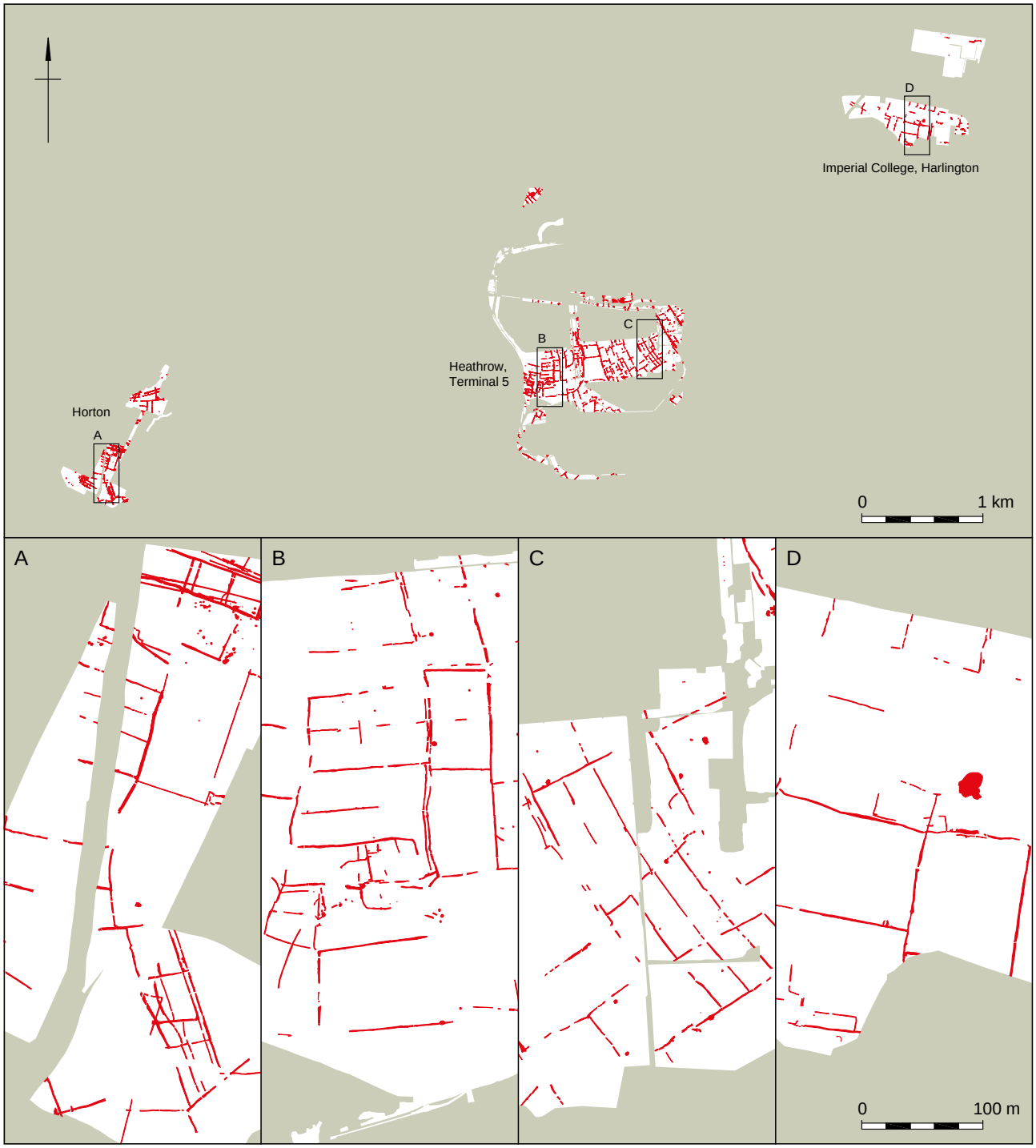
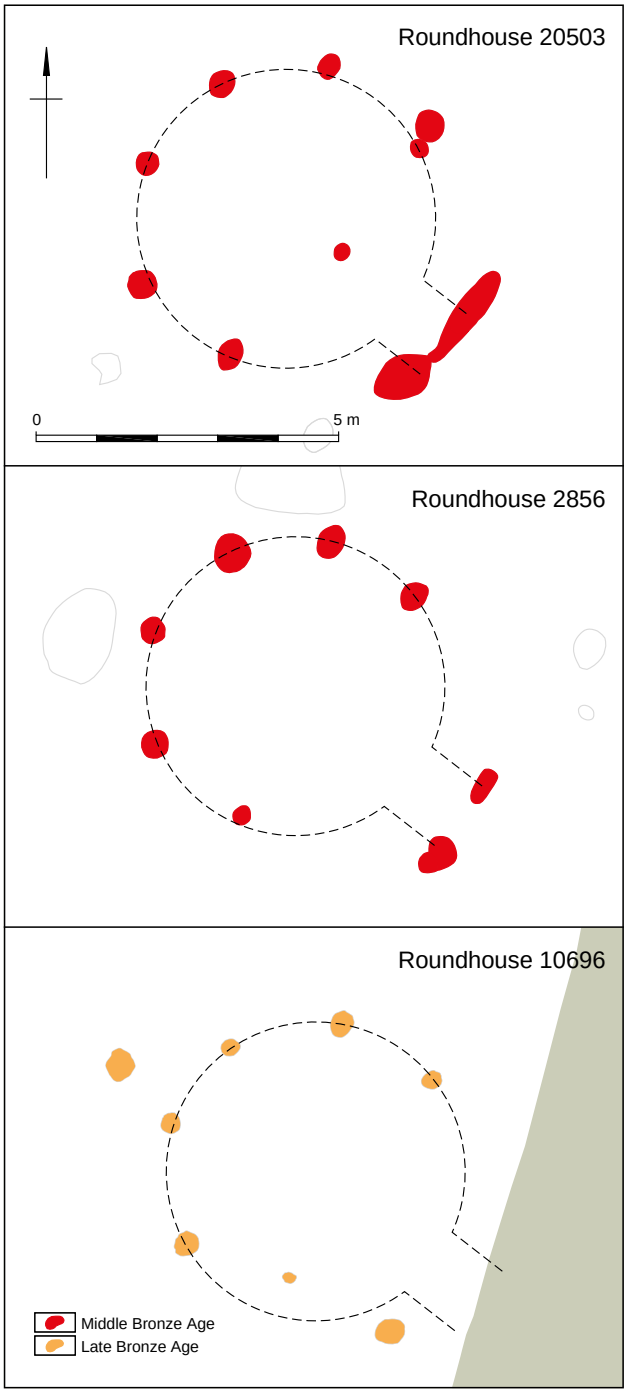


Figure 4.42 Middle Bronze Age field systems in the Middle Thames Valley – A: Horton; B–C: Heathrow Terminal 5; D: Harlington

roundhouse 10696 and 170 m south-east of *Settlement D*, the latter also revealed in later excavations.

There is a lack of firm dating evidence for the Middle Bronze Age habitation areas to sequence them or understand which were contemporary with each other, but it is not inconceivable that some degree of contemporary settlement existed in *Farmstead A*, *Farmstead B*, *LH5* and *LH6* for some parts of the Middle Bronze Age. This may have consisted of a single roundhouse with a single household in each area, but even so indicates an extraordinary intensity of inhabitation.

Focusing on *Farmsteads A* and *B*, there are similarities in their construction and in artefactual and depositional evidence. Both appear to be associated with small settlements, probably supporting a single family or small constituent group. Neither was particularly grand in scale or form, with simple rectangular field enclosures creating a functional agricultural landscape. The



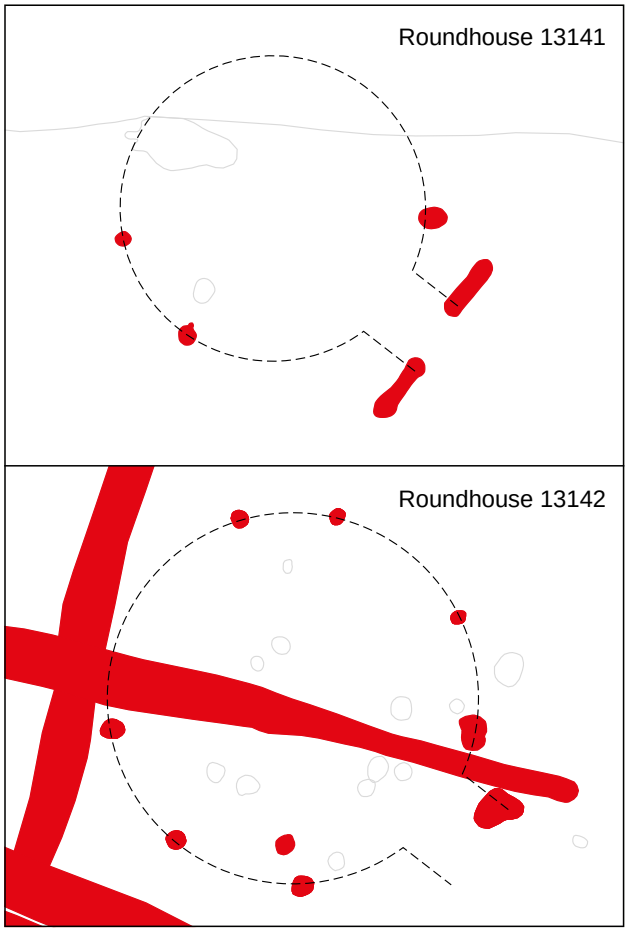


Figure 4.43 Middle Bronze Age roundhouse plans

similar alignments associated with the settlements also suggest a degree of contemporaneity. Both farmsteads were predominantly ESE–WNW aligned, and even if not laid out at the same time, one can imagine a degree of development from a pre-existing field system already established in the wider area. Functional features such as waterholes and post-built structures are integral components of the settlements, and the development of droveways and trackways around the peripheral areas suggests a continuation of an established agricultural practice, presumably associated with the movement of livestock around the outside of the farmstead.

Roundhouses, particularly defined by post construction, are relatively rare within the Middle Thames Valley, and their inclusion within the archaeological record is unusual. Five clear dwellings were associated with the Middle Bronze Age activity across the site (Fig. 4.43), with three directly associated with the farmsteads. A number of 'posthole groups' are almost certainly roundhouses and other types of structures. The architectural design of the roundhouses was very similar in terms of size and where an entrance was identified on three of the structures, it was facing south-east. Several potential examples of roundhouses were noted at Heathrow (Lewis *et al.* 2010), some with possible south-east-facing entranceways, although none were clear. The potential beam slot architectural design seen at Horton is similar to examples from Bronze Age Wessex. Structures of an almost identical design were recorded near Salisbury (Powell *et al.* 2005) where external beam slots were noted on three structures. Late Bronze Age roundhouses with porch architecture were also recorded within the Upper Thames Valley at Reading Business Park/Green Park (Allen *et al.* 2004, 19). The construction of post-built roundhouses has been explored by others, with several considerations as to their form, size and structural

elements. Basic structural principles suggest that a simple circular arrangement of postholes represents either the basic, external wall structure or supportive posts which act as the principal load-bearers (Davies 2018, Appendix 2; Lambrick and Robinson 2009, 135). No evidence for external stakeholes forming walls were recovered, although this could reflect levels of truncation across the site, or the fact that the walls may have been turf built with little subsurface impact. There is no indication as to which model the Middle Bronze Age roundhouses at Horton follow, but a diameter of 4.2 m for a roundhouse would be very small, making it most likely that the post ring was part of a structural support. Allowing for an extra 1–2 metres around the outside of the post circle, we would expect the roundhouses to have a diameter in the range of 6.5–8.5 m.

Radiocarbon dates show that *Farmsteads A* and *B* were contemporary with *Palaeochannel IV,* which would have separated them (Fig. 4.44). Indeterminate, horizontally embedded herbaceous matter taken from monolith samples provided a Beaker date of 2200−1970 cal BC (NZA-34042, 3697±30 BP) and environmental evidence suggests that a channel of some form would have been active during the lifespan of the farmsteads, possibly manifested as a marshy area affected by sporadic flooding events (see Barnett, Chapter 2 and Appendix 2). The presence of a water source may have acted as the impetus to place the settlement and agricultural landscape within this particular location. The channel appears to have had a direct influence on the development of the field system on a wider scale, whereby ditches and trackways, particularly within *LH2*, respected this feature, possibly utilising its flow as a resource.

The formation of the enclosure ditches, and indeed the act of land division, suggests changing ideas of ownership and territory and as such a fundamental change in social and political thinking. With such a change to land use came the need for improvements in organisation and livestock management, and as a direct consequence specified areas were now intensively used. The presence of an active channel during the Middle Bronze Age would have provided a physical barrier between the households of *Farmsteads A* and *B* but their proximity, and the probable contemporary habitation to the north, makes it likely that they were part of a common community that co-operated on a regular basis for mutually beneficial results (Tullett 2010). It is unclear how self-sufficient the farmsteads

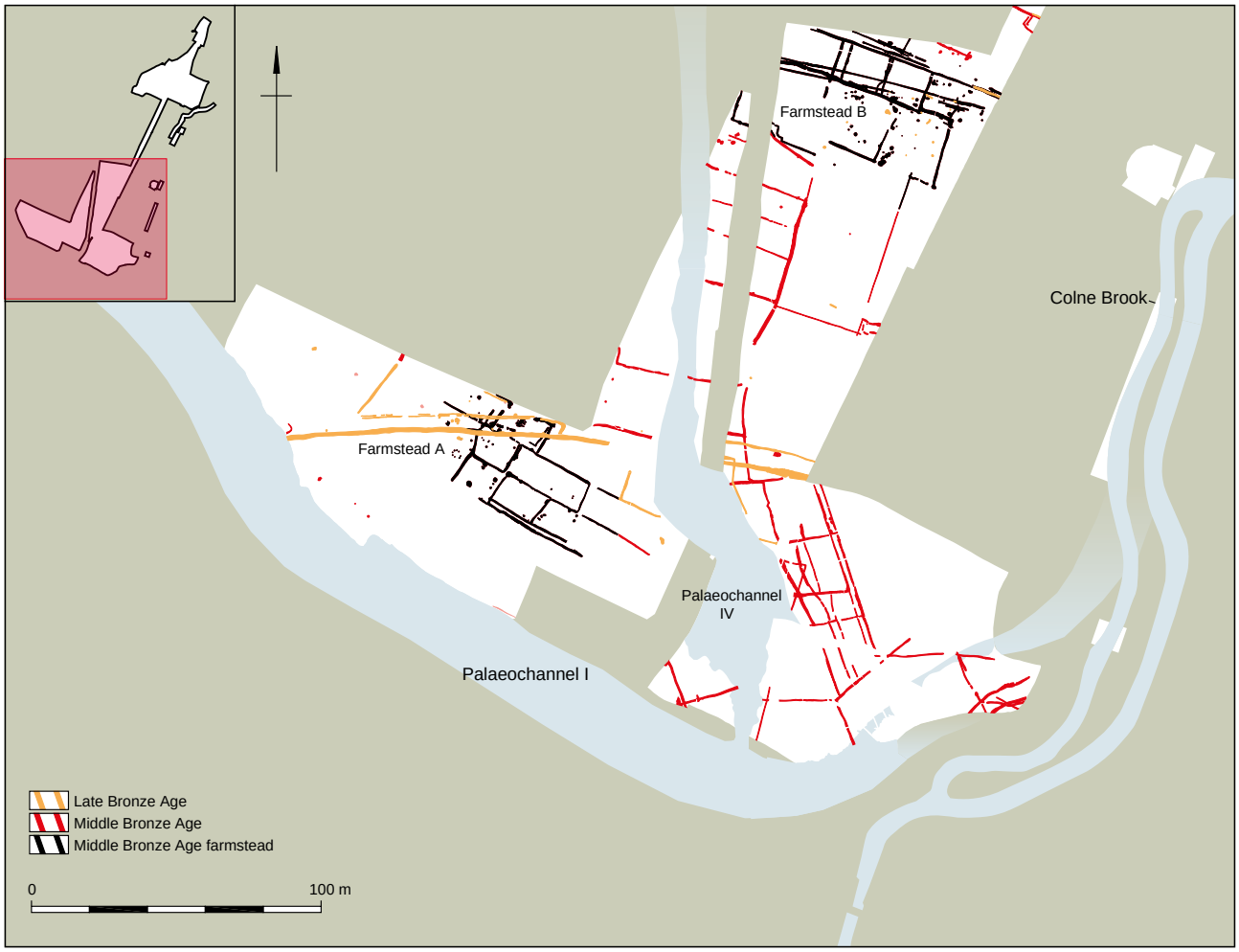


Figure 4.44 Farmsteads A and B, and Palaeochannel IV

were, but there may have been family ties between them and it is probable that there were resources that they shared access to; labour may also have been pooled at certain times during the agricultural calendar.

Despite the relatively small size and seemingly very ordinary nature of their characteristics, the settlements, and indeed the Middle Bronze Age landscape at Horton as a whole, contained some extraordinary artefacts and deposits. The distinctive metalwork represented by two pins from the Taunton phase provides an interesting insight into the trade patterns and associations with other riverine settlements along the Thames Estuary and communities farther afield. The metallurgical composition of both pins suggests connections with both British and continental metalwork, and the items may have been traded in from the Continent. The contexts within which they were deposited were nothing special. Neither was placed, and both appear to have been randomly deposited within the upper fills of enclosure ditches. Both pin types are extremely rare finds, with only a handful found (and published) in both England and on the Continent. Some have been found associated with hoards, while others represent single, solitary finds. Their typology and geographical locations may indicate a group of people who made and wore the pins during a comparatively short period, in both northern France and the south-eastern corner of Britain (Hawkes 1942).

The true significance of the presence of such high-status metalwork objects on two small adjacent farmsteads at Horton is the evidence that they provide for trade and influence within the Thames Valley during the Middle Bronze Age. Together with evidence recovered from other sites in the vicinity, they indicate the levels of interaction between contemporary communities and the larger system of interconnected relationships. Such regional communication networks underpinned systems of trade and exchange whereby social alliances combined with the economic output of farms facilitated the trade and circulation of metal and exotic goods (Rowlands 1980, 34). There is no clear evidence to suggest exactly what goods were exchanged, although others have suggested that cattle were used as a unit of value, the predominance of evidence suggesting wide-scale livestock rearing throughout the Middle Thames Valley (Yates 2007, 123). Cattle were seemingly an important part of the economies of the communities at Horton, particularly *Farmstead A*, within which a number of animals were interred around the settlement. Such special treatment of the animals suggests their importance to their owners, perhaps a reflection upon their general importance to the community – for meat, skin and hide, dairy products, and as stores of wealth. Animals and animal products, as well as agricultural produce, would have been readily available, sometimes in surplus, and livestock were probably one of, if not the principal avenue of wealth creation (Valdez-Tullett 2017; Yates 2007, 129).

The levels of economic prosperity are also suggested by the presence of other artefact types such as amber and jet, generally considered to be indicative of luxury or prestige possessions. The finding of amber, albeit in very small fragments, is significant when considering its rarity within the archaeological record, particularly the Bronze Age period. Amber was barely used within the Middle Bronze Age, except as a minor ornament, in comparison to the Early Bronze Age when its use was widespread (Beck and Shennan 1991, 71). Amber bead fragments were found within features at Horton spanning the whole Bronze Age period. A single fragment was recovered from Early/Middle Bronze Age pit cluster 12976, while pieces were found within Middle Bronze Age well 3247 (represented by a near complete biconical bead of Wessex style), and waterhole 3931, both associated with *Farmstead A*. Five small fragments were found within the Late Bronze Age boundary ditch which stretched across the southern part of the site. A tiny fragment was also recovered from the extraordinary feature 1770 (see above), within the fill dated as Late Neolithic (with associated Grooved Ware pottery). Such small fragments may of course suggest residual deposition or contamination. However, their presence across the site indicates long-standing trade and prosperity within the Bronze Age communities. Amber finds have been recorded from other excavations in the area, and although rare, may suggest wider interaction, trade networks and attitudes to prestige and ownership. A bead or spacer was recovered from an undated pit (although likely from a Middle Bronze Age context) at Heathrow (Lewis *et al.* 2010, 127). The discovery of a single perforated shale (possibly jet) object at Horton (see Bradley, Appendix 3) within pit 3718 associated with *Farmstead A* also hints at a wider network of trade and exchange. The small, irregular disc with an off-centre perforation may have been used as a pendant or a ring.

Despite the high levels of information available from the excavations, a few areas of interest will only be understood or enhanced by the future phases of work. The dearth of evidence surrounding the burial rites of the Bronze Age as a whole, for instance, does not compare with other aspects of the archaeological record for this period, a phenomenon not uncommon within the Thames Valley. Of the few inhumation burials scattered around the site which may be associated with the Bronze Age landscape, radiocarbon dates were unsuccessful due to poor collagen within the bone (see Barclay *et al.*, Appendix 6). However, subsequent excavations identified a substantial cremation cemetery associated with a barrow of Early to Middle Bronze Age date. Such a discovery is hugely significant

when considering the wider landscape, particularly when reviewing the landholding areas discussed above. *LH4* is suggested to have had a distinctly unique function, with this now apparently the area within the landscape set aside for mortuary practices of some significance (for further discussion, see Volume 2).

The social importance of the field system land use appears to have declined towards the end of the Middle Bronze Age. At some point in the 13th or 12th century BC, the farmsteads enter a phase of abandonment. At some point the farmsteads and their associated enclosed landscapes become redundant. Generally, there is no evidence to suggest whether the speed of abandonment of the Middle Bronze Age 'way of life' was gradual or sudden. It is, however, improbable that this was a sudden change and it most likely happened in a piecemeal fashion as certain field boundaries stopped being maintained, which were then followed by others, with some of the settlements falling out of use or moving elsewhere. The burial of many cattle at *Farmstead A* may be an act of closure associated with the abandonment of the settlement, although with no conclusive dating evidence and only stratigraphic relationships, this is not clear. Structural evidence recorded within both settlements suggests a limited amount of house-building, and Middle Bronze Age settlements in general across southern Britain do not exhibit evidence for long duration and habitation (Brück 1999; Davies 2018; Valdez-Tullett 2017). It may be the case that the farmsteads came to a natural end once the structures went into disrepair.

The creation of substantial new boundary ditches with new alignments suggests new economic regimes and these structural changes to the landscape probably reflect a change in the prevalent mode of production, with an ensuing shift in economic/agricultural strategies rather than a cataclysmic social collapse. The Late Bronze Age is noted for the dispersed nature of settlement, while the phenomenon of ringworks in the south-east and the Lower Thames Valley and general growth of early hilltop enclosures at locations such as Taplow (Allen *et al.* 2009) support the notion of a cultural shift. The disregard of all things prior to the Late Bronze Age at Horton can only suggest the social and cultural changes afoot within the valley but they reflect changes occurring all across southern Britain, as settlement becomes less visible and the small fields of the Middle Bronze Age landscapes are supplanted by more open landscapes bisected by longer, more substantial barriers. It has been argued that as we move into the later stages of the Bronze Age there is a crisis of confidence in the social value of bronze, perhaps spreading from the Continent, that leads to the breakdown of the Middle Bronze Age social networks (Needham 2007). This upheaval perhaps reinforces the social and economic value of livestock to the communities of southern Britain, which is reflected by the landscape reorganisation at places such as Horton (Valdez-Tullett 2017).

Chapter 5
Re-establishing and Developing the Landscape – Iron Age to Romano-British Evidence

by Gareth Chaffey and Andy Valdez-Tullett with contributions from Ruth Pelling, David Norcott and Grace Jones

Introduction

By the end of the Late Bronze Age (800 BC) activity had become far less intense across the Horton landscape, with the farmsteads and field systems that had been established in the mid-2nd millennium BC now long abandoned. However, elements of the Bronze Age field system and associated features, as well as the Early Bronze Age penannular monument, would have remained as distinctive earthworks within this later landscape. Population changes and occupation of the land at Horton appears to have ebbed and flowed after the Bronze Age, probably reflecting the changing social and political conditions. From the start of the Iron Age, a new settlement focus was founded in the north-east part of the site along the Colne Brook (Fig. 5.1). The settlement developed organically with apparent continuity, although the centre of the habitation shifted around the area throughout the 1st millennium BC. By the Early/Middle Iron Age, a small-scale farmstead had been established by the banks of the Colne Brook. This was superseded in the Late Iron Age period by a field system alignment which would provide the basis for a large-scale Romano-British farmstead. All phases of settlement could relate to that of a single small rural community.

The new settlement features incorporated some of the previous elements, such as the hengiform ring ditch and some of the ditch alignments, while elsewhere new earthworks appeared to ignore what had gone before. In such cases, they cut right across the fields and long-silted palaeochannels that had previously characterised the Horton landscape. That such remnant components were utilised or disregarded reflects the needs of the later community and how it chose to reorganise the landscape.

Environment and Landscape Change

with Ruth Pelling and David Norcott

Evidence for the Iron Age environment is scant, largely as a result of the paucity of archaeological features found during excavation. At the end of the Bronze Age, the insect and plant remains provide a picture of a relatively open landscape with rough pasture supporting human activity, arable fields and grazing animals. Alder and willow/aspen were growing along the margins of the floodplain and possibly on wetter parts of the site along the channels. Scrubby woodland-edge species and occasional stands of large trees remained on or around drier parts of the site, while open canopy woodland was not far distant. It is likely that the mosaic landscape that had existed during the Bronze Age persisted through to the Iron Age, although it is not possible to estimate the degree of any woodland regeneration. The Romano-British period appears to have been one of increased arable activity with a continued presence of grazing animals. Cereal waste, including that generated in the early stages of post-harvest processing, would suggest that at least some of the arable fields were located relatively close to the settlements (see Pelling, Appendix 1). That trees and shrubs remained on the site is indicated by the presence of unworked wood in several of the features, while alder and willow/aspen were present along the edges of the floodplain and watercourses (see Barnett and Mepham, Appendix 1). A range of deciduous species were also exploited on the drier ground, including yew, which suggests the higher chalk terraces were also being utilised. A range of herbaceous species of disturbed habitats are indicated by host-specific insects, pollen and waterlogged plant remains, such as plantains, nettle, sheep's sorrel, bracken, chickweed and docks. Particularly indicative of highly nitrogen-rich, midden or dung-rich deposits are seeds of henbane and hemlock. It is possible that manure was being collected on the site, or simply that this flora was developing due to the concentration of grazing animals around waterholes. That clearance had also occurred on more acidic soils locally is suggested by individuals of the lady bird *Chilocorus bipustulatus*, which is normally associated with heather (see Smith, Appendix 2).

As with the Bronze Age, the extent and nature of local tree cover and woodland is difficult to gauge. A relatively low number of willow buds and capsules in waterholes 18321 and 17073 suggest these trees were growing close by, although not necessarily overhanging the feature. The only insect species associated with trees were the woodworm *Anobium punctatum* and the scolytid bark beetle *Leperisinus varius*, which lives on ash (see Smith, Appendix 2). Ash is also indicated by the pollen from the early Romano-British feature 18036/18299 (see Grant, Appendix 2). It is possible that ash was locally colonising areas previously open or cleared, including damp, previously grazed meadows. A range

of tree and shrub species from the same pollen levels were identified in small numbers, including elm, oak, poplar/aspen, field maple, dogwood and *Sorbus* type (including hawthorn, cherry, apple and whitebeam). This range of species is reflected in the charred and waterlogged wood assemblage, which included oak, ash, willow/aspen, alder, hazel and pomaceous fruits (see Barnett, Appendix 1 and Barnett and Mepham, Appendix 1) and suggests open canopy woodland and small stands of trees and scrub locally, with willow/aspen and alder persisting on the margins of the floodplain and channels.

