

BEDFORDSHIRE ARCHAEOLOGY



VOLUME 25

BEDFORDSHIRE ARCHAEOLOGY

formerly issued as *Bedfordshire Archaeological Journal*

is published by the

BEDFORDSHIRE ARCHAEOLOGICAL COUNCIL

BEDFORDSHIRE ARCHAEOLOGY volume 25, 2004

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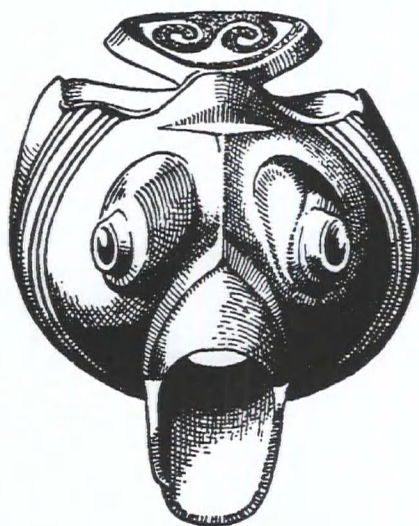
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BEDFORDSHIRE

ARCHÆOLOGY

VOLUME 25 2004

BEDFORDSHIRE ARCHAEOLOGICAL COUNCIL



Edited by Stephen Coleman

ISSN 0958-191X

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Printed by Newnorth Print Ltd., Kempston, Bedfordshire

Contents

Obituary: Ron Fowler, 1915 - 2001	1
Evidence for prehistoric settlement and medieval activity at Yarl's Wood, Clapham By Mike Luke	3
The investigation of an early-middle Iron Age settlement and field system at Topler's Hill By Mike Luke	23
Evidence for Iron Age, Roman and early medieval occupation on the Greensand Ridge at Haynes Park, Bedfordshire By Mike Luke and Drew Shotliff	55
Excavations at New House Farm, Billington, 1997-1999 By Ren Hudspith	136
Early Roman occupation on the site of the former Queensway Hall, Dunstable By Andrew Mudd	141
Archaeological investigations at 24 Friary Fields, Dunstable, Bedfordshire By Rhodri Gardner	159
Recent archaeological investigations in Bedford town centre: evidence for an early northern boundary? By Matt Edgeworth	190
Excavation at Castle Street, Luton: the site of Robert de Waudari's Castle? By Sarah Coles	201
Medieval occupation at 'Danish Camp', Willington By Gary Edmondson and Andrew Mudd	208
Excavations at Priory Middle School, Dunstable, 1992 – 2002 By Ren Hudspith	222

Cover: *Right:* Burial with displaced head following decapitation from 24 Friary Fields, Dunstable
 Top left: Taking samples for archaeomagnetic dating from drying oven at Haynes Park
 Middle left: Drawing section through castle ditch, Castle Street, Luton
 Bottom left: Timber tank at Haynes Park

Contributors to *Bedfordshire Archaeology*

SARAH COLES, BA, PGDip, PIFA took her degree and post-graduate diploma in Archaeology at the University of Birmingham. She worked with Pre-Construct Archaeology and the Museum of London Archaeology Service before joining Thames Valley Archaeological Services in 1999 where she is now Senior Archaeological Officer. She has directed excavations throughout southern England.

MATT EDGEWORTH, BA, PhD, MIFA studied Anthropology and Archaeology at the University of Durham and currently works as a Project Officer for Albion Archaeology. Research interests range from British prehistory, the origin of towns, to the study of post-medieval and industrial structures. Born in Bedford, Matt maintains a strong interest in local archaeology. But he also writes on wider issues in archaeological theory, such as ethnography of archaeological practice.

GARY EDMONDSON, BA is currently employed as a Project Officer with Albion Archaeology. Gary entered the archaeological profession in 1987, and since 1989 has worked on numerous projects in the region. His main interests include human modification of the landscape over time and military history and archaeology.

RHODRI GARDNER, BA, MSc, PhD studied Archaeology at the University of Leicester before undertaking his post graduate research at the Institute of Archaeology, London. Besides the Hertfordshire Archaeological Trust (now Archaeological Solutions) Rhod has worked with the Canterbury Archaeological Trust and the Museum of London Archaeology Service. He is now employed by Suffolk County Council Archaeological Services.

REN HUDSPITH is chairman of both the Bedfordshire Archaeological Council and the Manshead Archaeological Society of Dunstable besides being a leading member of the Luton and District Archaeological Society. He has a particular interest in landscape archaeology and for some years has led an extensive fieldwalking programme across southern Bedfordshire. Many previously unknown sites have been identified and others dated.

MIKE LUKE, BSc is a graduate of the University of Wales (Cardiff) and currently works for Albion Archaeology. He has worked as a field archaeologist for the last eighteen years and his interests include the archaeology of rural Iron Age and Roman settlements and the utilisation of Information Technology in archaeology.

ANDY MUDD, BA, MIFA is a graduate of Exeter University and undertook a post-graduate course at Oxford University. He worked for a number of years for the Oxford Archaeological Unit before joining Northamptonshire Archaeology as a Senior Project Officer.

DREW SHOTLIFF, BA, MA, MIFA is Operations Manager for Albion Archaeology. He has studied both history and archaeology at the Universities of Oxford and Birmingham respectively and has worked as a field archaeologist both within the UK and overseas.

Obituary

RON FOWLER, 1915 - 2001



Ron Fowler died from cancer, aged 85, on October 27th 2001: he had been Chairman of the Bedfordshire Archaeological Council since 1971. He was also Chairman of the Manshead Archaeological Society from 1962-1985 and its President from 1993-2001. From 1970 he chaired South Bedfordshire District Council's Arts Committee.

Ron was born and raised in the village of Felton, Northumberland, and educated at nearby Thurston village school, the Duke of Northumberland School at Alnwick and at King Edward VI Grammar School, Morpeth, between 1928 and 1934. In 1934, aged 19, he joined the RAF, serving at RAF Cranwell in Lincolnshire as an air-crewman. He qualified as a wireless operator in 1937 and an air gunner in 1938. Ron trained with RAF 44B and 50B squadrons, flying active operations in 1940 with 44 squadron. He also trained as a navigator, rising to the rank of Sergeant and being awarded the British Empire Medal. Injury brought an end to Ron's active service and he was seconded to Allied Air Training in Ottawa from 1942-44, serving at RAF Greenwood in Nova Scotia as a wireless operator trainer. He subsequently served at RAF Signals Group HQ between 1944-46.

Following his discharge from the RAF in 1946, Ron trained to be a teacher at Drake Hall College, Stafford, from 1946-47. It was at about this time that Ron's enthusiastic amateur archaeological career began as a volunteer digger on a series of excavations on Hadrian's Wall and at Corstopitum (Corbridge), Northumberland.

He moved to south Bedfordshire in 1948 and took up a teaching post at Sundon Park County Primary School, Luton, lodging in Toddington and Sundon. In 1950 he took up residence with his family at a house in Harlington Road, Upper Sundon, where he was to live for the rest of his life. Ron had married his first wife, Dorothy, in 1940. They had three daughters, Ann, Tessa and Deborah, and a son, Paul. Ron also taught at Beechwood Junior School, Luton, and Icknield Lower School before becoming headmaster at Downsides Lower School, Dunstable, from 1959 until retirement in 1981. He then went on to work as a part time lecturer at Dunstable College for 10 years.

He qualified as a Licentiate of the Royal Academy of Music (LRAM) in 1952 and of the College of Preceptors (LCP) in 1954. Ron had also qualified as a lawn tennis instructor in 1949! He spoke fluent French and as well as holidaying in France, took a sabbatical there in 1967. He was awarded his Bachelor of Education (external degree) in 1974.

Ron's first wife died in c.1967. He met Jackie, his future second wife, on a Manshead Society dig at Friary Field in Dunstable. They married in 1973 and had a daughter, Katy, and son, Daniel.

Ron had joined the Manshead Archaeological Society in 1960 and worked on the Society's major excavations at Puddlehill and Friary Field. He also directed a dig on a Roman villa at Chalton. He was also actively involved with the Society's voluntary work, such as scrub clearing on Totternhoe Knolls, and with the many social events it organised. As Chairman from 1962-81, Ron brought his organisational and management skills to the Manshead and helped secure a permanent headquarters building for the Society. After his Chairmanship he was elected a Vice President of the Society and in 1992 chaired the Society's 40th Anniversary Conference at Ashton School in Dunstable. In 1993, at the age of 77, Ron was elected President and became, once again, actively involved in archaeology. He gained permission for the Society's fieldwalking programme around Sundon and worked on trial excavations at a Roman site on Chalton Cross Farm and on the site of Sundon House. Ron was a knowledgeable local historian and had researched and set up exhibitions on Sundon's history at the village church. He worked on a medieval earth-

work survey at Sundon as well as fieldwalking and footpath surveys of the parish.

As Chairman of the Bedfordshire Archaeological Council Ron presided over its meetings for 30 years with great patience, pragmatism and humour. He pulled together the diverse and sometimes competing interests of the amateur and professional groups represented on the Council. He also ensured their work was reported to and published by the Council. To his credit, Ron was responsible for the Council publishing 19 volumes of the Bedfordshire Archaeological Journal or

Bedfordshire Archaeology between 1971 and 2001, including two volumes (15 and 20) dedicated to the work of the Manshead Society.

Ron was an inspiring, charismatic and generous man with unflagging enthusiasm. He will be remembered for his valuable contribution to Bedfordshire archaeology.

(Compiled by Ren Hudspith with the assistance of Ron's wife, Jackie, and members of the Manshead Archaeological Society)

Evidence for prehistoric settlement and medieval activity at Yarl's Wood, Clapham

MIKE LUKE

With contributions by Tony Walsh, Jenny Robinson, Jackie Wells
and illustrations by Cecily Marshall

SUMMARY

During 2000 Bedfordshire County Archaeology Service (now known as Albion Archaeology) undertook archaeological investigations, in line with PPG16, in advance of the construction of the Yarl's Wood Immigration Detention Centre on the outskirts of Clapham. These revealed a prehistoric settlement along with elements of a medieval field system.

The settlement was unenclosed and comprised buildings, two- and four-post structures, fencelines and pit groups, the layout of which suggested a degree of organisation. Only a very small quantity of artefacts and ecofacts were recovered, but comparisons with other sites locally and regionally suggest the settlement dated to the late Bronze Age/early Iron Age. Locally this represents one of the first open area excavations on the clay uplands of North Bedfordshire. If the dating of this site is correct, it can be added to the small, but increasing, number of settlements of this period. They are characterised by the survival of insubstantial, below ground remains and often small artefact/ecofact assemblages. This may, in part, reflect their temporary nature as one element in a transitory/seasonal way of life.

Ditches were investigated that form part of a field system predating the 19th century historical maps for this area. Given the absence of ridge and furrow, along with the relationship of one of the ditches with the Yarl's Wood moated site, it is possible they have their origins as woodland boundaries in the medieval period.

INTRODUCTION

During 2000 the Home Office put forward a proposal to build an Immigration Detention Centre within the Defence Evaluation and Research Agency (DERA) complex at Yarl's Wood, Clapham, Bedfordshire.

As Crown Land, planning permission was not required. However, under the procedures of the Department of the Environment's Circular No. 18/84: Crown Land and Development, government departments are required to consult Local Planning

Authorities (LPA) before proceeding with a development which would otherwise require planning permission. Following advice from the County Archaeological Officer (CAO) of Bedfordshire County Council (BCC), the LPA suggested that a programme of archaeological investigation be undertaken: initially to assess whether archaeological remains were present and subsequently to investigate the remains that were located before they were destroyed by the development. This was in line with Local Plan Policy and the Department of Environment guidance contained in PPG 16 *Archaeology and Planning*.

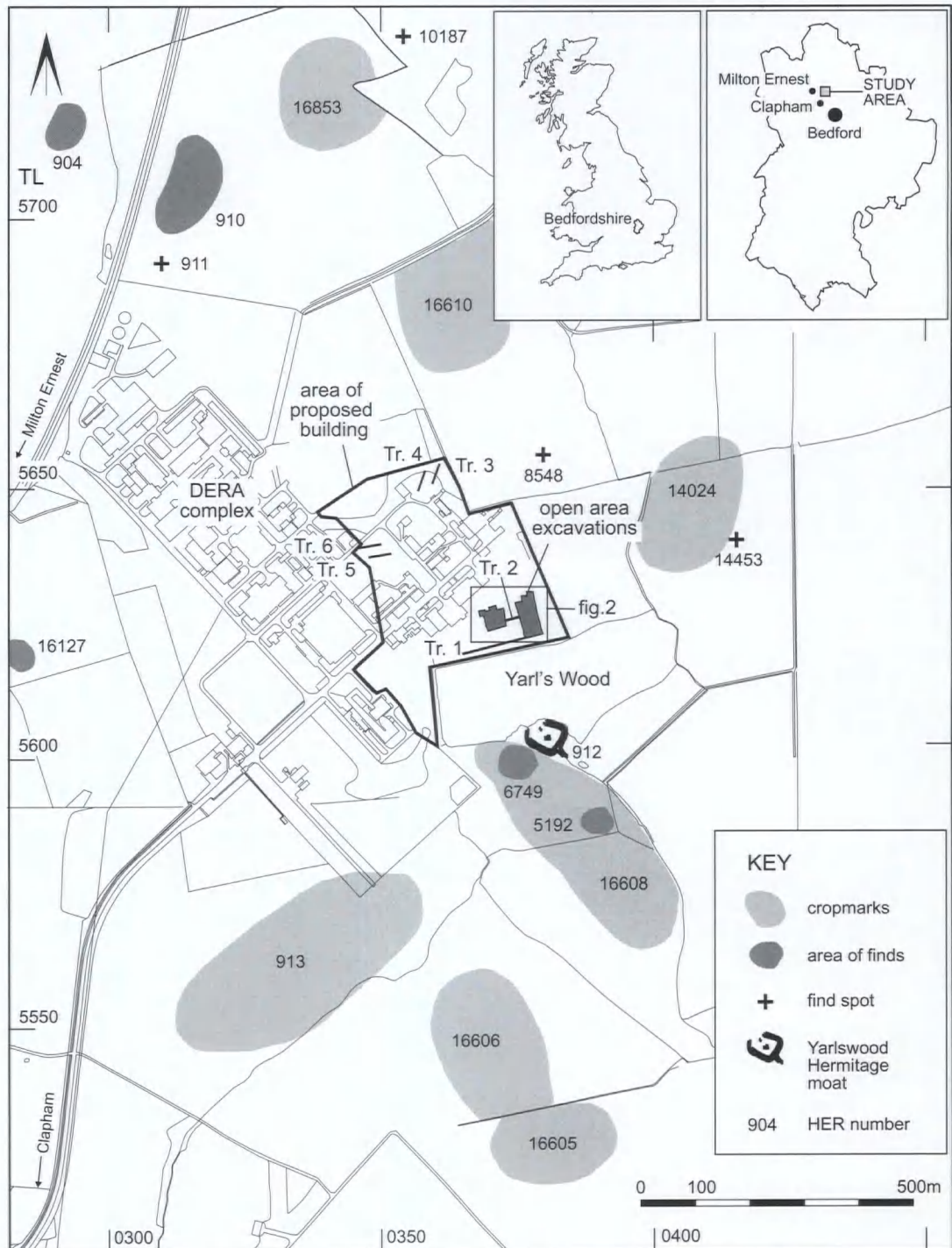
The programme of archaeological investigation was co-ordinated by The Home Office's archaeological consultant, CgMs Consulting. The field evaluation and open area excavation were undertaken by Bedfordshire County Archaeology Service (BCAS, renamed Albion Archaeology during the preparation of this article). This report presents the evidence for prehistoric settlement and a medieval field system recovered during the open area excavation.

SITE LOCATION AND CONDITIONS

The detention centre was to be located over the SE half of the DERA complex 1.8km E of the village of Milton Ernest and 3.5km N of the village of Clapham in north Bedfordshire (Fig 1). The main archaeological investigations were centred on TL 03745625.

Topographically the site is on a ridge of high land between Milton Ernest and Clapham. The River Great Ouse is approximately 1.6km to the W. The underlying geology comprises glacial boulder clays, with localised deposits of sand and gravel, overlying Oxford Clay.

During the field evaluation the buildings within the eastern part of the site were being demolished and therefore trial trenches were situated to avoid these areas. Open area excavations were undertaken once the demolition programme was complete and at the same time as the initial earthmoving associated with construction of the detention centre.



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Figure 1 Site location and Archaeological Background

ARCHAEOLOGICAL BACKGROUND

Given the high security associated with the DERA establishment it is not surprising that no archaeological remains had been identified within the complex prior to the field evaluation (Fig 1). There are, however, a number of known archaeological sites in the vicinity of the complex, recorded in BCC's Historic Environment Record (HER).

Cropmarks of irregular and rectangular enclosures which may be of Iron Age/Roman date, have been found adjacent to the site to the N (HER's 16583 and 16610), S (HER's 913, 16605, 16606 and 16608) and E sides (HER 14024). Scatters of iron slag and Iron Age pottery within the ploughsoil are recorded in the HER as 911, 913, 8548, 5192 and 6749. Three of these, HER's 5192, 8548 and 6749, are within c. 300m of the excavation area and the latter is associated with cropmarks HER 16608. The presence of these sites would appear to demonstrate intensive occupation during this period.

Up until enclosure in 1803 the site appears to have been part of the open fields of Milton Ernest (Hutchings 1969, Fig 1). The medieval moated site sometimes called Yarlswood Hermitage (HER 912), a Scheduled Ancient Monument, is only c. 250m to the S. The name given to the detention centre, Yarl's Wood, is derived from the name of the wood immediately to the S.

The DERA complex was constructed in the post-war decade on arable fields to the N of the wartime airfield known as Twinwood Farm. It originated as a research establishment and wind tunnel testing played an important part in its work (Bowyer 1983, 66).

THE ARCHAEOLOGICAL INVESTIGATIONS

A staged programme of archaeological investigation was undertaken with the results of the earlier stages determining the nature of the next stage.

DESKTOP STUDY

A desktop study was undertaken in July-August 2000 which confirmed the archaeological potential of the proposed development (CgMs 2000a, 33-34).

FIELD EVALUATION (Fig 1)

As a result BCAS was commissioned to carry out an archaeological field evaluation which was undertaken in late August 2000 (BCAS 2000a). Of the six trial trenches (with a combined length of 400m) only two (1 and 2) contained probable archaeological remains (a small number of postholes, pits and ditch-

es). The only datable find, recovered from one of the pits, was an Iron Age pottery sherd. Modern features were identified within trenches 3 and 4 but these were insufficiently deep to have destroyed any archaeological features if they had been present.

OPEN AREA EXCAVATION (Fig 2)

As preservation of the remains *in situ* was not feasible the CAO and CgMs Consulting agreed that further investigation in advance of construction would be appropriate. The Specification required the implementation of an open area excavation at the eastern ends of trenches 1 and 2 where archaeological features had been identified (CgMs 2000b). Originally it was envisaged that three areas, A, B and C would be investigated. However, two areas (A and B) were combined and are referred to as B in this report. A total area of c. 0.4ha was subject to investigation between 18th September and 13th October 2000 while construction commenced on adjacent land.

All hand excavation and recording was carried out in accordance with the BCAS *Procedures Manual* (BCAS 2000b). The site recording sequences started during the evaluation were continued. The majority of the isolated archaeological features were half-sectioned. Due to the scarcity of artefacts from the evaluation, soil samples were routinely taken from the majority of features regardless of whether a visual inspection suggested environmental or artefactual potential. This produced 90 samples, mostly between 5 and 10 litres.

ASSESSMENT

On completion of fieldwork a MAP 2 style assessment of the potential of the site archive for further analysis was submitted in early February 2001 (BCAS 2001). This included an Updated Project Design, which was approved by the CAO and CgMs Consulting in March 2001, after which post-excavation analysis commenced.

POST-EXCAVATION METHODOLOGY

During analysis a structural hierarchy was defined. This comprised:

- sub-groups (indivisible unit of interpretation, e.g. the primary fills of the same ditch);
- groups (more interpretative entities, e.g. a building or concentration of pits);
- landscapes (a collection of broadly contemporary and spatially coherent groups, e.g. a settlement focus or a field system);
- phases (broad, chronological divisions, e.g. late Bronze Age/early Iron Age or medieval).