The preservation of both charred and waterlogged plant material in the waterholes of this period was often exceptional (see Pelling, Appendix 1) indicating relatively stable post-depositional conditions and presumably a more stable water table. The sediments conversely do indicate periods of temporary drying out and mineral translocation under fluctuating ground

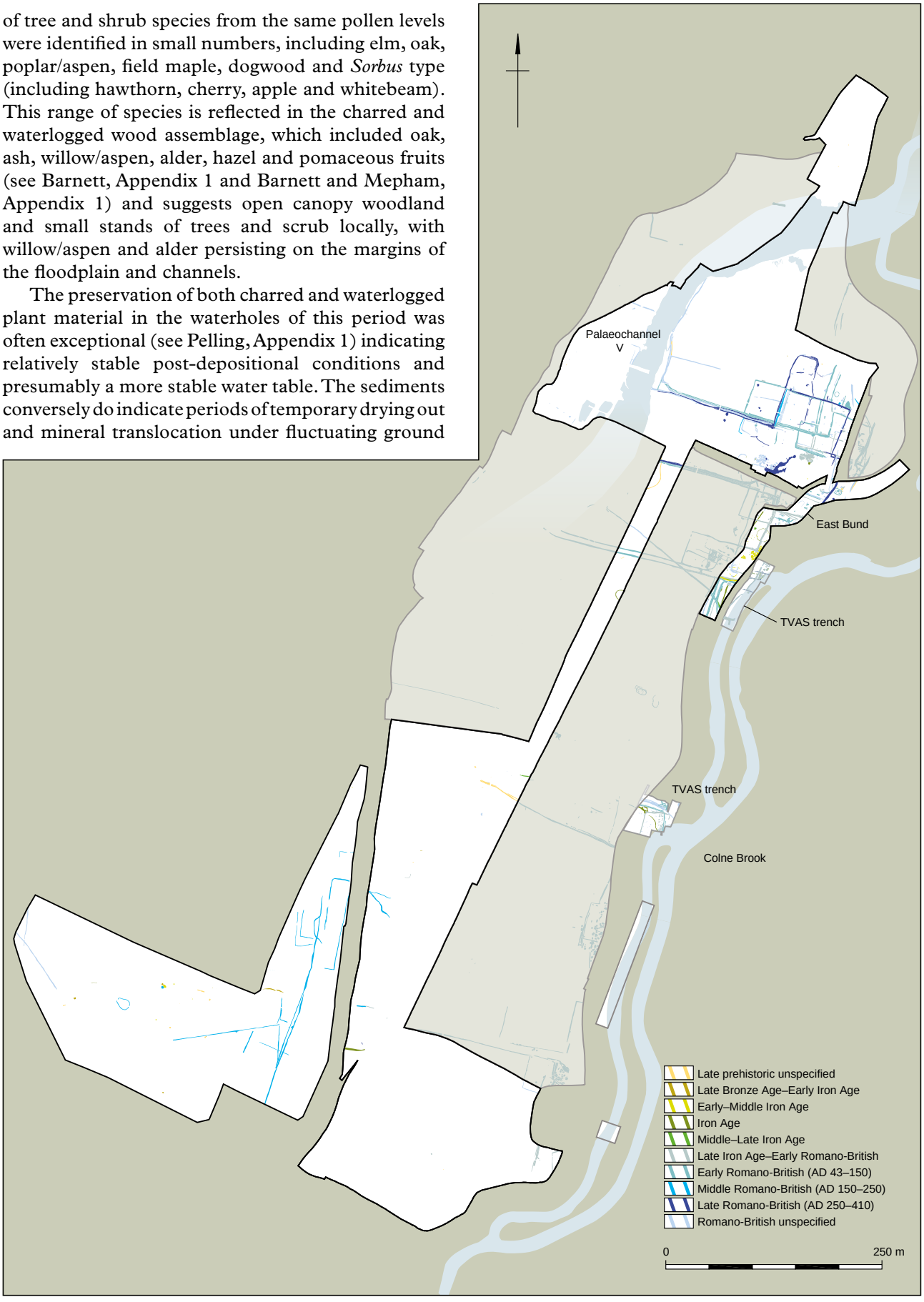


Figure 5.1 Iron Age and Romano-British features at Horton

water conditions (see Barnett *et al.*, Appendix 2), although given the remarkable preservation of some of the plant remains this is presumably less severe than in the Bronze Age. Equally the pollen, insects and waterlogged plant remains do indicate the presence of some standing water in at least some of the waterholes as would be expected, with the occurrence of white water-lily, bladderwort, pondweed, *Sparganium emersum* type and iris (*Iris*) indicated by pollen in waterhole 18036/18299 (see Grant, Appendix 2), duckweed in waterhole 16816 and a range of water beetles in all features examined for insects (see Smith, Appendix 2). The presence of water-lily may be intrusive, possibly a result of flood events leaving traces within the base of the feature.

The major channels had reduced to areas of marshy, boggy landscape by or during the Bronze Age, and are likely to have remained so through the Romano-British period. It is possible that the cessation of moving water and the presence of boggy conditions rendered the southern part of the site unattractive to the rural community in the Romano-British period. Shallow *Palaeochannel V*, which is situated very close to the main area of Romano-British settlement in the northern part of the site (Fig. 5.1), was probably active in the Romano-British or Saxon periods. Analysis of the molluscs from the channel fill indicate that during this time it held slow-moving, well-oxygenated water with a muddy substrate and dense aquatic vegetation (see Wyles, Appendix 2). Faster-flowing water appears to have been moving through ditch 5414 in the southern part of the site (see Wyles, Appendix 2). The assemblage included *Theodoxus fluviatilis*, a water snail characteristic of larger rivers and favouring rapidly moving water, and is indicative of a fully riverine environment (Boycott 1936, 141). The fast-flowing fluvial activity within this feature is at odds with the lack of movement within the large *Palaeochannel I*, but presumably the latter is associated with some sort of drainage in this area of the site. As it is situated at some distance from the majority of the Romano-British activity it is difficult to relate it to any settlement activity, although it could be related to the drainage of arable fields.

There is strong evidence of wet or damp, grazed meadows for this period in the northern part of the site and adjacent to ditch 5414 in the south. The presence of *Vallonia pulchella/excentrica* in *Palaeochannel V* indicates an area of water meadow, moist pasture or marsh in the immediate vicinity (see Wyles, Appendix 2). Similarly, molluscs in feature 5414 include amphibious species indicative of swampy patches and bare or poorly vegetated ditch margins, such as *Anisus leucostoma* and *Lymnaea truncatula*. Moist pasture or long grass is indicated by the land snail element of the assemblage, which is dominated by *Trichia hispida*. Insect remains from the waterholes point to open grazed pasture and include individuals that are associated with animal dung, such as the *Onthophagus* and *Aphodius* dung beetles (see Smith, Appendix 2). The plant remains include a number of wet or marshy ground species, such as the sedges and rushes, which could have been growing on the edges of the damp ground around the waterholes, with only a slight indication of duckweed within the waterhole indicative of possible shallow water (see Pelling, Appendix 1). Damp grassland around the features is suggested by meadowsweet, also present in the pollen profile from this feature (see Grant, Appendix 2), while drier grassland is suggested by selfheal. The pollen similarly indicates grassland, with grasses dominant in the spectrum from feature 18036/18299 and feature 10968. Meadowsweet, yellow rattle, ragged robin, sedges, *Silene vulgaris* (bladder campion), *Equisetum* (horsetail), *Selaginella selaginoides* (lesser clubmoss), Lactuceae undiff. (including dandelion and chicory) and *Solidago virgaurea* type (daises/goldenrods) are all associated with damp grassland or meadow and disturbed habitats. *Rhinanthus minor* is a classic species of damp hay meadow, and it is possible that this range of species came from managed hay meadows (Greig 1991, 256).

The evidence for arable activity is derived from both the charred plant remains and the pollen. The pollen spectrum includes a constant presence of Cerealia-type grain in the lower levels of feature 18036/18299, although this pollen may simply derive from deposits of cereal within the feature rather than fields in the vicinity, cereal remains being present in both the charred and waterlogged plant assemblage from this feature. The charred plant remains were dominated by evidence for cereal processing of spelt wheat, emmer and barley. An exceptionally well-preserved charred assemblage from early Romano-British pit 18321 has produced a particularly useful range of material. The assemblage from this particular feature is dominated by cereal remains and associated arable weeds, and includes a large number of culm (straw) nodes, basal nodes/rhizomes and the rachis fragments of barley, which have been interpreted as derived from sheaves (see Pelling, Appendix 1). Their presence would suggest arable activity local to the site. The weed assemblage associated with the arable waste includes species indicative of cultivation conditions and soil types. Stinking chamomile (*Anthemis cotula*), appearing for the first time in this period, is usually associated with the cultivation of heavy clay soils (Jones 1981). The continued cultivation of lighter circum-neutral soils is also indicated by species such as scentless mayweed (*Tripleurospermum inodorum*) and parsley-piert (*Aphanes arvensis*), while it has been suggested that nettle-leaved goosefoot (*Chenopodium murale*) is also associated with free-draining sandier soils.

The association of wet ground species including blinks (*Montia fontana*), sedges, rushes and spikerush with cereals suggests the cultivation of low-lying soils prone to waterlogging. It is likely therefore that the catchment area for arable cultivation was fairly broad but may well have included lower-lying fields close to the settlement activity.

The Developing Agricultural Landscape in the Iron Age

The ephemeral traces of activity within the Late Bronze Age noted at Horton reflect a pattern seen across much of the Middle Thames Valley (Fig. 5.2). Occasionally settlement evidence has been found to increase in intensity from the end of the Late Bronze Age, eg, Yarnton (Hey *et al.* 2016) and Gravelly Guy in the Upper Thames Valley (Lambrick and Allen 2004) and at Imperial College Sports Ground (Powell *et al.* 2015). All show a degree of continuity from the Late Bronze Age into the Early Iron Age and possibly reflect a more 'open' agricultural economy in comparison to the 'enclosed' systems of the Middle Bronze Age. Intensively farmed land and occupied settlements have also contained evidence for dense clusters of pits. Such sites tend to be found in the Lower Kennet and the Upper Thames Valleys, such as at Aldermaston Wharf, Reading Business Park/Green Park and Cassington West (Lambrick and Robinson 2009, 105). Excavations at Gravelly Guy, Oxfordshire, revealed over 800 pits, some of which were of Early Iron Age date, and which were probably used for grain storage (Lambrick and Allen 2004, 103–59). Such evidence is less pronounced within the Middle Thames Valley, with seemingly fewer settlements, although it is not clear whether this is a genuine absence of activity rather than a failure to locate sites (Brown and Smith 2010). Indeed, the differences in occupational and domestic features may simply reflect the changing character of agricultural production, such as arable intensification in the upper reaches of the valley.

The evidence at Horton is limited, with no domestic settlement recorded attributable to the transition into the Iron Age. Activity in the later part of the Bronze Age is limited to the extreme southern part of the site, and is dominated by the large boundary ditch 9239, discussed in Chapter 4 as a possible 'meander cut-off'. Sporadic activity evidently continued, with several Late Bronze Age, Late Bronze Age/Early Iron Age and Early

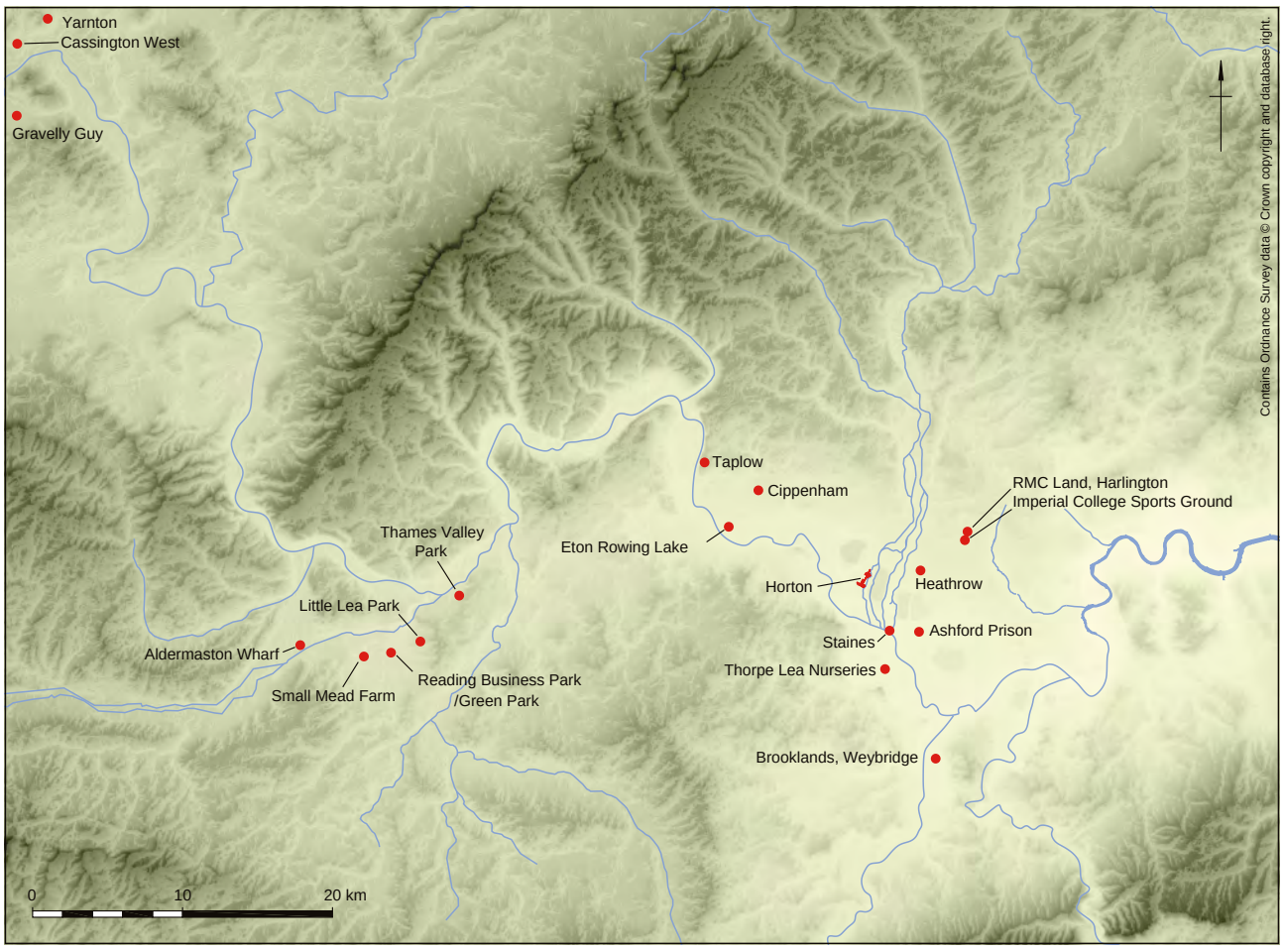


Figure 5.2 Iron Age activity in the Middle Thames Valley and West London gravels – selected sites

Iron Age pits situated within a few metres of this boundary. This is a phenomenon for this period noticed elsewhere and is a relationship that may be associated with extensive pastoral practices such as transhumance (Valdez-Tullett 2017). Early Iron Age activity was also noted at the northern end of the site, but it is a generally poorly defined period. Whether this reflects limited human activity in the area during this time is a moot point.

During the Middle Iron Age period, the emergence and development of small enclosed farmsteads on the lower-lying terraces of the River Thames is likely to represent a continuation from earlier periods rather than a distinct change in cultural and settlement patterns. Consisting of roundhouses, sometimes in groups, and associated enclosures, paddocks, post structures, farmsteads developed as enclosed areas of activity, with work and domestic areas represented. Many of the roundhouses were demarcated by surrounding drip gullies, often penannular in shape, designed to catch and drain away rainwater running off the roofs. Often no contemporary internal postholes or structural elements are visible, although this may be due to construction techniques that employed stake walls, turf walls or post pads rather than ground-fast posts. Such gullies are often the only form of evidence to define domestic dwellings in the absence of any internal, direct structural evidence. Gullies may have also been used to demarcate penning areas, and examples at Shorncote, Gloucestershire, suggest that such features were only associated with animal use (Hearne and Heaton 1994, 32).

Relatively large areas of the Upper Thames Valley appear to have been densely settled by the Middle Iron Age, although such an observation is not clear in the Middle Thames Valley. Iron Age settlements of differing complexity and size have been recorded throughout the lower valley, such as at Heathrow (Lewis *et al.* 2010), which consisted of a large area characterised by a cluster of penannular and associated enclosures, or at Ashford Prison (Carew *et al.* 2006), where a much smaller enclosure group appeared to be associated with the River Ash and a palaeochannel.

Due to the nature of the excavated areas at Horton, an irregularly shaped area at the north-eastern part of the site was stripped to facilitate the construction of a subsoil bund (Fig. 5.3). A large concentration of features was found in this area, indicating a so-called riverside settlement, referred to as the *East Bund*. This area will be the subject of further investigations that should reveal the western extent of the archaeological evidence, as well as relationships between various periods associated with the wider prehistoric landscape. The restrictive nature of the strip, which was 17 m at its widest, does somewhat hamper the interpretation of the archaeology. However, subsequent excavations will enable a better understanding of the area to be established and thus the evidence for this area will be summarised here and discussed in more detail in Volume 2.

Settlement Evidence during the Early/Middle Iron Age – Roundhouses and Structures

The Early/Middle Iron Age settlement evidence at Horton reflects a trend seen throughout the Thames Valley floodplains. Although sparse, it is possible to identify a clear change in agricultural and landscape use at the start of this period. Developing out of the major landscape divisions of the large-scale aggregate field systems and subsequent periods of abandonment and change in the Late Bronze Age, a new settlement focus consisting of smaller, more contained areas of activity is established in the northern part of the site (Fig. 5.3A). The banks of the Colne Brook appear to have provided an attractive location for this new 'riverside' settlement, and there is limited evidence to suggest that this establishment took place sometime around 700 BC. A possible roundhouse 13127 (Fig. 5.3B) was located towards the southern end of the *East Bund*, and featured a heavily truncated arc of shallow gullies and postholes open on the eastern side, with its western side removed by later features. The southern extents of the gully were formed by an irregular group of intercutting features (possibly postholes or pits), and together with the more regular northern gully, would have had an internal diameter of 8.70 m. Artefactual evidence, consisting of pottery, burnt flint, animal bone and ceramic building material, was recovered from this feature, which was eventually cut by a Late Iron Age enclosure ditch. Feature 12611 immediately to the south of the gully is also attributable to the Early Iron Age period and is likely to represent an associated boundary ditch. Other settlement evidence related to this period is sparse.

Roundhouse 12070 formed the single clear structure attributable to the Early/Middle Iron Age period, represented by a shallow drip gully demarcating its extents (Fig. 5.3C). With a diameter of 13.40 m, the entranceway was located on the south-eastern side (4.20 m wide). Only a single phase of construction was noted, and there was no evidence for a hearth. Numerous slots excavated in the penannular drip gully yielded only limited artefactual evidence.

Associated features in the vicinity of roundhouse 12070 indicate the domestic nature of the small-scale settlement. Two similarly sized four-post structures, 12337 and 12338, lay only 2.40 m to the immediate west of the drip gully (Fig. 5.3C), and may have provided storage space for grain or similar produce. All postholes were of a comparable size and depth, and the close proximity of the two structures may

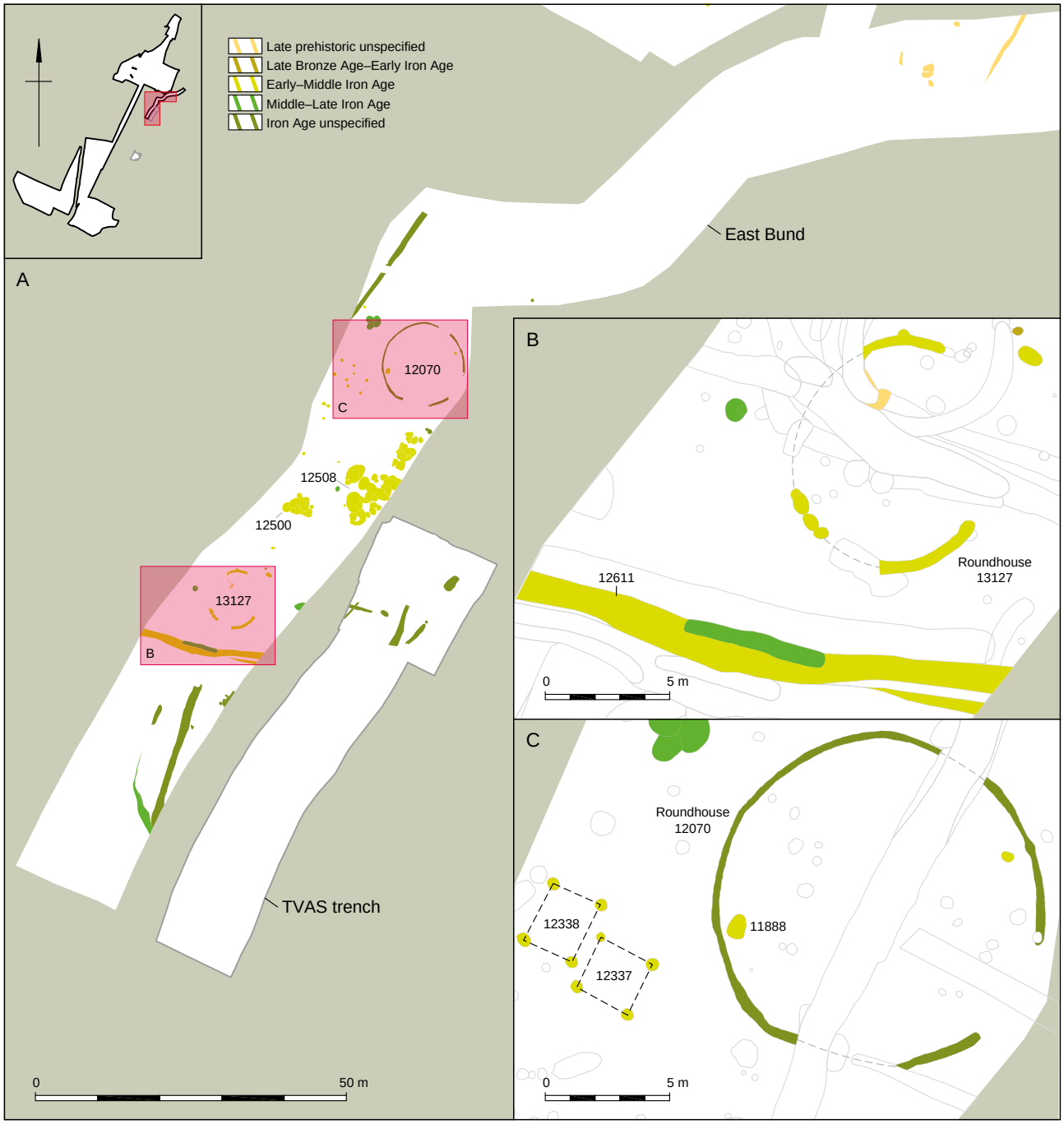


Figure 5.3 A: Close up of the East Bund – Iron Age archaeology, B: Early Iron Age roundhouse 13127 and ditch 12611, C: Roundhouse 12070 and four-post structures

suggest they are contemporaneous. Several groups of shallow, intercutting pits were excavated and can be identified as being of a similar Middle Iron Age date. The largest of such, sprawling pit cluster 12508 (Fig. 5.3A) 6.50 m to the south of roundhouse 12070, contained 55 individual pits over a large area of 162 m² (Fig. 5.4), and represents persistent use of this area. The true function of the pit clusters is unclear, and with many of the pits being of insufficient depth to be usefully used as storage pits, they may have acted as voids for the dumping of rubbish/domestic waste. An alternative explanation that they could represent small quarry pits, where clay and natural brickearth was retrieved for use in building or pottery making for the nearby settlement, seems unlikely as the later pits were cut through the backfill of earlier pits. Whatever their function, the concentration of shallow and intercutting pits is unusual. Such repeated activity may imply that the pits were associated with a range of well-established functional activities associated with the site. The features were reasonably rich artefactually, with pottery fragments, worked and burnt flint, animal bone, ceramic building material, fired clay, slag and burnt stone represented. Pit 11827

Figure 5.4 Pit cluster 12508 – pottery distribution and notable finds. Insets of coin, ON 1159, and shale armlet, ON 1160

contained a fragment from a shale armlet, ON 1160, with two unusual perforations (see Bradley, Appendix 3), and a copper alloy potin coin ON 1159 from pit 11872 (Fig. 5.4). The latter was found broken into five separate pieces (perhaps deliberately) and dates to the Late Iron Age (90–75 BC). It is the first 'Thurnham Type' potin to be found during a controlled archaeological excavation (see Cooke and Holman, Appendix 4). The complex artefactual concentrations may suggest that the pits had a dual function – having been excavated for an unknown purpose, they may have then been used for discarding general waste associated with the nearby occupation, and the sheer quantity of artefacts may indicate this. The presence of later Iron Age materials may also indicate that such areas were left to naturally infill over a period of time, rather than backfilled soon after the features were dug. Similar pit clusters of Early/Middle Iron Age date were also noted at Heathrow nearby, where their function also remained ambiguous (Lewis *et al.* 2006, 198). More than 100 pits and numerous associated postholes were also recorded at Taplow Court, a Late Bronze Age hilltop enclosure and Iron Age fort (Allen *et al.* 2009).

There is no indication as to whether the Early/Middle Iron Age farmstead represents an 'enclosed' settlement, such as at Thames Valley Park, Reading (Barnes *et al.* 1997), or an 'open' one, such as at Brooklands, Weybridge (Hanworth and Tomalin 1977), as the nature of the *East Bund* strip does not allow accurate identification. It is possible that Middle Iron Age roundhouse 12070 and its associated features did belong to an open landscape, which then became obsolete and disused prior to the Late Iron Age restructuring phase discussed below. This in turn became the basis for a subsequent complex of Late Iron Age and Romano-British ditched enclosures that incorporated Middle Iron Age ditch alignments. At present, given the evidence and archaeology recorded, it is likely that only a small family or community was associated with the farmstead, with a time frame of about 600 years from its inception to its distinct and

clear phase of disuse. A further possible roundhouse 12963 (Fig. 5.1) was recorded in a thin strip of site (the *Conveyor* strip), 150 m to the south-west of roundhouse 12070, although the limits of the excavation prevent its full excavation. Possibly of Iron Age date (no datable material was recovered), it may indicate a much wider area of activity in the northern part of the site. Later excavations also identified two large concentrations of pits that chronologically span the whole of the Iron Age and into the early Romano-British period along the banks of the Colne to the south (see Volume 2), suggesting that the settlement to the north was part of a wider community of small settlements.

Late Iron Age Settlement Development

The focus of activity continued in the north-east during the later Iron Age and is characterised by the creation of a series of stock enclosures/fields. Settlement activity on the *East Bund* dissipates and subsequent excavations show that at some point around 100 BC the occupation moved westwards, immediately adjacent to the former activity (see Volume 2). The creation of small fields/stock enclosures (Fig. 5.5A) may indicate the start of a process of agricultural intensification as systems were put in place to manage livestock more

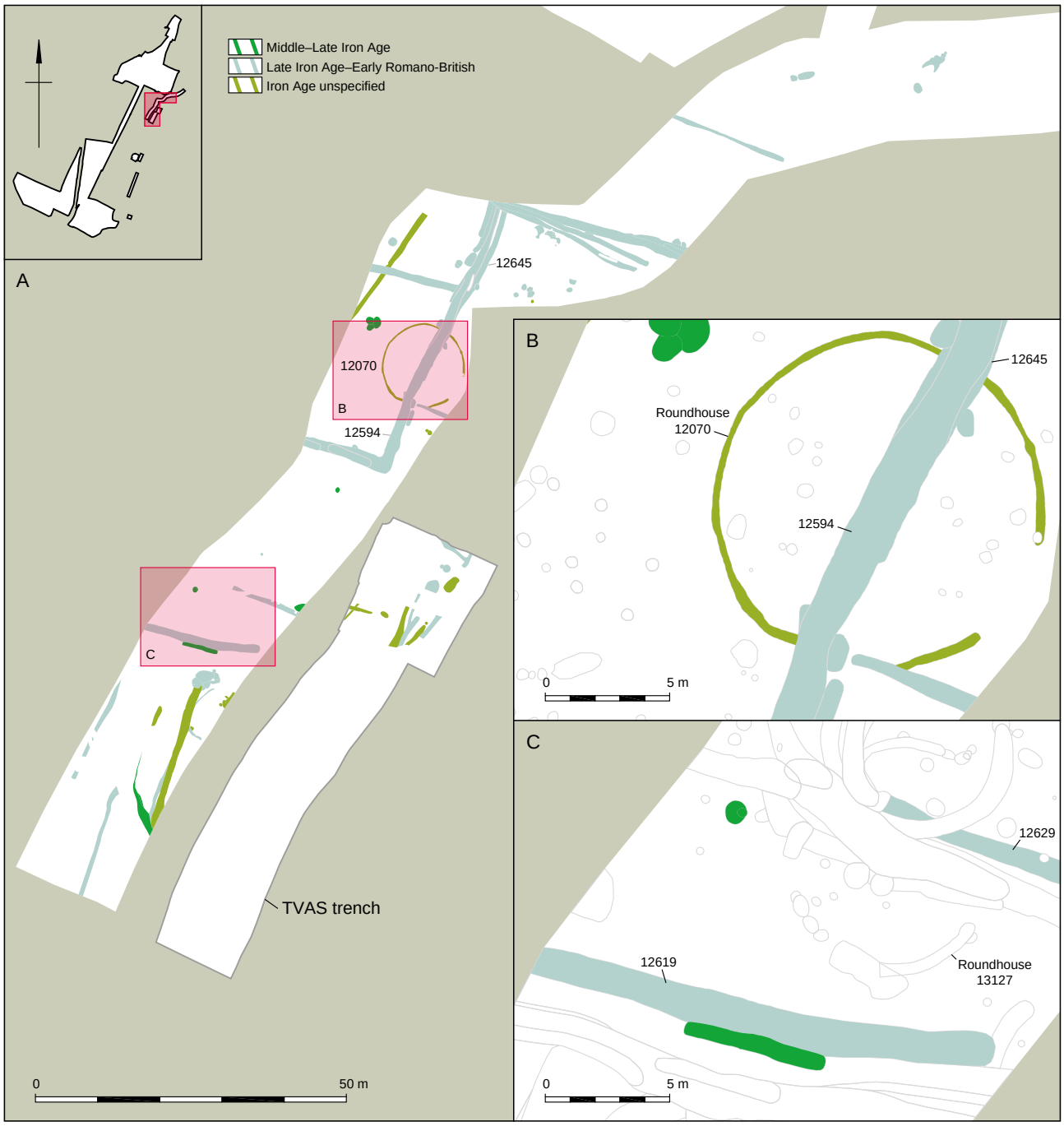


Figure 5.5 A: Late Iron Age features; B: Roundhouse 12070 with ditch 12594; C: Ditch 12619

Figure 5.6 Early/Middle Iron Age and Late Iron Age pottery distributions and coin, ON 1164

effectively and which continued to expand into the Romano-British period.

The changes observed at Horton match those seen at nearby sites in the Middle Thames Valley and may reflect a pattern of social and economic changes inherent in the wider community. Late Iron Age structures were identified at Cippenham in Slough (Ford *et al.* 2003, 53); three roundhouses of possible Middle to Late Iron Age date were identified at Imperial College Sports Ground (Powell *et al.* 2015); and a further four were excavated at Ashford Prison near Staines (Carew *et al.* 2006). The new enclosure system, aligned roughly SSW–NNE and ESE–WNW, is likely to have respected the western bank of the Colne Brook and cut across the earlier features. Ditches 12594 and 12645, exemplify such a relationship as they cut through the footprint of roundhouse 12070 (Fig. 5.5B).

Similar examples of boundary ditches associated with a major reorganisation of a settlement physically cutting through earlier roundhouses have been found elsewhere. At Park Farm East, Kent, at least three Middle to Late Iron Age roundhouses were truncated by Late Iron Age ditches, suggesting a substantial reorganisation of the landscape involving the increased need for division of space for social, economic or political reasons (Powell 2012). More locally, excavations at Thorpe Lea Nurseries identified a Late Iron Age or early Romano-British enclosure which superseded an earlier group of irregular ditches, pits, postholes and gullies (Lambrick and Robinson 2009, 130).