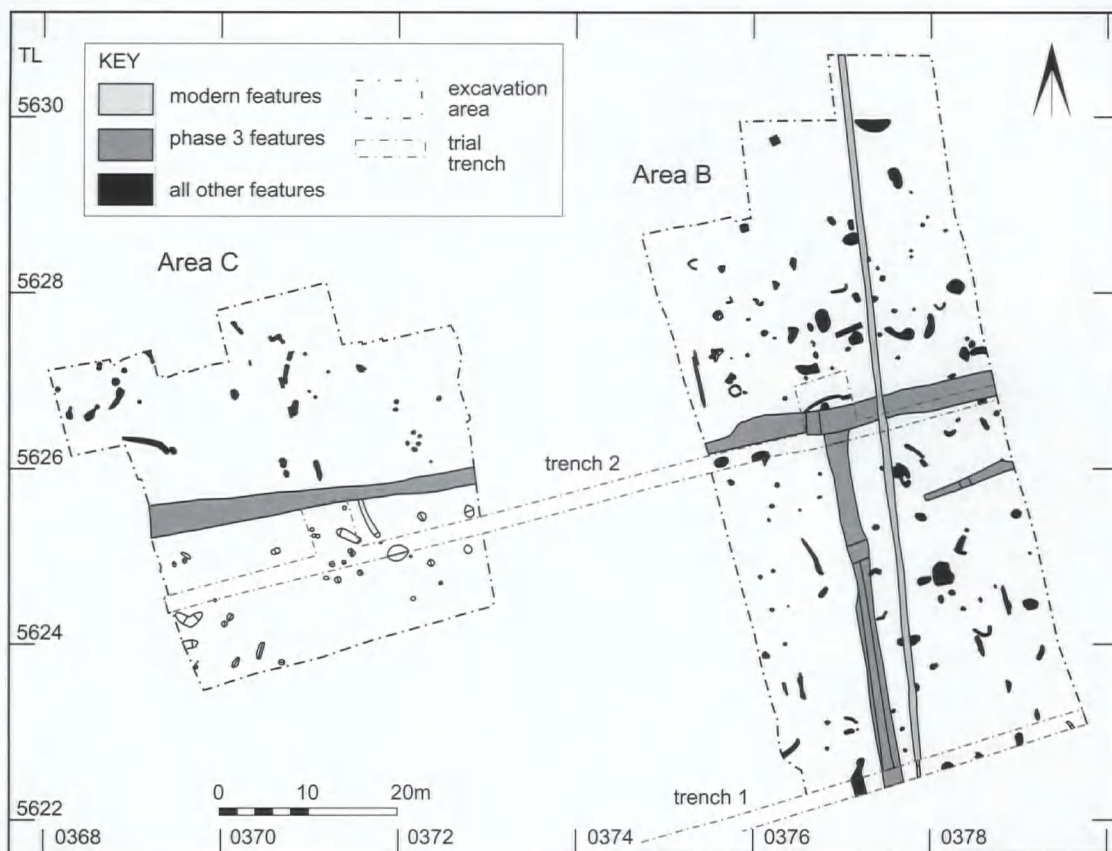


Figure 2 All features

STRUCTURE AND TERMINOLOGY IN THIS REPORT

After this introductory section, this report presents the results of the investigations within a chronological framework. The site narrative is arranged by Landscape (L prefix) and Group (G prefix), and where necessary a feature number is provided and labelled on the illustrations (*see above*). Along with describing the archaeological features the site narrative integrates a summary of the artefactual and eco-factual information, which is presented in more detail within individual sections for the various specialisms. The final section of this report discusses the results of the investigations.

RESULTS OF THE INVESTIGATIONS

Tony Walsh and Mike Luke

PHASE 1: THE NATURAL GEOLOGY

The natural geology revealed within all the trial

trenches and open areas comprised Boulder Clay (brown grey in colour with few stones) with localised deposits of sand and gravel.

PHASE 2: THE SETTLEMENT FOCI

The majority of the archaeological features within excavation areas B and C were assigned to this phase. They were characteristic of settlement remains e.g. pits, postholes etc. and they appeared to be concentrated in three main foci. Typically the foci contained a possible building, two or four-post structures and a cluster of pits.

All features were filled by a homogenous grey/red brown silty clay with occasional small stones. Any variations to this are noted in the text.

Settlement focus L4 (Fig 3)

This focus was located within the N half of excavation area C. It comprised a possible rectangular structure G7, a two-post structure G59, a four-post

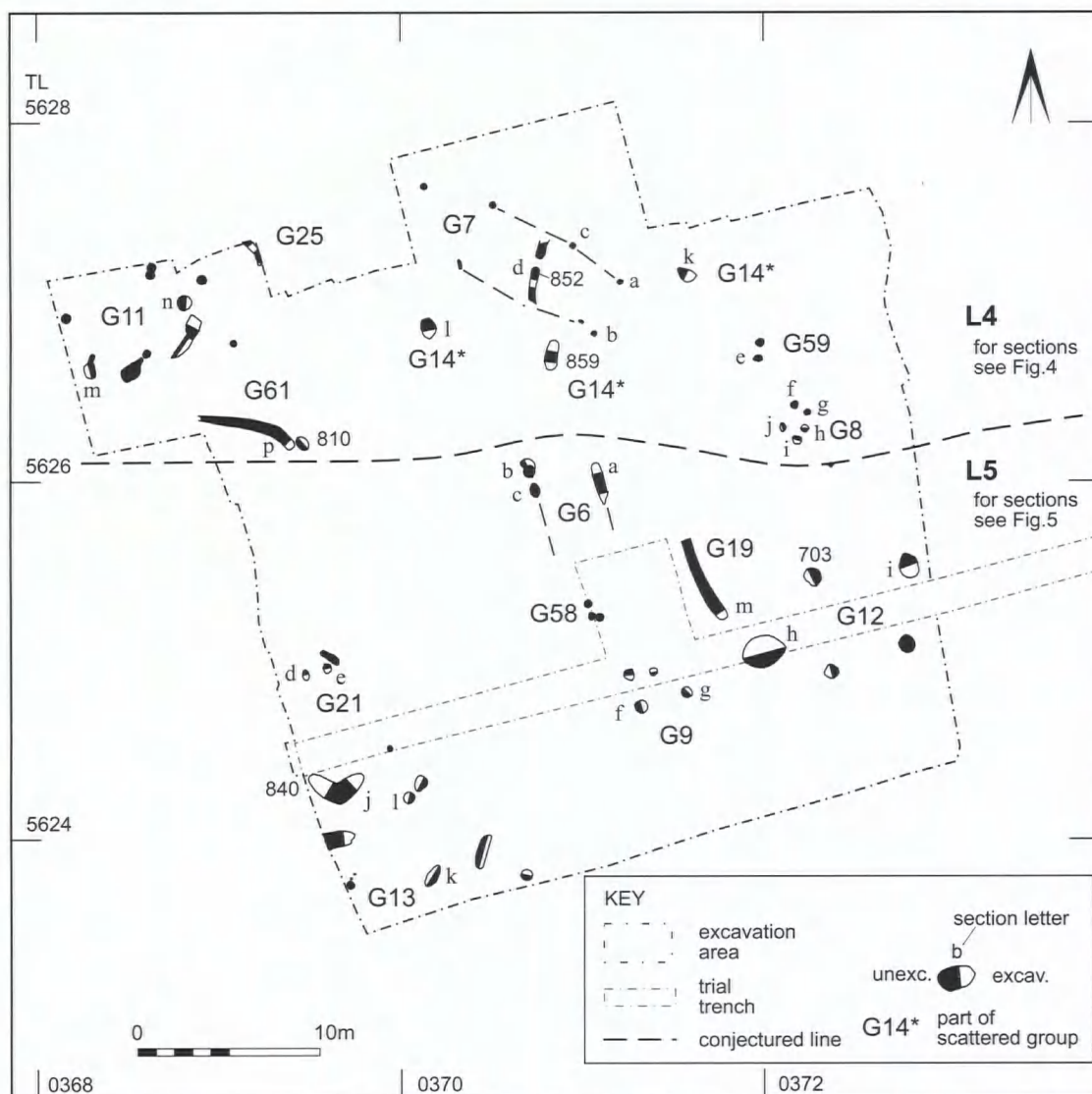


Figure 3 Phase 2 Area C settlement foci L4 and 5

structure G8, two pit groups G14 and G11, and two gullies G19 and G25.

The different elements of the focus were situated adjacent to each other, but usually over 3.5m apart suggesting a degree of organisation.

Rectangular structure G7

Seven postholes and a gully appeared to represent a NW-SE aligned structure, c. 3.5m wide and c. 9m long. The postholes represented the sides of the structure with slot S92 dividing it into two halves. The postholes were mainly oval or circular with concave profiles (Fig 4a-c). They were c. 0.25m in diameter and c. 0.1m deep. A number of the postholes con-

tained moderate sized stones which may have served as post packing, but were clearly not *in situ*. Internal gully 852 extended the width of the structure with a 0.5m wide gap roughly central. It was 0.3m wide and 0.14m deep with 45 degree sides and a concave base, which was in some places almost V-shaped (Fig 4d). The central gap would suggest it is more likely to have served as an internal partition rather than as a drain.

Two-post structure G59

Two-post structure G59 was located 7m SE of G7. The centres of the postholes were 0.9m apart. They were oval in plan and c. 0.5m in diameter. Only the southern posthole was excavated and this was 0.2m deep with stepped sides and a concave base

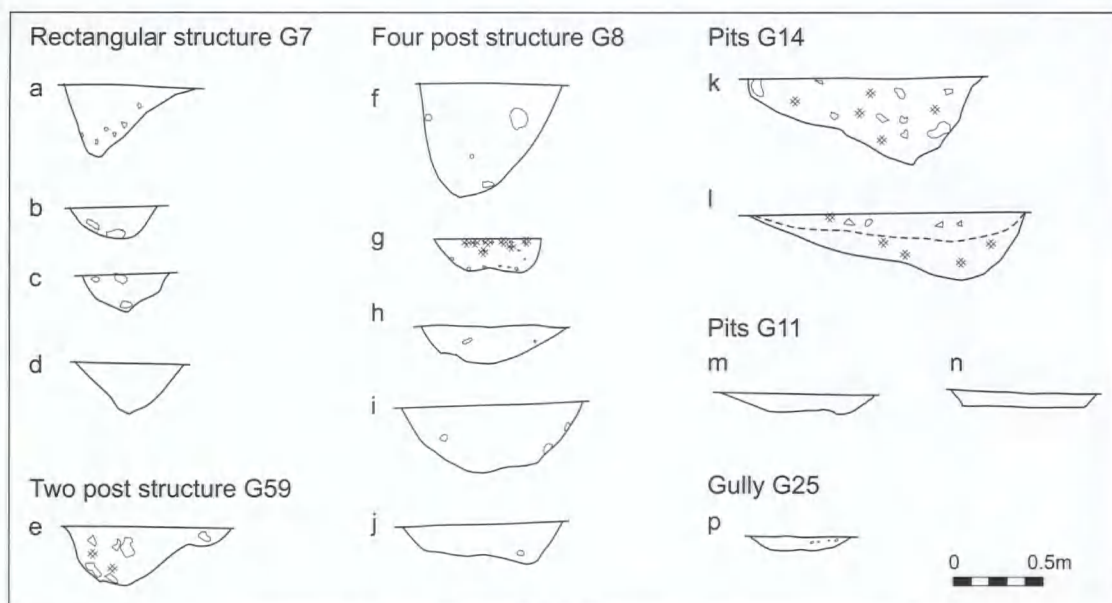


Figure 4 Landscape 4 selected sections

(Fig 4e). Its fill contained moderate flecks of charcoal and occasional moderate sized stones.

Four-post structure G8

Sub-rectangular four-post structure G8 was located 2.9m S of G59. The centres of the posts were c. 1.5m apart on the NE-SW alignment and c. 1m apart on the NW-SE alignment. On the SE side a fifth posthole was present approximately halfway between the corner posts. All the postholes were sub-circular, between 0.35m and 0.5m in diameter, usually with concave profiles and between 0.1m and 0.3m deep (Fig 4g-j). That to the N was deeper with steeper sides (Fig 4f). Two of the postholes had unusual inclusions: that to the N contained moderate sized stones suggestive of post packing and that to the NE contained frequent flecks of charcoal.

Pits G14

Three pits G14 dug in close proximity to structure G7 were oval in plan and orientated generally N-S. Two were c. 1.1m by 0.7m and 0.25m deep with asymmetrical sides, almost with a stepped profile (Fig 4k and l). Pit 859 was half as long again, but had a similar width and depth. The fills of all pits included occasional charcoal flecks. Pit 859 was exceptional in that it also contained burnt stones (including heat affected, unworked flint) and amorphous fired clay fragments weighing 12g.

Pits G11

A cluster of 12 pits G11 was located c. 11m to the W of structure G7. Seven of the pits were circular and five elongated in plan. The circular pits had a variety of profiles from concave to steep sided but had flat bases (Fig 4n). The majority were 0.5m in diameter. The irregular pits were between 1.3m and 2.6m in length with 45 degree sides and usually had flat bases (Fig 4m). All the pits were under 0.3m deep. Several of the pits truncated other pits indicating that they were not all contemporaneous.

porary and the shape in plan of the irregular pits suggests they may have been dug in more than one episode.

Gullies G25 and G61

Two gullies G25 and G61 were situated adjacent to pit group G11. Gully G25 was orientated N-S, over 1.6m in length continuing beyond the limit of the excavation, 0.4m wide and 0.05m deep. Gully G61 was orientated NW-SE 3m S of G11, orientated W-E, turning slightly to S. It was 5.5m long, 0.55m wide and 0.1m deep with 45 degree sides and a concave/flat base (Fig 4p). Possible postpits were located at the southern ends of both gullies for example 810, but it is uncertain if these are related. Environmental sample 16, taken from the fill of G61, contained significant quantities of charcoal including oak and one grain of rivet or bread wheat. A radiocarbon determination was obtained from the charcoal (see Table 3).

Settlement focus L5 (Fig 3)

Focus L5 was located S of L4 and contained a similar range of elements including a rectangular structure G6, two two-post structures G58 and G21, a four-post structure G9, two areas of pitting G12 and G13 and a gully G19. The spatial relationships of these settlement elements were similar to those observed in L4.

Rectangular structure G6

Structure G6 comprised three postholes aligned parallel to a linear slot. These are presumed to have defined the two sides, c. 4m apart, of a structure orientated NNW-SSE. The two northern postholes were inter-cutting. The postholes were sub-circular in plan with diameters of between 0.4m and 0.7m. The northern pair had steep sides and flat bases (Fig 5b), but the

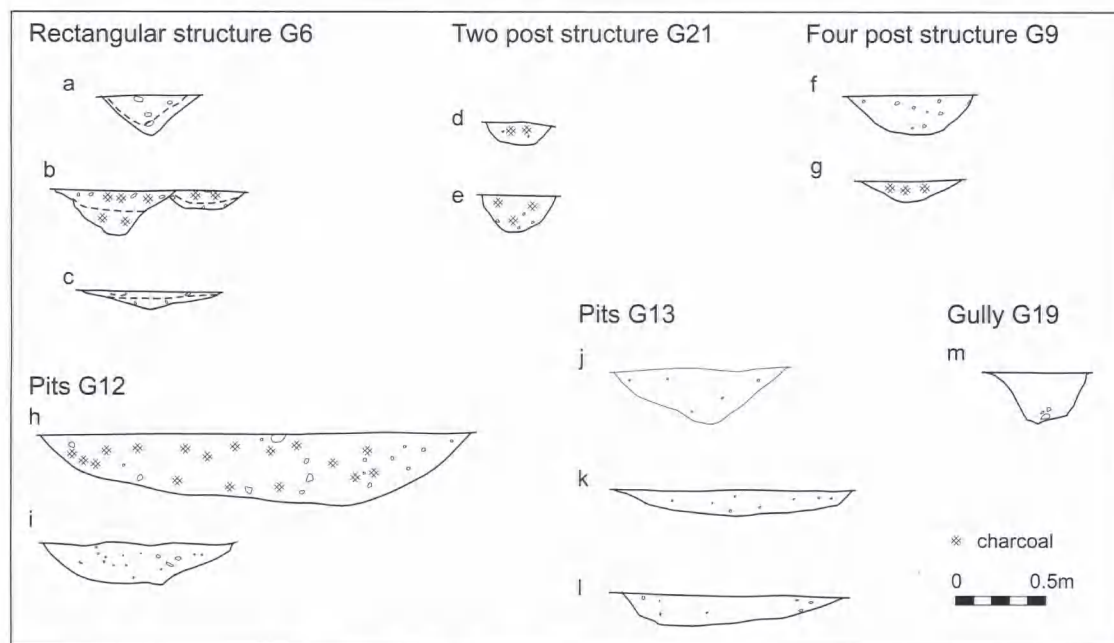


Figure 5 Landscape 5 selected sections

one to the S was very shallow (Fig 5c). The slot was 2.3m in length with a V-shaped profile 0.5m apart and 0.2m deep (Fig 5a). The two intercutting postholes contained moderate flecks of charcoal.

Two-post structures G21 and G58

Two-post structure G21 was located 15m SW of structure G6 and may have been associated with a short linear feature. The postholes were 1.2m apart, oval and circular, c. 0.5m in diameter, with concave sides and bases, up to 0.2m deep (Fig 5d and e). Their fills contained occasional charcoal flecking (environmental sample 20). A radiocarbon determination was obtained from the charcoal (see Table 3). The second two-post structure G58 was located 15m to the E and comprised three unexcavated postholes. These were oval in plan, c. 0.4m in diameter and 1m apart.

Four-post structure G9

A four-post structure G9 was located 3m S of two-post structure G58. The centres of the posts were c. 2.6m apart E-W and c. 2.1m N-S. They were circular with diameters of between 0.4m and 0.7m, with concave sides and bases, all under 0.2m deep (Fig 5f and g). The posthole to the SE contained occasional charcoal flecks (Fig 5g).

Pits G12

A cluster of five pits G12 was located c. 3m E of four-post structure G9. Four of the pits were evenly spaced between 4.5m and 5.3m apart and appeared to be paired. They were sub-oval or sub-circular, usually with concave profiles (Fig 5i). The fifth pit 2m to the W was much larger c. 2.1m by 1.75m and 0.4m deep with a fairly flat base (Fig 5h). Pit 703 contained a single struck flint flake.

Pits G13

Pit cluster G13 was located c. 11m to the SW of four-post structure G9. It comprised eight pits within a diameter of c. 6-7m. They varied in size and shape from large sub-oval, small circular to small linear. Most of the pits had concave sides and bases. The exceptions to this were the two large sub-oval pits at the NW, which had steeply sloping sides (Fig 5j). These were c. 3m by 1.2m, approximately twice the size of the next largest. The circular pits were between 0.3m and 0.85m in diameter, but usually only 0.1m deep (Fig 5l). The linear pits were between 1.3m and 1.9m long, c. 0.6m wide and 0.15m deep (Fig 5k). Although no intercutting between pits was identified the V-shaped plan of pit 840 strongly suggested it was two features.

Gully G19

Gully G19 was 5m SE of structure G6. It was orientated NW-SE curving slightly to the E at its S end and was over 4.8m in length. It was truncated by later ditch G15. It had steep sides with a flat base, was 0.5m wide and 0.3m deep (Fig 5m).

Settlement focus L1 (Fig 6)

This focus was located within excavation area B. It comprised three possible sub-circular buildings G1, G2, G3, rectangular structure G4, posthole cluster G56, gullies G18, isolated pit S61, gullies G18 and three fencelines G5, G20 and G55. An alternative interpretation for the northern arrangement of postholes G5 is that it was a rectangular building.

Two of the sub-circular buildings, G1 and G2,

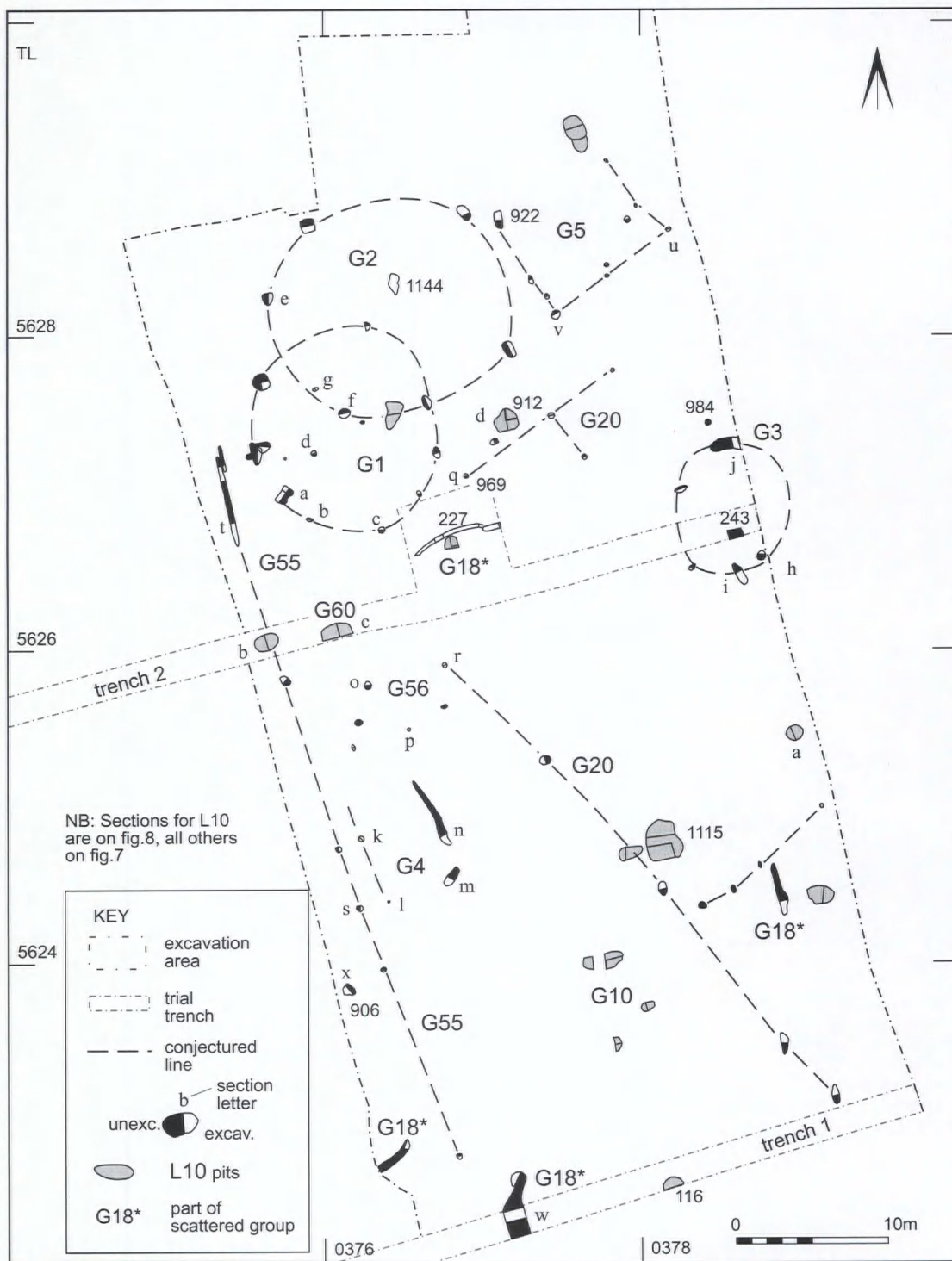


Figure 6 Phase 2 Area B settlement foci L1 and pits L10

were clearly not contemporary and presumably represented the replacement of one building by another. It is also unlikely that fencelines G20 and G55 were contemporary.