The imposition of such a new divisional system on the landscape clearly had a large influence and impact on the later Iron Age communities. The artefactual evidence suggests an increase in activity during the Late Iron Age period, with pottery and animal bone present in higher quantities than the preceding Early/Middle Iron Age period (Fig. 5.6). Finds included worked stone, slag, fired clay and ceramic building material, while the presence of a coin (ON 1164) within the major boundary ditch is also significant. Representing a silver half unit, the date of the coin probably falls within the mid- to late part of the third quarter of the 1st century BC (75–50 BC), and as such, provides a fairly precise date for the development of this area of the site. Other significant depositions associated with this period include the placing of a horse cranium, ABG 1157, with a possibly articulated mandible, accompanied by the complete remains of a young dog, ABG 1158, at the base of the corner of the field enclosure, represented by intervention 11903 (Fig. 5.7). The dog appeared to have been 'wrapped' around the skull of the horse, and as such, represents a structured deposit of possible ritual significance. It is possible that the deposition signifies the closure

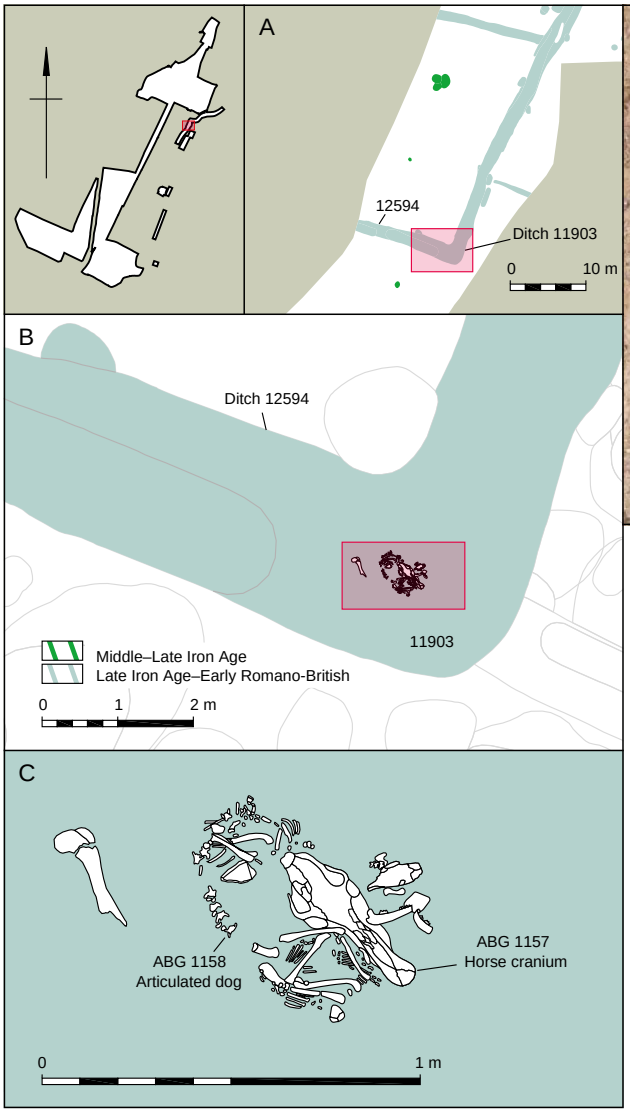


Figure 5.7 Articulated Bone Groups (ABGs) and ditch 11903

of one phase and acts as a 'foundation deposit' for the new system of land division. A cattle metatarsus, a pig rib and two mammal bone fragments were also associated. Similar depositional practices have been associated with Iron Age sites across the country, often placed within storage pits, possibly signifying their end of use. Excavations at Danebury, Hampshire, for example, have shown comparable depositions of animal carcasses, whole or jointed, at the base of features (mainly storage pits) (Cunliffe 1991, 517). Such depositional practices could be concerned with fertility rites and could have been intended to guarantee the future agricultural productiveness of the farmstead as a whole.

A boundary ditch 12611 was also noted on the *East Bund* strip immediately south of the location of Early Iron Age roundhouse 13127 (Fig. 5.3B), although only a short section was excavated. The boundary was recut a number of times, with signs of re-establishment during the Late Iron Age as well as the Romano-British period.

A limited amount of activity attributable to the Late Iron Age was excavated in the extreme south-eastern corner of the site, and is likely to represent some form of riverside activity close to the River Colne (Fig. 5.8). Low levels of artefactual material indicate that it could have been of an agricultural nature rather than a focus of settlement. A series of three enclosure ditches, aligned roughly north–south, provided an indication for further activity additional to that to the north. Here, a substantial ditch 25082 cut two smaller but similarly aligned ditches/gullies 25085 and 25084. It is possible that the earlier features formed a small trackway, with the larger ditch 25082 re-emphasising the alignment, possibly to establish a larger field system of which this represents the western extents. Further evidence of agricultural use of the landscape during the Late Iron Age/early Romano-British period in this area is suggested by enclosure ditch 25070, located on the extreme eastern limits of the site. The ditch was aligned north–south before turning east–west at a near right angle. No direct evidence of settlement structures was recorded, although finds such as loomweight fragments were recovered (Wessex Archaeology 2010; see also Volume 2).

The Rural Romano-British Landscape of the Middle Thames Valley

The development of the rural Romano-British landscape of the Middle Thames Valley is intrinsically associated with the pre-existing agriculturally based landscapes of the Late Iron Age. Indeed, the invasion of AD 43 would have had little immediate impact on the day-to-day lives of the rural populations settled in the valley, and little impression on the region's settlement development (Booth *et al.* 2007, 33). Ceramic forms and traditions show continuity, and patterns of settlement and agricultural practices all exhibit permanence rather than change.

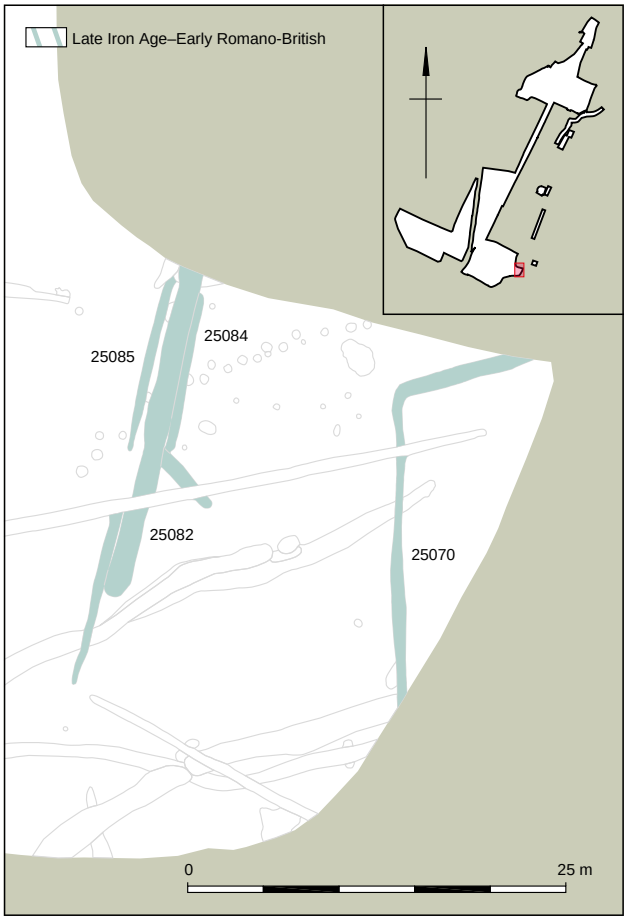


Figure 5.8 Late Iron Age activity

Elements of continuity of settlement from the Late Iron Age, or 'Belgic' traditions, in the Middle Thames Valley are visible in the archaeological record. There is a suggestion of agricultural intensification throughout the Colne Valley floodplain during the Late Iron Age/early Romano-British period, particularly related to the rich, fertile alluvial deposits within the valley floor that were attractive to agriculture (Bird 2004a, 76), and the increase in the number of settlements within the Middle Thames Valley and the Lower Kennet Valley reflects this (Booth *et al.* 2007) (Fig. 5.9). Fulford (1992, 35) has suggested that such development can be viewed as a phenomenon of the 'filling up of the landscape' on the gravels, with an emphasis placed on the definition of settlements. Many examples show evidence of continuation from Late Iron Age settlement activity – indeed, there is no evidence to suggest that any sites ceased to exist post-conquest. Small Mead Farm, south of Reading, showed evidence of having originated at the end of the Iron Age, and comprised circular enclosures and curvilinear ditches. The settlement showed no signs of major changes until the 2nd century AD (Moore and Jennings 1992, 123). Similar evidence was also recovered from Hengrove Farm and Ashford Prison (Bird 2004b), Eton Rowing Lake (Allen and Welsh 1998), Little Lea Park (Butterworth and Hawkes 1997), Cippenham (Ford *et al.* 2003) and Heathrow Terminal 5 (Lewis *et al.* 2006; 2010).

Located firmly in the hinterland of *Londinium*, the Middle Thames Valley consisted largely of rural communities with the only sizable settlement, a small but prosperous town, occurring at *Pontibus* (Staines), 3 km to the south of Horton. The town was located at a key crossing point of the River Thames for the Roman army and was intrinsically linked to the main network of major roads, particularly the London (*Londinium*) to Silchester (*Calleva Atrebatum*) road. The name *Pontibus* itself means 'at the bridges' (Rivet 1970). Excavations within the town have identified a flourishing settlement within the early Romano-British period followed by expansion (McKinley 2004), and then a suggestion of probable decline at the end of the 2nd century AD (Bird and Bird 1987). It may have been a location for a Roman fort, although such a suggestion is tenuous, with only a few pieces of military equipment being recovered from within the town. The location of the modern town has hindered the recovery of any further evidence to support this suggestion.

Most, if not all, of the major settlements in the wider Thames Valley were connected by the network of roads (Fig. 5.9), although the vast majority of the population lived within small rural settlements (Booth *et al.* 2007, 42). A degree of social spatial organisation and agricultural regimes is suggested to have been in place, with much of the population dispersed throughout the valley in lesser, nucleated rural settlements that often show considerable variety (*ibid.*). Most have revealed evidence to suggest continuity from the Late Iron Age period into the early Romano-British period, with a largely agricultural economy. Evidence from excavations at Sipson (MoLA forthcoming) included the identification of crop-drying ovens. Such evidence may suggest that farmers within the area were independent landowners, as opposed to tenants working on an estate. There is a lower occurrence of villas in the London Basin than elsewhere in the south and a near complete absence of villas from the Middle Thames Valley (Allen 2016, 130), with the closest confirmed examples to Horton being to the north-west at Bray, Maidenhead and, from an early record 'at Bakeham House', somewhere to the west of Egham (Bird 2004a, 81), although roof tiles and associated finds found at Wraysbury may suggest a Romano-British building (Scott 1993). In Surrey one or two structures are claimed to be Romano-British in date, within the Caterham–Coulsdon area, but they are either unpublished or not very convincing (eg, Bird and Bird 1987, 172; Little 1964, 32–3).

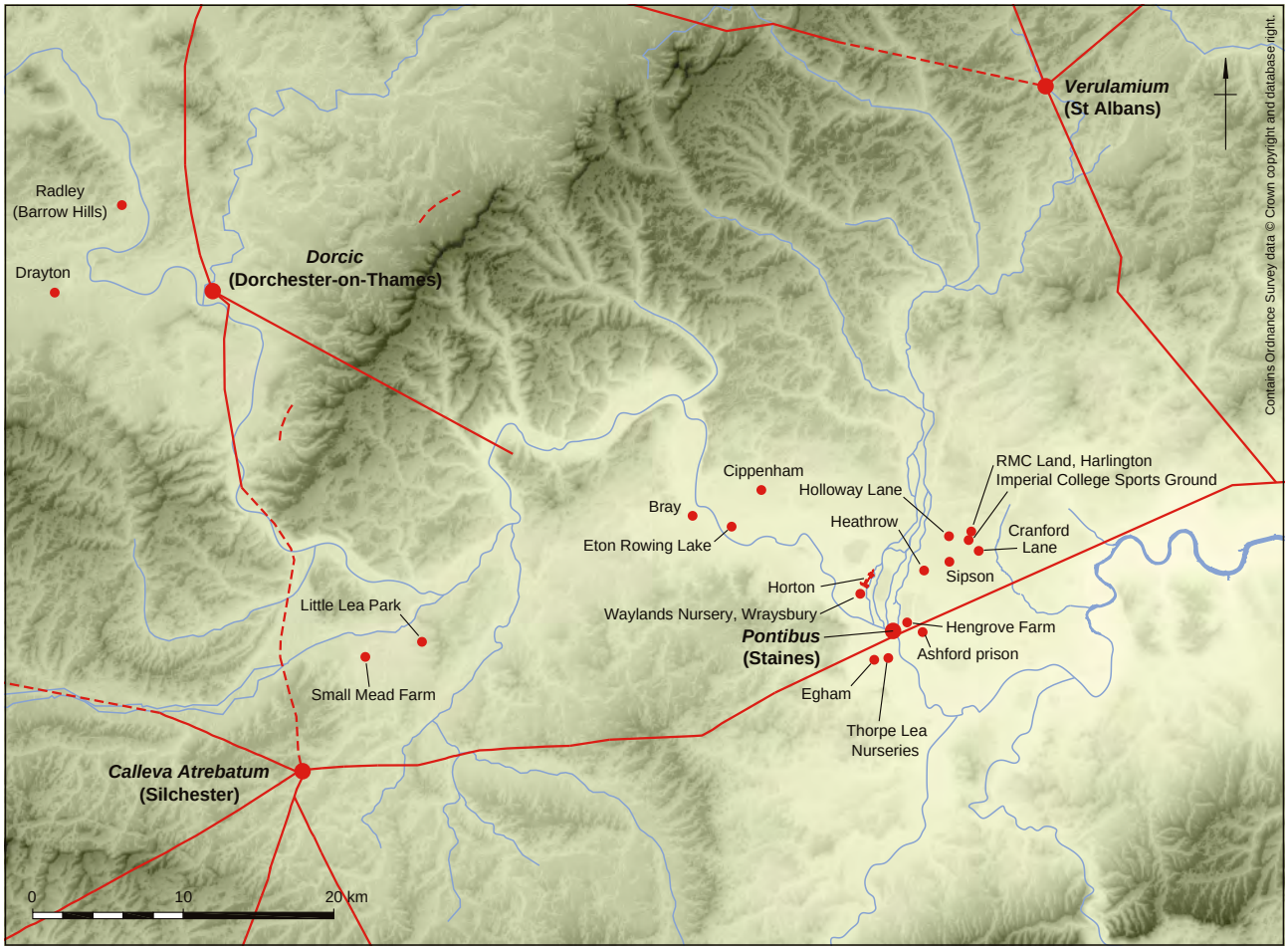


Figure 5.9 Romano-British activity in the Middle Thames Valley, showing towns and roads

Site-wide Land Use throughout the Romano-British Period

Evidence at Horton does nothing to alter the established view of a small-scale agricultural economy, similar to other examples seen throughout the Colne Valley. Activity was centred on a system of enclosures located at the northern end of the site which had its origins within the Late Iron Age period. This phase of activity was far more localised when compared with earlier periods. As we have seen, during the Middle Bronze Age period the whole landscape was reorganised into a system of farmsteads, fields and areas of more open land, perhaps for the grazing of animals. Such transformations would have had notable social implications as an open and wooded landscape was rapidly replaced by one that contained rectilinear enclosures, boundaries and droveways. Settlement sites consisting of timber structures and waterholes were fixed within this agricultural landscape. During later periods, however, evidence appears to show that the intensity of agricultural exploitation was reduced.

Evidence for settlement within the Iron Age period was limited to the eastern parts of the site, associated with riverside settlement. Such activity provided the basis for a larger, more developed farmstead during the early Romano-British period and expanded during the later Romano-British periods, perhaps as a result of intensification. This area of activity will be discussed below, hereafter referred to as *Farmstead C* (Figs 5.10–12). Similar to the construction of the settlements of the Middle Bronze Age, the farmstead appears to have grown in an organic manner, with shared alignments and reuse of boundary ditches. Unlike the Middle Bronze Age activity, however, we are aided by a large Romano-British artefactual assemblage associated with the farmstead (Fig. 5.12). Although not spectacular, the assemblage does give some insight into the nature of the settlement during these periods and its connections through trade with both neighbouring and more distant communities. Buildings were absent, except for a small roundhouse broadly dated to the Romano-British period. Such evidence gives the impression of a simple farmstead supporting a small self-sustaining farming community. It is unlikely that the Roman invasion of AD 43 had any immediate impact on the populations of Horton, with little evidence for change.

Although the main focus of activity was limited to the northern extents of the site, there is some evidence to suggest that southern limits were also

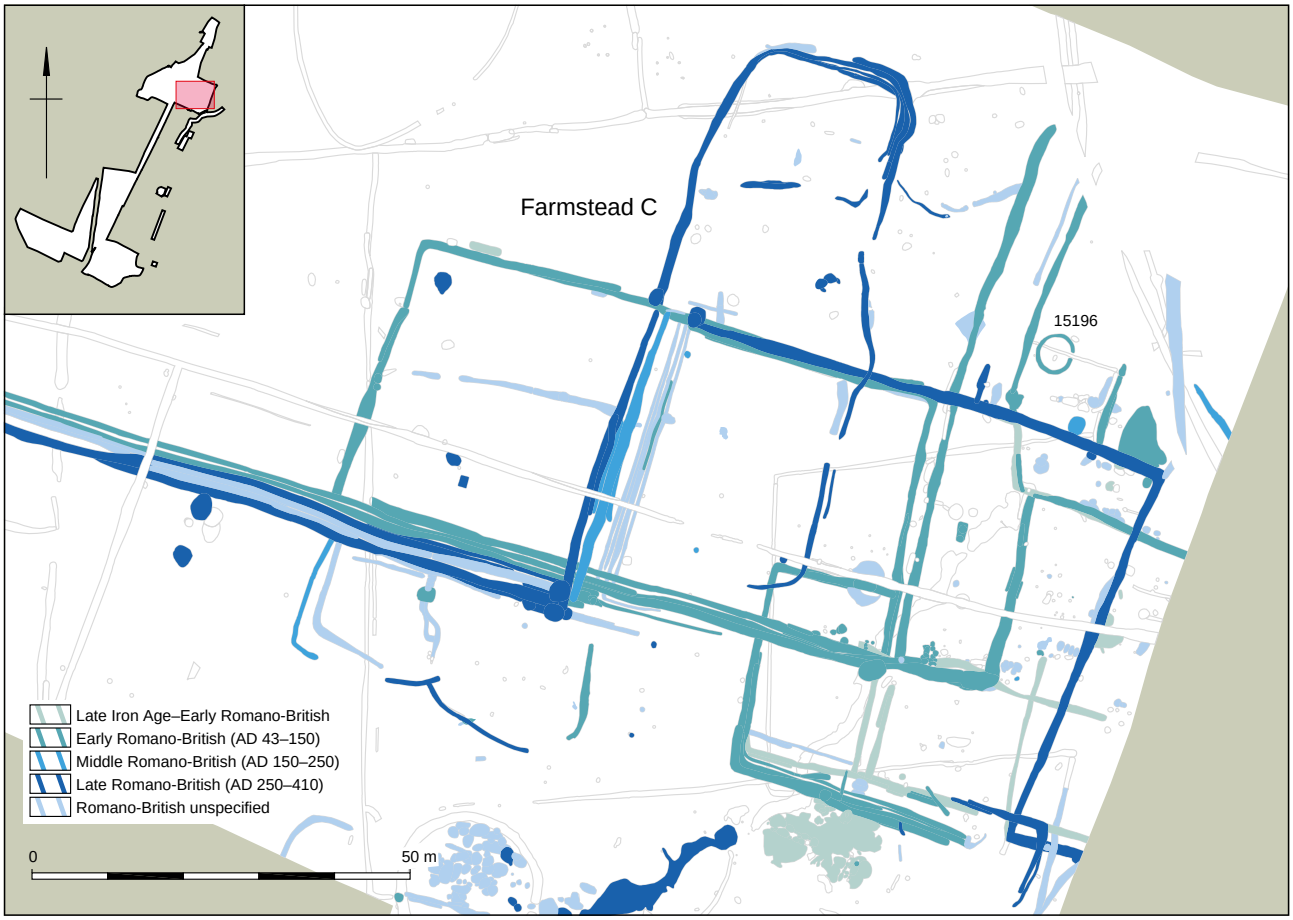


Figure 5.10 Romano-British Farmstead C

utilised (Fig. 5.13). Small amounts of Romano-British pottery were recovered from linear ditches on a rough SSW–NNE alignment, forming a small ladder-like arrangement across the site (formed by 8919, 8923, 8977, 8981, 9052, 9117, 9141, 9883, 9901 – grouped together as 9923) (Fig. 5.14A). Such evidence, however, is slight, and the dating is not certain. The pottery does suggest that some activity continued on the lower, possibly wetter extents of the site, but focused on the northern, drier areas. The lack of linear ditches, waterholes and any form of settlement evidence towards the southern lower reaches of the site suggest that such areas may have been purely associated with stock rearing or crop management.

The ditches within the southern area are mostly arranged on a rough north–south alignment. Large boundary ditch 8889 represented a major division within this landscape, and may have acted as one side of a trackway. Sub-rectangular enclosures feature either side at its northern extent, and there is some suggestion of entranceways into these enclosures. Although the evidence is limited (only 73 sherds of Romano-British pottery were recovered from this part of the site), one can imagine that such features were there to facilitate the movement of perhaps cattle and commodities across the landscape. Substantial droveways and trackways associated with 'ladder' enclosures on a much larger scale have been recorded at both Heathrow Perry Oaks (Lewis *et al.* 2006), and Imperial College Sports Ground and RMC Land, Harlington (Powell *et al.* 2015). Such enclosures were formed by linear arrangements of linked enclosures which extended in a piecemeal fashion on either side of a wide central droveway. Evidence for a more extensive use of the landscape at Horton may have been lost to the immediate west of the possible ladder enclosure system during earlier phases of gravel and mineral extraction.

A penannular ring gully (9914) located at the south-western limits of the site can be tentatively associated with the Romano-British period (Fig. 5.14B). Situated immediately south of Late Bronze Age boundary ditch 9239 and represented by two curving gullies 1698 and 1699 forming a pear-shaped enclosure, the feature lay on a north-west to south-east alignment, and had entranceways at opposing ends. Measuring 13.8 m x 11 m (at its widest point), the gullies are an irregular shape, being wider and more rounded at their south-eastern ends. The true function and purpose of this feature is difficult to discern. It is located within an area of earlier as well as undated features, and some 60 m away from the nearest Romano-British activity. The

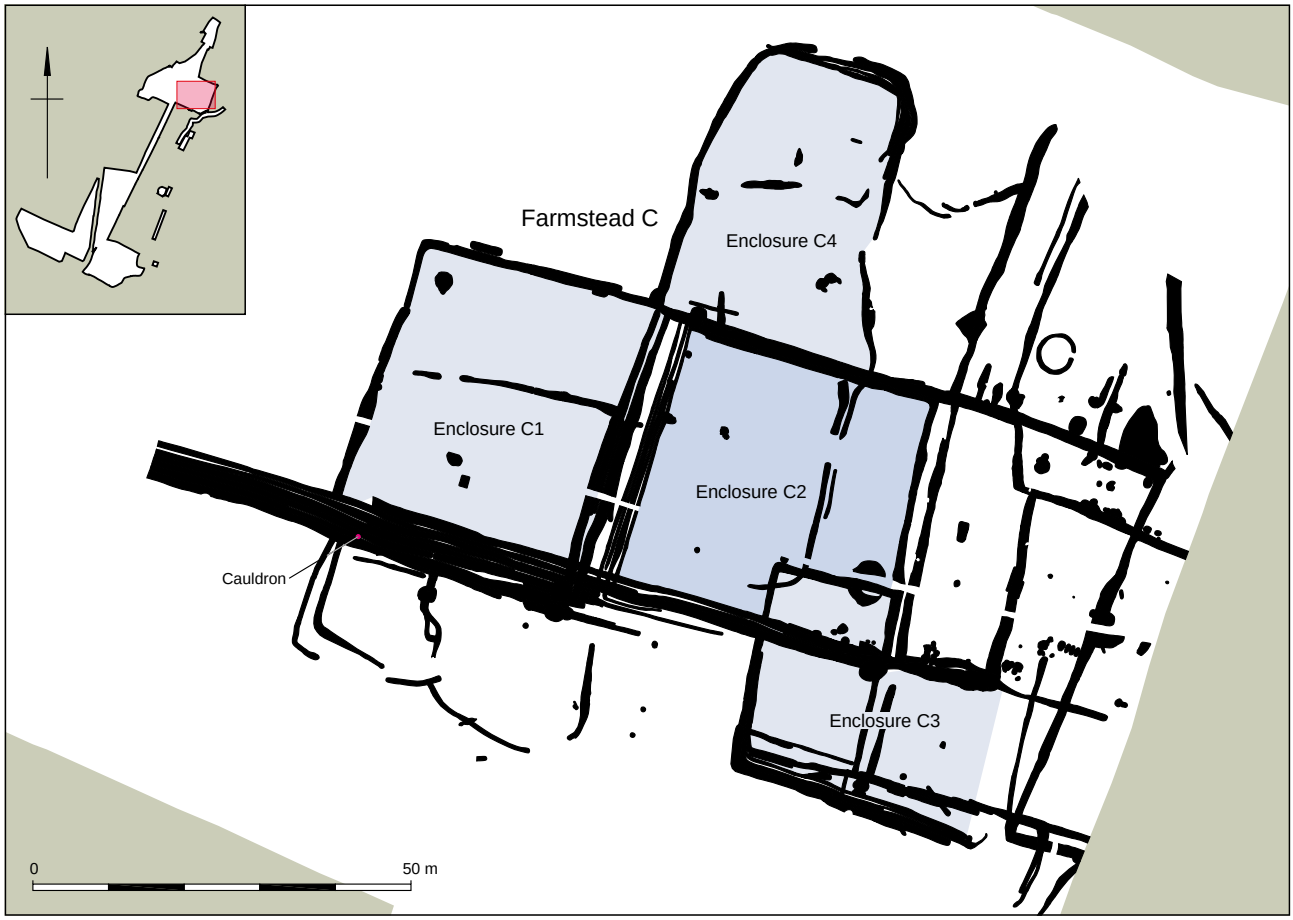


Figure 5.11 Farmstead C enclosures

relatively shallow nature of the gullies (average 0.21 m) suggests an insubstantial feature, while the lack of artefactual material recovered from either of the gullies is also problematic. Four sherds of pottery datable to the Romano-British period were recovered, although a single sherd of Saxon pottery may mean that the earlier pottery is in fact residual. Two iron shank fragments (probably representing a single nail), burnt flint and animal bone were also recovered. Such evidence is likely to indicate a post-Iron Age date. No contemporary features were associated with the ring gully, although several features were excavated within the central area, including tree-throw holes and two pits, the latter of which contained Late Neolithic Grooved Ware (see Chapter 3). The enclosure form is difficult to parallel within the Colne Valley, although a large, irregular oval enclosure was recorded at Holloway Lane to the north-east, immediately north of Heathrow (MoLA forthcoming). It contained numerous pits but no evidence for structures (MoLA 1993, 23).

At the northern end of the *Conveyor* area a field boundary was established during the early Romano-British period and was cut a further five times by sequential ditches (12952, 12955, 12956, 12957, 12958 and 12959) with the final iteration dug in the late Romano-British period (Fig. 5.15). At its western end it cut ditch 12945, a poorly dated feature that is thought to be later prehistoric, which appeared to act as a boundary between *Palaeochannel V* and the fields to the east. The Romano-British ditched boundary extended eastwards beyond the limit of the *Conveyor* area excavation but might reach as far as the *East Bund*, possibly terminating just before ditch 12549.