Sub-circular building G1

This building comprised twelve postholes or postpits positioned in a sub-circular arrangement with a diameter of c. 12.5m. A possible entrance to the SW is suggested by the presence of two inter-cutting postholes, 2.6m apart (Fig 7a). Both of the postholes within the interior of the building are located near this possible entrance. The postholes and postpits were generally circular or sub-circular in plan. The six with concave bases (Fig 7b and c) were located on the opposite side of the building to those three with near vertical sides. They ranged from 0.12m to 1.0m in diameter and were generally under 0.2m deep. Generally those on the S side were smaller. The fill of the larger internal posthole contained medium sized stones suggestive of packing (Fig 7d).

Sub-circular building G2

Building G2 was defined by eight postholes or postpits positioned in a sub-circular arrangement with a diameter of c. 15.5m. It partially overlapped with roundhouse G1, the centre of which lay c.8m SW of the centre of G2. An irregular feature 1144 near the centre of the building may indicate the presence of a central post. The features were variable in plan, profile and diameter. They were sub-rectangular or circular in plan, mainly with steep or near vertical sides, between 0.25 and 1.1m in diameter, and up to 0.35m deep (Fig 7e, f and g). Two adjacent postholes to the SW contained moderate charcoal flecking (Fig 7f and g) and may be doorposts (they are in a comparable location to the doorway of G1).

Possible sub-circular building G3

Approximately 11m to the E of G1 and G2 was the less conclusive evidence for another possible building. It continued beyond the limit of the excavation and comprised an arrangement of six postholes or postpits in an arc with a projected diameter of c.7.5m. On the N side a curving slot-like feature 0.8m wide and 0.45m deep with steep, slightly stepped sides and an uneven base, may be associated (Fig 7j). Two other features may be associated with this building, pit 243 would be within the interior of the building and posthole 984 situated 1.2m to the N. The postholes and postpits were generally oval in plan, but varied greatly in diameter (between 0.3m and 1.5m) and 0.2m deep (Fig 7h and i). Only one of the postholes contained occasional charcoal flecks.

Rectangular structure G4

Possible structure G4 was aligned N-S and measured c. 9m by 6.5m. Its W side was defined by two postholes and the E by a linear gully and postpit. The gap between the gully and postpit might suggest a doorway in the SE corner. The gully was 4.8m in length, 0.6m wide with steep sides and a flat base 0.2m deep (Fig 7n). Adjacent to this was an oval postpit, 1.4m by 0.5m, with concave sides and an uneven base 0.15m deep (Fig 7m). The two postholes were circular with diameters of 0.1m and 0.4m. They were equally shallow at 0.1m (Fig 7k and l).

Posthole cluster G56

A cluster of five postholes was located to the N of structure G4. They were generally sub-oval or circular with concave

sides and bases (Fig 7o), although one at the S had near vertical sides (Fig 7p). All had diameters of between 0.2m and 0.5m and were only c.0.2m deep.

Fencelines G20

Perpendicular arrangements of at least three fencelines were identified to the SE of G1 and G2. The NW-SE alignment comprised five postholes extending for over 45m, apparently aligned on the entrance side of roundhouse G1. Perpendicular to this were shorter alignment of postholes. The postholes were circular or oval in plan, with concave or near vertical sides and concave bases (Fig 7q and r). They had an average diameter of 0.5m diameter and were all under 0.3m deep. Several of the postholes contained moderate quantities of charcoal flecks (environmental sample 53) and one contained a large stone suggestive of post packing. A single radiocarbon determination was obtained from charcoal from posthole 969 (see Table 3).

Fenceline G55

A possible fenceline extending for at least 48m was located to the W of structure G4, but parallel to it. At the N it was defined by intercutting gullies which were similar with near vertical sides and flat bases (Fig 7t). They extended for 5.8m and were 0.3m wide and 0.2m deep. The remainder of the boundary was defined by small concave postholes or postpits (Fig 7s).

Fenceline/rectangular building G5

A rectangular arrangement of ten postholes G5, was located adjacent to the NE side of roundhouse G2. These appear to form a rectangular area on three sides, open to the NW. They are parallel or perpendicular to fencelines G20 and would appear to be aligned on roundhouse G2. However, an interpretation as a rectangular building cannot be ruled out. The postholes are mainly oval or circular in plan, with concave bases (Fig 7u and v). They are all approximately c.0.3m in diameter and under 0.25m deep. Postpit 922 produced a struck flint.

Gullies G18

Four separate gullies were assigned to G18 so they could be considered together. They shared some similarities with the gullies that were part of G55 and may therefore be part of fencelines. They were parallel and perpendicular to fenceline G55 and may therefore have been associated. Gully 227 to the N, was slightly curved and had been truncated by later ditch G15. The gully to the S had steep sides and a flat base (Fig 7w). The fills of both features contained occasional medium sized stones.

Pit 906

Isolated pit 906 was located 2m W of fenceline G55. It was sub-oval, 0.8m by 0.65m with gradual sloping sides and a concave base 0.15m deep (Fig 7x). The lower fill consisted of loose, dark blue grey clay with frequent charcoal and 14 undiagnostic fragments of animal bone (weighing 35g). It also contained a single struck flint flake. This appeared to represent a deliberate dump of waste into the small pit. The upper fill was the usual grey brown silty clay and may have been a deliberate sealing of the pit.

Pits L10 (Fig 6)

Two irregular scatters of pits G10 and G60 were assigned to L10. Some of the pits were clearly not contemporary with some of the activity in L1 or L6,

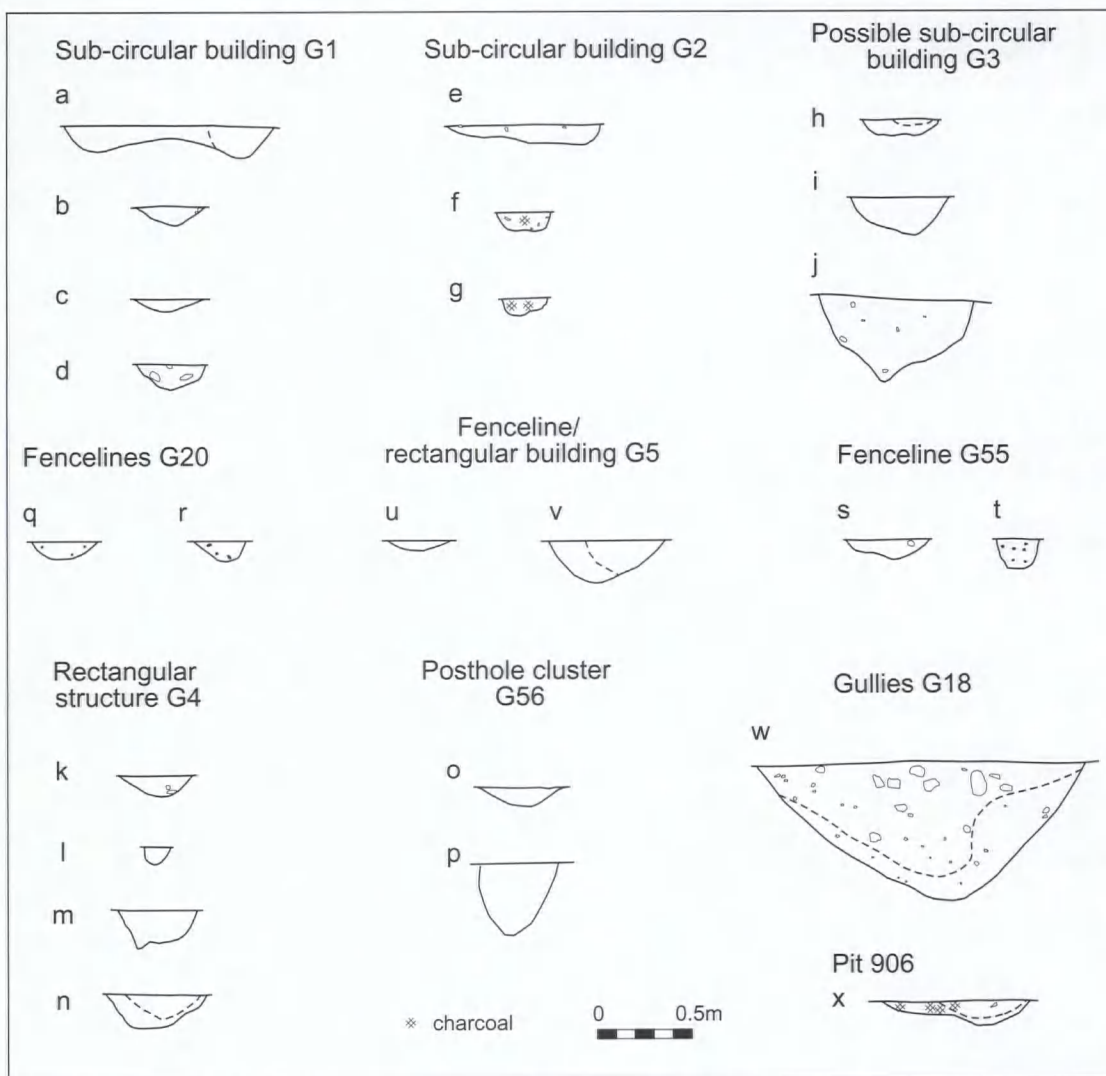


Figure 7 Landscape 1 selected sections

for example sub-circular building G2, fencelines G20 and G55. The two scatters appeared to share a common SW-NE alignment and were 20-22m apart. The significance of the gap between them is unclear, although they could have been dug either side of a routeway.

No patterning could be determined in the distribution of different types of pits. However, only in one instance did two pits inter-cut.

Pit group G10

An irregular scatter of eight pits extended over an area of 30m by 10m towards the S of Area B. The pits were generally oval or circular in plan with steep or near vertical sides. Four had

concave bases (Fig 8a) and two were flat. Four of the pits were less than 1m in diameter and three were between 1.7m and 2.6m. Their depths varied between 0.1m and 0.7m. Several of the pits contained a darker, almost grey black fill, which included occasional charcoal flecks and medium sized stones. Pit 116 yielded a single pottery sherd (weighing 2g) of possible early-middle Iron Age date. Ten fragments of burnt clay (weighing 79g) were recovered from pit 1115, one of the largest in this group.

Pit group G60

Pit group G60 was an irregular scatter of seven pits covering an area of 40m by 10m located NW of G10. Most of the pits had steep or near vertical sides, with generally flat bases (Fig 8b, c and d). All the pits were between c. 1.4m and c. 1.8m in length and between 0.8m and 1.2m wide. They were usually

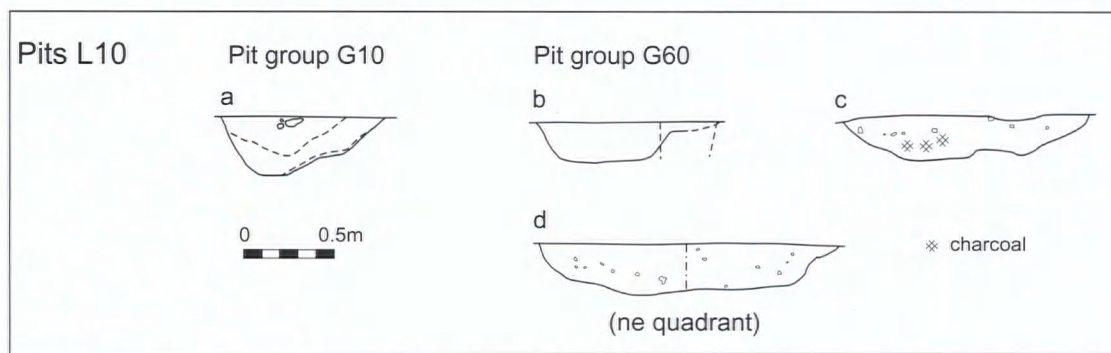


Figure 8 Landscape 10 selected sections

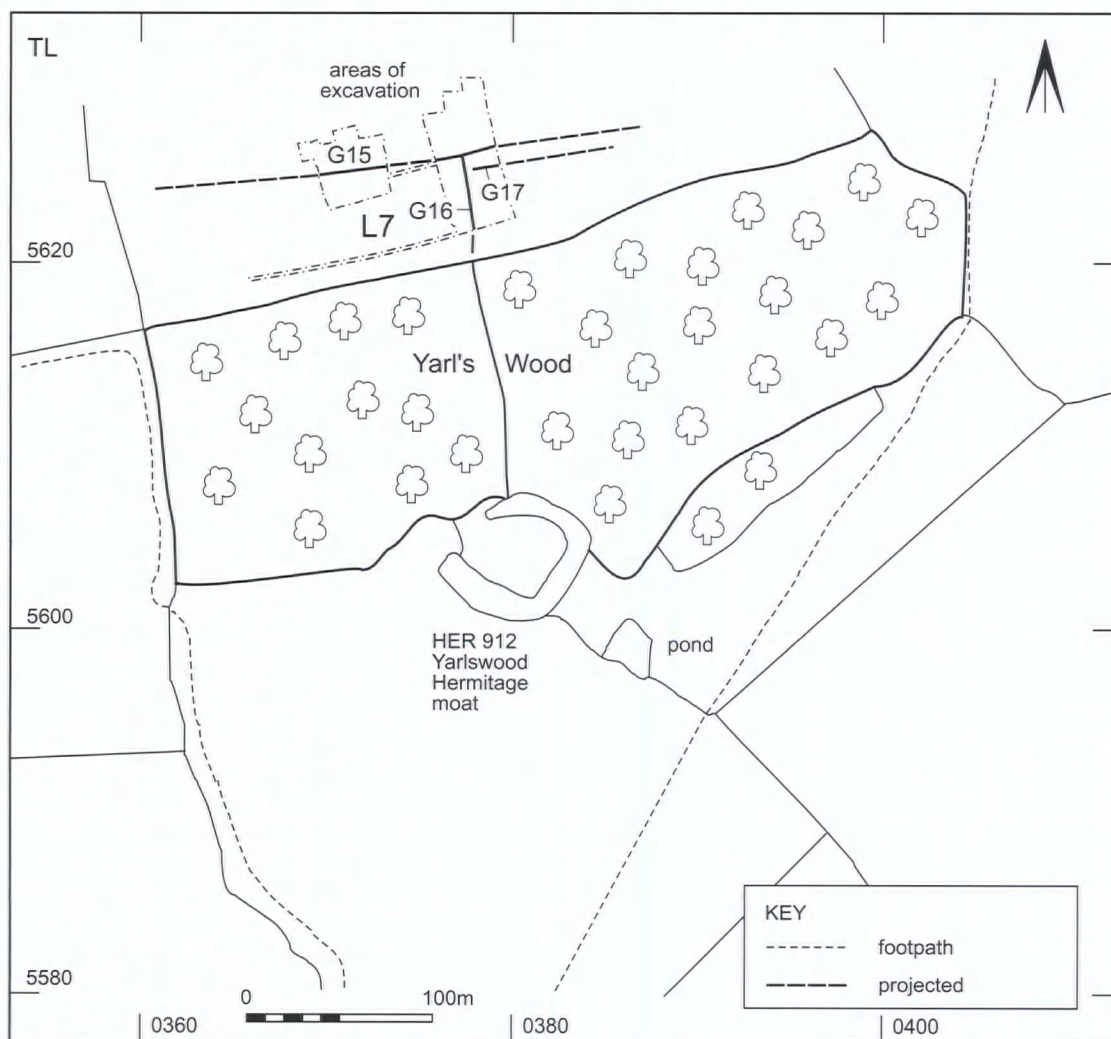


Figure 9 Phase 3, Field System L7, incorporated with 1882 OS map

0.3m deep with the exception of the northern most pit which was 0.65m deep. Only two pits intercut suggesting they were broadly contemporary. Pit 912 contained moderate charcoal flecking (environmental sample 40), from which a radiocarbon determination was obtained (see Table 3).

PHASE 3 ?MEDIEVAL FIELD SYSTEM (Figs 2 and 9)

Field System L7

Three ditches, G15, G16 and G17, were located within excavation areas B and C (Fig 9). They were aligned perpendicular or parallel to each other and are therefore believed to be part of a contemporary field system. Two of the ditches truncated Phase 2 elements. There was no evidence for internal activity, ploughing or furrows.

Boundary Ditch G15

Ditch G15 was orientated E-W and bisected excavation areas B and C. It had a V-shaped profile c. 2.2m wide and c. 1.0m deep. The ditch contained frequent chalk lumps and chalk flecking. The disposition of this in section suggested the presence of a bank to the N.

Boundary Ditch G16

Ditch G16 was orientated N-S and joined ditch G15. It had steep sides 2.4m wide and a concave base 0.6m deep. One of its lower fills comprised a black ashy deposit, which produced one fragment of animal bone. Environmental sample 37 from this deposit produced significant quantities of oak charcoal and sample 82 contained charcoal flecks but was otherwise unproductive. A radiocarbon determination was obtained from sample 37 (see Table 3). A later modern pipe trench heavily truncated the upper fill of the ditch.

Boundary Ditch G17

A third ditch G17 was parallel to G15 c. 7.5m to the S and butt ended c. 7.5m from G16. It had a similar profile to the larger ditches, but at 0.9m wide and 0.2m deep it was much shallower. The fill of the ditch contained occasional large stones, probably naturally derived from the sides of the feature.

PHASE 4: MODERN INTRUSIONS

With the exception of modern land drains located in all trenches the only modern features were located in trenches 3 and 4. These included 20th century brick

rubble hardstanding (just below the grass) and several rectangular steep sided pits containing 20th century debris (tins, china etc).

ARTEFACTS

Jackie Wells

Twelve pieces of flint weighing 76g were identified from Phase 2 features. The majority comprise unworked, burnt or heat affected fragments, deriving from pits G14 (L4) and 906 (L1). Struck pieces comprise two hard hammer struck flakes of indeterminate date (Table 1).

Pit 1115 in G10 (L10, Phase 2) yielded 10 fragments of burnt clay (weighing 79g). None of the fragments appear to represent structural daub and it is possible that the material represents accidentally burnt or fired natural clay. Pit 116, also in G10 (L10, Phase 2), contained a single undiagnostic sand and/or shell tempered pottery sherd (weighing 2g), of possible early-middle Iron Age date. The sherd is moderately abraded, and too fragmentary to be further classified.

ECOFACTS

Animal bone

Jackie Wells

Fourteen undiagnostic fragments of animal bone (weighing 35g) were recovered from pit 906 (L1). The material survives in very poor condition, with much surface erosion.

Environmental samples

Jenny Robinson

Samples were taken from the majority of the archaeological features irrespective of whether a visual inspection suggested environmental or artefactual potential. This produced 90 samples, mostly between 5 and 10 litres.

Landscape	Group	Feature	Quantity	Description
1	5	922	1:1	Flake
1		906	6:36	Flake and heat affected pieces
4	14	859	4:37	Unworked, heat affected pieces
5	12	703	1:2	Flake
Total			12:76	

Table 1 Quantity of flint from Phase 2, by fragment count and weight (g).

Methods

The samples were floated onto a 0.3mm mesh. The residues were sieved down to 1.0mm, the fraction above 5.6mm being sorted, the fraction below 5.6mm being retained for laboratory analysis. The flots were scanned under a binocular microscope at x10 magnification. Any seeds, chaff items etc were identified and recorded. Charcoal was broken and examined at magnifications of up to x50 under a binocular microscope, provisionally identified and recorded. This technique is appropriate for the identification of *Quercus* but the other charcoal identifications must be regarded as tentative. Ten residues below 5.6mm were scanned under a binocular microscope, but biological remains proved to be absent.

Results

Only six flots contained charred plant remains, of which only one was a seed (Table 2). Although the flots also contain modern root fragments from herbaceous vegetation, some fragments of modern insects and, in some instances, fungal fruiting bodies, there is no evidence to suggest that any of the deposits were modern.

Charred remains were very sparse, with only samples 16 and 37 containing significant quantities of charcoal. The range of taxa represented by charcoal is unexceptional, with *Quercus* sp. (oak) the most abundant, followed by *Prunus* sp. (sloe, plum etc). The quantity of charcoal in samples 16 and 37 con-

firms that they were from features that were open to receive charcoal. The only other charred plant item is a single grain of free-threshing *Triticum* sp. (rivet or bread wheat) in sample 16. It is most likely that it is Saxon to post-medieval in date, although a Neolithic or Roman date would also be possible.

Radiocarbon determinations

The very sparse artefactual assemblage did not allow the settlement remains to be dated with any confidence. Therefore, a series of radiocarbon determinations were undertaken to try and provide a more robust chronological framework (see Table 3). However, given the scarcity of suitable charred material especially from primary fills, uncertainties over its taphonomy and the absence of multiple samples from individual structures, it was recognised that the chances of obtaining a series of statistically meaningful dates were not great.

This proved to be the case with the dates spanning the Mesolithic to modern periods. The sample from pit group G60 (Sample 40) did produce a date, compatible with the interpretation of the Phase 2 features as a Late Bronze Age/early Iron Age settlement. However, morphological comparison with better dated sites still provides the best dating evidence for the remains uncovered on the site.

SAMPLE GROUP TYPE LANDSCAPE PHASE FEATURE		16	20	37	40	53	82
		61	21	16	60	20	16
		Gully	Two-post	Ditch	Pit	Fence	Ditch
		4	5	7	10	1	7
		2	2	3	2	2	3
					912	969	
SEEDS ETC							
<i>Triticum</i> sp.							
short free-threshing grain	rivet or bread wheat	1	-	-	-	-	-
CHARCOAL							
cf. <i>Prunus</i> sp.	sloe, plum etc	-	-	++	-	-	-
cf. <i>Pomoideae</i>	hawthorn, apple etc	-	-	-	+	-	-
cf. <i>Betula</i> sp.	birch	-	-	-	-	-	+
<i>Alnus/Corylus</i> tp.	alder or hazel	-	-	+	-	-	-
<i>Quercus</i> sp.	oak	++	-	+	-	-	-
indet? root		-	+	-	-	+	-

Table 2 Charred plant remains

P	L	G	Type	Results	S
2	4	61	Gully	Beta - 154166 Measured radiocarbon 960 +/- 50 bp 13c/12c ratio -25.4 o/oo Conventional radiocarbon age 950 +/- 50 bp 2 sigma calibration : cal ad 1000 to 1200 (cal bp 950 to 750)	16
2	5	21	2-poster	Beta - 154167 Measured radiocarbon 4080 +/- 40 bp 13c/12c Ratio -24.2 o/oo Conventional radiocarbon age 4090 +/- 40 bp 2 sigma calibration : cal bc 2860 to 2800 (cal bp 4810 to 4750) and cal bc 2760 to 2550 (cal bp 4710 to 4500) Cal bc 2540 to 2490 (cal bp 4480 to 4440)	20
3	7	16	Ditch	Beta - 154168 Measured radiocarbon 260 +/- 40 bp -13c/12c Ratio -27.3 o/oo Conventional radiocarbon age 220 +/- 40 bp 2 sigma calibration : cal ad 1640 to 1680 (cal bp 310 to 260) and cal ad 1730 to 1810 (cal bp 220 to 140) cal ad 1930 to 1950 (cal bp 20 to 0)	37
2	10	60	Pit 912	Beta - 154169 Measured radiocarbon 3190 +/- 40 bp 13c/12c Ratio -26.5 o/oo Conventional radiocarbon age 3170 +/- 40 bp 2 sigma calibration : cal bc 1520 to 1390 (cal bp 3460 to 3340)	40
2	1	20	Posthole 969	Beta - 154170 Measured radiocarbon 6060 +/- 40 bp 13c/12c Ratio -26.2 o/oo Conventional radiocarbon age 6040 +/- 40 bp 2 sigma calibration : cal bc 5035 to 4810 (cal bp 6985 to 6760)	53

P= Phase, L= Landscape, G= Group, S= Sample

Table 3 Radiocarbon determinations

DISCUSSION

This discussion covers the phase 2 settlement and the phase 3 field system. The modern landuse is briefly discussed where it is considered relevant to archaeological features considered to be of much greater antiquity.

THE 'EARLIER' PREHISTORIC SETTLEMENT

The nature and distribution of the archaeological features assigned to phase 2 is suggestive of settlement. It is clear that at some similar settlements domestic debris is also rare and, if present, is restricted to a small number of features, for example Aldermaston, Berkshire (Bradley *et al* 1980) and Biddenham Loop, Bedfordshire. (Albion in preparation). The lack of dating evidence from Yarl's Wood is of some concern. However, a comparison of the settlement's components with other excavated examples suggests a date in the prehistoric period, most likely the late Bronze Age / early Iron Age (Fig 10).

In the following discussion individual components of the settlement will be examined and comparisons drawn with similar elements on other settlements. The spatial arrangement between and within the identified foci will then be considered, before the dating and function of the settlement is discussed.

Components of the settlement

Sub-circular buildings G1, G2 and G3

Three possible sub-circular buildings were identified in L1, although G3 is the least convincing. Wall lines were represented by a range of features including 'typical' postholes (relatively small, circular, concave features), along with larger postpits and in the case of G3, a gully.

It is easy to be sceptical of wall lines 'created' by archaeologists from widely spaced, differing, small features. However, there are a number of aspects that

suggest some of these buildings are genuine. Firstly they are located close together (within 25m of each other), all within excavation area B. With regard to G1 it is interesting to note that features in the S wall line were generally smaller, which may be a reflection of prevailing winds or associated with the removal of the posts. G1 also has evidence for a SW doorway in the form of pairings of intercutting features presumably door posts. Although no internal features could be assigned with certainty, of the three isolated features in this area, two postholes are adjacent to G1's possible doorway and the other, an irregular scoop is approximately central within G2. Two adjacent postholes to the SW of G2 positioned in a similar location to the proposed doorway of G1 were the only ones to contain charcoal flecks.

At c. 13m the diameter of G1 and G2 is slightly larger than Late Bronze/early Iron Age circular buildings at Biddenham Loop (Albion in prep) and Reading Business Park Area 5 (Moore and Jennings 1992, 19). The spacing between surviving postholes at c. 3m is slightly larger than a number of the round-houses on the latter site (*ibid* Fig 13). The shallow depths of the recorded postholes suggests that some may have been completely removed by ploughing.

It is always possible that some two- and four-post structures (*see below*) represent entrances/porches into circular buildings. The majority of the circular buildings at Danebury, Hampshire, had two door-post entrances (Cunliffe and Poole 1991, 45-46 and Fig 4.10) and nine of the 20 circular buildings at Reading Business Park Area 5 had four-post entrance structures (Moore and Jennings 1992, 14). The peripheral location of the two- and four-post structures at Yarl's Wood, isolated from other features, would ensure sufficient room for a circumference of wall posts.

Rectangular structures/buildings G4, G5, G6 and G7

Four rectangular structures/buildings were tentatively identified and with the exception of G5, all included a slot/gully component. Inevitably with this kind of evidence it is possible that elements of the so-called structures are in fact fences or fenced enclosures, for example G5.

Slots/gullies appear to represent side walls in G4 and G6, with a parallel arrangement of pits/postholes. Isolated gullies, for example those assigned to G18, may also therefore be related to structures. Similar short lengths of slots of uncertain function were present within the late Bronze/early Iron Age settlement at the Biddenham Loop (Albion in prep.).

The slot in G7 was different and appeared to divide the structure into two, but with a central doorway. Structure 2 at Lofts Farm, Essex, of late Bronze Age date, also contained an internal partition, formed by postholes, and a gully which was interpreted as a possible drain (Brown 1988, Fig 10). Like Structure 2 at Lofts Farm which was only c.2m wide, Structures G6 and G7 at Yarl's Wood are narrow (c. 3.5-4m). They would presumably have served a non-domestic function or, as suggested by Brown for Lofts Farm, represent the central posts of an aisled building (*ibid*).

Four-post structures G8, G9

Two four-post structures were identified, G8 c. 1.2m and G9 c. 2.2m square, both approximately aligned SW-NE. A fifth posthole was associated with G8 and may represent a later supporting timber.

Four-post structures are frequent occurrences on late Bronze/early Iron Age sites for example at Biddenham Loop (Albion in prep.), Reading Business Park (Moore and Jennings 1992, Fig 9 on 15 and 27) and Danebury (Cunliffe and Poole 1991, 110-112). The four four-post structures at Biddenham varied from 1.3m to 4.6m, showed little consistency in alignment and were located like those at Yarl's Wood towards the periphery of activity areas. These structures are usually interpreted as granaries (Gent 1983, 246-252), although it seems likely that they were used to store other products (Cunliffe and Poole 1991, 115). Alternatively they could have functioned as watch towers, chicken pens, excarnation platforms etc (Knight 1984, 154-5) or even represent porch/entranceways to circular buildings which have left no other trace (as discussed above).

Two-post structures G21, G58 and G59

Three two-post structures were identified. These are perhaps the most tentative type of structure to identify given the ease with which the human eye automatically links two postholes. They were 0.9m (G59), 1.2m (G21) and 1m (G58) apart. The structures did not share a common alignment.

Again, this type of structure is frequently found on late Bronze Age/early Iron Age sites for example at Biddenham Loop (Albion in prep.), Lofts Farm (Brown 1988, 260), Reading Business Park (Moore and Jennings 1992, 39) and Danebury (Cunliffe and Poole 1991, 113). The Yarl's Wood two-post structures were very similar to those identified at Lofts Farm (structures 5-11) being similarly spaced, with one posthole considerably larger than the other

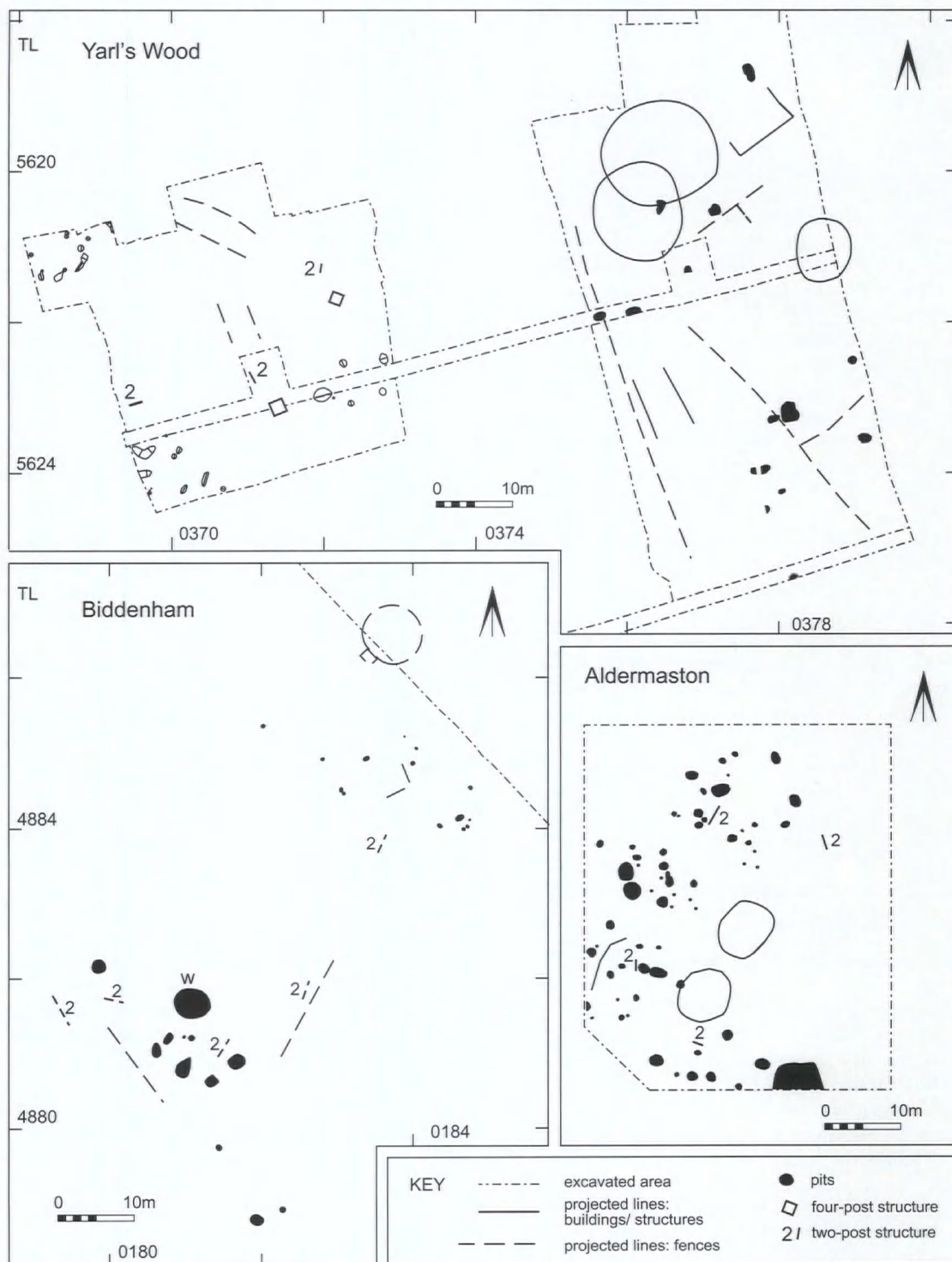


Figure 10 Comparison between Yarl's Wood and other Late Bronze Age/early Iron Age settlements

(Brown 1988, 260). They could have served as the foundations for variety of structures including drying racks, looms, seating etc (Knight 1984, 159) and some may have served as door posts of buildings for which no other evidence survived (as discussed above).

Pit groups G10, G11, G12, G13, G14 and G60

The pit groups occurred in quite tight clusters, often on the periphery of the foci. They usually contained five or more pits (rarely intercutting). An exception was pit group G14, adjacent to rectangular structure G7. Only one pit (906, L1) occurred in isolated, although unfortunately this was adjacent to the limit of excavation.

Similar discrete clusters of pits have been located at late Bronze/early Iron Age sites at Biddenham Loop (Albion in prep.), Lofts Farm (Brown 1988, 261) and Aldermaston Wharf (Bradley *et al* 1980, 221). Pits are often divided into scoops (with shallow, very gentle profiles) and basin profile pits (generally deeper with steeper sides). The majority of the pits at Yarl's Wood could be classed as scoops. At Aldermaston the smaller pits occurred in clusters adjacent to buildings (Bradley *et al* 1980, 251 and 288), a comparable situation to G14. Bradley believed that the scoop type pits may have been formed by gravel extraction with the basin profiled pits serving a storage function (*ibid*, 290). If a similar interpretation is applied to the pits at Yarl's Wood, then the majority would, given the natural, have been small clay quarries, possibly associated with building construction. This may explain the presence of burnt clay within one of the pits. The pits at Lofts Farm are not described in detail because, like at Yarl's Wood, they produced no finds (Brown 1988, 261). Only a small number of pits at Biddenham Loop and Aldermaston contained domestic debris.

Fencelines G20 and G55

Only two fencelines G20 and G55 (both in L1) were identified, both within excavation area B. They are on different alignments and therefore are unlikely to be contemporary. They appeared to respect other settlement elements (*see later*) and G20 incorporated perpendicular alignments suggestive of enclosures. Fenceline G55 included a slot like element to the N and to the S its association with two gullies may suggest an entranceway.

Short lengths of fencelines were associated with the settlement at Biddenham Loop and Lofts Farm (Brown 1988, 260). Inevitably the identification and therefore the interpretation of posthole alignments as

fencelines will always be tentative. The discontinuous linear feature interpreted as the bedding trench for a fenceline at Lofts Farm (Structure 12) is similar to the slot-like element of G55 (L1) at Yarl's Wood (Brown 1988, 260).

Spatial arrangement between and within the foci (Fig 10)

The variations in settlement elements on the two adjacent excavation areas (investigated at the same time by the same archaeologists) is striking. Area B contains possible roundhouses and fencelines which are not present in area C. Area C contains two- and four-post structures which are not present in area B. This type of occurrence has been used to distinguish the settlement foci.

Settlement foci L4 and L5 were identified because they contained the same elements: rectangular structure, four-post, two-post and pit clusters. These elements appear to share similar locations within both foci and could reflect different activities being undertaken in different areas. For example the main pit clusters are furthest away from the rectangular structures and the two-post structures lay between the rectangular structure and the four-post structures. A similar pattern can be deduced from the distribution of settlement elements at Biddenham Loop (Albion in prep.), Lofts Farm (although this was contained within an enclosure) (Brown 1988, Fig 8 on 257) and Aldermaston (Bradley *et al* 1980, Fig 9 on 230). At Lofts Farm pit groups occur on the periphery (unfortunately not described in any detail but see Brown 1988, 261), along with two- and four-post structures. All this evidence would tend to suggest a degree of zoning within the settlements with quarrying, working and living all taking place in specific, separate areas.

The arrangement of elements within the settlement foci at Yarl's Wood is also of interest. For example roundhouses G1 and G2 would appear to be just N of the corner of fenced area G20. Fenceline G55 appears to respect the W side of roundhouse G1. The pits L10 appear to form two broadly parallel alignments suggesting they were positioned on either side of a routeway.

Dating evidence

As demonstrated above, the settlement elements present are suggestive of a late Bronze/early Iron Age date. Buildings of this period comprise both circular, e.g. Reading Business Park Area 5 (Moore and Jennings 1992, 19), and rectangular forms, e.g. Structure 2 at Lofts Farm (Brown 1988, 260). Their

identification is always tenuous because, unlike later Iron Age roundhouses, they are rarely defined by drainage ditches (Allen *et al* 1993, 47). Two- and four-post structures, for example at Biddenham (Albion in prep.) are often dated to the late Bronze Age/early Iron Age (Williams 1993, 44).

Stratigraphically several of the settlement components are earlier than the ditch system L7 and modern land drains. Dating evidence based on artefacts is restricted to one piece of Iron Age pottery.

Despite extensive sampling of the settlement features only three deposits produced charred plant remains that were suitable for radiocarbon determination. Only one (Sample 40 from pit group G60) fell within the expected late Bronze Age/Early Iron Age date for the settlement. Clearly a single radiocarbon determination cannot be used to date the settlement.

The best dating for the Yarl's Wood settlement is therefore the comparison in settlement morphology with other sites (Fig 10). As described above the layout of the settlement is comparable with those at Biddenham Loop, Lofts Farm and Aldermaston. At these sites a small number of features contained sufficient datable artefacts to demonstrate that they are late Bronze/early Iron Age in date.

Function of the settlement

The evidence uncovered at Yarl's Wood comprised elements typical of settlement. However, its overall interpretation is hampered by the almost non-existent artefact and ecofact assemblage. Both Knights Farm, one of the Aldermaston sites (Bradley *et al* 1980, 286) and Heslerton, Yorkshire (Powlesland 1986, 158-159) were similar in layout. Their artefactual and ecofactual evidence suggested they were seasonally occupied or transitory in nature. However, at the Reading Business Park the apparently planned (or organised) nature of the settlement suggested to the excavators that this was more permanent in nature (Moore and Jennings 1992, 120-121). Perhaps a better comparison for Yarl's Wood is with Biddenham Loop, where the late Bronze Age/early Iron Age settlement exhibited zoning, but where there was also a limited number and range of both artefacts and faunal remains.

The near absence of cereal remains at Knight's Farm (Bradley *et al* 1980, 291) and Roughground Farm, Gloucestershire (Allen *et al* 1993, 35), although not precluding crop cultivation, led to the suggestion that the basic economy was pastoral. Although minute, the charred plant assemblage from Yarl's Wood included a single grain of free-threshing

Triticum sp. (rivet or bread wheat), most likely to be Saxon to post-medieval in date, although possibly considerably older. However, the four-post structures suggest cultivation was taking place. The animal bone assemblage is tiny, like that from the Biddenham Loop (Albion in prep.) and Fenny Lock, Milton Keynes (Ford and Taylor 2001, 117). In the case of Yarl's Wood the very poor condition of the bone suggests that this material would have only rarely survived in this type of soil. It is therefore uncertain what type of livestock was kept in the settlement. If pasture were present, as presumably it was, it would have been unenclosed.

THE ?MEDIEVAL FIELD SYSTEM

The ditch system L7 is truncated by modern land drains and radiocarbon determination suggests it may be of post-medieval date (for at least one of the ditches). It is not shown on 19th century maps (1884 Ordnance Survey and 1803 pre-enclosure maps). However, a N-S ditch still visible within Yarl's Wood today, is on the same alignment as ditch G16 within the excavation area. This ditch is shown on the 1884 Ordnance Survey map and to the S joins Yarl's Wood Moat (HER 912). Hutchings in his examination of the Milton Ernest field systems claims that the 1803 boundary to Yarl's Wood was a 'moat-like ditch, much of which is double' (Hutchings 1969, 73). This would appear to correspond with the nature and arrangement of W-E ditches G15 and G17. The former was 2.2m wide and appeared to have been associated with a bank on its N side. Given that G15 is joined by G16 it seems likely that this represents an earlier boundary to Yarl's Wood c. 60m to the N of the present one.

According to Hutchings 'in 1803 Yarl's Wood was joined on its northern side by another wood, Lawn Wood' (1969, 72-3). Hutchings believed that he had identified ridge and furrow within Yarl's Wood, which, if correct, would suggest that this wood post-dates these and is therefore of more recent origin (*ibid*). However, the absence of furrows within the excavation area might suggest Yarl's Wood is indeed of medieval origin.

The medieval moated manor house to the S of Yarl's Wood, sometimes called Yarlswood Hermitage was probably occupied from the 12th to the 16th century. Although the continuation of ditch G16 to the S joined the moat, this may have been a latter addition (Fig 9).

MODERN

Modern features identified within the open area

excavations are restricted to land drains. Hardstanding and other features associated with the post-war establishment were only located in trial trenches 3 and 4 to the NE (Fig 1). The nature and content of the latter were in complete contrast to the pits investigated and assigned to the Phase 2 settlement. Therefore, it is believed that the area of the open area excavation had never been anything other than open space.

CONCLUSION

Bradley has suggested a high degree of population mobility during the late Bronze Age/early Iron Age (1986, 39-40) with few large, permanent settlements. The majority of settlements were temporary and left very little trace below the ground. The evidence from Yarl's Wood, unenclosed, scattered features with few artefacts, fits this model well.

By their very nature, sites of this type are extremely difficult to detect. The Yarl's Wood settlement was located by trial excavation. However, even this is not always successful. For example, within the Biddenham Loop (Albion in prep.) settlement foci of this period were only identified during open area excavation, despite extensive cropmark analysis, non-invasive survey and trial trenching. The relative invisibility of this type of site goes some way to explain their apparent absence in areas like Yarl's Wood. Here, the historic landscape seems to be dominated by Iron Age and Roman settlements, producing the well-defined cropmarks recorded in the HER (Fig 1).

ACKNOWLEDGEMENTS

The Home Office sponsored both the archaeological fieldwork and the publication of this report. Bedfordshire County Archaeology Service (now known as Albion Archaeology) would also like to thank the archaeological consultants, CgMs Consulting, and in particular Angus Stephenson and Rob Bourn for their assistance and support during this project.