Many Romano-British field boundaries were recorded in the north of the *East Bund* (Fig. 5.16A), located close to the dense enclosure systems of this date associated with *Farmstead C*. Associated pits and waterholes were also present, as well as small horseshoe-shaped enclosures. Features 11576 and 11577 relate to two separate phases of such an enclosure and were located to the north of the *East Bund* (Fig. 5.16B). Aligned approximately east–west, the feature enclosed an area of approximately 28 m². The initial enclosure was composed of various segments and acted as a ring ditch open on either side, while the later phase was open on its western side only. The presence of boundary ditch 12549 to the immediate west, however, may have aided in creating an almost completely enclosed area with extremely limited access on the south-western corner. The initial phase of the feature was undated, although early Romano-British ceramics were recovered from the recut gully 11577, and

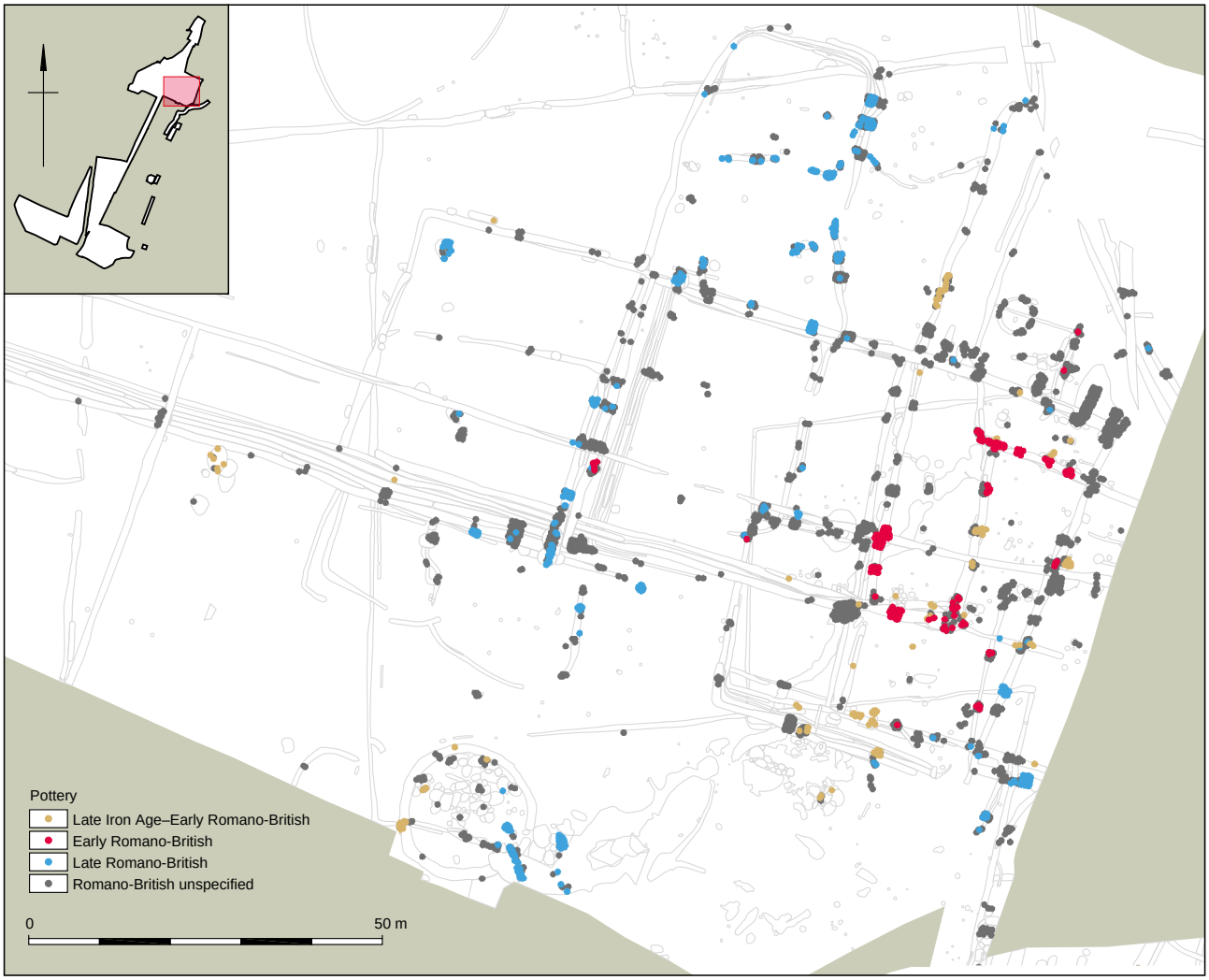


Figure 5.12 Farmstead C Romano-British pottery distribution

several features were recorded within the enclosure itself, including a possible posthole and several shallow pits. Many were too shallow to provide any stratigraphic sequence. However, pit 11084 contained a significant number of pottery sherds suggesting that the feature was contemporary with the second phase of the enclosure. Feature 11537 represents a similar horseshoe-shaped enclosure, aligned roughly north-east to south-west and enclosing an area of about 16 m². Although heavily truncated through bioturbation and modern disturbance, the U-shaped enclosure resembled a shallow drip gully rather than the more substantial gully features seen on feature 11576/11577. Open on its south-western side, this feature was stratigraphically discrete and contained no internal features.

The function of these enclosures is uncertain. They could have acted as penning areas for animals, although no postholes were recorded relating to gates. Waterhole 10968 was located close to feature 11576/11577 and may have been contemporary with the later phases of its use, although the steep sides of the waterhole imply that it would not have been accessible to animals. The lack of ceramic material from the features may also indicate an agricultural purpose. It is difficult to draw any conclusions as to the reason for the presence of such features, but whatever the function, their usefulness within the landscape is suggested by their re-emphasis and redevelopment, suggesting that they served a purpose for some extended period of time.

Many field boundaries are noted towards the southern part of the *East Bund*, most having Iron Age origins. Ditch 12594 was recut and re-established earlier boundaries, while roughly east–west-aligned ditches 12585, 12587 and 12589 indicate the development and retention of alignments. The southern limits of the *East Bund* also showed evidence for early to middle Romano-British land divisions relating to work undertaken by TVAS (Ford and Pine 2003a) immediately to the east of the area, with many of the features showing continuation of alignments previously seen. An early Romano-British trackway (12503 and 12509) is suggested on the *East Bund*. Further excavation to the east is expected to show an increase in density of similar features and

will allow further understanding of this agricultural landscape. Other features of a Romano-British date include a possible roundhouse 12614, part of an area of continued use located within the south-west corner of a Late Iron Age enclosure (see *Structural evidence* below for further discussion).

Farmstead C

Form, function, organisation and development
Changes in landscape use during the early Romano-British period reflect an expansion from that of the pre-existing Late Iron Age. The landscape had already been cleared of trees from the Neolithic and Bronze Age periods and there was no discernible regrowth or distinct landscape alteration as a result of Roman influence. Instead, alignments were re-established and respected earlier features. *Farmstead*

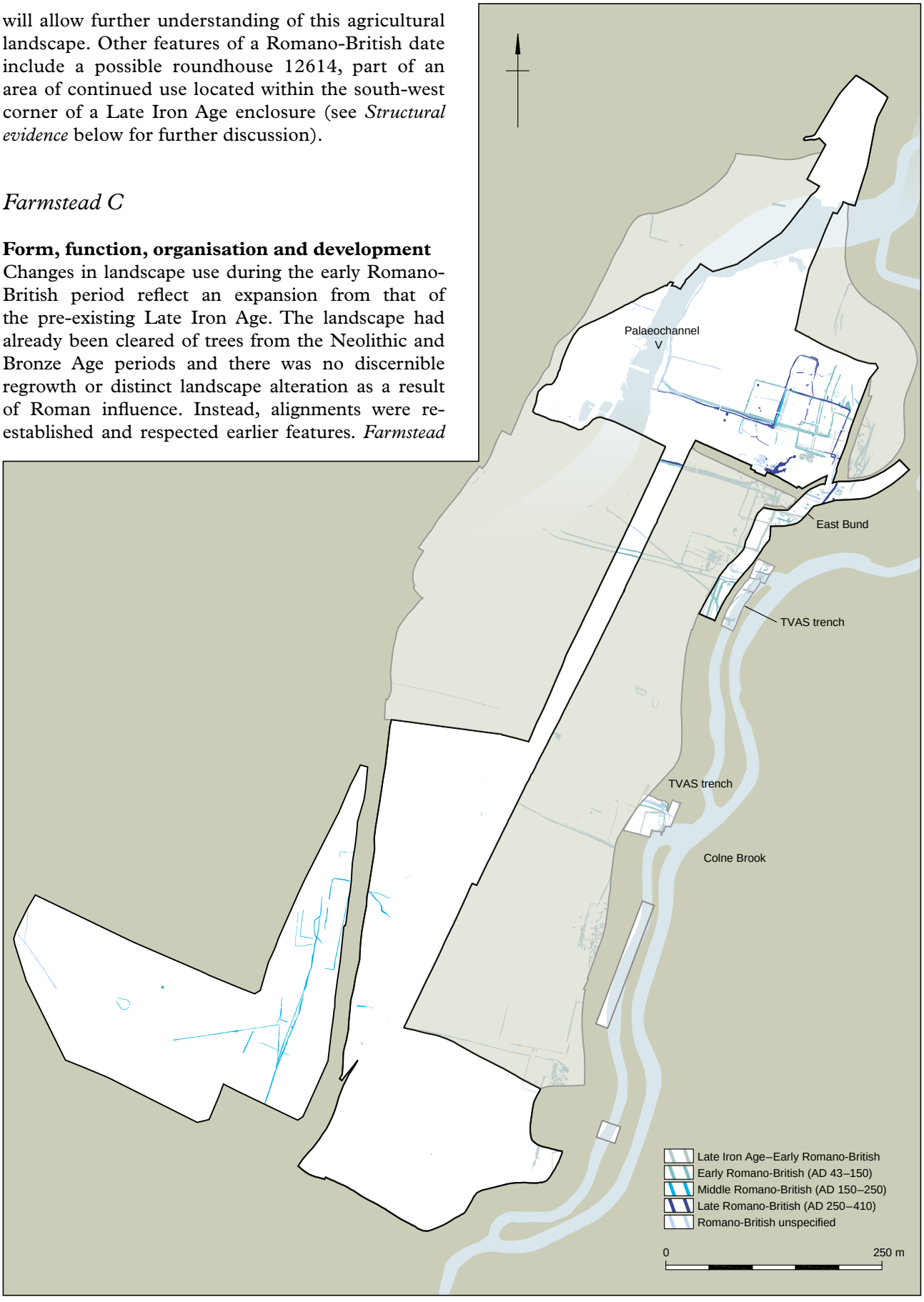


Figure 5.13 Romano-British features at Horton

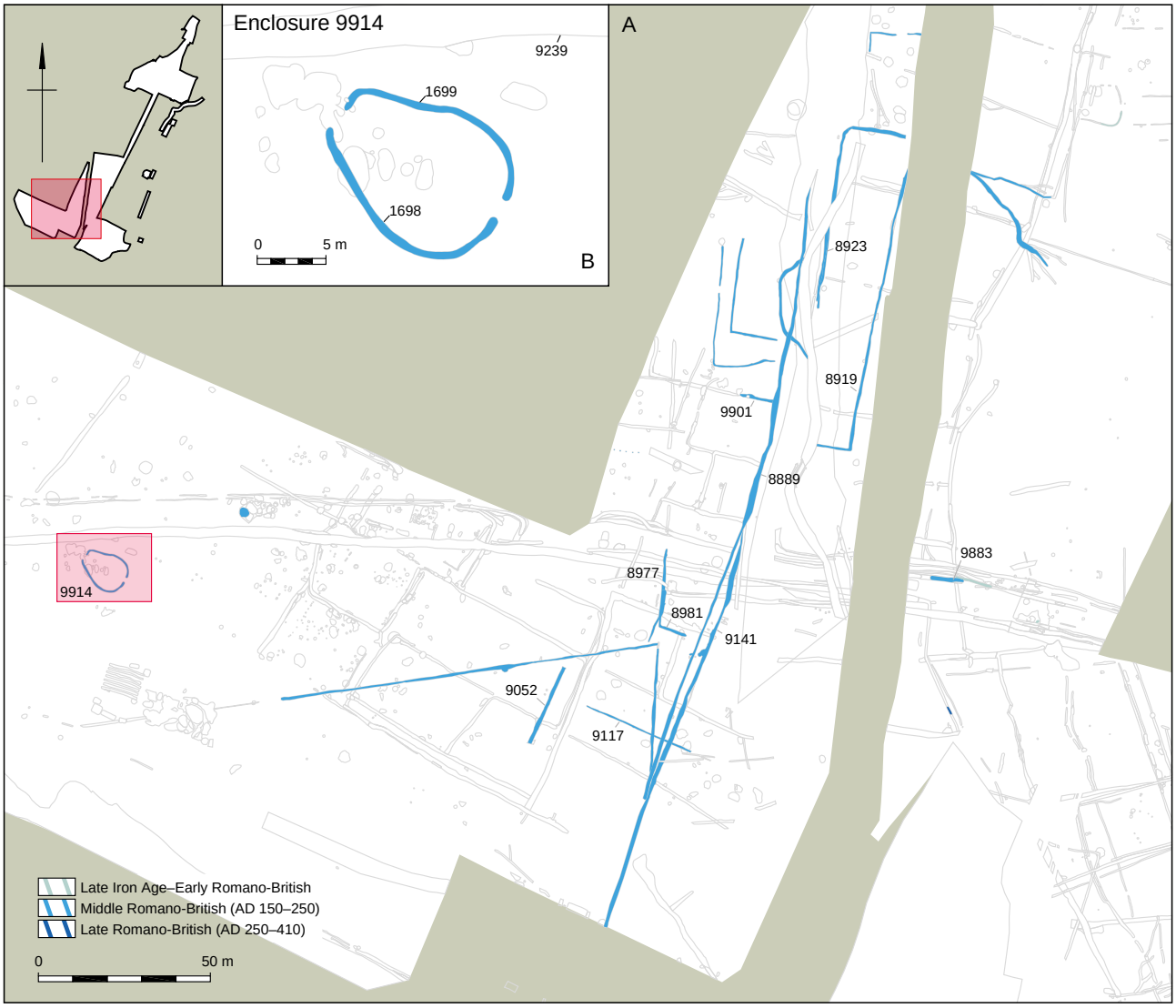


Figure 5.14. A: Romano-British evidence at south end of site, B: Penannular/pear-shaped enclosure 9914

C represents a large-scale enclosure system imposed upon the landscape sometime in the 1st century AD, and stratigraphic evidence suggests chronological development to meet the changing needs of the population and community. Although a few phases were noted, two major periods of development have been identified through ceramic and artefactual evidence (Fig. 5.10). These are predominantly associated with early Romano-British and late Romano-British periods, although ceramic evidence suggests that the farmstead was inhabited uninterrupted throughout the whole Romano-British period. Features such as pits, postholes and waterholes were also associated with each period. There was, however, no definite structural evidence recovered, and its absence may suggest that many of the enclosures forming parts of the farmstead were used as holding pens for animals. As with the Middle Bronze Age farmsteads, enclosures have been numbered to aid discussion (Fig. 5.11).

The site never developed into a villa, and the lack of known villas in the area would suggest that this part of the Middle Thames Valley was not distinctly altered by the influence of Rome, or indeed was never fully integrated into the Romanisation process. The evidence suggests that the farmstead at Horton was simply part of a wider network of small, productive working farms within a substantial tract of landscape. The produce from the farm may well have served a wider community. Examples from the Fenland and Salisbury Plain areas (Collingwood and Myres 1937, 224; Richmond 1955, 130–1), suggest that such farmsteads were part of imperial estates, while Grimm (2015, 238) has suggested that evidence for possible cattle rearing during the Romano-British period at Imperial College Sports Ground and RMC Land may reflect the growing needs of *Londinium*, specifically the need for a development of animal-based food production to feed the growing population. There are also several sites which indicate the production of hay, and many have suggested that its generation on this scale reflects the needs of *Pontibus* (Fig. 5. 9). Because of

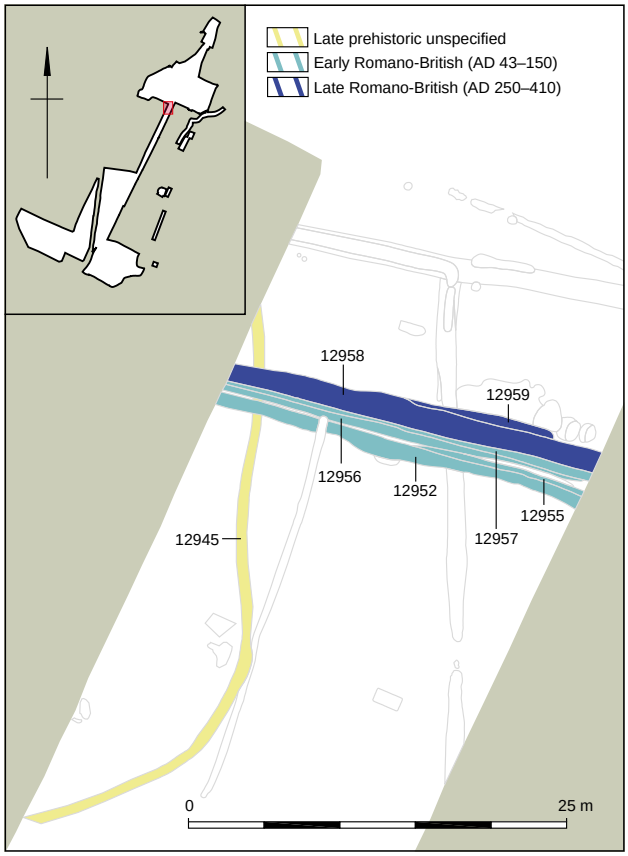


Figure 5.15 Long-lived multiphase boundary in the north Conveyor area west of the East Bund

Horton's proximity to the town, the enclosures may well have provided food and/or dairy produce. The farmstead, therefore, could be viewed as more than just a simple, independent farm, being immersed into a complex social and economic network within the wider area (Millett 1992, 99).

Late Iron Age origins

The origins of *Farmstead C* have been determined from stratigraphic evidence and the accumulation of pottery in enclosure ditches (Fig. 5.12). Many features on the eastern side of the farmstead contained 1st-century/post-conquest wares, while the inclusion of sherds of Late Iron Age date suggest an earlier origin to the features. A complex of small, irregularly shaped enclosures was defined by some reasonably substantial boundary ditches: 12767 to the west, 12848 and 12835 to the south and 12860 to the east (Fig. 5.17). Ditch 12767 contained a large group of 1st century AD pottery, comprising a range of wares including bead-rimmed jars and upright-necked jars (see Jones, Appendix 4). In context 16711, at least ten vessels were recovered, including perforated forms possibly used as strainers. One small grog-tempered bowl/jar had perforations in both the lower wall and the central base, while another (ON 1180), featured a single perforation in its base. A Verulamium-region white ware vessel with handle, possibly representing a jug or a flagon, was also recovered. The drilling of post-firing perforations through the base of vessels is a well attested practice of the late Iron Age and 1st century AD and such holes may have been used to enable liquids to drain away, possibly through a cloth filter (Fulford and Timby 2001, 295).

A trackway segment is suggested by 12809 and 12847 towards the southern part of the area, while 12852 created an internal division in the south-east corner. Pit cluster 13015 lies to the immediate south of the southernmost enclosure ditch, and is characteristically similar to those seen associated with the Iron Age settlement. Relatively small quantities of Iron Age pottery were recovered from the early enclosure ditches, which would suggest levels of residuality. This is likely to be the result of continuous use as the farmstead grew. Enclosure ditches from this early date appear to have been developed relatively soon after their inception, as the site developed into an area of stock enclosures then fields, paddocks and enclosures peripheral to the main area of settlement.

Although no settlement evidence can be noted from this early period, it is clear from the archaeology that the inhabitants at Horton substantially altered their landscape. Millett (1992, 98) notes that many farmsteads flourished in the Late Iron Age tradition post-conquest, and this may have been the case at Horton. There are no dramatic changes to the previously used landscape, only development and improvement. There are no clear physical differences to suggest a radical overhaul of the established system, and, if ignoring the artefactual and ceramic evidence, one would not see an obvious change and assume that the farmstead developed in a single period. What does change is the sudden influx of early Romano-British pottery and goods as the farmstead developed, which may well be the result of the establishment and influence of the nearby settlement of *Pontibus* (Staines).

Early Romano-British activity

The initial phase of development took place during the early 1st century AD (Fig. 5.18). Earlier features were incorporated as some of the pre-existing enclosures were modified, while other enclosures were added on an ad hoc basis. It would appear that the farmstead was in constant use, and its development and enlargement may have been a reaction to changing socio-economic circumstances within the Middle Thames Valley during the post-conquest years. Such changes may have necessitated the need for the establishment of a larger series of enclosures across what would have been a reasonably plain landscape. The development of *Enclosures C1*, *C2* and *C3* to the west of any Late Iron Age/early Romano-British features would have radically altered the landscape.

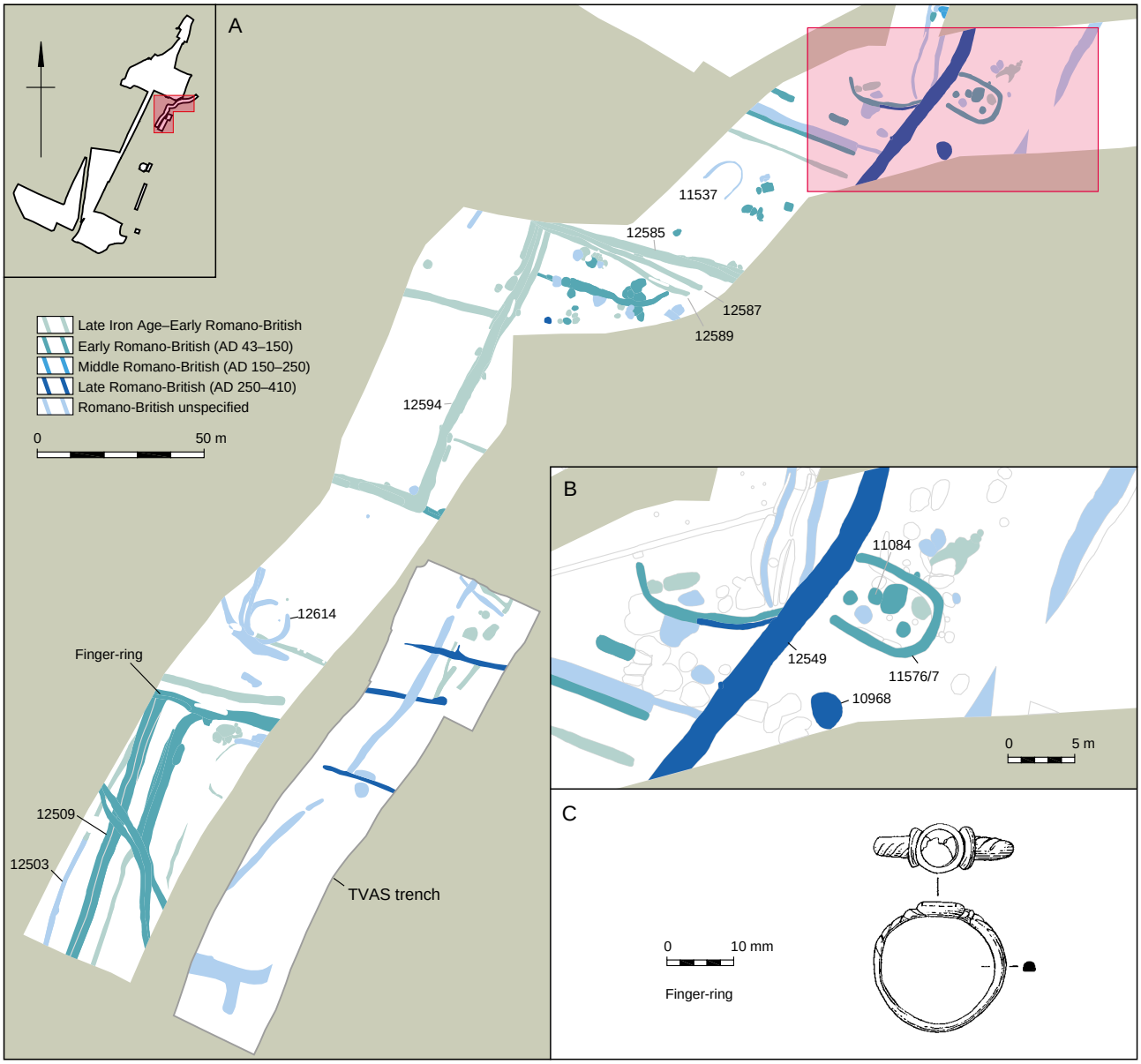


Figure 5.16 A: Romano-British evidence on the East Bund. B: horseshoe-shaped enclosure 11576/7, C: Ring, ON 1156

The complexity of the recorded stratigraphic relationships shows that there were numerous phases of development leading towards the creation of the larger farmstead (Fig. 5.18). It is likely that *Enclosure C3* would have been the initial phase of enlargement, extending the previous enclosure by 15 m to the west. The southern boundary of the enclosure was repeatedly re-established and the enclosure was L-shaped, possibly reflecting the changing need of that particular area of the farm. This enclosure was then superseded by the development of *Enclosures C1* and *C2*. These represented two large, square areas, and the ceramic evidence places this phase of enlargement firmly within the early Romano-British period. The enclosed area created by *C1* and *C2* was characteristically similar to the earlier enclosures to the east. Continuing the roughly ESE–WNW alignment, the straight sided fields were defined by ditches up to 1.40 m wide and generally about 0.36 m deep. There was no difference between the ditches of the two enclosures, suggesting that both were created at the same time. They were separated by a series of ditches similarly aligned SSW–NNE, represented by features 12820, 12821, 12822, 12823 and 12824. These features were significantly shallower and narrower, and their repeated recutting suggests a significance to creating such a division. It is possible that when combined, the earlier and a later phase 1.30 m immediately to the west represented by ditch 12816 formed a possible trackway, albeit a narrow one. Alternatively, this track-like feature could simply be a result of continual readjustment of the enclosure edges. The division was further reiterated during the later Romano-British period as the farmstead was enlarged again. In general, the individual enclosures were notably different in size, which may have

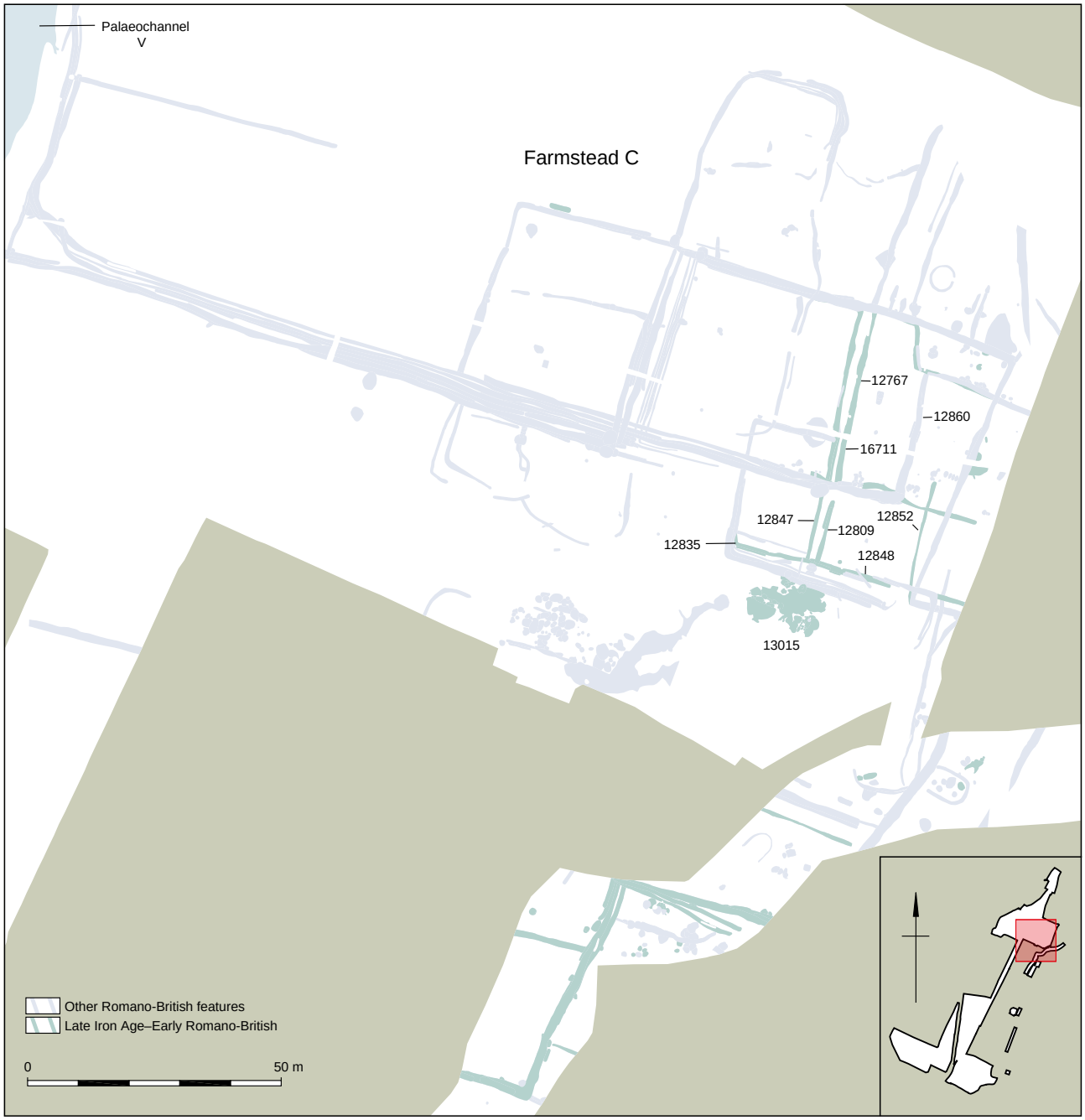


Figure 5.17 Farmstead C: Late Iron Age evidence/origins

been intentional. Larger quantities of pottery were recovered from the boundary ditches of *Enclosure C2* – probably a reflection of its proximity to the location of the settlement further to the east.