In addition, thanks are due to Martin Oake (County Archaeological Officer) who monitored the archaeological aspects of the project and Stephen Coleman (Historic Environment Information Officer), both of Bedfordshire County Council.

The project was managed by Mike Luke and supervised on the ground by Tony Walsh. Hand excavation and investigation was undertaken by Kate Bain, Sally Dicks and Pat Kent (evaluation), and Kate Bain, Caroline Clarke, Sally Dicks, Ed Frost, Pat Kent, Jim McQueen, Mark Phillips, James

Pixley, Tracy Preece, Amy Rushden and Julian Watters (open area excavation). Processing of artefacts was undertaken by Jackie Wells and of ecofact samples by Jerry Stone. Joan Lightning carried out digitisation of site records. Tony Walsh undertook all structural analysis and his enthusiasm for the site is acknowledged. All BCAS projects are under the overall management of Drew Shotliff.

I am grateful to Rob Bourn, Martin Oake and Drew Shotliff for reading and commenting on a draft version of this article.

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*The Bedfordshire Archaeological Council is grateful to the Home Office
for supporting the publication of this paper.*

The investigation of an early-middle Iron Age settlement and field system at Topler's Hill

MIKE LUKE

With contributions by Rob Edwards, Ellen Hambleton, Ruth Pelling and Jackie Wells
Illustrations by Cecily Marshall

SUMMARY

Between 1998 and 2000 Bedfordshire County Archaeology Service (now known as Albion Archaeology) undertook archaeological investigations, in line with PPG16, in advance of substantial junction improvements on the A1 at Topler's Hill, Bedfordshire. These revealed evidence for an early-middle Iron Age settlement and contemporary field system.

Although only a small part of the settlement was subject to open area excavation, a considerable amount of information on its origins, extent, layout and internal morphology was recovered. It comprised at least eight interlinked enclosures, possibly representing different family units, each defined by substantial ditches. Only a few Iron Age settlements with a similar layout are known from southern England. Although the southern limit of the settlement was outside the Study Area, its likely extent was at least 0.8ha. Within the enclosure interiors there was evidence for roundhouses and areas of pitting. Although there was only limited evidence, it is possible that some activity associated with the settlement also took place outside the enclosures.

The evidence for cereal cultivation and animal husbandry are in keeping with other Iron Age sites in southern England. However, two cattle bones may indicate the presence of a larger breed than normally expected for this period. The nature of the pottery is suggestive of a reliance on local manufacture. Cropmarks suggest an arable field system extending over c. 10ha was located to the west of the settlement. A small quantity of domestic debris was recovered from the field boundaries nearest the settlement, suggesting that, at some point, these were also the site of domestic activity.

Although the evaluation stage of this project utilised a range of archaeological techniques, it is now clear that if undertaken individually they would have provided a very misleading impression of the date and nature of the archaeological remains within the Study Area. Therefore, this article concludes with a critical review of the methodologies and techniques used during the investigations.

INTRODUCTION

In 1998 a decision was taken by the Highways Agency to improve two dangerous road junctions on the A1 at Topler's Hill, Bedfordshire. The junctions were c. 500m apart leading to the villages of Langford and Edworth.

During the preliminary design stage of the junction improvement scheme the County Archaeological Officer (CAO) of Bedfordshire County Council (BCC) advised that the area under consideration was likely to contain archaeological remains. On the basis of these discussions and following the guidelines in the Department of the Environment's *Planning Policy Guidance Note 16: Archaeology and Planning* (PPG16) a programme of archaeological works was implemented. An evaluation in September 1999 located significant archaeological remains. Subsequent open area archaeological excavation was undertaken during September 2000 within those areas where remains would be unavoidably destroyed by the road scheme. Bedfordshire County Archaeology Service (renamed Albion Archaeology during the preparation of this report) undertook all archaeological investigations. This report brings together the evidence from all stages of investigation: non-intrusive evaluation, intrusive evaluation and open area excavation.

SITE LOCATION AND CONDITIONS

Topler's Hill is located c. 3.5km S of Biggleswade and 0.5km W of the village of Edworth in E Bedfordshire (Fig 1). The Study Area, centred on TL 21644035, is bisected by the A1 dual carriageway and is located on a low ridge (75m OD) overlooking a dry valley to the NE containing the village of Edworth. The geology is Boulder Clay overlying Lower Cretaceous Upper Greensand and Gault Clay.

The land was under arable cultivation up until the time it was brought into the road scheme.

ARCHAEOLOGICAL BACKGROUND

The Historic Environment Record (HER) of BCC contains records of all known archaeological sites in Bedfordshire. Prior to the investigations the Study

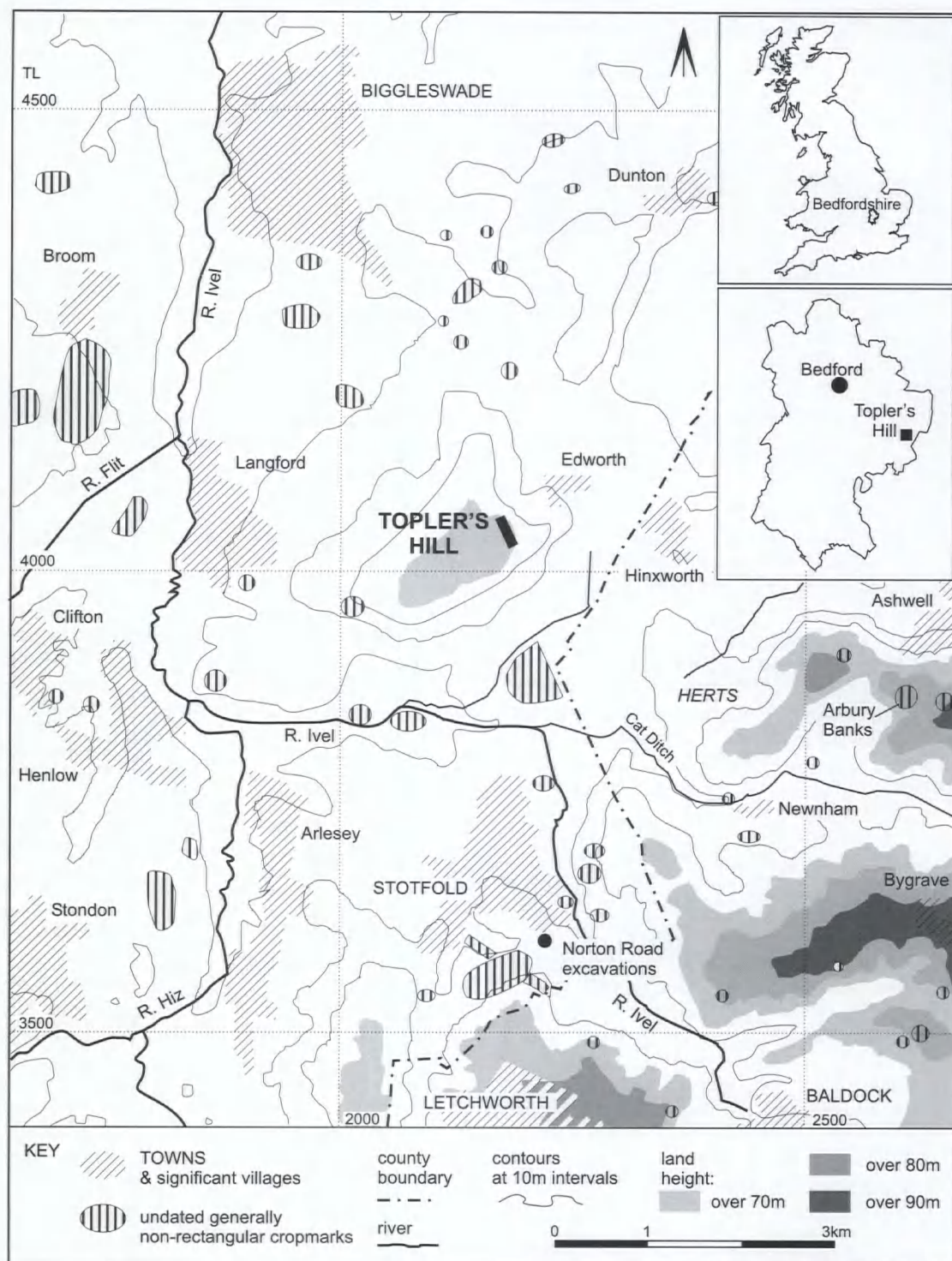


Figure 1 Site location

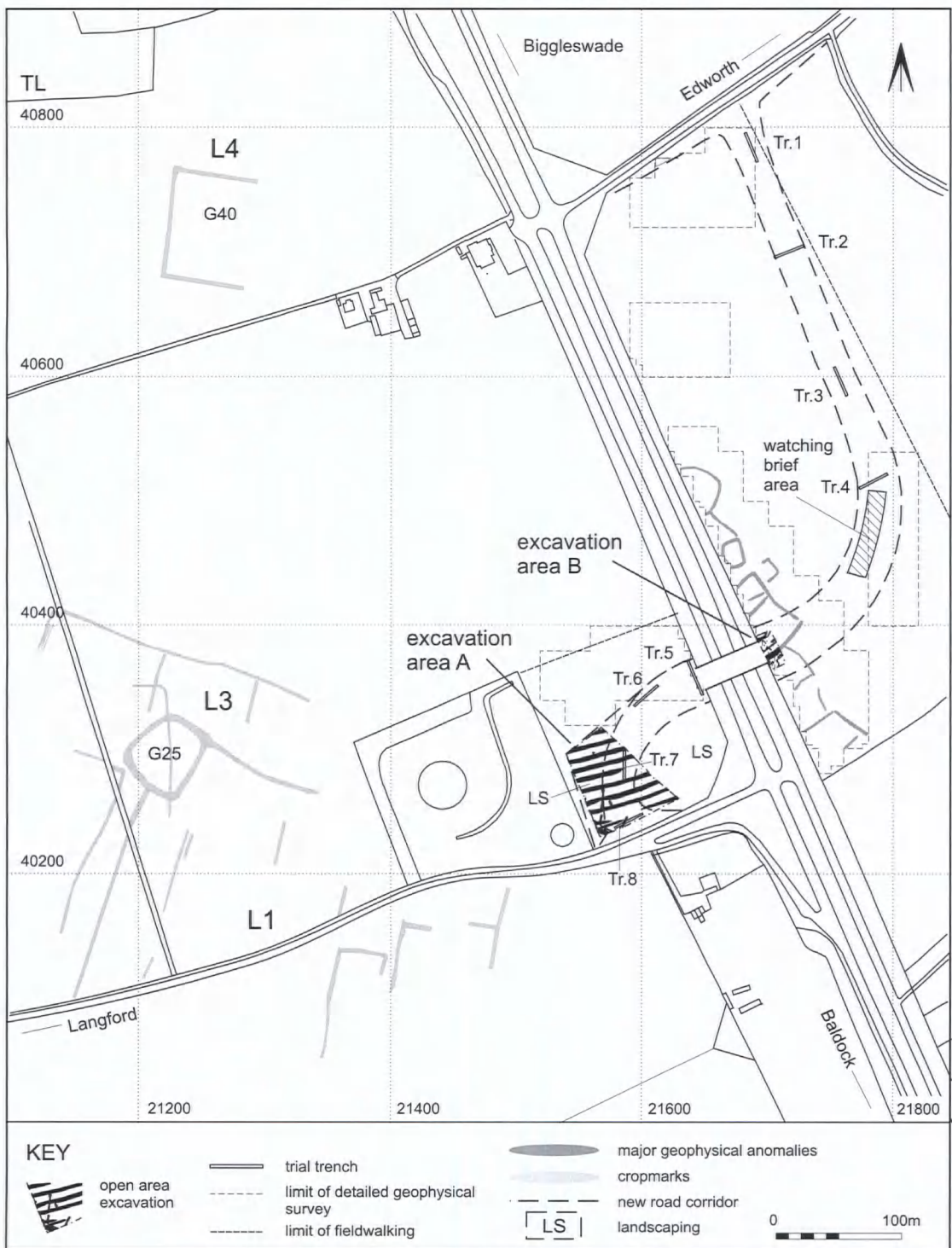


Figure 2 Areas of different types of archaeological investigations, with peripheral cropmarks only

Area was known to contain undated cropmarks (HER 524) to the E of the A1 which itself marked the line of a Roman road (HER 505). Presumed Roman artefacts were discovered in the vicinity during construction work on the Great North Road in the 19th century, although no precise location is known.

Numerous cropmarks have been identified in the vicinity of the Study Area within Bedfordshire and Hertfordshire suggestive of enclosed settlements (Fig 1). Although a few of these have been dated to the Roman period on the basis of pottery recovered from the ploughsoil, the majority are undated. The only proven early-middle Iron Age sites in the vicinity are located 1km to the SW, 4km to the S at Norton Road, Stotfold, Beds. (Albion in prep.) and at Blackhorse Road, Letchworth, Herts. (Moss-Eccardt 1988, 67). Three hillforts occur within 10km of Topley's Hill: Arbury Banks (Beldam 1859) 5km to the SE in Hertfordshire and Caesars Camp and Sandy Lodge (Dyer 1971) both of which lie at Sandy to the N of Biggleswade and are also presumed to have been established by the early Iron Age.

THE ARCHAEOLOGICAL INVESTIGATIONS

A staged programme of archaeological investigations was undertaken with the results of the earlier stages determining the nature of the next stage (Fig 2). The overall results are presented together as the main section of this report. However, it is worth summarising the variety of archaeological techniques that were used during the evaluation, as the effectiveness of these is explored in greater detail later in the Discussion.

A Brief was issued by the CAO for each stage of investigation, stipulating the methods and extent of the archaeological works. These, along with the BCAS Project Design and report for each stage of the investigation are in the project archive.

NON-INTRUSIVE EVALUATION

This was deliberately undertaken over a larger area than would ultimately be required for the junction improvements to provide an opportunity to minimise the destruction of archaeological remains. A summary of the results is presented below but full details are contained in the Stage 1 Evaluation Report (BCAS 1998).

Aerial Photographic Analysis

All aerial photographs held by BCC HER, Cambridge University Collection of Aerial Photographs and the National Library of Air Photographs were examined. Those taken in 1996

(verticals) proved to be the most productive (Aerofilms 96C/565/1775 and 1776). All aerial photographs revealing cropmarks were rectified, if necessary, and converted to a digital format. Visible cropmarks, whatever their perceived origin, were then drawn. The resulting plot was compared to modern and historic maps to determine those features of recent origin.

Immediately E of the A1 cropmarks were visible suggesting the presence of three ditched enclosures. In the subsequent analysis these are designated L5, L6 and L14. Approximately 450m to the W of the A1 two additional enclosures, designated L3 and L4, and a probable ditched field system were identified (Fig 2).

Cropmarks were interpreted as being of geological origin if they exhibited an irregular pattern and were generally lighter in appearance. Unfortunately these shared the same SW-NE alignment as those considered to be part of the early-middle Iron Age field system L1 (*see below*).

Geophysical Survey

GSB Prospection carried out a magnetometry survey during early August 1998 (GSB Prospection 1998). The entire Study Area was scanned along traverses spaced at intervals of c. 10m. Following discussion of the results between GSB, BCAS and the CAO detailed survey was undertaken in five blocks totalling c. 4ha.

The geophysical survey confirmed the location of ditched enclosures to the E of the A1. However, rather than the three enclosures suggested by the cropmarks, up to eight interlinked enclosures were identified. In addition pit- and ditch-type anomalies suggestive of evidence for settlement activity were identified within many of the enclosures (Fig 3).

Field Artefact Collection

Approximately 11ha were subject to field artefact collection. This was undertaken during September 1998, two weeks after ploughing (W of A1) and after harrowing (E of A1). Experienced archaeologists walking 20m apart collected all artefacts within a 1m strip.

The recovered assemblage comprised 86 sherds of pottery and 628 fragments of brick/tile (mainly medieval and post-medieval in date), along with 32 pieces of worked flint and a fragment of rotary quern. The small quantity of pre-medieval artefacts makes any perceived concentrations unreliable. However, all but one of the 11 Roman pottery sherds derived from the field to the E of the A1.

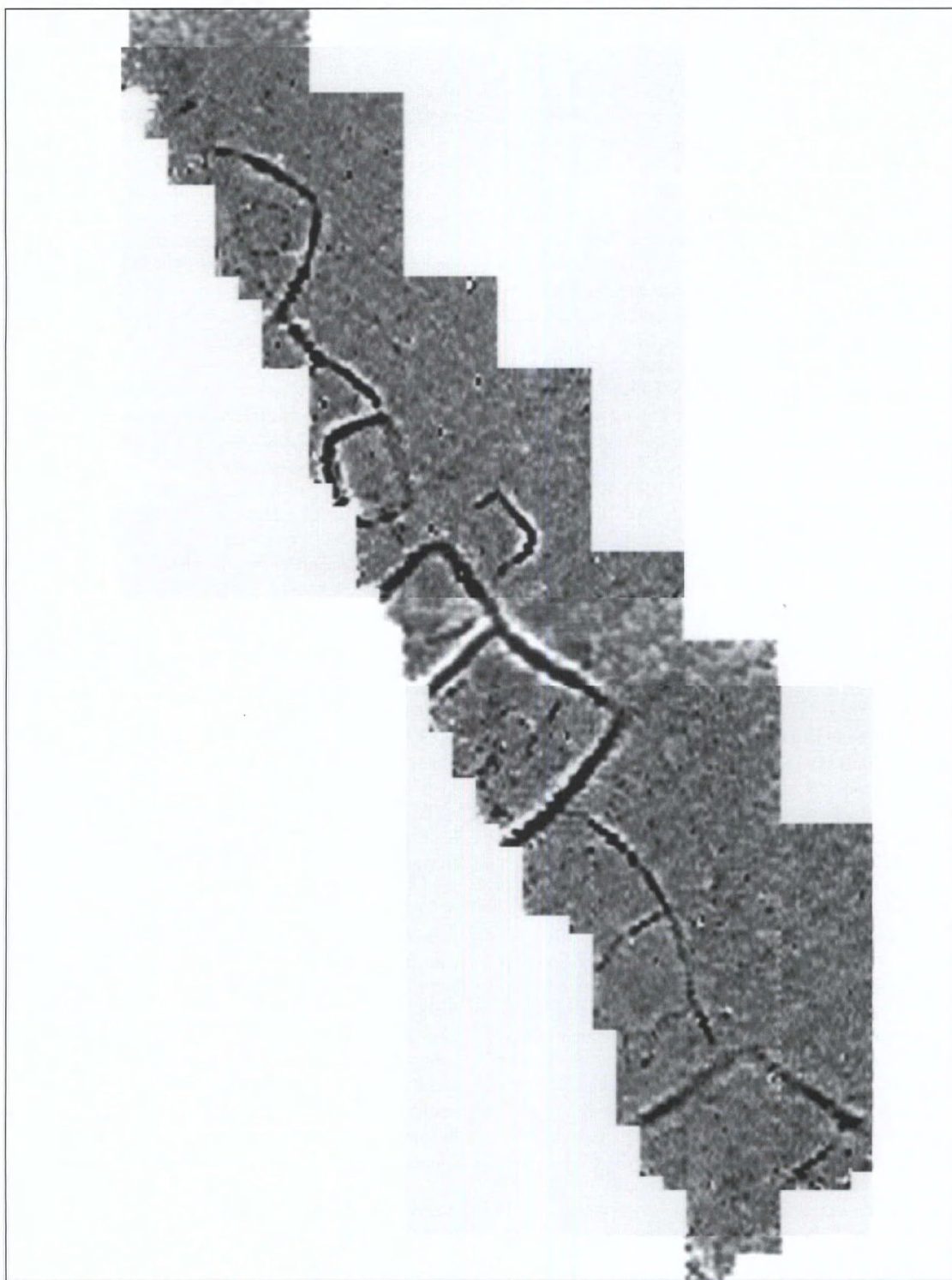


Figure 3 Geophysical survey greyscale image: settlement enclosure

INTRUSIVE EVALUATION

Following discussions between the Highways Agency, the design engineers URS Corporation Ltd and the CAO, the route of the road and construction method were amended to avoid, where possible, extensive destruction of the archaeological remains located by non-intrusive evaluation. The CAO stipulated that trial trenching was only required within the road corridor where topsoil was to be removed prior to construction (Fig 2). As a result eight trial trenches (25m or 30m in length) were dug in September 1999 (BCAS 1999).

Only a small number of archaeological features were located. Trial trench 8, adjacent to the Langford Road on the W side of the A1, contained evidence for late Bronze/early Iron Age activity in the form of features and pottery. Trenches 5, 6 and 7, also W of the A1, contained medieval furrows, but no finds. No features or finds were identified in Trenches 1, 2, 3 and 4 to the E of the A1.

MITIGATION STRATEGY

Preservation in situ

The evaluation had identified two areas of archaeological significance: undated enclosures believed to be part of a Roman roadside settlement E of the A1 (BCAS 1999, 18) and late Bronze Age/early-middle Iron Age activity adjacent to the Langford road (BCAS 1999, 17). Where feasible, the impact of the road scheme was minimised. For example, the width of the new road to the E of the A1 was restricted. Its low embankment was designed in such a way that it was not necessary to remove topsoil. Where no engineering solution was possible open area excavations were undertaken.

Open area excavations

Open area excavations took place during September 2000 in two areas. Area A was c.0.4ha in extent and located to the W of the A1. In this area the new road was to be constructed in a cutting with substantial landscaping on either side. Area B was much smaller (30m x 13m). It was located adjacent to the E side of the A1 on the site of the eastern bridge abutment for the new road.

All hand excavation and recording were carried out in accordance with the BCAS *Procedures Manual* (BCAS 2000a). The site recording sequences started during the evaluation were continued. All isolated archaeological features were half-sectioned. Ditches were subject to segment excavation; those directly associated with settlement were more intensively investigated.

Watching brief

Topsoil stripping was permitted away from known archaeological remains. A 70m stretch of the new road was examined but no features or artefacts were identified.

Assessment

On completion of the fieldwork, a MAP 2 style assessment of the potential of the site archive for further analysis was produced and submitted in December 2000 (BCAS 2000b). This included an Updated Project Design, which was approved by the CAO and The Highways Agency in March 2001, after which post-excavation analysis commenced.

POST-EXCAVATION METHODOLOGY

To maximise the information obtainable from the site, all cropmarks and geophysical anomalies likely to be of archaeological origin were assigned context numbers and incorporated into the structural analysis. A structural hierarchy was then defined. This comprised:

- sub-groups (indivisible unit of interpretation, e.g. the primary fills of the same ditch);
- groups (more interpretative entities, e.g. a building or concentration of pits or boundary ditch);
- landscapes (a collection of broadly contemporary and spatially coherent groups, e.g. an enclosure and the activity it contains, or a field system);
- phases (broad, chronological divisions, e.g. early-middle Iron Age).

STRUCTURE AND TERMINOLOGY IN THIS REPORT

After this introductory section, this report presents the results of the investigations within a chronological framework. The site narrative is arranged by Landscape (L prefix) and Group (G prefix), and where necessary a feature number is provided and labelled on the illustrations (see above). Along with describing the archaeological features the site narrative integrates a summary of the artefactual and eco-factual information, which is presented in more detail within individual sections for the various specialisms. The final section of this report discusses the results of the investigations and the techniques used during the evaluation stage of the project.

RESULTS OF THE INVESTIGATIONS

Rob Edwards and Mike Luke

Two major elements of the landscape were identified during the investigations: a settlement and a field

system. The restricted nature of the trial excavation and open area excavation makes it impossible to present a detailed phasing sequence. However, early-middle Iron Age pottery was recovered from the excavated parts of both the settlement and field system, suggesting that they were broadly contemporary. Due to the small percentage of the settlement and field system excavated it is always possible that the full chronological complexity is understated in this report.

The results are presented under two main headings: the settlement (E of the A1) and the field system (W of the A1). Any references to pottery refer to early-middle Iron Age pottery, although four groups also contained small quantities of residual late Bronze Age/early Iron Age material (see below).

THE SETTLEMENT (Fig 4)

This comprised eight interlinked enclosures, the majority of which contained some evidence for settlement-type activity. The overall alignment of the settlement was NW-SE and it was positioned at the top of land sloping down to the NE. Assuming that the settlement was restricted to the area of the ditched enclosures its N and E limits were identified. However, its W limit had been destroyed by the A1 and therefore the full extent of the enclosures is unknown. To the S the enclosures appear to continue beyond the limit of the Study Area. The known extent of the settlement is c. 0.8ha.

The layout of the enclosures suggests that they can, broadly speaking, be divided into four units, three to the south (L14, L13 and L6) which are rectangular and one to north (L5) which is circular. No obvious gaps or entrances in the ditched boundaries were detected within the geophysical survey, possibly indicating that they were located on the destroyed W side. Many of the enclosures exhibited evidence for internal sub-divisions.

Although the open area excavation was tiny (5%) when compared to the rest of the known settlement, it provided valuable information. A number of typical settlement elements (buildings, pits, postholes and boundaries) were identified. This suggested that the geophysical anomalies within the enclosures were also likely to be settlement-type features. In addition, one of the major enclosure ditches was investigated. This and the other excavated features contained occupation debris including pottery, fired clay, worked flint and animal bone. Over 90% of the pottery dates to the early-middle Iron Age. A similar date is likely for the other enclosures given their interlinked arrangement. The pottery assemblage

cannot be closely dated, but it is clear from the intercutting nature of some features that occupation was not confined to a single episode.

The enclosures are described below from S to N.

The southernmost enclosure L14

This sub-rectangular enclosure clearly continued beyond the Study Area. It was defined by a substantial ditch-like geophysical anomaly G72, which also showed up as a cropmark. An additional ditch-type anomaly G71 may represent an internal sub-division. No settlement-type anomalies were identified within the enclosure.

Enclosure ditch G72

The ditch-type geophysical anomaly was up to c. 2.3m wide with no obvious breaks to suggest the location of entrance-ways.

Internal ditch G71

A NE to SW aligned ditch-type anomaly parallel to the N boundary of the enclosure was c. 15m long and up to c. 1.5m wide. It did not appear to continue across the entirety of the enclosure. Unfortunately it was located at the limit of the geophysical survey making further interpretation unreliable.

Additional southern enclosures L13 (Figs 4 and 5)
Ditch-type anomaly G75 is linked with enclosures L6 to the N and L14 to the S. The enclosure appears to have been divided in half by ditch-type anomaly G76.

A small part of the interior of this enclosure, adjacent to its N boundary G50, was subject to open area excavation. Minor ditch G48 was parallel to G50 but c. 1.7m to the S. In one place its alignment made a dramatic kink to the SW, presumably to avoid a structure or some other activity. Posthole G64 may be the only evidence for this activity. Between minor ditch G48 and the enclosure ditch G50 was an alignment of five pits G66 (two of which intercut). Evidence for settlement-type anomalies elsewhere within the enclosure was restricted to a single pit-type anomaly assigned to G77 and two possible penannular ditch-type anomalies G73 and G74. The latter may indicate the location of two roundhouses.

The fills of the excavated features yielded 10 sherds of pottery (from five vessels weighing 45g). Functional attributes are restricted to a single externally sooted sherd, indicative of vessel use in a domestic capacity.

Enclosure ditch G75

G75 comprised a NW to SE aligned geophysical ditch-type anomaly, extending for c. 62m and c. 1m wide. A number of breaks were visible but the significance of these is uncertain.

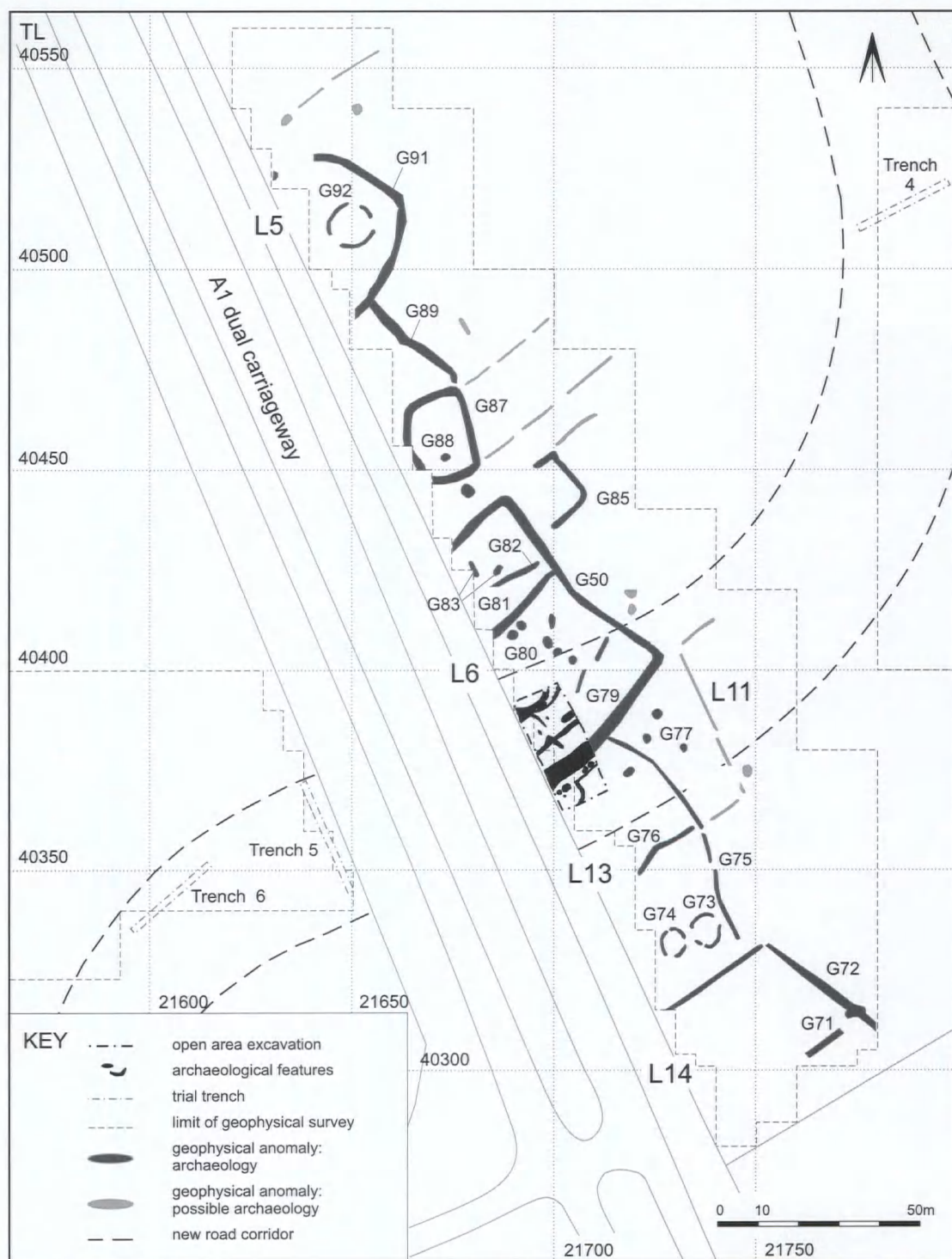


Figure 4 Plan of the settlement

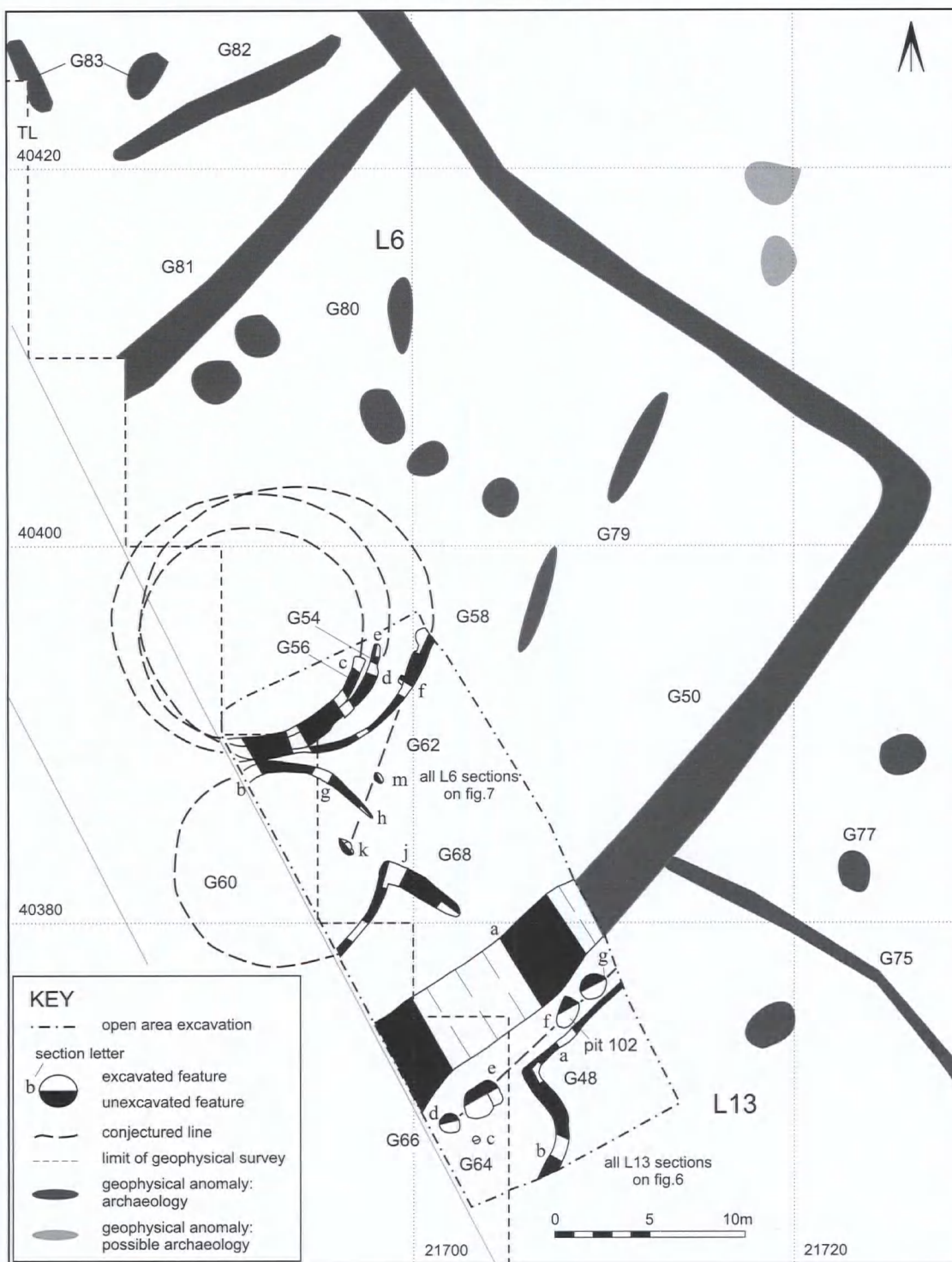


Figure 5 Detail of enclosures L6 and L13 (including detail of excavation area B)

Internal ditch G76

G76 comprised a NE to SW aligned ditch-type anomaly, curving slightly but broadly parallel with the enclosure ditches to the N and S. It was c. 19m long and c. 1m wide. A very weak linear anomaly to the E of the enclosure may be a continuation of this feature.

Internal boundary G48

G48 was a minor ditch, identified within the open area excavation and continuing beyond its limits. It was aligned NE to SW, initially parallel to enclosure ditch G50 before kinking to the S. It was up to c. 0.5 wide and c. 0.2m deep, generally becoming wider and deeper within the kink to the S (contrast Fig 6a with Fig 6b).

It contained two fills (G49) probably derived from natural processes, but containing three sherds of pottery from the same vessel (weighing only 7g) and 17 fragments of animal bone. Environmental sample 10 contained occasional charcoal and molluscs.

Posthole G64

G64 was an isolated, circular, concave posthole c. 0.4m in diameter and c. 0.2m deep. Its fill G65 contained medium sized stones which may have originally been used as packing around the post (Figure 6c).

Pit group G66

G66 comprised five sub-circular pits with concave sides and flat, irregular or concave bases. They were all under c. 1.6m in length, between c. 0.45m and c. 1.5m in width and under c. 0.3m deep (Figure 6d-g). Two of the pits inter-cut (Figure 6e) but the others were spaced fairly evenly. A sterile primary fill was identified within only one pit. Their main fills G67 contained seven sherds of pottery (from four vessels, weighing 38g) and eleven fragments of animal bone. Two small fragments of human bone were recovered from pit 102, which also contained two of the seven pottery sherds. Environmental sample 11 from this pit produced occasional charred cereal grain, chaff and charcoal.

Roundhouses G73 and 74

Two interrupted penannular geophysical ditch-type anomalies, c. 7m in diameter, c. 0.6m wide, were located to the S of the enclosure only c. 1.5m apart. They may represent gullies associated with roundhouses. Although gaps in the anomalies to the N, E and SW were visible they cannot be reliably interpreted as entrances.

The central enclosures L6 (Fig 5)

This sub-rectangular enclosure was defined by a ditch-type geophysical anomaly G50. No obvious breaks were visible to suggest the location of entranceways. The interior of the enclosure was subdivided by a ditch-type geophysical anomaly G81. Less pronounced linear anomalies G79 and G82 might represent additional internal boundaries.

A small part of the enclosure adjacent to the S boundary ditch G50 was subject to open area excavation. Penannular drainage gullies suggest the presence of two roundhouses G56 and G60. The gully around the former was recut at least twice G54 and

G58. The other was associated with a short deep gully, which may have functioned as a soakaway. Three postholes G62 were located, one of which was truncated by one of the drainage gullies. It is clear, therefore, that settlement in this area lasted more than a single episode. To the N of the excavated area pit-type geophysical anomalies G80 and G83 suggest activity took place elsewhere in the enclosure.

Fills of the excavated features yielded 132 sherds of pottery from 62 vessels (weighing 930g) representing 50% of the overall assemblage. The majority of this was derived from ditch G50 and its fills.

Enclosure ditch G50

The southern boundary ditch G50 was investigated within the open area excavation. It was c. 4.3m wide and c. 1.5m deep, with a U shaped profile, convex sides and a convex base (Fig 7a). The latter was suggestive of recutting although no clear evidence for this was detected in the filling sequence.

Its primary fills comprised yellow brown silty clay with rare small sized stones probably derived from slumping of the sides. This contained six pottery sherds from six vessels (weighing 36g) and two fragments of animal bone. Environmental sample 12 produced occasional charred cereal grain, chaff, weeds and charcoal. The secondary fills G51 and G52 were both brown grey silty clays with occasional charcoal flecks and small stones (Fig 7a). Fill G51 contained included 12 pottery sherds from the same vessel (weighing 71g) and seven fragments of animal bone. Environmental sample 13 produced occasional charred cereal grain, weeds, charcoal and molluscs. Fill G52 contained nine pottery sherds from two vessels (weighing 84g), along with three fragments of animal bone and a small quantity of fired clay.

The tertiary fills G53 were compact grey brown silty clay with frequent small to medium sized stones and occasional large stones (Figure 7a). They contained significant amounts of domestic refuse (pottery, a core, 5 flint flakes, 54 fragments of animal bone, shell and struck flint) suggesting they may have been deliberately dumped. The pottery comprised 44 sherds from 14 vessels (weighing 242g). The occurrence of three cross-matches in the pottery recovered from secondary and tertiary fills supports the suggestion of deliberate infilling of the ditch, which may have been fairly rapid.

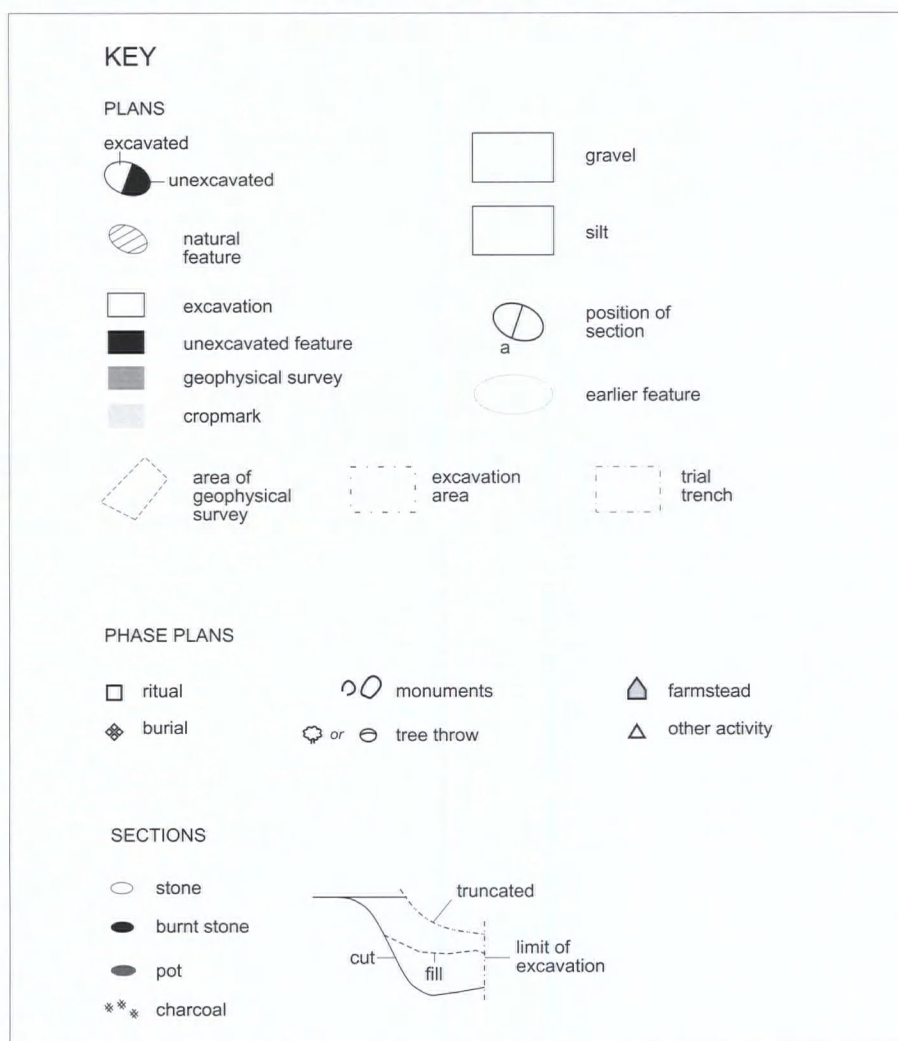
The nature and location of the fills gave no indication of the position, or even presence of a bank. However, the digging of the ditch would have produced a large quantity of material making it very likely that a bank was constructed. Due to the close proximity of pits G66 on the S side of the ditch, it is perhaps more likely that a bank would have been located on the N side.

Internal divisions G79, G81 and G82

Geophysical linear anomaly G81 probably represents a major sub-division of the enclosure. The function of two intermittent geophysical anomalies G79 and G82 is less clear, although they may indicate further sub-divisions.

Roundhouse G56

Penannular ditch G56 in the NW corner of the open area excavation continued beyond the limit of excavation. It had a U shaped profile with a concave base, was between c. 0.45m and c.