The southern extents of both *C1* and *C2* were marked by the continued reinstatement of a significant boundary which ran across the site for a combined total of 177 m. On its eastern end, the boundaries, formed by groups 12734, 12747, 12780 and 12781, cut through the northern portion of *Enclosure C3*. It is unclear why such a boundary would continue for such a distance to the west of the enclosure system, with no features of an early Romano-British date either side of the division. It would, however, have created an imposing boundary, and one which was further developed and reiterated over the next few centuries as the farmstead was enlarged. At the western limits of these boundaries, the ditches turn north. Such an alignment appears to be associated with *Palaeochannel V*, with the ditches seemingly respecting the watercourse. Such a relationship is not definite, but palaeoenvironmental evidence has suggested that the channel is likely to be Romano-British or Saxon in date. The true nature and function of the ditches on the roughly SSW to NNE alignment is not clear, although their relatively deep nature and repeated recutting suggests that such a division was important. Further features of Romano-

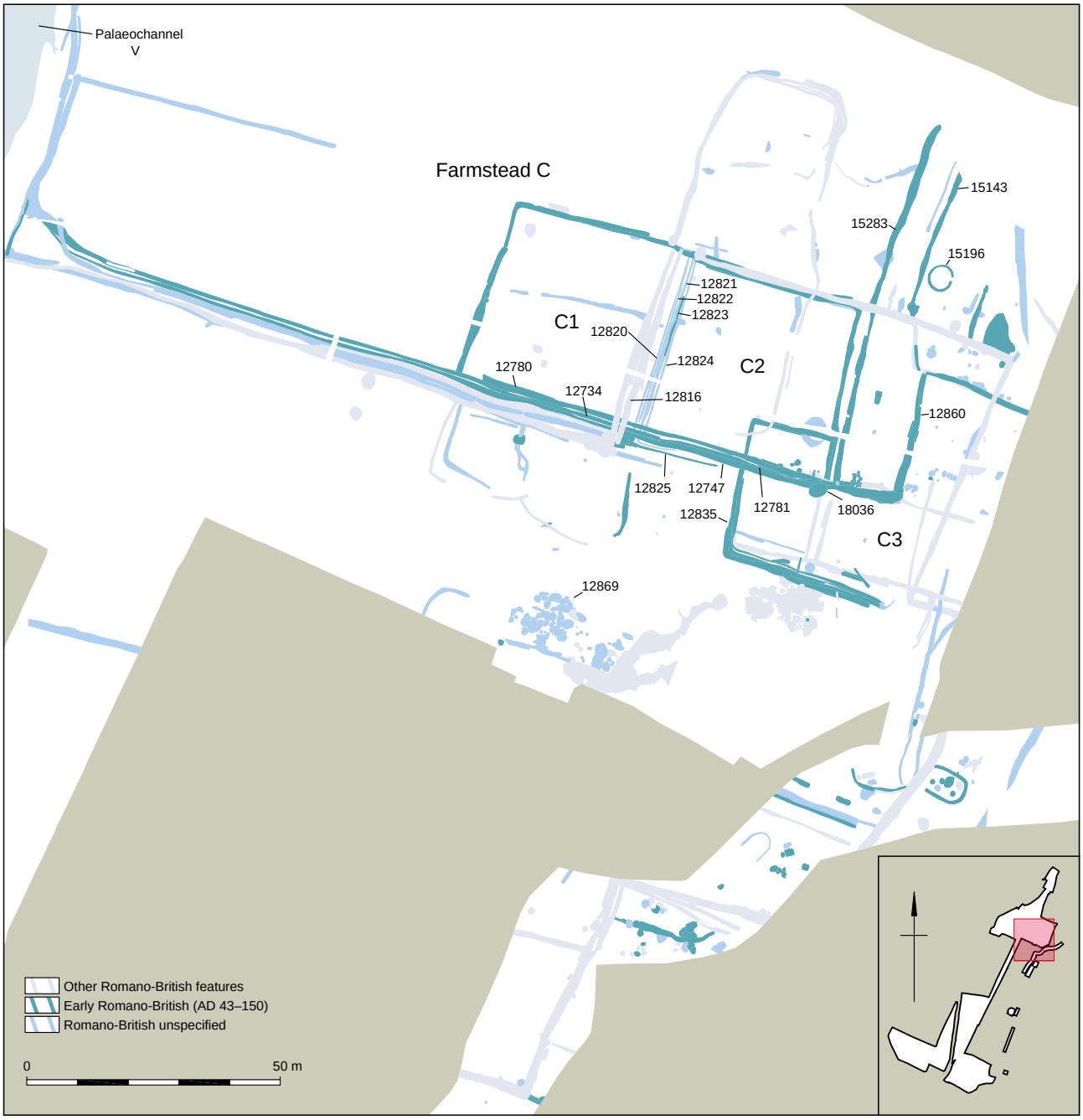


Figure 5.18 Farmstead C: Early Romano-British developments

British date seen to the immediate east and west of the alignments are limited to single ditches on corresponding alignments.

Features peripheral to the central enclosures would appear to be significant during the early phases of the farmstead. A possible trackway or droveway – formed by ditches 15143 and 15283, 6.2 m apart, at the northern extent of the farm – may have facilitated a zone along which livestock could have been moved into and out of the farmstead, while small roundhouse 15196 immediately to the east of the trackway may have provided a small shelter. Single waterhole 18036, located on the south-eastern corner of *Enclosure C2*, represents the first introduction of a feature directly associated with obtaining and supplying water (see below).

Late Romano-British activity

Activity and development within the later Romano-British periods was largely concerned with re-instatement, reuse and enlargement (Fig. 5.19). Enclosures of the already established farmstead, such as *C1* and *C2*, provided the foci and alignment for further developments in many aspects of the farm, including increased enclosure size and the introduction of further enclosed areas to the north. Such additions increased the enclosed space of the working farm from 4100 m² in the early periods to

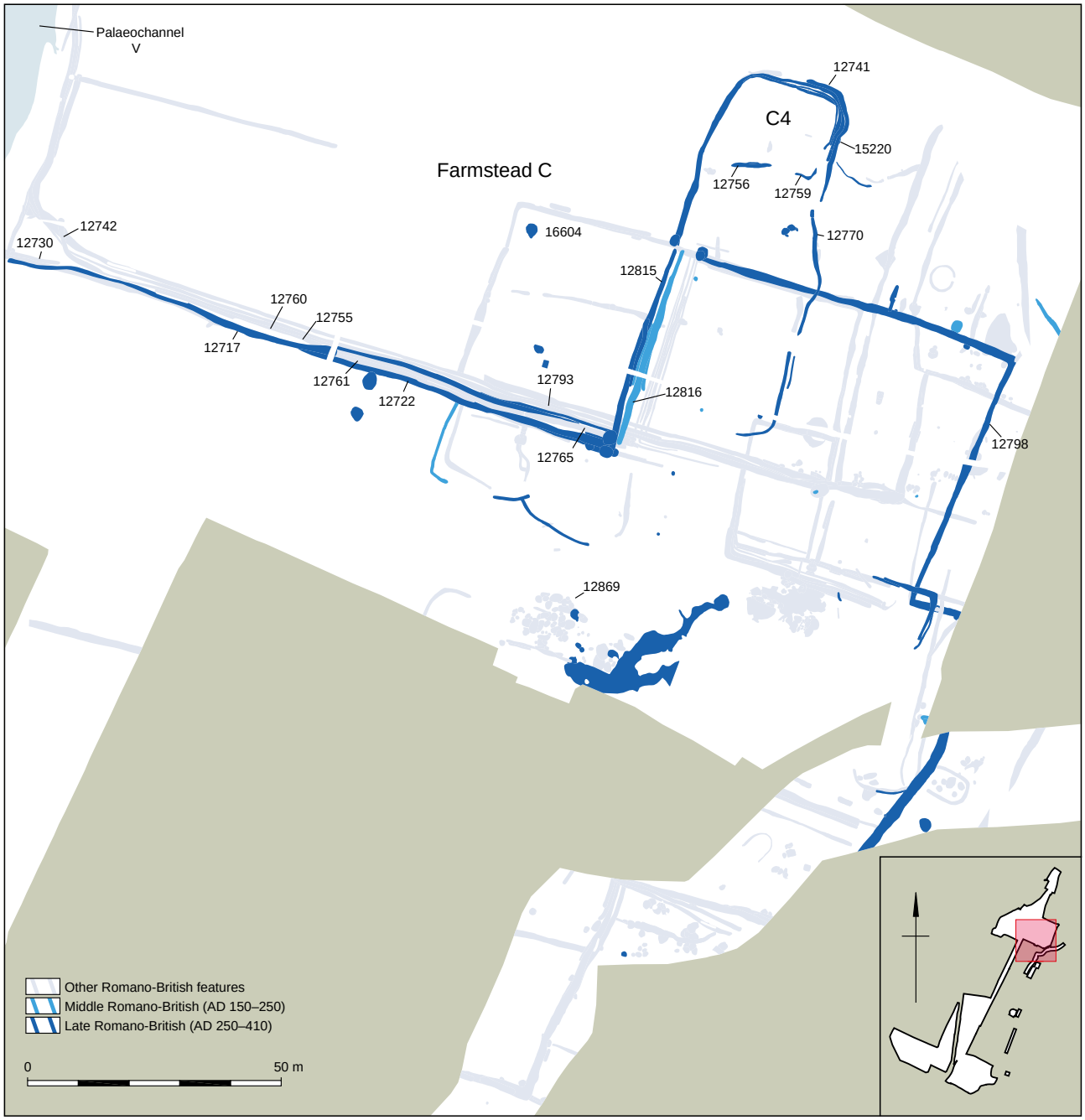


Figure 5.19 Farmstead C: Late Romano-British developments

an area of 6700 m², an enlargement that could have seen an increase in productivity and economy.

The higher levels of activity are primarily associated with the increased size of the farmstead, and such developments appear to have mainly taken place between the 3rd and 4th centuries. Sporadic activity and improvements can be associated with the middle Romano-British period, although such evidence is sparse. Few ditches, such as the re-establishment of the internal boundary between *Enclosures C1* and *C2* in the form of ditch 12816 and small ditch alignments to the immediate south of the central nucleus of the farmstead, are attributable to this period, and as such may indicate either a void in the archaeological record, or indeed a true reflection of the paucity in activity on the site during these periods. The main phase of redevelopment and enlargement, however, was seen during the later periods when the pre-existing alignments and enclosures were embellished. There are several examples of old and established ditches being redesigned. The northern boundary of *Enclosure C2*, for instance, was completely redug and replaced with a more substantial and deeper enclosure ditch (12798), increasing its size from 34 m to 68 m, before heading south for 52 m, and in so doing redefining an eastern boundary and increasing the size of what was *Enclosure C2*. It is

not clear stratigraphically whether the previously used enclosures were superseded and replaced by the larger enclosures, or they simply underwent further division to create smaller, more defined enclosed areas. Artefactual analysis shows a distinct lack of late Romano-British pottery within the newly enclosed areas, which may suggest that the previously used field systems and general layout of the farmstead were no longer in use. It would appear, however, that *Enclosure C1,* associated with the early phase of development, is likely to have maintained its role in defining the western boundaries of the farmstead. Late Romano-British features, including the placement of waterhole 16604 (see *Waterholes* below) and an internal separation dividing the enclosure into two halves, suggest that the layout of the farmstead predominately kept its form and shape into the later Romano-British periods. Further later developments include a third phase of re-establishment of the internal division separating *Enclosures C1* and *C2* (ditch 12815), and the recutting of the substantial boundary. Represented by ditches 12717, 12722, 12730, 12742, 12755, 12760, 12761, 12765 and 12793, the linear division shows a chronological and geographical sequence from north to south, with the latest phases of the ditches towards the south.

An increase in activity in the late Romano-British period saw the farmstead enlarged again through the addition of further enclosures. Most of these appear to be the result of later internal divisions associated with the earlier enclosures. *Enclosure C4*, however, represents an extension to the farm to the immediate north of *C1* and *C2*. Associated with the significant phase of development related to the later periods and enclosing an area of 857 m², the enclosure is thought to be directly associated with stock rearing and the movement of livestock. Sub-rectangular in shape, *Enclosure C4* featured entranceways on both the northern and eastern sides which may have facilitated the movement of cattle in and out of the enclosure and farmstead as a whole. The northern entranceway showed evidence for four separate phases of recutting, and excavation proved that the entrance was associated with the early phase of the enclosure's life and was later blocked. Two separate ditch segments, 12756 and 12759, divide the enclosure at its mid-point, and may relate to a later phase of the enclosure once its northern entranceway was closed off. The segments' alignments and shape may also relate to the later definition of the northern extents of the enclosure. The eastern boundary, in comparison, remained open for the duration of the enclosure's lifespan, and was south of the possible later division. The entrance, formed by a slightly staggered separation of ditches 12741 and 12770, provided a gap of 3.35 m and would have been large enough for cattle to access and exit the enclosure. A Romano-British shoe was recovered at the base of pit/waterhole feature 15220 which was cut by the earliest phase of the *Enclosure C4.* The sole of the single shoe, ON 1166 (see below), represents more evidence of the local population occupying and working the land at Horton during this period.

Previous landscapes appear to have been held in some reverence within the Romano-British period, not least suggested by the use of Early Bronze Age ring ditch 12869 (Fig. 5.20), located 28 m immediately south of *Farmstead C* – an example of the appropriation of the past within the past. It would appear that the monument had remained a feature within the landscape for some 2000 or more years, when its significance and appeal was reiterated and incorporated into the Romano-British landscape. A total of 55 individual pits were dug immediately inside the large circular feature, and although their nature and purpose are not clear, their positioning gives some insight into the Romano-British occupants' understanding of and interest in previous cultures. Positioned immediately within the ring ditch's boundaries, it is possible to suggest its earthworks had remained extant to a certain degree. A small contemporary gully 12871 divided the monument's southern internal area, and the northern two thirds of the internal area were exclusively filled with the numerous pit features. The generally shallow nature of the features also hints at the possible presence of a remnant internal mound. The true nature of the pits is not clear, although their repeated cutting suggests an act of some importance. No trace survives archaeologically to suggest exactly why the pits were excavated, or what they contained. Little was recovered from the features, and from the 55 pits examined, only 12 contained any pottery. No significant or deliberately placed deposits were recorded, with only relatively small quantities of animal bone, worked stone, ceramic building material and burnt flint recovered, while residual Romano-British pottery was recovered from the upper fills of the ring ditch. The artefactual evidence may suggest a primary use as simple rubbish pits, which would seem at odds with the deference implied by their spatial clustering within the bounds of the ring ditch. Alternatively, they could represent some form of retrieval of mound material, with the depths of the features suggesting that they were cut through eroded mound deposits, which would explain their exact positioning.

The presence of ring ditches was dealt with in a variety of ways when new systems of land management were enacted in the Romano-British period in Britain. This includes both their respectful incorporations into the new systems and their casual destruction as boundary ditches are driven straight through them (Cooper 2016). Bronze Age barrows in the Upper Thames Valley, still discernible in the

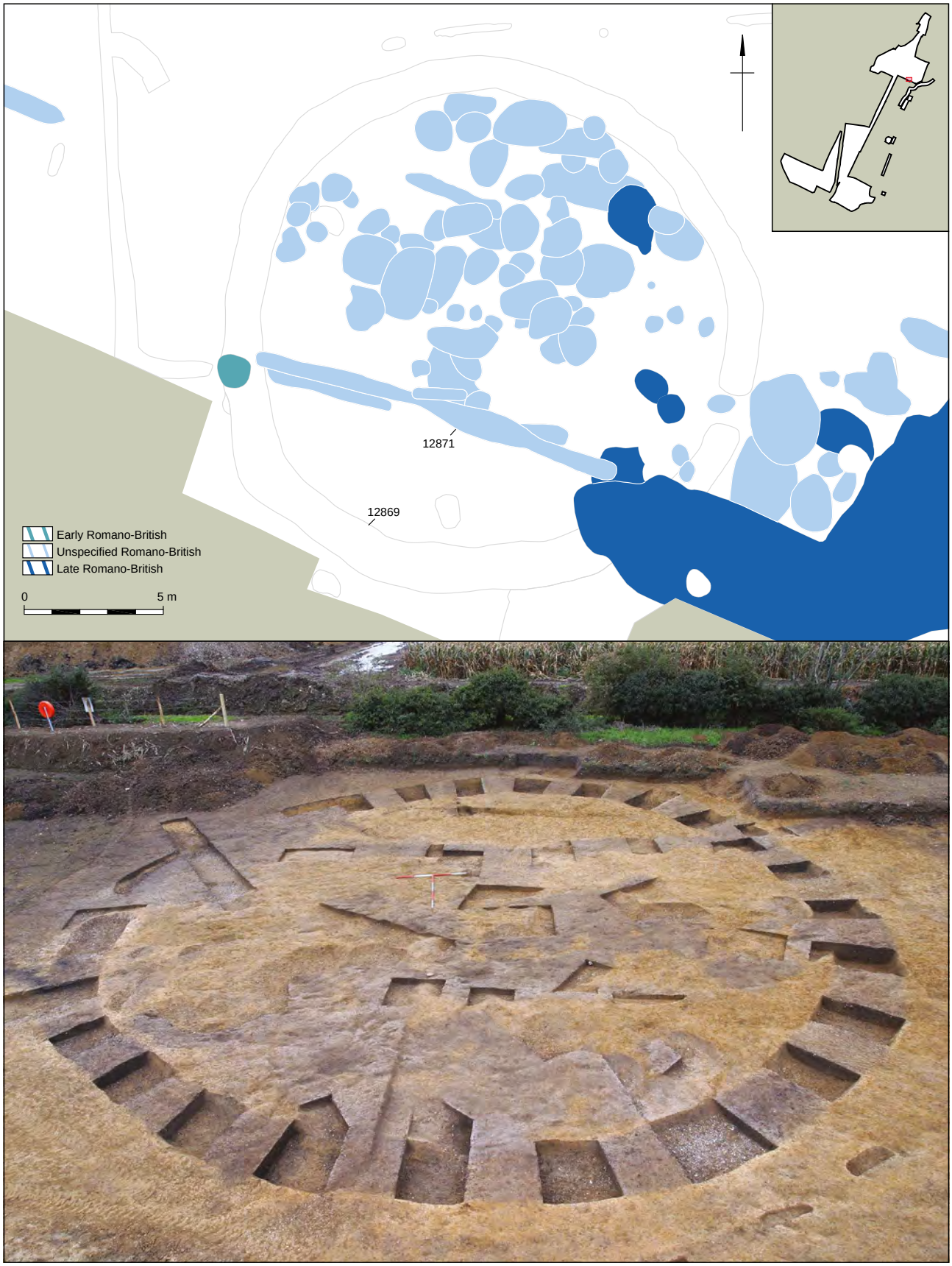


Figure 5.20 Early Bronze Age penannular ring ditch 12869, with later Romano-British reuse

Romano-British landscape, were respected and avoided when positioning settlement and agricultural areas, as at Barrow Hills, Radley, Oxfordshire (Barclay and Halpin 1999; Chambers and McAdam 2007), while at Drayton (Barclay *et al.* 2003) and the Devil's Quoits, Stanton Harcourt (Barclay *et al.* 1995) (both Oxfordshire), previous ancient monuments were disregarded when constructing later landscapes. There is occasionally evidence for deliberate acts of deposition at barrows during the Romano-British period (Cooper 2016, 679) but the activity at Horton seems more associated with removal rather than deposition. It is not unusual for prehistoric earthworks to be reused in the Romano-British period. It has been suggested that such respect is an indication of knowledge of ancient religious views and practices, surviving through folklore and memory (Booth *et al.* 2007, 220).

Structural evidence

Evidence for Romano-British settlement was limited to refuse recovered from enclosure ditches and other features. No *in situ* structural remains of this date were identified within *Farmstead C*, despite the high levels of activity recorded. No evidence of roof tile or *tegulae* was recovered, or indeed any other form of assemblage to suggest domestic dwellings of any form. Such a clear lack of evidence is problematic when trying to understand the layout of the farmstead and its setting within the wider landscape. However, it is not unusual for rural sites to show an absence of evidence for buildings, which could be the result of particular building techniques that did not require foundations or earth-fast elements. Construction techniques such as mass-walling and box-frame timber structures similar to examples identified at Sipson (Bird 2000) would leave little or no trace in the archaeological record. It is conceivable that such structures were present at Horton, but no evidence is available to support this theory. The spatial distribution of the ceramic assemblage shows a clear bias towards the eastern half of the farmstead, which may suggest that this area was more likely to be inhabited. There are no clear areas where such structures may have been placed, although it is conceivable that any settlement would have occurred outside of the enclosures, with the most likely location to the east of *Enclosure C2*. Evidence for postholes within the area is extremely limited, although a slight increase in pits, most likely for the deposition of refuse, is notable on this eastern side of the farmstead.

Two roundhouses possibly attributable to the Romano-British period were excavated on-site, although the dating for at least one of these is ambiguous. Roundhouse 12614 was located towards the southern extent of the *East Bund* within an area that was repeatedly used from the Middle Iron Age (Fig. 5.21). Although heavily truncated by later ditches, the feature was formed by a drip gully with a diameter of 5.2 m and had a 1.8 m wide, north-east-facing entranceway. The structure was located within the south-western corner of a Late Iron Age enclosure, which in turn replaced a possible Middle Iron Age roundhouse 13127, demonstrating the continued importance of this area. The size of the structure may indicate a small, lightweight construction rather than a substantial dwelling. The dating of the feature, however, is problematic. Ceramic evidence from the fills suggests a mixture of later prehistoric and Romano-British material, as well as the inclusion of sherds of medieval pottery. Environmental evidence on the site has previously suggested that many of the soils have been subject to repeated mixing, possibly through bioturbation or ploughing. Too few sherds of any date are present to date the feature with any clarity. The roundhouse is also cut by stratigraphically later ditch 12608, although this feature also contains a mixture of pottery and also remains difficult to date with any clarity. No other features attributable to the medieval period were found in this area, although further excavation to the west may clarify this.

A small sub-circular, almost penannular-shaped feature 15196 (Fig. 5.21, also see Fig. 5.10), is a well-dated structure belonging to the early Romano-British period. Likely to represent a roundhouse with a diameter of just 4.50 m, the structure had an ESE-facing entranceway 0.76 m wide. On average the gully was 0.45 m wide and 0.25 m deep. The feature was located to the immediate north-east of *Farmstead C* and appears to have been directly related to a possible trackway formed by ditches 15143 and 15283, the outer ditch of which was only 0.80 m to the west. The roundhouse straddled a small, earlier ditch (12779), while oval feature 15175 was located off-centre. Given the probable size of the roundhouse, it is likely that it represented a small shelter-like dwelling that may have been transient in nature. No associated postholes were recorded within the feature, while the artefactual evidence included animal bone, fragments of burnt flint, fired clay, ceramic building material and a worked flint flake core. The discovery of such a feature datable to the Romano-British period is not uncommon, and supports the notion of gradual and non-specific influence on such rural settlements immediately after the conquest. Roundhouses did continue to be present in the Surrey part of the Middle Thames Valley well into the Romano-British period, with limited evidence for circular buildings seen in the Upper Thames Valley (eg, Ashton Keynes, Wiltshire) (Powell *et al.* 2008). It is likely this tradition of building roundhouses was not lost or did not entirely disappear until much later in the Romano-British period (Booth *et al.* 2007, 35).

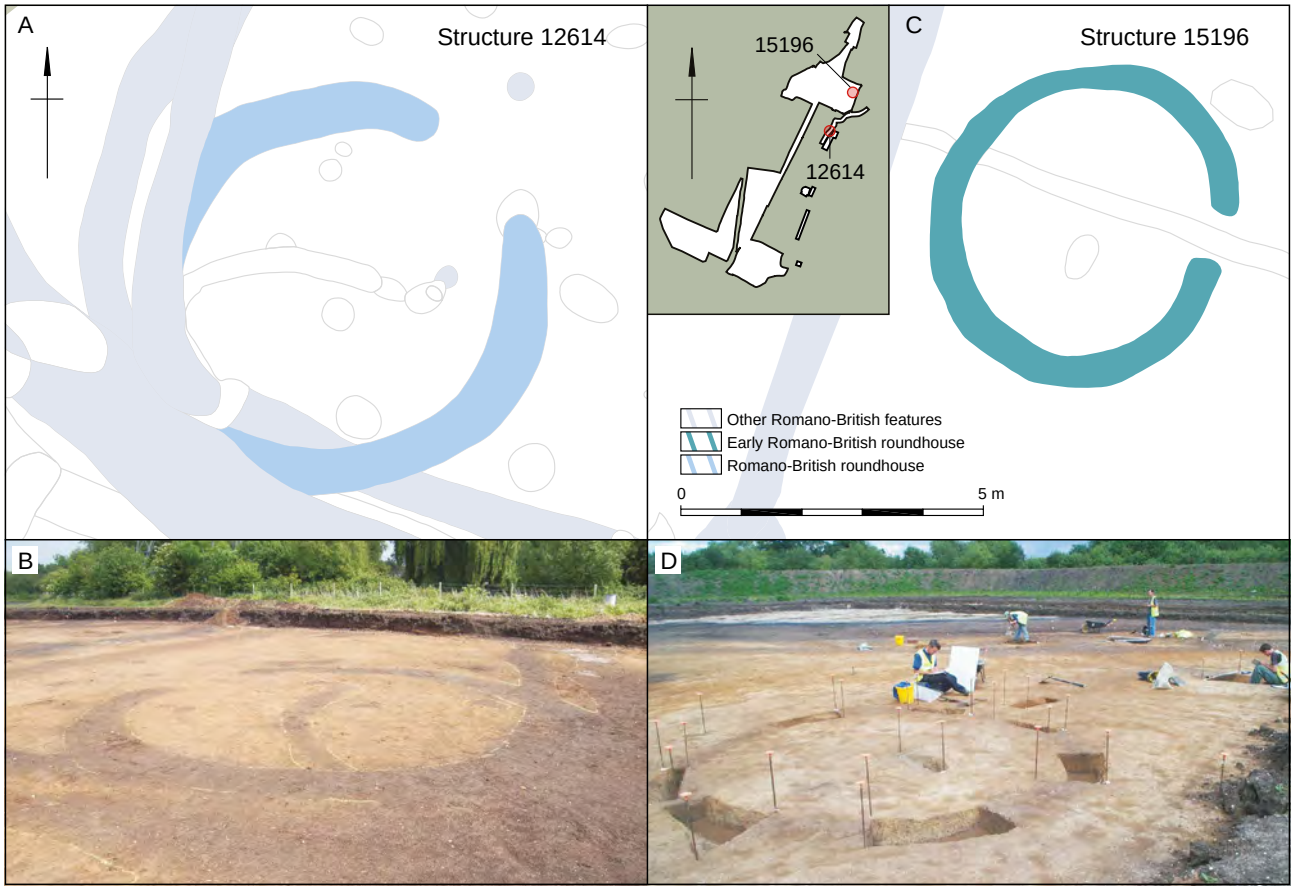


Figure 5.21 Roundhouses. A–B: 12614 and C–D: 15196

Waterholes

A total of five waterholes were recorded in association with *Farmstead C* (Fig. 5.22), and their usage appears to have been for both habitation and livestock. Similar quantities of such features were associated with both Middle Bronze Age farmsteads: *Farmstead A* had four waterholes; *Farmstead B* had six. No particular areas were favoured for their location or for access to water, although there was a tendency to locate the features in the corner of fields – again similar to *Farmstead B*. Many were in use for substantial periods of time, and most provided important artefactual evidence to support the overall picture of the Romano-British farmstead. Most had steep profiles with little or no ramp evidence, and were of a similar shape and size.

Waterhole 18036 represents the only feature of this type attributable to the early Romano-British period, and appears associated with *Enclosure C2* (Fig. 5.22). Lying in its south-eastern corner, the feature represents the latest stratigraphic phase, and excavation suggested a possible access point from the south. This may indicate that the feature was instead used with *Enclosure C3*. Sub-oval in plan, the feature measured 3.70 m x 2.52 m x 1.04 m. Its positioning may have been one of expedience for a working farm at this time, with the direct need for water at the heart of the farmstead, deliberately placed in close proximity to both domestic and agricultural practices. At the base of the feature lay waterlogged wood represented by the tip of a stake (ON 1228) and a plank found in several pieces (ON 1230) (1.32 m x 0.37 m). Both fragments were of oak, and neither was deemed to be *in situ* but merely deposited within the waterhole incidentally, rather than forming any sort of structure or revetment (see Barnett and Mepham, Appendix 1). Randomly deposited iron objects including the unusual find of a hipposandal (see *Artefactual evidence* below), were also located within the same deposit. It is not clear whether such items reflect casual loss or a deliberate act of decommissioning the feature. Several phases of gradual silting and contemporary sporadic deliberate backfilling occupied the lower levels of the waterhole, before the insertion of a layer of bark, twigs and branches. This may have represented a capping phase designed to contain rotting matter, or as a generic dump of rubbish associated with a single event within the farmstead. A small pit, 18299, recut the lower basal fills of the waterhole in its southern half, the fills of which were highly organic. A gravel layer may have acted as a capping layer to the organic layers, possibly to aid their breakdown and to suppress any odours. The pit recut contained several sherds of Black Burnished ware and other diagnostic pottery and, therefore, is distinctly later in date than the main

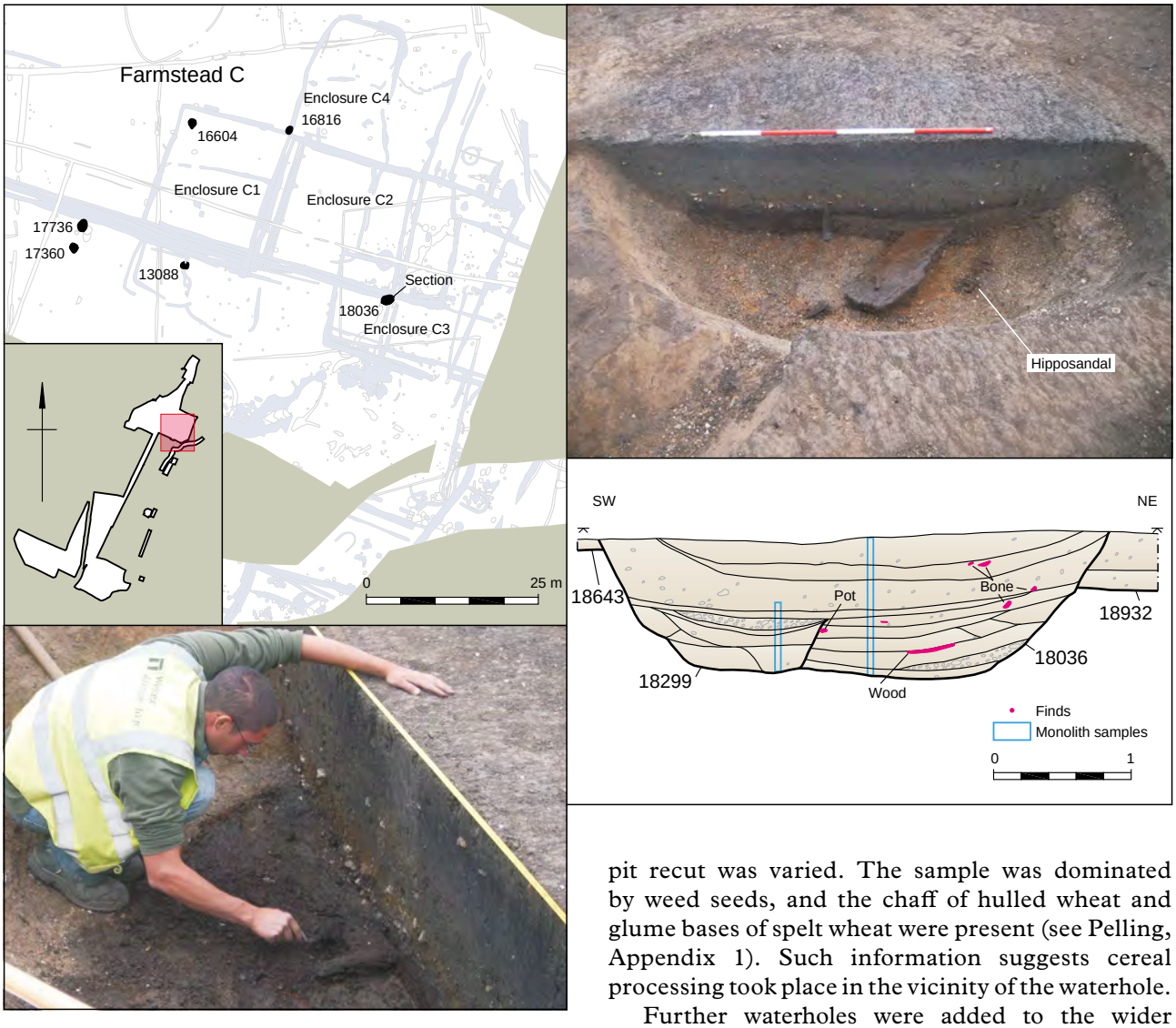


Figure 5.22 Romano-British waterholes associated with Farmstead C. Waterhole 18036

waterhole 18036. This may suggest that the original feature lay open for a substantial period of time, perhaps undergoing regular cleaning out (although no evidence of this is seen in the archaeological record). The true purpose of the later pit is not clear, although it may have acted as a rubbish pit while the larger waterhole gradually infilled. Its positioning at the base of an established waterhole may indicate a use other than simply containing domestic refuse, and that the wet, moisture-rich conditions were important. Both features were then filled with a cess-like material deliberately deposited into the void and give some indication as to the levels of human occupation on the farmstead, potentially over a sustained period of time. Pottery throughout the features indicates domestic use associated with settlement, and the presence of some samian fragments from waterhole 18036 may suggest a higher-status presence. The ecofact assemblage recovered from both the waterhole and subsequent pit recut was varied. The sample was dominated by weed seeds, and the chaff of hulled wheat and glume bases of spelt wheat were present (see Pelling, Appendix 1). Such information suggests cereal processing took place in the vicinity of the waterhole.

Further waterholes were added to the wider landscape as *Farmstead C* was developed in the 3rd and 4th centuries AD. Two, features 16604 and 16816, were located immediately within its enclosure boundaries. Feature 16604 was located 3.5 m within the north-western corner of *Enclosure C1* and was teardrop-shaped in plan. Aligned north-south, the gently sloping southern edge would have provided access for livestock associated with the western extents of the wider farmstead. Clay fills throughout much of the feature indicate a particularly high level of water content during its lifespan, while artefactual evidence recovered from the fills suggests a late Romano-British date. The addition of the waterhole during the later period in the corner of an earlier enclosure is likely to reflect the developing nature of the farmstead. Waterhole 16816 (Fig. 5.23) also represents a later addition to the farmstead. The feature was positioned to serve two enclosures, placed within the north-east corner of *Enclosure C1* and the south-western corner of *Enclosure C4*, physically cutting an early Romano-British phase of enclosure ditch 12794 as well as late Romano-British ditch 12743. Representing the

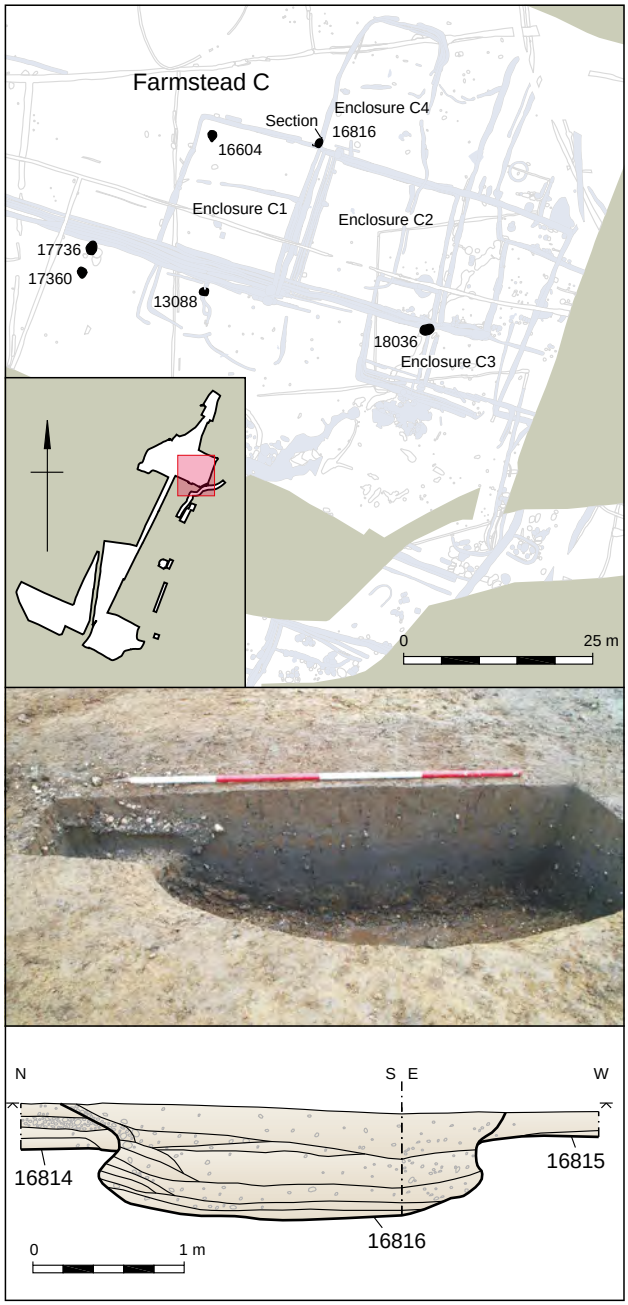


Figure 5.23 Waterhole 16816

latest addition to the area, this feature is likely to be associated with the latest chronological stages of *Enclosure C4* to the north. Steep, stepped sides on both edges of the waterhole suggest that it provided a mainly domestic function for human use rather than animals. The artefactual evidence is suggestive of casual loss rather than deliberate deposition, including pottery, ceramic building material, animal bone and fired clay, as well as a single leather shoe sole, ON 1183. The shoe is one of four such finds recovered from the site and will be discussed further below (see *Artefactual Evidence – Bowls and Boots*).

The remaining two waterholes, features 17360 and 17736, were located in close proximity to one another, 14.50 m from the south-west corner of *Farmstead C*, and immediately south of the large, regularly re-established boundary ditches which span the northern part of site. Feature 17360 (Fig. 5.24), the southernmost of the two features, measured 1.23 m x 1.38 m x 0.42 m and had straight, steep sides. A series of organic fills at its base suggest the presence of a substantial amount of water present during the periods of use. The discovery of a single, well-preserved Romano-British leather shoe, ON 1193, within the waterhole represents another example of casual loss, and provides an insight into the social aspects of the farmstead. Positioned on its side, the whole shoe was present, complete with sole and hobnails (see *Discussion*). The waterhole was recut by a shallower and wider feature (17365), which had clay deposits indicating that this too held water. Located 3.90 m to the north was waterhole 17736, a similarly sized and shaped feature to 17365 and which undoubtedly had the same function. Featuring steep, straight sides and a flat base, Romano-British pottery was recovered from throughout its fills, along with sherds of residual Late Iron Age/early Romano-British pottery. The waterhole was stratigraphically later than the series of re-established boundaries (see above). The positioning of both waterholes may give some indication as to the use of the land immediately outside *Farmstead C*. They were located within an area external to the enclosures and land divisions immediately south of the repeated boundaries that stretch from the main enclosure systems. It is possible that larger tracts of land were simply pastoral areas, unbounded to allow livestock to roam freely in the adjoining landscape. The location of the waterholes in such an area may have provided a water source to any livestock within the peripheral area surrounding the working farm, although their profile makes them impractical for use by animals without some form of human intervention.

Pit feature 13088 may also have functioned as a waterhole. Located immediately south of *Enclosure C1* and assigned to the earlier phases of occupation and land use, the feature contained a remarkable environmental assemblage within its lower organic fills. In addition to producing well over 1000 cereal items and over 700 weed seeds, the feature contained the seed heads and capsule stalks of possible pimpernel and a number of pedicels of wild oats (see Pelling, Appendix 1). The fragile nature of the latter ecofacts makes their recovery rare, with such outstanding preservation likely due to the feature being deep and waterlogged. It is possible then, that this feature represented a waterhole on the south-western edge of the early Romano-British development and use of *Farmstead C*. Abundant pottery was also recovered from the feature, as well as a fragment of a brooch decorated with punched lines (see Jones, Appendix 4).

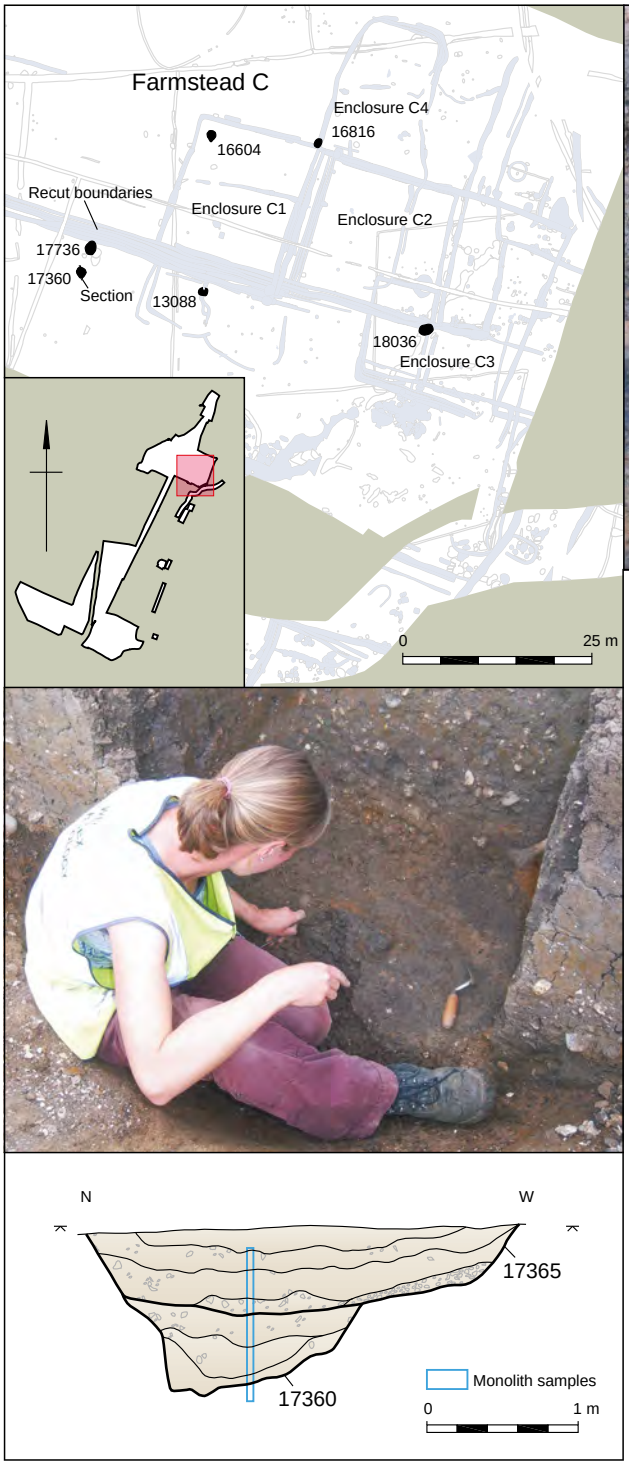


Figure 5.24 Waterhole 17360; shoe, ON 1193

Finds Evidence – Bowls and Boots

by Grace Jones

Pottery

The Romano-British pottery assemblage from Horton is large and varied, with forms and fabrics spanning from the immediate post-conquest period through to the late 4th/5th century AD. Most of the pottery of this date was associated with *Farmstead C* located towards the northern part of the site (Fig. 5.12). The earliest groups were dominated by grog-tempered and sandy ware vessels, with handmade and wheel-turned examples continuing the local native traditions alongside smaller quantities of Romanised wares (see Jones, Appendix 4). Jar forms dominate all phases of the assemblage, while bowl and dish forms may indicate an importance or status. Other forms include beakers, flagons and flasks.

Discrete features and localised deposits add to the picture of settlement within the immediate vicinity of *Farmstead C*. Pit 18813 represents an isolated feature south of the enclosures and contained a series of dump deposits of a late Romano-British date (Fig. 5.25). Three of the four fills of the pit produced a total of 212 sherds (4180 g) and featured an abundance of varying vessels and forms including greyware, everted rim jars, cordoned and necked jars, an Alice Holt storage jar, Oxfordshire colour-coated wares and a plain-rimmed dish (see Jones, Appendix 4).

Generally, the assemblage indicates a low-status rural community with limited access to imported vessels and specialist wares. Amphorae and mortaria were rarely encountered, with only three sherds of Dressel 20 amphora, from the Spanish province of Baetica, and mortaria from the Verulamium region in the earlier period and later from the Oxfordshire industries. A single sherd from a south-west white-slipped ware was also present. The quantities present are similar to those from other sites in the region, such as Heathrow Terminal 5 (Lewis *et al.* 2006; 2010), Staines (McKinley 2004) and Harlington (Powell *et al.* 2015), although slightly more amphorae were encountered at Staines (*Pontibus*). There is nothing within the ceramic assemblage to suggest that the events of AD 43 had an immediate impact on the site (see Jones, Appendix 4).

Figure 5.25 Pit 18813 with a series of dump deposits of late Romano-British date

Samian

A small amount of samian was recovered associated with *Farmstead C*, and represents an assemblage of limited forms, in keeping with roadside and 'small town' settlements (see Mills, Appendix 4). A low level of samian use was suggested, with dates from the Flavian period to the late 2nd or early 3rd century represented. Unusually, one complete and one almost complete vessel were recovered from the excavations, but not, as expected, from funerary deposits (see Mills, Appendix 4).

A near complete (approximately three quarters), decorated samian vessel ON 1175 (Fig. 5.26) was recovered from late Romano-British boundary ditch 12798 (ditch group 16173), associated with the latest phase of enlargement of *Farmstead C* (Fig. 5.19). Located in the north-easternmost corner of *Enclosure C2*, the vessel represents a general deposition. The hemispherical bowl was from the samian workshops of central Gaul, and the decoration is in the style of potter X-5 (Silvio II) – the bowl is dated AD 120–145 (see Mills, Appendix 4). The repeating design of six panels depicts a hunting scene featuring stags and lions, interspersed with leaf bundles. A very small amount of East Gaulish samian indicates samian was still reaching this area into the late 2nd and early 3rd centuries AD (see Mills, Appendix 4). A single abraded sherd of Lower Rhineland (Cologne) colour-coated ware from waterhole 18036, also decorated with a hunting scene, represents further evidence of imported finewares.

A complete stamped cup, ON 1227 (Fig. 5.27), was recovered from pit 18122. The shape is rather poor, with an irregularly formed rim, and poor examples such as this are often deemed to have represented 'seconds' and are regularly found as grave goods. Tabius Virtus, die 1a, La Graufesenque, Dr 27, TABIVIR/TIl AD 80–100 (see Vechten stamp T2).

Metalwork

Various pieces of Romano-British metalwork were recovered, and their presence adds to the overall artefactual assemblage of the site. While no metal objects of manufacture were found, and evidence

Figure 5.26 Decorated samian vessel, ON 1175, recovered from late Romano-British boundary ditch 12798 (ditch group 16173)

Figure 5.27 Complete stamped cup, ON 1227, recovered from pit 18122

of personal adornment was sparse, the assemblage does illustrate the site as a rural, farming community without any signs of higher status.

A small number of early Romano-British personal items were recovered, including five copper alloy brooches (ON 992, ON 945, ON 1150, ON 1238 and ON 1403), one finger-ring (ON 1156) (Fig. 5.16C), a copper alloy spoon/scoop from a toilet set (ON 942), and iron hobnails (see Jones, Appendix 4) (Fig. 5.28). The items were randomly dispersed across the site and from various types of features – two were recovered from pits, three from enclosure ditches and one from a waterhole. Three of these were found in the vicinity of *Farmstead C*, with the remaining two from the southern extents of the site.

Various iron objects were found to indicate more specific agricultural practices occurring on the site. An iron hipposandal (ON 1236) (Fig. 5.29), a type of horseshoe rarely used by the Romans, was located at the base of early Romano-British waterhole 18036, and dates to the 2nd–3rd centuries (see Jones, Appendix 4). The use of hipposandals is open to debate, although the preferred suggestion is that they were used as temporary horseshoes to transport unshod animals on metalled surfaces (Manning 1985, 63). Arguments against this theory centre on the likelihood of chafing, which Manning suggests could be overcome by protecting the legs with rags or straw (*ibid.*), and that a horse could not be ridden at speed while wearing such a shoe (Scott 1993, 403). Its presence on the site is unusual, with the site over 2 km to the north-east of the Roman road at *Pontibus*.

Farm tools were well represented within the assemblage. They include a hammer/anvil and chisel (ON 1243) (Fig. 5.30), found together within in late Romano-British enclosure ditch 12849. The hammer was made of iron – unusual but not unheard of in the Roman world, and along with the iron chisel, it is thought that the tools were related to metalworking. An adze (ON 1219) of probable

Figure 5.28 From left to right: spoon/scoop from a toilet set, ON 942; four copper alloy brooches, ON 992, ON 1403, ON 945, ON 1238; finger-ring, ON 1156 (bottom)

Figure 5.29 Iron hipposandal, ON 1236

1st-century date was recovered from early Romano-British pit 12861 and was likely to have been used for woodworking. Its shape is similar to that of a hoe, although a protuberance at the back of the head may have given 'the tool a secondary function as a hammer' (Rees 1979, 308). The remains of a wooden handle remained in the hafting perforation, now mineralised. A shaft-hole axe (ON 1184), probably used for splitting wood, was recovered from enclosure ditch 12734, while a possible heavy-duty knife or cleaver (ON 1234) was found at the base of waterhole 18036, alongside a socket from a second tool or weapon (see Jones, Appendix 4).

Various small fastenings and fittings were found scattered across *Farmstead C*, including 16 flat-headed iron nails and various miscellaneous objects. Of interest is an iron object from late Romano-British ditch 12741. It consists of a bar, 400 mm in length, of square cross-section, 25 mm wide, tapering to 12 mm at one end; the other end is pointed but broken. Towards the pointed end the bar swells to create a collar 40 mm thick and 62 mm in length. The function of this object is unknown (see Jones, Appendix 4).

The discovery of a rare bronze cauldron (ON 1225), associated with a boundary ditch from *Farmstead C*, may have greater significance than all of the other metalwork (Fig. 5.31). Buried beneath ditch 18474 in a small pit 18281, the cauldron was beaten out of a single piece of metal and featured iron rim reinforcement and escutcheons. The mildly concave body and globular base is reminiscent of a similar vessel from Wooten, Surrey (Kennett 1969, 134 fig. 11, 4), although it features some unique

Figure 5.30 Hammer, anvil and chisel, ON 1243

Figure 5.31 Bronze cauldron, ON 1225. A–B: Upon discovery and during excavation. C–F: Detail, showing escutcheon (D) and signs of repair (E)

characteristics. The much-corroded escutcheons and the ornamentation of raised and sunken coils and twirls undulating around the carination (see Schuster, Appendix 4), set the Horton cauldron apart from others. The escutcheons may imitate a Late Iron Age design, while the detailed carination has no comparable example. Prior to deposition, the bowl had been repaired in at least one place, where a sub-rectangular patch had been added with several sheet folded rivets. Possible leather fragments recovered from the interior of the vessel during conservation may also indicate that the cauldron was used as a votive deposit, and mirrors an example from Scole (Lyons 2009, 92) (see Schuster, Appendix 4).

Leather

Four leather shoes were recovered from separate features of Romano-British date, and all related to *Farmstead C* at the northern part of the site. All four shoes were of nailed construction, the most common footwear found throughout Roman Britain. Three were recovered from waterholes, while the

Figure 5.32 Romano-British shoes, ON 1166 (right) and ON 1193 (left), recovered from waterholes 15220 and 17913 respectively

highly fragmentary remains of another were located within the terminal of a late Romano-British ditch. All appear to be the result of random or accidental deposition. Three of the shoes were of adult size, although the fragmentary example was not possible to clearly identify.

Two shoes, ON 1166 and ON 1193, were recovered from waterholes 15220 and 17913 respectively (Fig. 5.32). Shoes ON 1166 and ON 1183 (from waterhole 16816), were constructed slightly differently and featured 'whip stitching' (over stitching) of the middle laminae of the shoe with a leather thong. While none of the shoes featured a complete sole, they could be seen to be relatively lightly nailed (see Mould, Appendix 4).

Human and animal bone

Human bone

A single burial, 18156, may be attributable to the Romano-British period (see McKinley, Appendix 5) (Fig. 5.33). Although no pottery was recovered, four iron nails were retrieved from the grave backfill and are thought to possibly have been used to secure an organic cover. This may suggest a probable Late Iron Age/Romano-British date for the burial.

Human remains were also recovered from Early Romano-British ditches 16256 and 18164. Although 90 m apart, the long-bone fragments from each could have been derived from the same adult male. It is unclear, however, whether the remains belonged to individuals of the Late Iron Age/Romano-British period or are the disturbed remains of earlier burials.

The lack of burials associated with the Romano-British period contrasts with the concentration of features; however, during the next phase of excavations a small Romano-British cemetery was discovered approximately 100 m to the west of the main concentration of the Romano-British features and will be reported on in Volume 2.

Animal bone

For the Late Iron Age/Romano-British period the animal bone assemblage consists almost entirely of domesticates, dominated by cattle and sheep/goat – consistent with a rural, self-sufficient farm embedded within a mixed agricultural economy. The presence of foetal cattle and sheep/goat bones indicates these animals were bred and reared locally.

The Late Iron Age/Early Romano-British assemblage is dominated by cattle, with almost all cattle bones derived from skeletally mature animals. The mortality pattern suggests an emphasis on secondary products and the retention of breeding stock and animals used for traction. The mortality pattern for sheep/goat mandibles shows that most were culled as mature animals aged between 3 and

Figure 5.33 Burial 18156, which may be attributable to the Romano-British period

4 years. It suggests that sheep were not intensively exploited for meat but were culled after they had provided one or two years of wool.

Analysis of the distribution of body parts (see Grimm, Appendix 5) indicates that leg bones dominate by weight in the pits, while more primary butchery waste (i.e. heads and feet) was located within ditches. Such a distribution pattern implies primary butchery waste was dumped in peripheral locations such as the ditches surrounding the site, whereas domestic waste was being deposited into pits. A similar pattern was observed at Imperial College Sports Ground and RMC Land (Powell *et al.* 2015; see also Wilson 1996).

Progressing into the Romano-British period, cattle rearing seems to have intensified at the cost of sheep/goats, with the proportion of cattle increasing by 15 per cent. The cattle were from a range of ages indicating a mixed husbandry regime favouring milk, meat, manure and traction. The mortality pattern for sheep indicates that the majority were slaughtered at the optimum age for prime meat, although it is likely that they had also produced one or two years of wool before they were selected for slaughter. Most skeletal elements were present, meaning that they were butchered and consumed on-site.

Discussion

Evidence recovered from Horton reflects that of previously excavated sites within the wider Middle Thames Valley floodplain, and as such, provides further information to suggest the changing social and economic conditions throughout the Romano-British period. The impact of the Conquest in the early years of the new millennium appears to have had limited effect on the populations of the valley at the time. The widespread agricultural systems of both the Bronze and Iron Ages continued to flourish, and a significant change to the local economy that did occur post-invasion was the introduction and development of the small town of *Pontibus* (Staines). The influence of the town potentially had an enormous effect on the wider rural populations. The provincial landscape was forcibly confronted with trade and connected inextricably with the far-reaching Roman networks, including the road to *Calleva Atrebatum* (Silchester) and the market economy of *Londinium*. Farmsteads within the vicinity of the town, such as the community at Horton, would have noticed the effects of growth and prosperity, particularly during the prosperous 2nd century AD. Such development potentially effected an expansion of growth and agricultural productivity. The increase in size of farmsteads is witnessed, not just at Horton, but also at Heathrow (Lewis *et al.* 2006; 2010) and Imperial College Sports Ground (Powell *et al.* 2015), where stock enclosures and a general intensification of agricultural activity was noted throughout the Romano-British period. Settlements defined by enclosures with ditches developed throughout the Middle Thames Valley, such as at Thorpe Lea Nurseries (Bird 2004a, 78), although enclosure ditches were absent from sites such as Hengrove (Hayman 2005) and Ashford Prison (Carew *et al.* 2006). It is suggested that such a development indicates an increasing concern with the definition of settlement areas away from agricultural zones (Booth *et al.* 2007, 33). Similarly the replacement of open settlements with complex settlements with habitation set within a series of ditched enclosures with an accompanying co-axial field system, as exhibited at Horton and many other locations throughout the Middle Thames Valley, has been taken to indicate the area's focus on the rearing of livestock (Allen 2016, 129). It is believed that this was a result of the need to feed *Londinium,* with marketing conducted through *Pontibus* (Bird 1996, 224; see also Smith *et al.* 2016, 34 and Lewis *et al.* 2010, 298).

The wider influences of the town of *Pontibus* may have provided a stimulus to the local economy (Brown and Smith 2010). The rivers, particularly the Colne Brook, may have been used for transportation of goods into the community at Horton. It is clear that

the farmers had access to imported goods, including finewares, glass and metalwork. Much of the everyday pottery is likely to have come from known kilns active within the Colne Valley, particularly those at Fulmer, Gerrards Cross and Hedgerley in Buckinghamshire (Cotton *et al.* 1986). However, the evidence suggests a wider influence and range of contact, perhaps from *Londinium*, which was already a well-established trading centre soon after the conquest and quickly expanded further (Perring with Brigham 2000, 128).

There is some evidence throughout the Thames Valley of settlements being abandoned sometime around the 2nd century AD, followed by a later reoccupation and reorganisation of the landscape. Settlements such as Waylands Nursery (Pine 2003) appear to have been reoccupied in the later centuries of the Romano-British period (Booth *et al.* 2007, 79). Pottery analysis at Horton, however, shows a generally uninterrupted occupation throughout the period and experienced a prolonged and intensive period of agricultural activity. Such continuity is reflected in the evidence from other sites in the valley, such as at Thorpe Lea (Bird 2004a), where a similar small community based on farming thrived for centuries.

Once again, in comparison to the Middle Bronze Age evidence, the settlement appears wholly generic, a simple, small-scale farmstead. But the recovery of specific artefacts suggests a wider significance or network of exchange. In the same way that each Middle Bronze Age farmstead (see Chapter 4), contained extraordinary items that do not quite fit with the notion of small, isolated and seemingly insignificant settlements, the presence of items such as the hipposandal and decorated samian ware suggest a greater status for the Romano-British population of Horton than one may originally think, or a wider social distribution of such objects that does not entirely correlate with modern ideas of status. Certain ecofacts also suggest wider significance. A single, well-preserved seed of coriander was recovered from pit 17073, dated towards the end of the lifespan of the farmstead. Coriander tends to be associated with military sites or urban centres (van der Veen *et al.* 2009). The presence of an exotic flavouring at Horton, however small, suggests some form of 'Romanisation' of the diet by the late Romano-British period (see Pelling, Appendix 1) and can question our characterisations of a small, essentially self-sufficient, rural site. The population at Horton, it seems, while retaining their agricultural and agrarian lifestyles, were aware of and actively open to influences from neighbouring urban centres.

Excavations have shown that a well-established and seemingly productive farming community prospered for several hundred years at Horton. Despite the continued developments and enlargements of the farmstead – the creation of new and the elaboration of old enclosure systems – the community at Horton was nothing more than a relatively small-scale, low-status agricultural farmstead. The finds and environmental evidence suggest a mixed economy based on the cultivation of cereal alongside the rearing of cattle. Similar patterns are discernible at both Heathrow and Imperial College Sports Ground (both located to the north-east of Horton) (Powell *et al.* 2015), where small-scale farmsteads farmed emmer and spelt wheat and barley, alongside the management of livestock, mainly cattle (Brown and Smith 2010). It is difficult to determine the population size associated with the farmstead. Bird (2004a, 79) notes that the general lack of well-studied sites in the region from the Romano-British period also makes it difficult to assess the rural population size in the wider area at the time. What is clear is that the nature of the farming community at Horton continued unchanged for several centuries. Ceramic evidence suggests use of the farmstead until the beginning of the 5th century AD, whereupon it dwindles. The reasons for such an evaporation of archaeological evidence are unclear. New settlements were conceived in the late Romano-British periods at sites such as Imperial College Sports Ground and Cranford Lane to the east, and it is possible that communities simply moved to what may have been thought of as more prosperous areas. The new agricultural centres may be a reflection on the increase in dominance of the villa and rural estates (Brown and Smith 2010) and as such represented the decline of the widespread market economy supplied by the prosperous rural communities of the wider Thames Valley.