Key to Plans and Sections

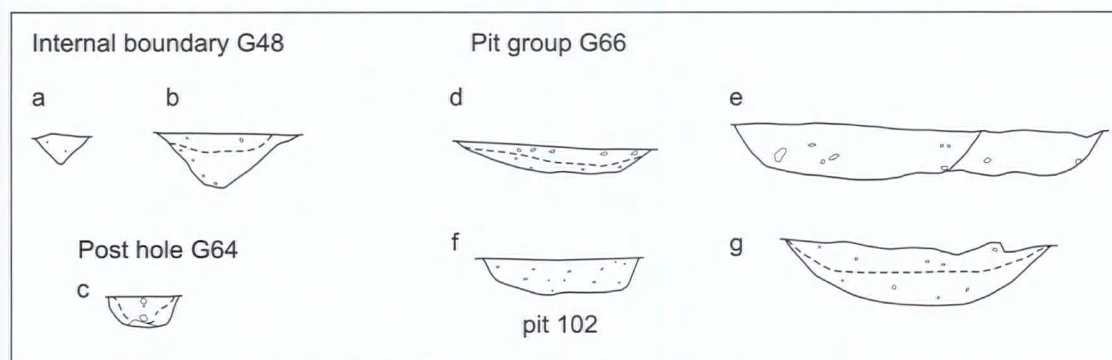


Figure 6 Enclosure L13 selected sections

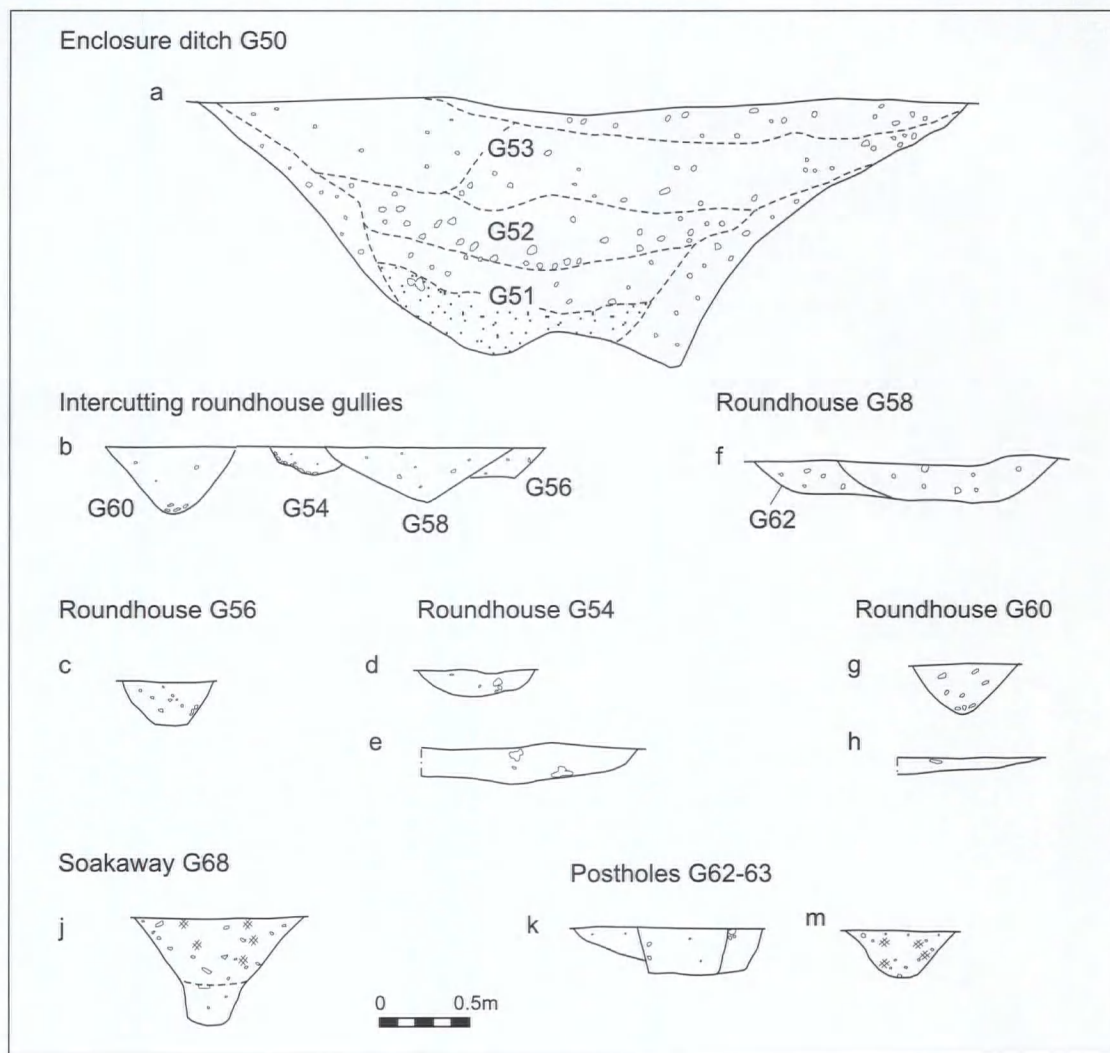


Figure 7 Enclosure L6 selected sections

0.8m wide and under c. 0.3m deep (Figure 7b and c). It is believed to represent a drainage gully defining a roundhouse with a maximum projected diameter of c. 13m. It had a square terminal to the NE suggesting an E facing entrance. A primary fill comprising yellow brown silty clay with occasional charcoal flecks was identified in only one excavated segment.

The main deposit G57 within the gully was dark grey brown clay silt, with occasional small to medium stones (some burnt) and occasional charcoal and chalk flecks. Domestic debris (pottery and 24 fragments of animal bone) was predominantly derived from the two segments closest to the terminal. For example eight of the ten pottery sherds, all from different vessels (weighing 125g), and 21 of the animal bone fragments were derived from the terminal, despite the hand excavation of three other similarly sized segments along this ditch. Environmental sample 9 produced occasional charred cereal grain, weeds and molluscs, but abundant charred cereal chaff and charcoal.

Redigging of roundhouse drainage gully G54 and G58

It appears the drainage gully surrounding roundhouse G56 was redug on two occasions, initially as G54 and then G58. These were dug slightly to the S, but on a similar curving alignment. They had concave profiles, occasionally with a flat base, and were under c. 0.3m deep (Fig 7b, d, e and f). Both were more variable in width than the original gully. G54 was mainly c. 0.3m wide but widened to c. 1.2m at the NE while G58 was between c. 0.4m and c. 0.9m wide, also getting narrower to the NE. If the roundhouse had been rebuilt along with the recutting of the drainage gully, its diameter could have been increased up to a projected maximum of c. 18m. Both gullies appear to have terminated to the NE (Figure 7e) suggesting the retention of the original E-facing roundhouse entrance.

Within both gullies the yellow brown silty clay primary fills contained charcoal and burnt clay flecks, but only G54 contained pottery (two sherds from one vessel weighing 43g).

Again, a primary fill was not identifiable in every excavated segment. The upper fills G55 and G59 comprised a dark grey brown silty clay, with occasional small to medium stones, along with flecks of charcoal, chalk and burnt clay. However, there was more domestic debris (pottery and seven fragments of animal bone) within gully G58 than G54. Of the seven recovered pottery sherds (from six vessels and weighing 43g) all but one were from the terminal segments, despite the hand excavation of three other segments. A core fragment was recovered from G54.

Roundhouse G60 with soakaway G68

Penannular gully G60 continued beyond the excavation area to the W and had a projected diameter of c. 10.5m. It was under c. 0.3m deep with a U shaped profile, c. 0.5m wide (Figure 7g and h) and therefore comparable to the drainage gullies surrounding roundhouse G56. The two ditch terminals on the E side, one with a distinct taper in plan, created an entranceway c. 3m wide. The S terminal incorporated a sub rectangular pit G68, c. 4.85m long and under c. 1.1m wide, which narrowed and deepened to c. 0.6m at the SE.

A grey brown silty clay primary fill was only identified in one of the five excavated gully segments. It contained two sherds from one vessel (weighing 19g). The main fill G61 was a dark brown grey sandy clay with occasional small stones and domestic debris (pottery, 7 fragments of fired clay and 13 fragments of animal bone). The distribution of the 13 sherds (from eight vessels weighing 79g) did not appear to concentrate near the terminals. The filling sequence within pit G68 was similar. The secondary fills G69 and G70 contained a relatively large quantity of domestic debris (pottery, 11 fragments of animal bone and fired clay). The pottery comprised 26 sherds from 12 vessels (weighing 174g).

Postholes G62

Three postholes G62, c. 4m to c. 5m apart, were identified within the excavation area. They were sub-oval to sub-rectangular, with concave or steep sides and flat or concave bases, with diameters between c. 0.25m and c. 1.1m. They were under c. 0.25m deep (Figure 7f, k and m). Posthole 235, situated in the vicinity of the entranceway into roundhouse G60, contained a suggestion of a postpipe comprised of soft dark silty clay surrounded by compact lighter silty clay (Figure 7k). Posthole 246 is truncated by drainage ditch G58 (Fig 7f) clearly demonstrating that these cannot be contemporary. The function of the three postholes is uncertain. They could be unrelated although they do form an approximate SW to NE alignment.

Pit Groups G80 and G83

Two groups of geophysical pit type anomalies were identified. Adjacent to possible internal subdivision G81 was a group of six anomalies G80, between c. 1.8m and c. 3m in diameter. The second group G83 was located to the N of the possible internal subdivision G81 and comprised just two anomalies, between c. 2.7m and c. 4.2m in diameter.

The northern enclosures L5 (Fig 4)

Three interlinked enclosures are indicated by ditch-type geophysical anomalies. The northern one G91 is sub-circular in plan and represents the N extent of the enclosed settlement. Within the interior a penannular geophysical ditch-type anomaly G92 probably

defined a roundhouse. Approximately 28m to the S a small sub-rectangular enclosure G87, c. 20 by 15m, was revealed as a geophysical ditch-type anomaly. It contained one pit-type geophysical anomaly G88. Geophysical ditch-type anomaly G89 connected these two creating another enclosure. No evidence for activity was identified within this enclosure.

Enclosure ditch G91

The geophysical ditch-type anomaly G91 was up to c. 2.2m wide and continued beyond the limit of the geophysical survey.

Roundhouse G92

An interrupted penannular ditch-type geophysical anomaly, c. 1m wide, is interpreted as a drainage gully surrounding a roundhouse. Its projected diameter is less than c. 10m. The gaps visible in the anomaly may suggest doorways to the N, E or SW.

Enclosure ditch G87

The geophysical ditch-type anomaly G87 was c. 1.7m wide and defined a sub rectangular enclosure with no obvious breaks that could represent entranceways.

Pit G88

Within enclosure G87 was a geophysical pit-type anomaly G88 c. 2.2m by c. 1.7m.

Enclosure ditch G88

Geophysical ditch-type anomaly G88 connected ditches G87 and G91. It was up to c. 2.5m wide with no obvious breaks.

Peripheral activity L11

The geophysical survey identified a small number of ditch- and pit-type anomalies to the E of the enclosures. Ditch-type anomaly G85, to the NE of L6, is likely to have defined another small enclosure comparable to G87. Of the other strong responses only pit-type anomalies G77 were convincing as archaeological features. There is probably sufficient evidence to suggest some human activity took place to the E of the settlement, but its nature and date are unknown.

Enclosure ditch G85

This ditch-type geophysical anomaly c. 1.1m wide defined a sub-rectangular enclosure. It was situated to the NE of L6 and shared a similar alignment. There appeared to be gaps in both the SE and NW arms adjacent to enclosure L6. While these could represent genuine entranceways they may be due to the very high readings generated by enclosure ditch G50. No internal anomalies were identified.

Pit group G77

Three of the four geophysical pit-type anomalies G77 were situated to the E of enclosure ditch G75. They were c. 2.5m in diameter and were located within 9m of each other suggesting they may represent a cluster of pits.

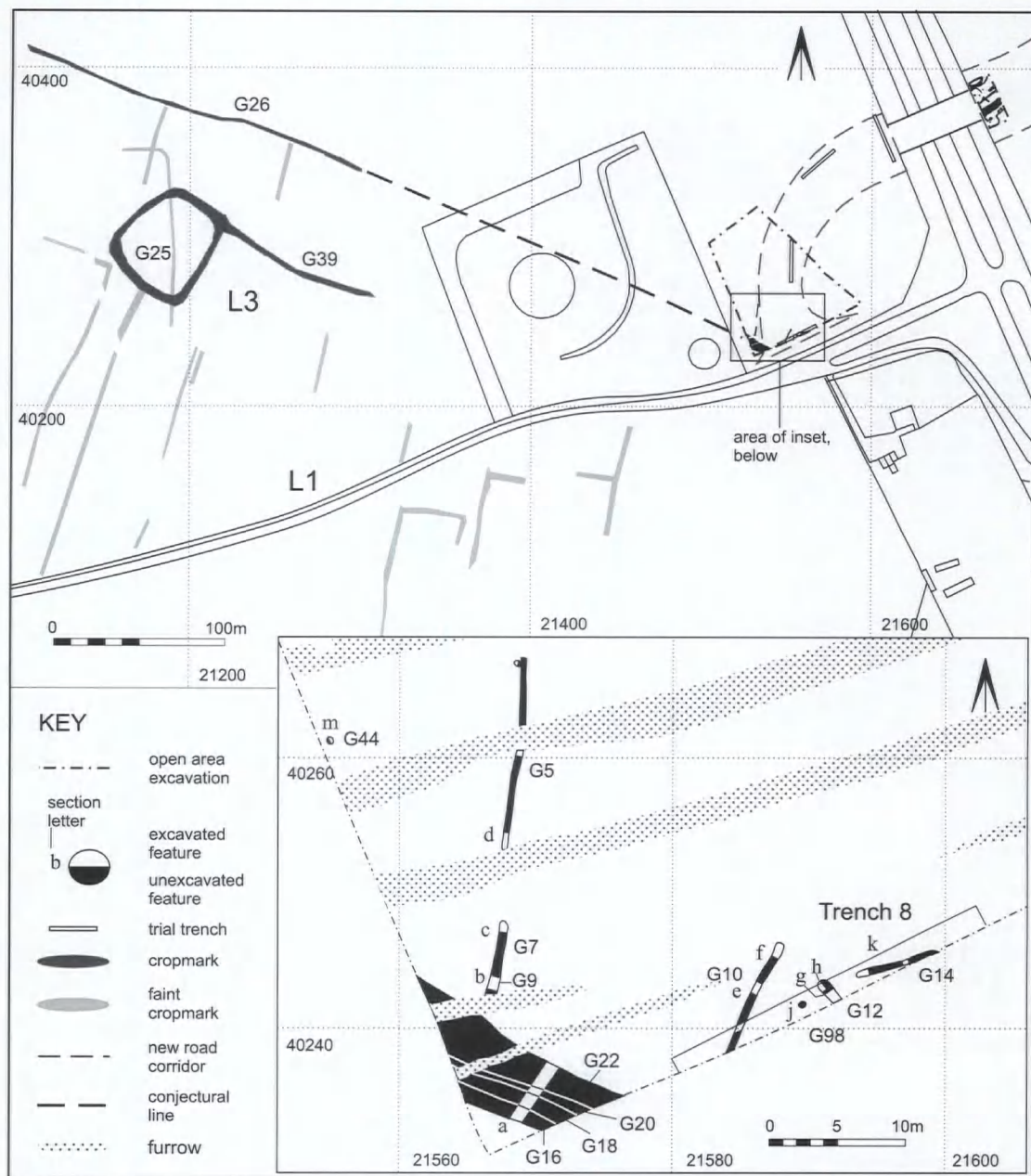


Figure 8 Field system L1 (including detail of excavation area A)

Other ditches

Weak ditch-type geophysical anomalies occurred to the SE of L6. None were convincing but one could represent the continuation of G76 beyond the enclosure system.

THE FIELD SYSTEM AND ENCLOSURES (Fig 8)

A field system, mainly identified from aerial photographs, extended over at least 10ha to the W of the settlement. In addition a number of discrete enclosures were identified within it, although these may

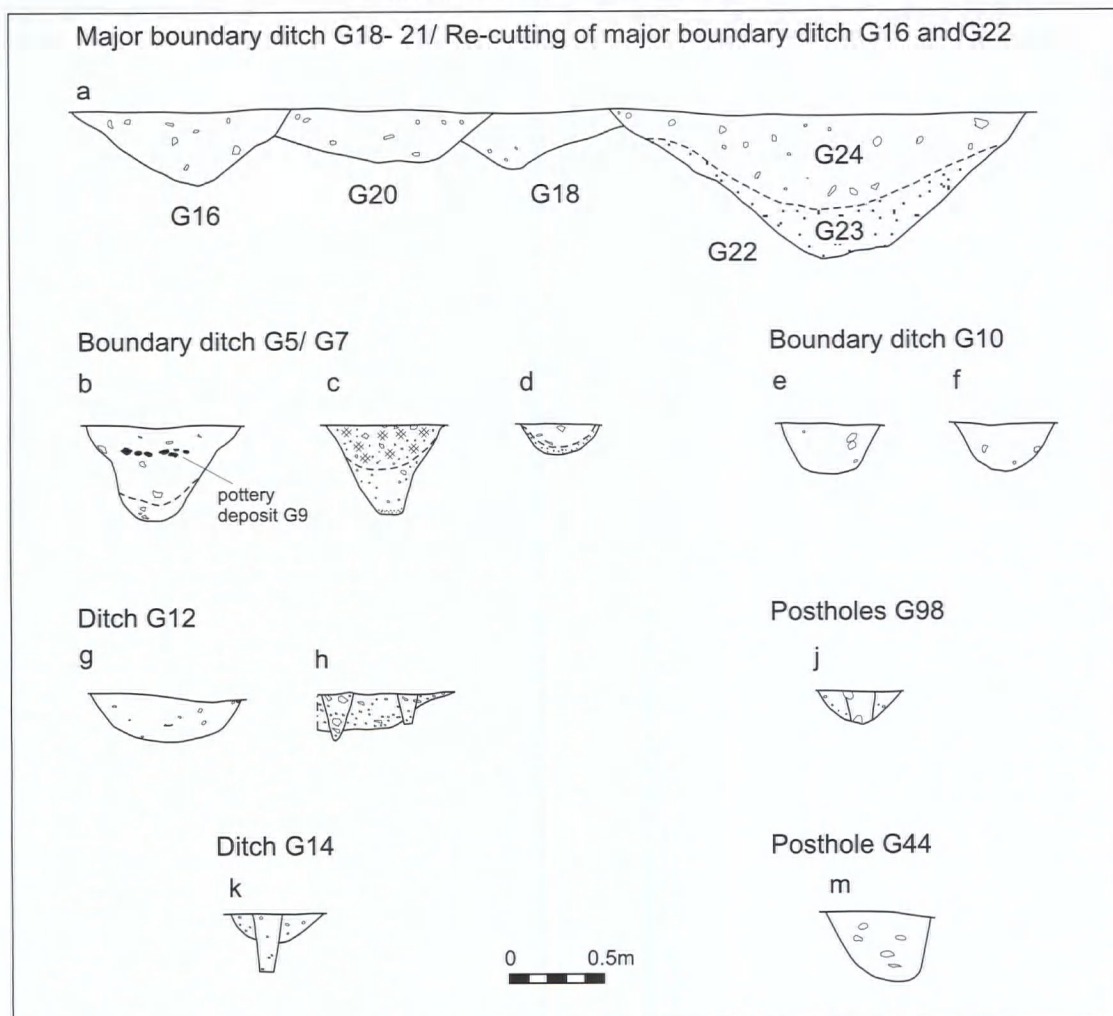


Figure 9 Field system L1 selected sections

not be contemporary. While it is obviously impossible to date the cropmarks, the excavated field boundaries within open area excavation A suggest that these, at least, are contemporary with the settlement.

Field system L1 near settlement

A series of ditches were located *c.* 170m from the settlement (within open area excavation A). Their layout and relationship with the more extensive cropmarks to the SW suggest they were part of the field system rather than being associated with a settlement.

A major boundary is indicated by a NW-SE ditch G18 which was recut on at least three occasions as G20, G16 and G22. The two latest re-cuts could have

been contemporary and formed a double ditched boundary. Perpendicular to the recut boundary were two alignments of N-S ditches (G5/7 and G10). Towards the S end of the former was a deposit G9 which contained a significant quantity of pottery. Three isolated postholes were also located.

Features associated with the field system L1 yielded 82 pottery sherds from 24 vessels weighing 416g, nearly half from deposit G9. The ditches G16/18/20/22 of the major boundary only produced 8 pottery sherds from 5 vessels (weighing only 15g), nearly all from environmental samples. The highly fragmented and abraded nature of the assemblage is consistent with a process of natural erosion and gradual infilling. Functional attributes are restricted

to a single sherd with external sooting, indicative of domestic vessel use.

Original major boundary ditch G20

The earliest major boundary ditch was truncated by the later recuts and was therefore only partially observed (Fig 9a). However, it appears to have been at least 1.1m wide and over 0.3m deep with a concave profile.

Recut G18 of major boundary

This recut was also truncated by a later recut but appeared very similar in dimensions and profile to the original ditch G20 (Fig 9a). It contained a single fill G19 which appeared to derive from gradual silting. Only two minute fragments of pottery were recovered. Environmental sample 7 from this produced occasional charred cereal grain and chaff, along with molluscs.

Recut G16 of major boundary

The southern ditch G16 in the sequence was 1.2m wide and 0.4m deep with a concave profile (Fig 9a). The fills G17 contained a single sherd of pottery and two fragments of animal bone. Environmental sample 6 produced occasional charcoal and molluscs.

Late recut G22 of major boundary

The northern ditch G22 in the sequence stratigraphically could have been contemporary with G16 or G18. It was larger at 2.2m wide and 0.75m deep, but again had a concave profile (Fig 9a). Its primary fill G23 contained a single tiny sherd and its main fill G24 five tiny sherds from one vessel. Environmental sample 5 from the latter contained occasional charred cereal grain, charcoal and molluscs.