Chapter 6
The Post-Roman Landscape

by Gareth Chaffey with Philippa Bradley and Andy Valdez-Tullett

Saxon Activity in the Middle Thames Valley

The post-Roman landscape of the Middle Thames Valley is one of limited archaeological evidence in a rural context. Sparse activity, often seen through 'ridge and furrow' agricultural systems, characterises the period after the decline of Roman influence, but it is difficult to fully ascertain any distinct change. The most visible evidence is the decline of towns and villas, where few show evidence for reuse and reoccupation in later periods. Agricultural landscapes, in particular, are difficult to determine and rarely show continued use. The extensive landscape exploitation witnessed across the valley during the Romano-British period appears to come to an end, with little suggestion of further use and development. Some have suggested that this may reflect a general decline in the local populations following the withdrawal of Romano-British rule, which then had a knock-on effect with the rural economy (Cowie and Blackmore 2008, 130). This may or not be the case within the Middle Thames Valley, where evidence for such population change is scant. Perhaps populations within the area towards the end of the Romano-British period were already limited, with few villas and settlements recorded within the area. Continuity of occupation into the 5th century can be demonstrated at only a few settlements (predominantly located on the gravel terraces), such as Somerford Keyes Neigh Bridge and Roughground Farm (Booth *et al.* 2007, 77), while at Ashton Keynes, grass-tempered pottery suggests occupation continued into the 6th and 7th centuries (*ibid.*, 77).

A Saxon community was present at nearby Staines during the post-Roman period, although it is not clear how large it was, or indeed how it interacted with the late Romano-British settlement (Haslam 1984, 41) (Fig. 6.1). Activity was less intensive than in earlier periods, although it is suggested that rural and agricultural practices are likely to have continued relatively unchanged (Booth *et al.* 2007, 81). Post-Roman activity at Horton, for instance, was negligible and the excavated areas do little to explain the absence of contemporary features. The scant evidence for Saxon occupation of the site provides no indication of a continuity of land use directly after the late Romano-British period. *Farmstead C*, for instance, certainly went out of use and is not utilised in any way during the post-Roman period.

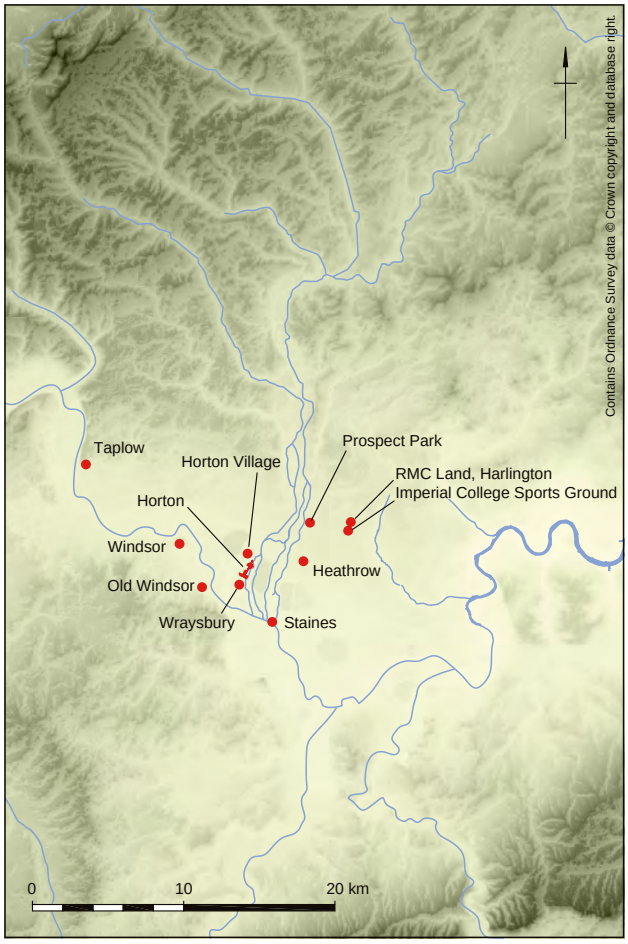


Figure 6.1 Saxon and medieval activity in the Middle Thames Valley and West London gravels – selected sites

The sparse archaeological evidence for the Saxon period in the Middle Thames Valley suggests limited occupation and settlement. Such a decline has been attributed to a number of factors, not least the apparent abandonment by the Romano-British communities, implying a reduced level of agricultural production and the decline of towns and villas. A similar lack of such evidence has been recorded at sites in Horton's immediate environs. Two possible sunken-floored buildings and a single post-built structure of early Saxon date were recorded at Heathrow Terminal 5 (Lewis *et al.* 2010, 326), while scarce evidence for rural settlement was recovered at Harlington (Mepham with Stevens 2015). Here, a small group of at least three, possibly

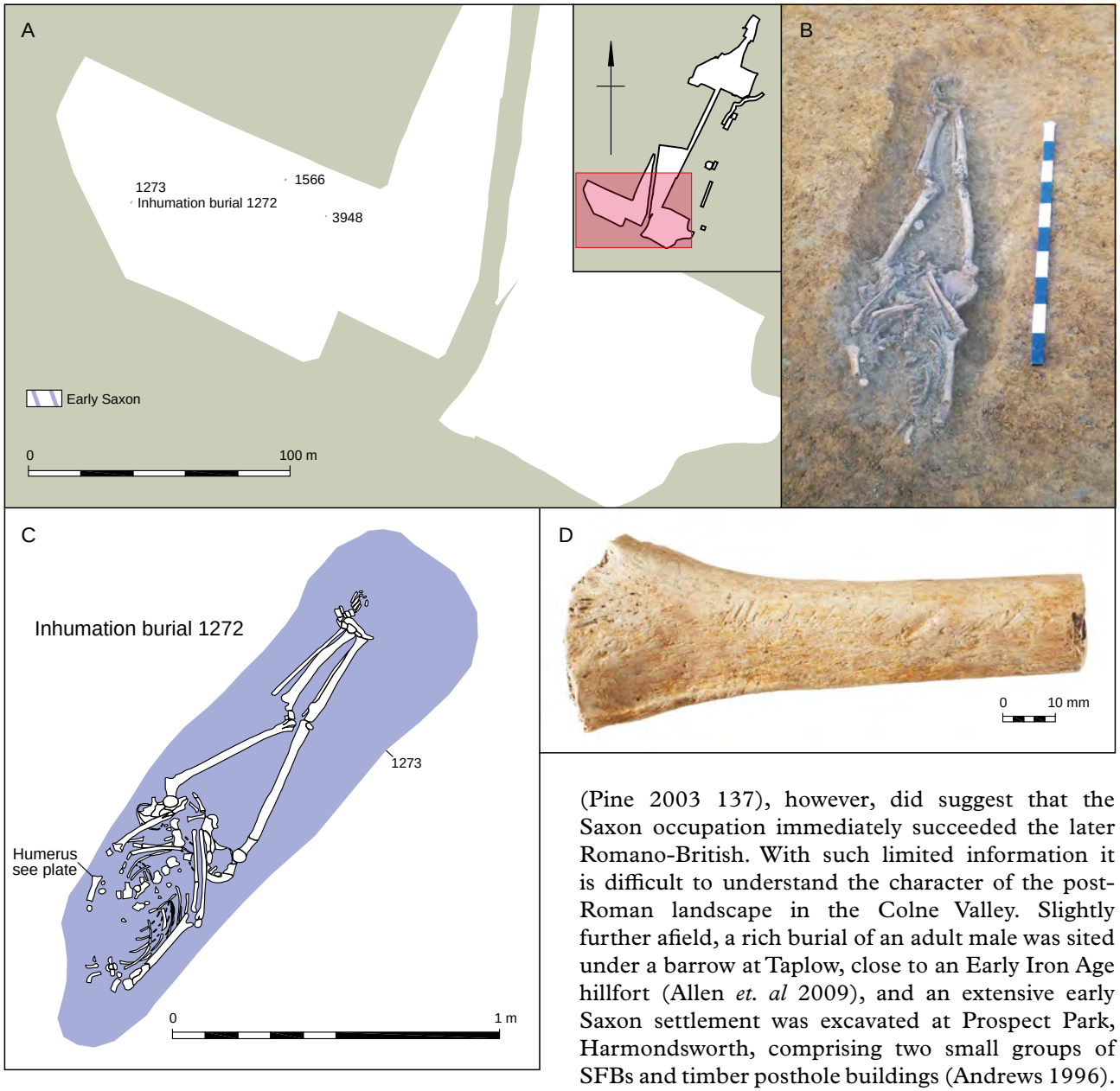


Figure 6.2 A: Saxon features, B–C: inhumation burial 1272; D: left humerus from inhumation 1272

five, inhumation burials dating to the 6th century was uncovered, as well as a field system of late Saxon date. Scant occupation evidence has been recovered during limited excavations in Wraysbury (Pine 2003, 123), where pits and a typical Saxon sunken-featured building (SFB) with associated postholes were recorded. A reasonably sized pottery assemblage, as well as a quantity of animal bone from the SFB, were recovered from the features. Such discoveries support the limited evidence for Saxon occupation recovered from Wraysbury during excavations at St Andrew's Church, which recorded late Saxon and Norman evidence for an agricultural settlement from the late 9th to 12th centuries AD, including ditched enclosures and trackways (Astill *et al.* 1989, 68). Evidence found at Waylands Nursery, Wraysbury (Pine 2003 137), however, did suggest that the Saxon occupation immediately succeeded the later Romano-British. With such limited information it is difficult to understand the character of the post-Roman landscape in the Colne Valley. Slightly further afield, a rich burial of an adult male was sited under a barrow at Taplow, close to an Early Iron Age hillfort (Allen *et. al* 2009), and an extensive early Saxon settlement was excavated at Prospect Park, Harmondsworth, comprising two small groups of SFBs and timber posthole buildings (Andrews 1996).

Despite a total of around 14 hectares being investigated to date at Horton, Saxon pottery has been recovered from only four archaeological features. Two features are of Saxon date, while a further two contained residual Saxon pottery (Romano-British waterhole 17365 in the northern part of the site, and Romano-British enclosure 9914 in the southern part). A single pit 3948 (Fig. 6.2A) was recorded at the southern end of the site, located within the Middle Bronze Age features associated with *Farmstead A* (see Chapter 4). The oval pit (0.80 m deep) contained the remains of a single vessel, a globular form with a short, everted rim in a fabric spanning the early/middle Saxon period and dated to *c.* AD 410–800. Three thick-walled sherds from a rounded base may be from a second vessel (see Mepham, Appendix 4). Two small rings of stakes were located around the base of the feature and may have represented an attempt at revetting the

sides, possibly with a wattle or wicker basket lining. The presence of iris seeds within the organic fills may be indicative of seasonal use, and nuts and other perishables may have been deliberately placed in containers for storage. Both charred and waterlogged plant remains were present. The function of the pit is not clear, and the lack of associated features is problematic. It is possible that the pit was a small waterhole, and the presence of the vessel may also indicate a deliberate deposition associated with the closure of this feature.

An isolated prone inhumation burial 1272 (grave 1273) (Fig. 6.2A–C) has also been dated to the late Saxon period by a single radiocarbon date, from the left femur, of cal AD 770–990 (NZA-34008, 1140±20 BP). Located towards the south-west corner of the site, the burial remains appear to represent a deviant singleton (see McKinley, Appendix 5), ie, one not associated with a cemetery, as is the norm in the later Saxon periods. The grave contained three iron nails, which may indicate burial within a coffin, and although the head was not present, this is likely to be the result of modern truncation. The burial is that of an adult male and showed signs of trauma on the right ulna, as well as potentially suffering from *spinal bifida occulta*. Such a condition, although not common, has been recorded within numerous Romano-British assemblages (Roberts and Cox 2003, 115–117). Shallow cut marks on the left distal humerus, all at an approximate 45°, also suggest post-mortem manipulation of the corpse, an unusual treatment of the body after death. The marks suggest a 'filleting' action to remove the flesh of the arm (see McKinley, Appendix 5) (Fig. 6.2D). Comparable later Saxon evidence is extremely rare in the Middle Thames Valley, predominantly due to modern towns and villages masking areas of Saxon settlement, and as such, they have not been subject to archaeological investigation (Booth *et al.* 2007, 114). The isolated nature of the inhumation may indicate the stature of the individual within his community – isolated burials of this date have often been thought of as having been excluded from the community burial grounds (Zadora-Rio 2003, 7). The archaeological concept of 'deviant burials' covers a wide variety of ante- and post-mortem treatments of the body (Reynolds 2009), at least some of which are noted on the Horton inhumation burial. Certainly, the post-mortem cutting of the left humerus suggests some specific treatment towards the individual, although it is clear that care was taken when burying them. It is possible that the burial was illicit (Cherryson 2008, 122), the individual perhaps having been ostracised from the local community because of some perceived or actual contravention of the accepted cultural mode of practice (Reynolds 2009). The location of the burial also needs some consideration – placed close to the meeting point of the Late Bronze Age boundary ditch 9239 and *Palaeochannel I*. To what extent such features were still visible in the landscape is not clear. Perhaps earthworks from the boundary ditch (and possibly a bank), were still extant to some degree, or the channel still a boggy area, and as such influenced the positioning and location of the inhumation grave.

It is possible the lack of evidence for Saxon occupation at Horton is not a true reflection of the activity on the site at this time. The scarcity of the evidence may suggest that occupation during this period was restricted to the surrounding hamlets and villages, and as such, has not been fully explored. Only further development in brownfield sites may provide future opportunities to investigate evidence of late Saxon archaeology. What is clear is that there was a distinct abandonment of the landscape that had been so carefully managed and established in earlier periods. The Romano-British farmstead at the northern end of the site shows no sign of Saxon occupation apart from a single residual sherd of pottery. There is no explanation for such a gap in the archaeological record. The discontinuity with the late Romano-British activity simply reflects an abandonment of the agricultural landscape, a characteristic repeated across the Middle Thames Valley.

Medieval and Post-medieval Activity

Early Medieval Influence

Evidence for activity during the post-Saxon periods was revealed sporadically across the site, and varied in density, scale and nature (Fig. 6.3). While there appears to have been an apparent hiatus in activity in the Saxon period, there is the suggestion of further use of the landscape around the 11th century, which may be directly associated with Horton Manor, formerly located to the north-west of the excavation area (Fig. 6.3). Around this time, the landscape was being reorganised, with the establishment of villages and late Saxon estates evolving into manors (Mepham 2015, 141–2). In 1086, the manor was recorded in *Domesday Book* as Hortune, belonging to Walter FitzOthere, and was assessed at 10 hides. The book records FitzOthere as the founder of the House of Windsor, as well as keeper of the Forests of Berkshire and Constable of Windsor Castle. He also held large landholdings in Buckinghamshire, Berkshire, Hampshire, Middlesex and Surrey. The true nature of the manor is not clear, but its size as suggested by its reference in the book would imply a substantial manorial presence extending influence over a wide area. Manorial houses during the 11th century were typified by large but isolated farms, and hamlets and small villages interspersed with fields and tracts of

arable land. They were often diverse in style and size. Essentially, the manor house represented the centre of the estate, acting as an administrative headquarters (Cotton *et al.* 1986, 75). The Church played a role in the wider community and situated 300 m to the north of the manor is the church of St Michael, although this may have had its origins in the 12th century. The presence of a mill associated with the manor is mentioned in *Domesday*, although its location is not known. The parish enclosure map of 1799 (Berkshire Record Office, ref. IR/43Q) shows a 'Mill Meadow', located at the southern end of the site, hinting at the location of such a feature. It is possible that this name relates to an area of land associated more with the village of Wraysbury, as opposed to Horton.

Only two 'towns' in the vicinity of the site were noted in *Domesday*, (Old) Windsor and Staines (Fig. 6.1). Both settlements may have had strong

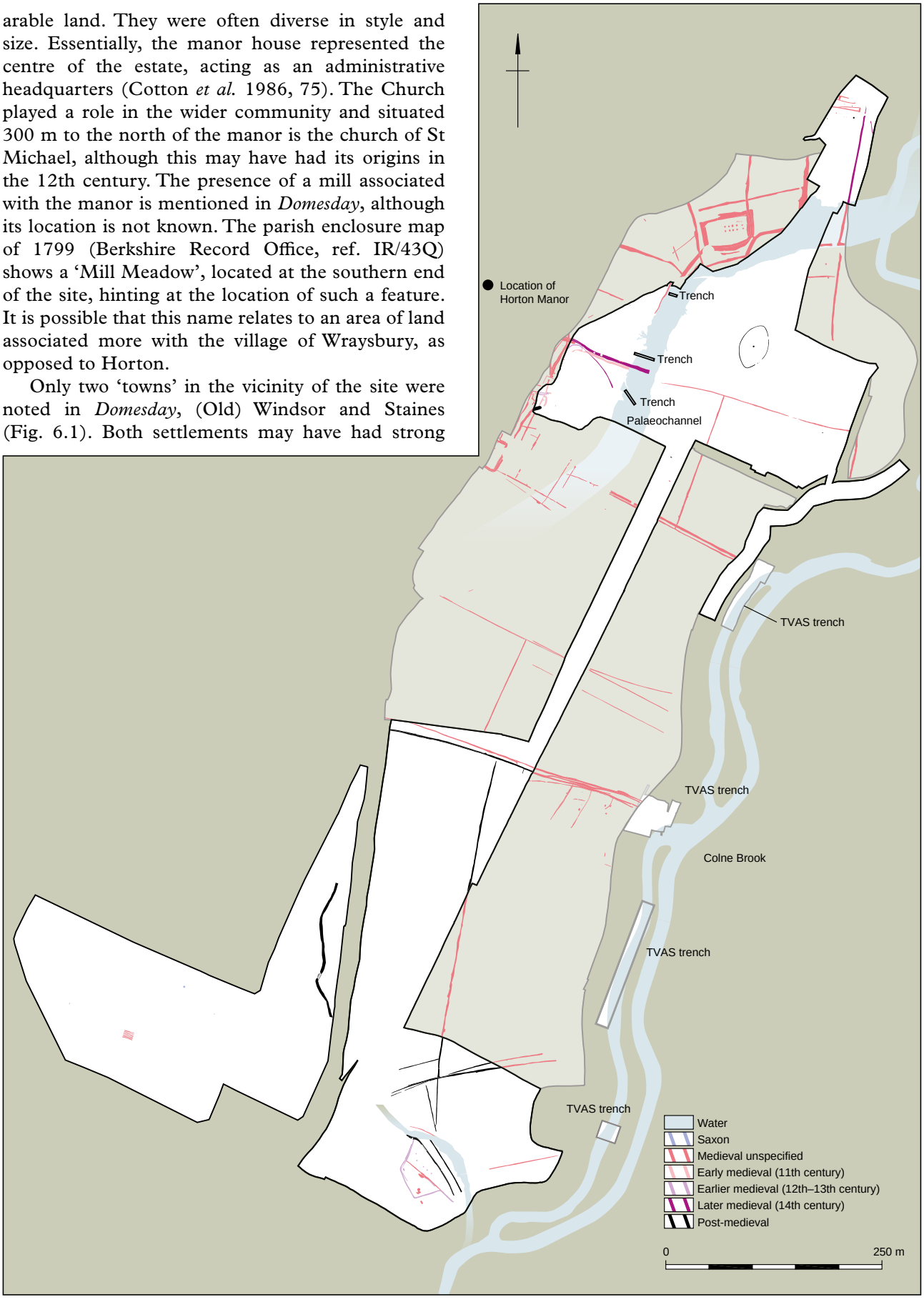


Figure 6.3 Medieval and post-medieval features, and location of Horton Manor

influences on the populations of the area. *Domesday* suggests that a significant settlement had formed at the royal estate at Old Windsor, perhaps acting as a market centre, while Staines, thought to have been based around a minster, was the centre of a large estate belonging to the Abbey of Westminster (Booth *et al.* 2007, 141). By the end of the 14th century, Staines had been granted a market charter (Cotton *et al.* 1986, 77).

The archaeological evidence at Horton suggests a presence on-site associated with the manor during the early medieval period. Several residual sherds of medieval pottery were recovered across the site, with limited early medieval activity recorded at the north of the site in the vicinity of the manor. Small areas of potential field systems were noted (Fig. 6.4), such as ditches 10704, 10706 and 10708, although areas of modern disturbance and the limits of the excavation hindered their full identification. A scatter of poorly preserved and truncated pits was also recorded, with no significant deposits noted. The course of a substantial ditch, possibly a land boundary, formed by ditches 12651, 12652 and 12656, ran across the excavated area in the north of the site. This boundary separated large tracts of land to the north and south, and would probably have been marked with a hedgerow. Despite its location close to the manor, this was the only substantial feature associated with this period, and suggests that land use in the immediate environs of the manor was limited, and perhaps pastoral, although further evidence to the west and south of the site may have been lost to gravel extraction. The feature showed signs of segmentation and a possible entranceway was recorded towards the eastern side of the site, while other field boundaries and drainage ditches on the western limits may indicate further activity close to the location of the manorial residence, although they survived in a heavily truncated and disturbed state. Pottery recovered from this northern area contained imported wares, including a range of glazed wares, indicating a settlement with at least some pretentions to gentility consistent with the proximity to Horton Manor (see Mepham, Appendix 4).

A suggestion of differing agricultural practices was recorded at the southern extents of the site, where a reasonably sized field system suggests a higher level of land use (Fig. 6.5). The land use is likely to have been associated with settlement at nearby Wraysbury, recorded in *Domesday* as Wirecesberie. Here the book records the presence of two mills, four fisheries, and land that produced hay for the cattle of the courts. Covering an area of 4000 m², the field enclosure system featured an irregular polygonal shape with no prioritised or well-defined orientation. Artefactual and stratigraphic evidence suggests that the field system may have been much smaller at its inception, but grew rapidly in a series of phases. The initial

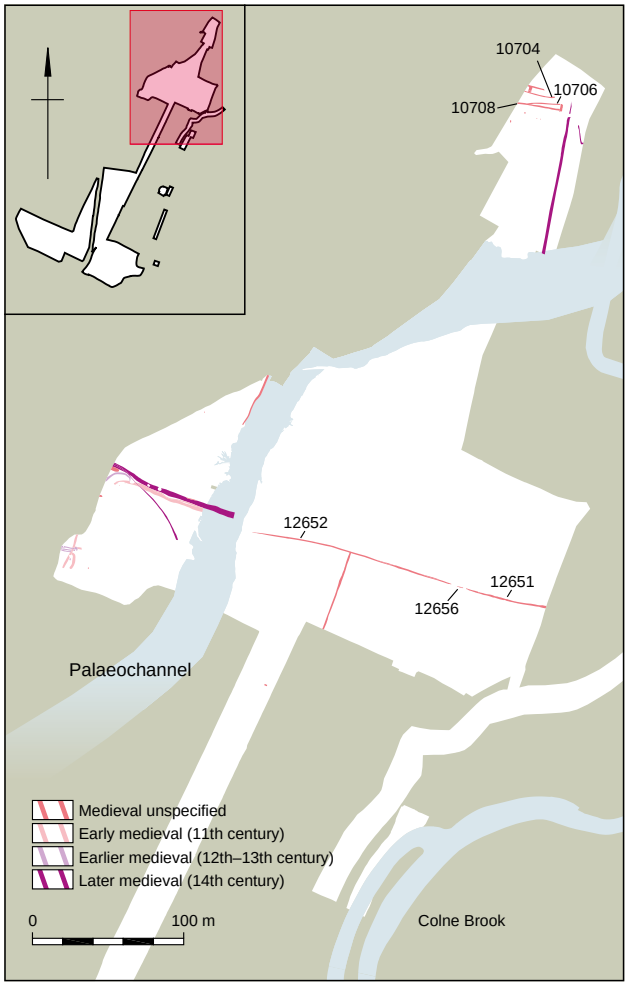


Figure 6.4 Early medieval evidence from the north of the site

phase featured ditches 13091 and 13098 aligned north-west to south-east and these may have acted as a northern boundary to the enclosure. The western and southern boundaries were defined by narrow but deep, segmented ditch sections 13092, 13095 and 13096, forming an almost trapezoidal shape in plan. Entranceways to and from the enclosure were created by the segmented features, the largest of which was 13 m in width. The early segmented phase was later reinstated by a larger boundary ditch 13094, and was further extended to the north by ditch recuts 13086, 13087. It is unlikely that the re-establishment of the boundary occurred after a substantial period of time once the initial phases went out of use. It is clear, however, that such a change reflected the growing need for a larger enclosure system, developed to sustain a wider area of paddocks. The reinstatement followed the same polygonal alignment as before, with a much deeper and more substantial and continuous ditch now closing the entranceways. Various discrete features were associated with the field/paddock enclosure, including a pit group, pit alignment 13120, and possible elongated pits or small ditch segments 13100 and 13104, possibly used to block entranceways along the dividing boundary 13091 and 13098.

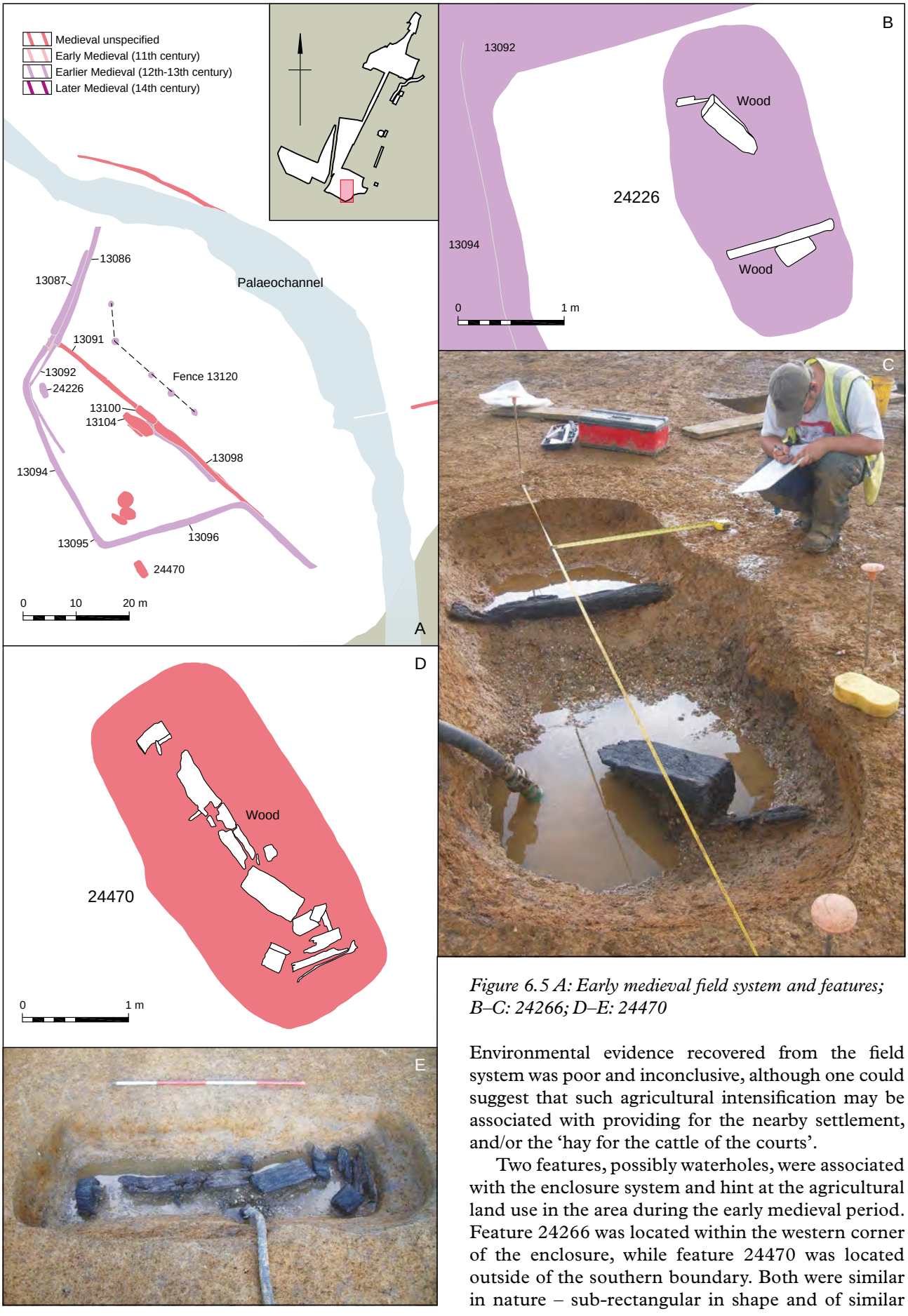


Figure 6.5 A: Early medieval field system and features; B–C: 24266; D–E: 24470

Environmental evidence recovered from the field system was poor and inconclusive, although one could suggest that such agricultural intensification may be associated with providing for the nearby settlement, and/or the 'hay for the cattle of the courts'.

Two features, possibly waterholes, were associated with the enclosure system and hint at the agricultural land use in the area during the early medieval period. Feature 24266 was located within the western corner of the enclosure, while feature 24470 was located outside of the southern boundary. Both were similar in nature – sub-rectangular in shape and of similar

dimension, 4 m x 1.6 m x 0.55 m, and both contained worked wood (Fig. 6.5B–E). Waterhole 24266 showed evidence for a possible revetment, while 24470 contained many pieces of waterlogged wood including planks and large, chopped blocks. Mostly of oak, with one alder and one ash fragment, the timbers may have formed some kind of *in situ* structure within the base of the feature – one piece of timber (ON 1383) showed signs of socketing, and may have previously been used as structural timber (see Barnett and Mepham, Appendix 1). The unusual and regular shape of the two features may indicate uses as retting pits or tanks, although no direct evidence for either flax or hemp was recovered to support this. Three similar features, recorded as possible retting pits, were excavated at Heathrow Terminal 5, although the function of these also remains uncertain (Lewis *et al.* 2010, 365–6, 368–9).

Broadly speaking, artefactual evidence attributable to the medieval period was sparse, particularly in comparison to other sites in the vicinity (see Mepham, Appendix 4). The pottery assemblage in particular shows considerable similarities with that of Heathrow Terminal 5 in terms of the range of wares present, as well as their likely date. The sequence at both sites runs from the early/mid-11th to the late 13th or early 14th century, with only sporadic evidence from the later medieval period. The assemblage was largely typical of rural sites located within the hinterland of London (see Mepham, Appendix 4).

The lack of archaeological evidence attributable to the medieval period suggests that activity was limited, albeit within well-defined areas. Despite a few drainage ditches in the vicinity of Horton Manor in the northern areas, the main focus of the archaeological activity is towards the southern extents of the site, as previously suggested by artefactual evidence recovered from a programme of field walking (TVAS 1991). Evidence for agricultural activity in the form of pastoral enclosures or paddocks suggest farming practices were undertaken close to the course of the Colne Brook, while little evidence was found to suggest settlement evidence or features in direct association with the manor. The dearth of human activity across the site does little to elucidate the true nature of the site during this time. Perhaps the manorial influence was such that land immediately surrounding the house itself was designated mostly for a pastoral, or possibly wooded, use, with the local population now predominantly situated towards the locations of the villages of Horton and Wraysbury. There is, however, some evidence for arable activity during this period, with five cereal grains recovered from Neolithic features returning medieval dates when radiocarbon dated (see Table A6.1, Appendix 6). Four of these were recovered from features associated with *House 1* (in the area recorded as Walnut Tree Close in the 1799 enclosure map – Fig. 6.6) with three charred barley grains (*Hordeum vulgare*) providing dates of cal AD 1030–1160 (NZA-32871, 953±20 BP), cal AD 1470–1640 (NZA-32869, 348±20 BP) and cal AD 1480–1640 (NZA-32870, 338±20 BP) and a charred wheat grain (*Triticum* sp.) a date of cal AD 1210–1280 (NZA-31004, 785±30 BP). In the south-west of the site a charred wheat grain (*Triticum* sp.), recovered from isolated Grooved Ware pit 3370, provided a date of cal AD 1420–1490 (NZA-33481, 446±30 BP). This material may have been derived from crops grown in the locations the grains were recovered from, but it is also possible that they were introduced to the site either as animal feed, manure or through waste disposal activities. This material does, however, indicate that this part of the site was intrinsically tied into a mixed agricultural regime being practised either from Horton Manor or the villages of Horton and Wraysbury.

Evidence for occupation in the medieval period has been seen further afield within the Thames Valley, with early medieval activity recorded at Harlington (Mepham 2015, 308) and Heathrow (Lewis *et al.* 2010). Periods of assarting were followed by the laying out of field systems at Harlington, and included enclosures and associated droveways (Mepham 2015, 308). Far more extensive evidence was recorded at Heathrow, including a medieval settlement at Burrow Hill and various post structures such as barns and domestic buildings (Lewis *et al.* 2010).

The Post-medieval Landscape

The social and political divisions created by the formation of a landscape divided into towns, villages and manors developed into the post-medieval period with the emergence of parishes based on churches associated with manorial influence. The church at Horton has a 12th century origin, with its nave dating to this time, and the associated Parish of Horton was enclosed in 1799 by an Act of Parliament (Fig. 6.6). Archaeological evidence recorded during the excavations do little more than confirm the presence of field boundaries and trackways featured on this map, although it should be noted that in some cases boundaries indicated on this map did not survive to be revealed by the excavation. Noticeably sparse in its nature, the period is comparable to the earlier medieval periods, with much of the evidence suggesting widespread agricultural use and no settlement. Artefactual evidence was also sporadic and scant across the site, adding to the view of limited land use beyond mundane pastoral activities, and included pottery, clay tobacco pipe and tile. A presumed post-medieval field boundary, 9921, which followed the alignment of the Middle Bronze Age enclosures associated with *Farmstead*

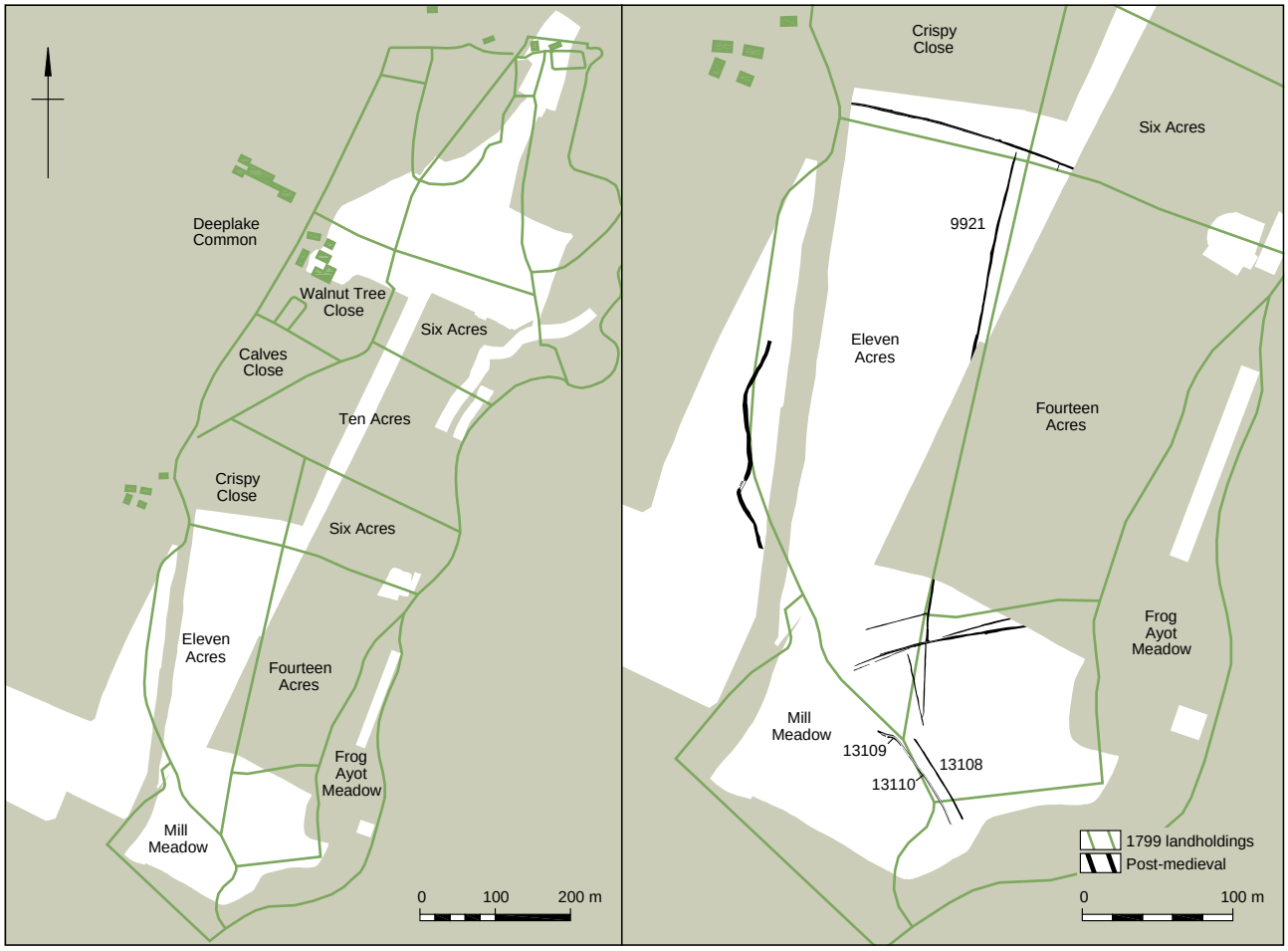


Figure 6.6 1799 parish enclosure map with post-medieval evidence/close-up of southern post-medieval features

A, was recorded in the southern extents of the site, while a small group of gullies of suggested medieval date may relate to a small area of ridge and furrow, possibly relating to an allotment plot or small-scale vineyard. An active water channel in this area was canalised during this period, and mid-way along its length two phases of brick structure were recorded, thought to be the remnants of a bridge or sluice.

The nature of features associated with the post-medieval period suggests a limited, albeit largely agricultural division of the landscape. Of the few features datable to the period, field boundaries confirmed divisions represented on early mapping, various examples of which were noted across the site. A droveway, represented by two parallel ditches 13108, 13109 and 13110 is present on the parish enclosure map of 1799 (Fig. 6.6), and shows a division between 'Mill Meadow' and 'Fourteen Acres' fields. Aligned north-west to south-east and cutting across the earlier medieval landscape, the ditches were 6.5 m apart and would have formed a substantial trackway, possibly associated with activity to the north-east of Wraysbury. The presence of such features indicates a wide-scale sub-division of the landscape. Discrete features such as wells and animal burials (Fig. 6.7) provide sporadic evidence for continued but limited use into the modern period, while the presence of a large oval enclosure may have been associated with the later use of Horton Manor and Manor Farm (Fig. 6.8). Located towards the north of the site, enclosure 12658 was formed by a regular, shallow, V-shaped gully and contained post-medieval brick, iron objects and tile. There were two possible entranceways on its eastern side, and a central, circular feature of unknown function. However, some indication of the enclosure's function is provided by historic mapping. It was first shown on the 1881 OS map 1:10,560, and last documented on the 1925 OS map 1:2,500; the presence of trees and an oval enclosure may suggest a small copse or enclosed penning area, seemingly associated with Horton Manor and Manor Farm, 200 m to the west. Similar features of a circular shape occur on maps of the area north of the buildings and may have had a similar, ornamental origin.

Discussion

The limited evidence attributable to the post-Roman period remains consistent with the current state of knowledge for the Middle Thames Valley. The later

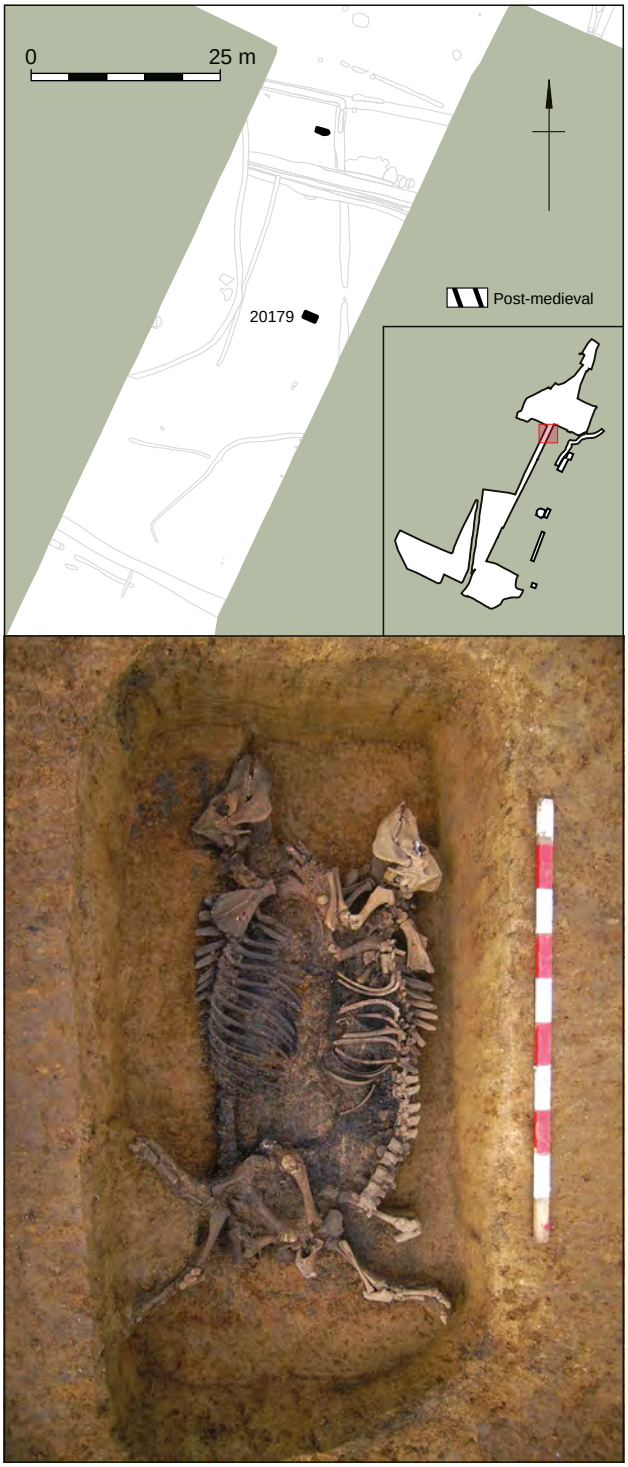


Figure 6.7 Modern double pig burial from pit 20179, probably associated with the pig farm at Manor Farm

Romano-British agricultural intensification and development did not continue into the early Saxon period. In direct comparison to the earlier periods, during which the land was intensively managed and developed, there seems to have been a hiatus from the Saxon period onwards, with much of the focus on the larger settlements of Horton, Wraysbury, and further afield, Staines and Windsor. Earlier

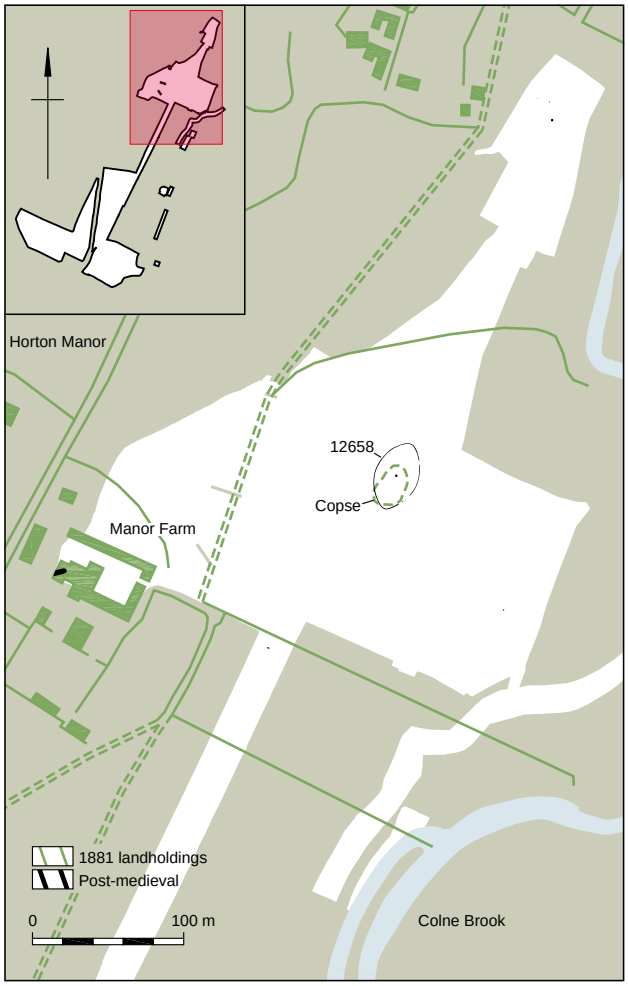


Figure 6.8 Detail from 1881 OS map with location of oval feature 12658

traces of use would have remained visible within the landscape, such as the Romano-British *Farmstead C*, and perhaps monuments such as the Early Bronze Age penannular ring ditch.

It is, of course, possible that the post-Roman landscape did hold larger significance not witnessed in the archaeological record. However, the evidence – notably a distinct lack of residual pottery from the later periods across the site – suggests that populations moved elsewhere, and the focus and prominence of the site was agricultural. Limited activity continued well in the early medieval period, at a time characterised by the development of villages, hamlets and open fields. Excavations at nearby Heathrow have revealed such developments, with evidence for a complex of field barns, enclosures and fields which formed part of the agricultural landscape (Lewis *et al.* 2010, 379). At Horton, however, there was no evidence for settlement and the landscape remained one of field systems and grazing land well into the modern period. Although sparse, the evidence does add to a growing body of data for the Colne Valley at this time.

Chapter 7
An Evolving Landscape

by Gareth Chaffey, Alistair J. Barclay and Philippa Bradley

This volume has presented the results of the excavations undertaken at Horton from 2003 to 2009 on extraction phases 4–7 (of 16), as well as on the proposed construction areas of a new gravel processing plant and facilitating features. Although a full discussion of the complete works will be given in Volume 2 after the report of the 2010–2015 excavations, the approximately 19 hectares investigated in the first phase have provided us with the opportunity to explore a hugely complex and expansive landscape, revealing the persistent reuse of space and showing the referencing and reworking of the countryside. The investigations have also allowed us to further explore wider occupation patterns across the Colne Valley and, further afield, the Middle Thames Valley, with a focus on changing cultural practices. The site has provided an abundance of evidence to suggest the concentrated reuse and specific interaction with past landscapes throughout its entire chronology. The sheer size of the excavations has permitted the investigation of whole occupation sites and monuments as well as the separating land. Apparently 'empty' land zones, or ones with little trace of inhabitation, contrast with other foci that are places of persistent or episodic inhabitation. The persistence of apparently empty spaces may in itself be evidence for the continuance of long-term areas of pasture at Horton (Thomas and Darvill 2022, 49). Evidence also suggests that the inhabitants would have had some form of awareness – whether through memory, oral tradition, or texturing of the landscape through relict features and discarded material culture – of what went before and an understanding of how this shaped their world, ideas and beliefs.

The excavations have allowed us to view the evolution of a complex landscape – one that was utilised over prolonged periods for much of the last 30,000 years. Located within a wide floodplain 4 km to the north-west of the modern confluence of the River Thames, and 2 km to the west of the River Colne, the area and its environment has been heavily influenced by water and channels. Several palaeochannels were found both within and surrounding major areas of habitation and landscape use, and were seen to have had direct influences on the development, chronology and use of the site. Deep, stratified, waterlogged deposits have also provided us with exemplary ecofactual evidence to suggest how the changes in landscapes over time played a major role in the shaping of the environment (see Chapter 2). The channels differed in date, form and size, ranging from the substantial channel system represented by Late Glacial *Palaeochannel I* (which may have once joined the River Thames to the west and the Colne to the east), to the shallow *Palaeochannel V* associated with Romano-British activity towards the northern part of the site. The evidence recovered from their sequences has provided snapshots of particular periods of time and develops our knowledge of the evolving landscape and how it influenced the populations throughout the chronology of the site. Although direct evidence for the prehistoric landscapes was sporadic, it did enable detailed views of the environment of certain periods. Despite substantial tree clearance throughout the Bronze Age, for example, the landscape was one of mixed deciduous woodland including species such as oak, ash, hazel, alder, willow and birch, as well as reeds and sedges fringing the now largely infilled channels towards the south and east of the site (see Barnett, Chapter 2).

Evidence throughout the periods suggests that the channels and watercourses had enormous implications upon phases of activity and interaction from as early as the Late Glacial period. Unstratified flintwork was located in areas affected by the channel sequences, while the chance discovery of a Palaeolithic cordate hand axe found during quarrying indicates a much earlier presence within the landscape. Much of the Late Upper Palaeolithic material found was in fairly good condition and it did not appear to have been moved far from its original place of deposition (see Bradley, Appendix 3). Thus, there existed the potential for *in situ* Mesolithic and Late Upper Palaeolithic lithic scatters to be found during the excavations, although Mesolithic flint was much more sparsely distributed across the site. The presence of Mesolithic material on sites in the locality, such as Three Ways Wharf (Lewis with Rackham 2011) and William King Flour Mill (Grant *et al*. 2014), both Uxbridge, Denham (Wessex Archaeology 2005b) and sites around Iver (see for example, Lacaille 1963) supported this possibility. However, it was not until 2014 that the early occupation at Horton was confirmed, with the discovery of a substantial *in situ* scatter of Late Upper Palaeolithic flint associated with articulating horse bones, a partial aurochs skeleton and large quantities of calcined flint (Barclay *et al*. 2017;

see Chapter 2). The potential scale of the scatter (estimated at between 19,000 and 43,000 pieces of worked flint), its good condition, associations with articulating animal bones and radiocarbon dates make it of national importance. This scatter will be discussed in detail in Volume 2 and its significance explored further.

The influence of the channels appears to have lessened during the Neolithic and Bronze Age landscapes, although they would have continued to play a significant role in settlement location and development. Several examples in the archaeological record suggest the importance of the channel network in determining the nature of the landscape's development. They would have acted as an important resource to the settlements during the entire chronology, and their effect must not be underplayed. The wider significance of such evidence is noted throughout the Colne Valley, where the floodplain was interspersed with palaeochannels over a wide area of the valley floor and complemented by a variable pattern of settlement (Lambrick and Robinson 2009, 27), particularly in the Bronze Age.

The extensive excavations at Horton have enabled us to define areas of activity and occupation across the site, with evidence from almost all periods represented. The sporadic Neolithic activity was in stark contrast to some later periods, such as the Middle Bronze Age, where activity covers almost the entire site. However, the Neolithic evidence provides the first evidence of commonly practised events over prolonged periods. Despite its scarcity, it is possible to indicate both a chronological and geographical movement across the landscape, with Early Neolithic activity at the north of the site, slightly later evidence in the form of the U-shaped enclosure, and Late Neolithic activity towards the southern part of the area. The discovery of the well-preserved Early Neolithic *House 1* and then subsequently *House 2* less than 30 m away were significant developments during the excavations (further discussion of the more extensive Neolithic activity and the subsequent houses and that were found at Horton will be presented in Volume 2). The chronology of the two structures shows broad continuity within the north-western part of the site, and provides an indication of the interaction between generations and their continued use of space. *House 1* and *House 2* appear to be consecutive albeit with a lacuna between them, but at least one of the further three Early Neolithic houses later discovered between 2010 and 2015 would appear to fill part of this gap. Together this appears to indicate continuity and suggests a period of continuous settlement at Horton for an extended part of the Early Neolithic. However, a more sceptical, minimal interpretation of the house lifetimes might advocate an alternative hypothesis that Horton was a significant place with an ancestral link that drew a group of people back to rebuild houses after periods of abandonment.

Further suggestion of memory and significance of the area with a link to previous generations was provided by the Late Neolithic burial of a single inhumation of a 45–55-year-old woman. Located over 700 m away from the Late Neolithic pits, the grave was in the immediate vicinity of the Early Neolithic pit cluster, and about 30 m to the north of Neolithic *House 1*. The location of the grave may suggest that the area of earlier occupation continued to hold some significance for the group or community that inhabited the area in the Late Neolithic. Is the placement of the burial merely coincidental, or was there deliberate referencing of the earliest Neolithic settlement and of ancestral origins?

Instances of reuse of landscapes and specific locations within the landscape were noted as a common theme during the excavations. The scattering of Late Neolithic pits noted towards the southern extent of the site contrast directly with the closely grouped Early Neolithic pits. Grooved Ware was recovered from six of the pits, and a distinctive Peterborough Ware sherd came from a single feature, itself significant. The sherd would have been about 500 years old prior to its deposition, and indicates a certain awareness of old material – the distinctively and recognisably different flint-tempered bowl was clearly held in regard, both prior to and at deposition, suggesting memory through material culture. Dates were also confirmed by radiocarbon analysis. The pits are likely to represent seasonal activity, dug within a few years or a generation, with only one or more pits dug each year. It is of course possible that some visits to the site left little or no trace of activity, and that the pits received a token amount of occupation debris. Their spatial distribution suggests an awareness of where other pits were located, and could represent the selective burial of material, perhaps to mark an episode of seasonal occupation or abandonment of a settlement. One feature in particular was significant. The largest of the Late Neolithic pits was later reused as an Early–Middle Bronze Age oven, and included the deposition of several 'heirloom' objects, possibly votive in nature. The reuse of such a feature, therefore, may have held further significance and complexity, considering the time lapsed between the various acts of deposition and feature use. Such distinct activity clearly shows specific and accurate knowledge of previous landscapes. The feature may represent a foundation deposit marking the earliest part of the most dramatic landscape change – from its Late Neolithic origin, Early–Middle Bronze Age oven feature and subsequent placed deposition, to the laying down of a substantial Middle Bronze Age farmstead.

Limited evidence suggests the direct reuse of land to locate the large landscape features such as farmsteads. Are we looking at the planned establishment of a wide-scale agricultural settlement

directly on top of significant areas, or were their similar locations merely coincidence? There is little evidence to suggest how 'new' settlements and land use specifically interacted with what was already present in the landscape. It would appear that in many instances, new phases of development (commonly associated with new periods), were located within 'clean' areas within the landscape. Evidence from excavations at Heathrow Terminal 5 (Lewis *et al.* 2010), for instance, show the specific reuse of the Middle Bronze Age landscape well into the Romano-British period, with many ditches commonly being recut and reused. Only limited evidence was recorded at Horton, towards the northern part of the site, where there is some indication that early Romano-British enclosure ditches re-established some of Late Iron Age ditch alignments. Generally, previously unoccupied areas were the preferred locations for new settlements and farmsteads, something observed at other locations such as Biddenham Loop, Bedford (Luke 2016). This raises the question of what happened to the previously utilised areas. In some cases, such areas comprised extensive field systems, particularly in the Middle Bronze Age. Various parts of the landscape would have been dominated by well-established ditch systems with associated hedgerows and trees. Limited amounts of later residual pottery from the various ditches suggest that such areas were avoided. Does this mean that the earlier landscapes were being respected? Perhaps the new communities simply wanted to establish new settlements away from the influences of earlier landscape features. It is possible that locations were also influenced by how dry the ground was. The Iron Age and Romano-British activity was located towards the north of the site on higher, drier ground, while the Middle Bronze Age farmsteads were located on the wetter, lower ground. Such locations may also reflect the types of agricultural activity practised in these areas.

Despite differences in the scale of activity between the periods, the excavations have shown consistent patterns of domesticity throughout those periods on the site. Particular landscape features were singled out for long-term interaction, sometimes with separate phases of activity covering several millennia. Memory and tradition may have played a part in the reuse of such features. Evidence for very specific acts of retention of curated artefacts, perhaps even heirlooms, and their ultimate deposition within significant contexts, is seen throughout the Middle Thames Valley. At Horton, evidence suggests that communities merely continued specific practices long held within their cultures, commonly practised throughout their lives over several generations.

Many similarities may be drawn across periods, particularly with reference to the three farmsteads recorded – Middle Bronze Age *Farmsteads A* and *B*, and Romano-British *Farmstead C*. Both prehistoric farmsteads showed distinct similarities with one another, and despite no stratigraphic chronologies, appear to have been contemporary. Their likeness to one another suggests conceived ideas based on ownership and territory, as well as the need for the intensification of their agricultural landscapes with developments in organisation and livestock management. In comparison, the Romano-British occupation represents a planned reorganisation based on the pre-existing land use from the Late Iron Age. It too shows a concentration and focus on the intensification of the agricultural landscape based on productivity, with separate phases of development and enlargement. No structural evidence was recorded associated with the farmstead, and its absence may suggest that many of the enclosures forming parts of the farmstead were used as holding pens for animals.

Similarities between the three, cross-period and seemingly ordinary farmsteads can be drawn through their extraordinary artefactual and depositional evidence. Despite their relatively small sizes, possibly providing for single families or small constituent groups, each Middle Bronze Age farmstead contained distinctive metalwork and deposits which suggest contact and exchange on a far greater scale than one would normally associate with such settlements. Distinctive metalwork in the form of a decorative pin of the Taunton phase was recovered from each of the Middle Bronze Age settlements. Both pins are extremely rare finds, with only a handful found in both England and on the Continent. The seemingly generic Romano-British farmstead produced a high number of metalwork artefacts and suggests a degree of trade and exchange. The hipposandal and decorated samian wares suggest a relatively higher status than one would imagine, while the presence of coriander seeds is unexpected. It would appear that, while retaining a degree of their essentially agrarian lifestyles, the populations from all farmsteads on the site were aware of, and possibly open to, influences from much farther afield.

Despite the extensive evidence which shows that the Horton landscape has been utilised over several centuries, apparent gaps were noted within its chronology. Limited or no evidence was recorded to suggest a presence on-site during the Mesolithic, Beaker and Middle Iron Age periods, while very limited evidence was noted from the mid-Neolithic and the Early and Late Bronze Age. Do such gaps suggest that there was simply no activity on the site during these periods? Or has the evidence for these periods simply not been found yet, or indeed was located away from the current excavation area?

Further excavations since 2009 have added limited evidence for Mesolithic activity in the form of worked flint tools and debitage. However, this material has

largely been recovered as stray finds without any large concentrations or features that can be conclusively proved to be contemporary. Thus, for the period, the overall picture of the site has not changed, and it remains one of sporadic, perhaps seasonal occupation exploiting the resources of the palaeochannels. A richly furnished Beaker burial of a female has added a little more detail to our understanding of the site at this time and provides an important addition to the known burials in the Middle Thames Valley.

This overview has attempted to bring together the evidence resulting from the extensive excavations undertaken by Wessex Archaeology between 2003 and 2009, and to consider the implications and use of the immediate landscape. Publication of the later excavations will enable the entire landscape to be analysed and may answer some issues raised within this volume. Various unanswered questions needing further evidence may be addressed and will allow us to understand the wider site as a whole.

Figure 7.1 Wessex Archaeology staff leaving site at the end of the day

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by Nicola King

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Excavations at Kingsmead Quarry, Horton, Berkshire, have enabled the investigation of large multi-period site with occupation dating back over 12,000 years. Works undertaken prior to phases of gravel extraction have allowed the study of human interaction within the Colne Valley.

This first of two volumes represents the results from 2003–2009 by Wessex Archaeology on over 19 hectares of a vast and complex archaeological landscape. Large quantities of structural evidence, augmented by considerable quantities of artefactual and environmental information, shows Horton to be a significant archaeological site. The investigations at Horton have revealed evidence of five rare and extremely well preserved Early Neolithic timber 'house' structures, two of which are discussed within this first volume. The evidence suggests permanent occupation on the site as early as 3800 BC. During the Bronze Age the landscape was transformed from an open area to an enclosed and subdivided agricultural landscape comprising of field systems and two substantial Middle Bronze Age farmsteads. Significant metalwork was found associated with each settlement. The Iron Age and Romano-British periods saw continued development and re-organisation of the landscape, whilst later periods were also represented.

This volume represents a detailed and extensive account of the findings and the site's positioning in the wider archaeological landscape of the Middle Thames Valley.

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