Boundary ditch G5/G7

Two lengths of ditch on the same N-S alignment were situated to the N of the major boundary ditch. A gap of 5.2m existed between the two lengths with distinct terminals. The relationship with the ditch was uncertain due to disturbance by a furrow and the edge of excavation. Both had U-shaped profiles, G5 to the N was c. 0.5m wide and up to c. 0.2m deep, in contrast to G7 which was c. 0.8m wide and c. 0.5m deep (Figure 9b, c and d).

The fills G6 and G8 of both ditches contained occasional stones and charcoal flecks. Environmental samples 4 and 3 were taken from the ditch fills respectively, both containing charcoal but only the latter occasional charred cereal grains. A single fragment of animal bone was recovered from G8 but no pottery. The charcoal flecks became more evident within the fills to the S of both ditch lengths.

The only pottery recovered from this ditch length occurred in deposit G9 close to where ditch G7 would have joined the major boundary ditch (obscured by a furrow). Due to the quantity of pottery (32 sherds, weighing 243g) it was initially believed, during hand-excavation, to be part of a single vessel. However, subsequent examination of the assemblage clearly demonstrated that fragments from three separate vessels were present. The deposit also contained a single fragment of animal bone.

Boundary ditch G10

Approximately 17m SE of ditch G5/7 was a NE-SW ditch G10, which may have been associated. The ditch clearly terminated to the N within the excavation area and continued beyond the limit of excavation to the S. It had a U shaped pro-

file was c. 0.5m wide, and between c. 0.25m and c. 0.45m deep, generally becoming wider and shallower to the NE (Fig 9f and e). The main fill G11 contained occasional burnt stones, 10 fragments of animal bone, pottery and burnt clay. Twenty sherds of pottery from eight vessels (weighing 88g) were recovered but not from the terminal segment. Environmental sample 2 taken from this deposit produced occasional charred cereal grain and charcoal.

Ditches G12 and G14

Two additional features G12 and G14, situated on the S limit of excavation, are likely to be ditches. Both terminated within 4m of the terminal of ditch G10 suggesting an entranceway existed in this area (possibly into a small enclosure attached to the major boundary ditch). They had similar concave profiles, but differed in dimensions. Both had been damaged by recent agricultural activity. The NW-SE ditch G12 was 0.8m wide and 0.2m deep (Fig 9g and h), whereas SW-NE ditch G14 was 0.45m wide and only 0.1m deep (Fig 9k). Both were filled by deposits (G13 and G15), containing flecks of charcoal and burnt clay (15 fragments in ditch G14). Only fill G13 of G12 contained pottery, 13 sherds from 5 vessels weighing 36g. Environmental sample 8 from this produced occasional charred cereal grain and molluscs.

Postholes G42, G44 and G98

The only evidence for activity within the field system other than boundaries were three isolated postholes over 40m apart. Postholes G42 and G44 were located to the N of the excavation area and comprised sub-circular holes c. 0.55m in diameter and 0.1 and 0.4m in depth respectively. Both had U-shaped profiles and no evidence for a postpipe, although G44 did contain medium sized stones which may have originally been utilised as packing (Fig 9m). Their fills contained charcoal flecks and environmental sample 1 from fill G43 (of G42) produced abundant charcoal and occasional charred cereal grain. Fill G45 (of G44) contained five pottery sherds from one vessel (weighing 28g).

Posthole G98 was located adjacent to ditch G12. It was oval in shape with a diameter of c. 0.5m and had steep sides with a flat base at a depth of 0.15m (Fig 9j). Packing material comprised small stones and three sherds of pottery from two vessels (weighing 6g) defining a circular postpipe 0.2m in diameter.

Field system L1 to south-west

A series of faint linear cropmarks was visible on aerial photographs (Aerofilms 96C/565/1775 and 1776). Most were usually aligned SW-NE, but a small number ran NW-SE.

An integral part of the field system was a NW-SE ditch G26. Although all the perpendicular linear cropmarks appear to occur to the S, a small number of boundaries were located to the N within the excavation area. Ditch G26 would appear to correspond to the major ditched boundary G16/18/20/22 within the excavation area and although there is a c. 250m gap between the two, they are presumed to be part of the same boundary.

The plan of the field system gives the appearance

of "strip" fields, although the boundaries varied between *c.* 22m and *c.* 95m apart and possibly *c.* 100m in length.

A small number of the NE-SW boundaries are parallel and relatively close. While some may be double boundaries or recuts, others for example where the gap is only *c.* 6.5m may be trackways between fields.

Enclosures G25 (L3) and G40 (L4)

Two ditched enclosures, both *c.* 400m from the settlement, are indicated by cropmarks on aerial photographs (Aerofilms 96C/565/1775 and 1776).

Enclosure G25 was sub-rectangular in shape enclosing an area of 2,788 m² (Fig 8). No obvious breaks were identified to suggest an entranceway. Extending from the E side was a linear NW-SE aligned ditch-like cropmark G39 *c.* 130m in length. The position of the enclosure and associated ditch in relation to the field system suggests they are not contemporary. However, they share similar alignments, suggesting remnants of the former system may have influenced the layout of the enclosure.

Only three sides of enclosure G40 were clearly visible (Fig 2) and no entranceways were identified. It was probably rectangular in plan enclosing an area of *c.* 6,016 m².

LATER ACTIVITY

Late Iron Age and Roman

Five sherds of late Iron Age pottery, eleven sherds of Roman pottery and a fragment of rotary quernstone, which may be Roman in date, were found during field artefact collection. The distribution of this material was not significant and was not related to the location of buried archaeological remains.

Medieval and post-medieval

A regular pattern of furrows, *c.* 2.5m wide and *c.* 9m apart, was identified in both excavation areas (see Fig 2). These, and the 23 sherds of medieval pottery recovered during field artefact collection, suggest the Study Area was part of the open field system of Edworth during the medieval period.

THE ARTEFACT ASSEMBLAGE

Jackie Wells

The artefact assemblage recovered from field artefact collection, trial excavation and open area excavation is described in this section. Although not related to the settlement and field system, the post-Iron Age material is briefly summarised, as it has relevance to the review of methodologies and techniques.

POTTERY

Introduction

The open area excavation produced 242 sherds of pottery representing 103 hand-made vessels, weighing 1.5kg. Of these, 22 sherds (43g) derived from the residues of environmental samples. Ninety-one per cent of the excavated assemblage dates to the early-middle Iron Age period, and five per cent to the late Bronze Age/early Iron Age. The remainder is of post-Iron Age date, and derived from furrows G3 and modern features G96. This material has not been fully discussed.

Field artefact collection produced a further 86 sherds, (751g), ranging in date from the late "Belgic" Iron Age to the post-medieval periods (BCAS 1998, 19). A summary of this material is provided below, although it is not included in the tables or Type Series.

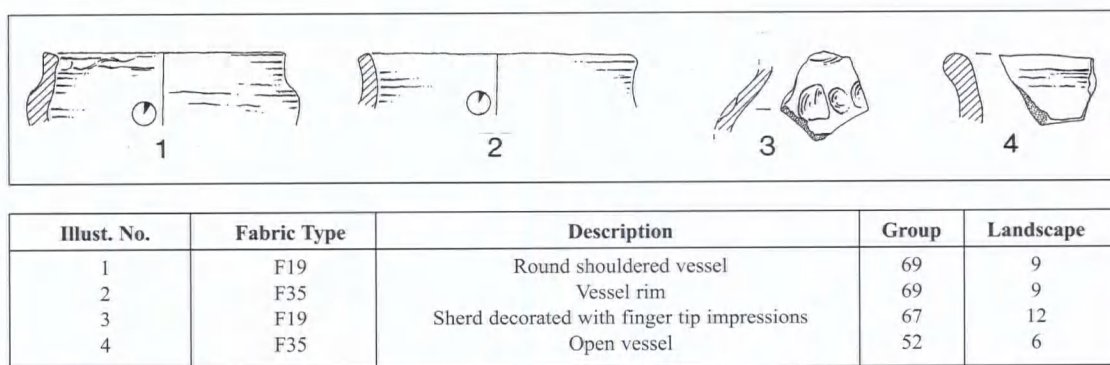


Figure 10 Illustrated pottery (1:4)

The proportions and types of fabrics recovered from excavated features are detailed in Table 1, which provides the structure for the ceramic discussion.

Methodology

Pottery fabric types were recorded using type codes and common names in accordance with the Bedfordshire Ceramic Type Series held by Albion Archaeology. Detailed descriptions are provided below only for the Iron Age fabrics. Quantification included minimum vessel and sherd count, and weight. Sherds deriving from the same vessel but from separate contexts (three such cross-contexts were noted) were counted as a single vessel.

The limited nature of the assemblage in terms of identifiable forms and decoration means that only four vessels have been illustrated (Fig 10). Standard drawing conventions have been used, with vessels shown at one quarter size, external view on the right and a section and internal view on the left. The pie diagram accompanying illustrations 1 and 2 indicates the proportion of the vessel recovered.

Type Series

Fabrics are summarised below in approximate chronological order. Full fabric descriptions are given only for those types not previously published. Bracketed figures after each fabric type denote a percentage of the total excavated assemblage.

F01B Fine Flint (5%)

Fabric - hard fired, rough fabric with variable orange-brown to grey surfaces and core. Occasionally reduced throughout. Contains abundant, well-sorted angular flint 0.5-1.5mm, sparse well-sorted fine sub-rounded quartz and red and black iron ore.

Forms - undiagnostic hand made vessels, one with fingernail impressions

F03 Grog and sand (1%)

Fabric - described by Slowikowski (2000, 61)

Forms - large jar or storage jar

F04 Organic (2%)

Fabric - described by Slowikowski (2000, 62)

Forms - undiagnostic hand made vessels

F16 Coarse Shell (2%)

Fabric - described by Slowikowski (2000, 63)

Forms - undiagnostic hand made vessels, one with fingertip impressions

F19 Sand and organic (22%)

Fabric - described by Slowikowski (2000, 63)

Forms - round shouldered, flat rimmed burnished vessels, with fingertip impressions and vertical or horizontal incised parallel lines

Illustration - Fig 10, nos. 1 and 3.

F28 Fine Sand (21%)

Fabric - Hard-medium fired, sandy or occasionally harsh to feel with even fracture. Colour varies; can be dark-grey throughout, or have mid brown or reddish brown surfaces. Contains abundant, well-sorted, rounded or sub-rounded, clear or milky-white quartz 0.1-0.4mm (occasionally up to 0.8mm); sparse, well-sorted, rounded, black and red iron ore 0.2-0.5mm. Additionally matrix may contain sparse, greenish glauconite inclusions 0.1-0.2mm

Forms - flat rimmed vessel, lugged or handled vessel, vertical or horizontal incised parallel linear decoration and burnishing.

F29 Coarse sand (1%)

Fabric - Hard-medium fired, harsh to feel with uneven fracture. Colour variable; may be dark grey throughout, or may have mid-brown or reddish brown surfaces. Contains abundant, moderate-poorly-sorted, rounded or sub-rounded, clear or milky-white quartz 0.5-1mm (occasionally very coarse-up to 3.5mm); sparse, well-sorted, rounded, black and red iron ore 0.2-0.5mm. Additionally matrix may contain sparse, greenish glauconite inclusions 0.1-0.2mm

Forms - undiagnostic hand made vessels

F30 Sand and calcareous inclusions (9%)

Fabric - Medium-hard fired, sandy to feel with even fracture. Typically reddish-brown surfaces and dark grey core, although may be dark grey or brown throughout. Contains abundant, well-sorted, rounded or sub-rounded, clear or milky-white quartz 0.2-0.4mm; well-sorted rounded calcareous inclusions 0.4-0.7mm. May also contain sparse quantities of fine black or red iron ore.

Forms - undiagnostic hand made vessels

F35 Micaceous (25%)

Fabric - fairly hard fired with smooth surfaces, reduced dark grey-black throughout. Characterised by the presence of abundant fine white mica, particularly visible on the external surface. Contains abundant, well-sorted sub-rounded fine quartz, 0.1-0.5mm, and rare elongated voids, up to 1.5mm in size, where organic matter has burnt out.

Forms - round shouldered, open, flat and rounded rim vessels, flat base, burnished and incised vertical linear decoration

Illustration - Fig 10, nos. 2 and 4.

Condition

The pottery survives in poor to moderate condition. Soil conditions have had a damaging effect on most fabric types, particularly those containing organic material, which are heavily leached. The incidence of abrasion is high, and in many cases, vessel surfaces are totally degraded. In addition, a small quantity of pottery visible within deposits on site proved unrecoverable due to its fragmentary and poor condition.

Differences in terms of abrasion, average sherd weight and vessel:sherd ratio between the settlement and field system assemblages were only slight. For example average sherd weight was 7g for settlement and 5g for field system, and vessel:sherd ratio was 1:2 for settlement and 1:3.5 for field system. The fig-

Group	Group description	Fabric Type										Total
		F01B	F03	F04	F16	F19	F28	F29	F30	F35	F	vess:sh:wt
49	Internal boundary G48						1:3					1:3:7
50	Enclosure ditch G50					1:1	1:1		1:1	3:3		6:6:36
51	Enclosure ditch G50									1*:12		1:12:71
52	Enclosure ditch G50				1:1		1:1			0*:7:		2:9:84
53	Enclosure ditch G50	1:2			1:1	1:2	4:5		4:4	3*:30		14:44:242
54	Roundhouse G54					1:2						1:2:43
55	Roundhouse G54					1:1						1:1:1
57	Roundhouse G56		1:1			2:2				1:1	6:6	10:10:138
59	Roundhouse G58					2:3	2:2			2:2		6:7:43
61	Roundhouse G60					2:3	3:4			3:6		8:13:79
67	Pits G66	1:2				1:1	1:2			1:2		4:7:38
68	Soakaway G68									1:2		1:2:19
69	Soakaway G68					2:6	1:2			3:9		6:17:94
70	Soakaway G68					3:4	2:2			1:3		6:9:80
9	Deposit in ditch G5/7			2:6			3:32					3:32:243
11	Boundary ditch G10	2:4					2:4	1:1	2:3	1:6		8:20:88
13	Boundary ditch G12					1:2				2:7		5:13:36
17	Ditch G16 recut major boundary									1:1		1:1:7
19	Ditch G18 recut of major boundary										2:2	2:2:1
23	Ditch G22 recut of major boundary								1:1			1:1:5
24	Ditch G22 recut of major boundary										1:5	1:5:2
45	Posthole G44									1:5		1:5:28
99	Posthole G98	1:2							1:1			2:3:6
4	Furrows G3											3:3:44**
1	Topsoil					1:2			2:4			3:6:27
97	Ungrouped features					4:5				1:3		5:8:48
96	Modern intrusions											1:1:7***
	Total	5:10	1:1	2:6	2:2	22:34	21:58	1:1	11:14	25:99	9:13	103:242:1517

* cross-contexts counted only once, ** all med/post-med, *** all unid.

Table 1 Pottery assemblage from the excavations, with settlement and field system Groups separated (sher:d:vessel count)

ures suggest the assemblage had been subject to extensive disturbance prior to final burial. This may have resulted from the dumping of pottery in mid-dens, the spreading of manure on the fields or even the use of pottery to provide areas of hardstanding within the settlement.

None of the pottery shows evidence for repair or modification, and very few sherds bear attributes relating to use, in the form of sooting, residues or wear marks.

Sizeable assemblages and cross-contexts

Three features yielded in excess of 100g of pottery; two from the settlement and one from the field system. Given the size of ditch G50 it is perhaps not surprising that its secondary and tertiary fills yielded 71 sherds from 23 vessels (weighing 433g), although it is noticeable the majority of this materi-

al derived from the upper tertiary fill G53 (Table 1). The pottery from the terminal fill of roundhouse ditch G56 is perhaps slightly more unusual when compared to the other three excavated segments which yielded only two sherds in total (weighing 13g). It comprised eight sizeable pottery sherds, all from different vessels in three different fabrics (weighing 125g) (Table 2).

Fabric Type	Vess:sh:wt
F	6:6:4
F03	1:1:114
F19	1:1:7
Total	8:8:125

Table 2 Pottery assemblage from the terminal of ditch G56

Deposit G9 within field system ditch G5/7 is perhaps the most unusual. It yielded 32 sherds from three vessels (weighing 243g) representing 40% by sherd and 60% by weight of all the pottery from the field system. The pottery was all in the same fabric (type F28), but three different vessels were present indicated by variation in sherd thickness, colour and inclusion quantity.

The incidence of cross-contexts was restricted to enclosure ditch G50, which contained 36 sherds from the same vessel spread across all fills. This may indicate the episodic infilling of the feature with material from a midden in the vicinity of the ditch.

Chronological discussion

The dating of the pottery assemblage is based on changes in form, decoration and to some extent fabric type. The transition from late Bronze Age/early Iron Age to early-middle Iron Age is marked regionally by three main changes that are reflected in the Topler's Hill pottery assemblage (Bryant 1997, 26). There was a change from the widespread use of flint as a tempering material to the use of sand and shell, along with the adoption of more rounded vessel profiles. In addition, external decoration becomes rare and where present comprises irregular scoring or fingernail/tip impressions.

Late Bronze Age/early Iron Age (5% of assemblage)

Five undiagnostic flint tempered vessels (type F01B) constitute the earliest fabrics identified. One of these was recovered from ditch G12 and two from post-hole G98 W of the A1. The remainder derived from enclosure ditch G50 and pits G66 E of the A1.

Early-middle Iron Age (91% of assemblage)

Fabric

This group comprises a consistent assemblage of mainly quartz-rich fabrics. The predominance of the latter may, in part, indicate the greater suitability of these types for the manufacture of an increasing range of Iron Age vessel forms. It also, however, attests the influence of local geology upon pottery manufacture. The fabric types are broadly consistent with those recovered from nearby contemporary settlements at Stotfold, Beds. (c. 4km to the south), and Holwell Quarry, Herts. (c. 7km to the south-west) (Albion in prep.). However, manufacture is likely to have been highly localised. For example the largest fabric group recovered from Topler's Hill is micaceous type (F35). Although constituting over 27% of the assemblage (25 vessels), the type is poorly attested from the two

nearby contemporary settlements.

Fabrics are generally hard fired and uniformly reduced. A few examples have oxidised exterior and reduced interior surfaces, which may have been a deliberate effect, suggesting well controlled firing conditions. No firing faults, in the form of spalling, distortion or cracking were noted.

Form and Decoration

Diagnostic forms constitute seven percent of the assemblage and comprise round-shouldered vessels (Fig 10, no. 1) with either flat or rounded rims (Fig 10, no. 2). One open vessel was also noted (Fig 10, no. 4). Bases are generally flat and occasionally pinched out at the circumference. Single examples of a vessel with a lug or handle, and a sherd deriving from a possible storage jar were also recorded. Decoration is restricted to rare examples of fingernail and fingertip ornament (Fig 10, no. 3) burnishing and incised horizontal or vertical lines, conforming to the regional pattern (Knight 1984; Bryant 1995, 21).

Late Iron Age

Five sherds (weighing 83g) were recovered during field artefact collection but none from excavated deposits. These were in undiagnostic grog (F06), grog and sand (F09) and shell tempered (F07) fabric types. All are highly abraded and the shelly vessels were leached.

Roman

Eleven sherds (weighing 88g) were recovered during field artefact collection but none from excavated deposits. They comprised early Roman greywares (R06), samian (R01), oxidised sand tempered wares (R05) and shell tempered wares (R13). No diagnostic forms were present.

Medieval

Twenty-three sherds (weighing 241g) were recovered during field artefact collection and two sherds (weighing 20g) from excavated deposits. They comprise early medieval sand tempered fabrics (C01, C05 and C59A) and a single shell tempered sherd of developed St Neots-type (B07). Later medieval fabrics comprise oxidised wares (E03). Diagnostic forms include jars with everted rims, bowls, and jugs with strap handles.

Post-medieval

Forty sherds (weighing 399g) were recovered during field artefact collection and a single sherd (weighing

24g) from excavated deposits. Fabric types represented are principally glazed earthenwares (P01), with single sherds of Blackware (P14) and salt-glazed stoneware (P37).

CERAMIC BUILDING MATERIAL

All the ceramic building material (521 pieces) was recovered during field artefact collection. The majority of fragments derive from oxidised sand tempered flat roof tiles of peg type, and are of late medieval/post-medieval date. The fragments are generally small and abraded.

FIRED/BURNT CLAY

Twenty amorphous fired and burnt clay fragments weighing 107g were recovered (Table 3). All are sand tempered, and survive in variable condition. The majority are hard fired and robust, while a small quantity are friable and powdery. Although none bear diagnostic features, their presence suggests they may derive from features such as roundhouses, or smaller structural elements such as ovens or hearths.

Group	Description	Quantity
52	Enclosure ditch G50	1:21
61	Roundhouse G60	7:51
70	Roundhouse pit G68	1:2
15	Ditch G14	11:33
		20:107

Table 3 Incidence of fired and burnt clay (fragment:weight)

QUERNSTONE

A single fragment (weighing 44g) of continental lava stone, likely to derive from a rotary quern was recovered during field artefact collection. The use of this material throughout both the Roman and medieval periods is well attested.

STRUCK FLINT

Thirty-two struck flints were recovered during field artefact collection and seven from the open area excavation (total weight 496g). The flints from excavated deposits comprise four waste flakes, two core fragments and an end-and-side scraper. Two of these occurred in features containing early-middle Iron Age pottery (Table 4). However, given the small size and nature of the flint assemblage, it cannot contribute to the debate on the use of flint in the Iron Age (Young and Humphrey 1999).

The majority of the struck flint recovered from field artefact collection comprised debitage. Core products include flakes, retouched and possible core rejuvenation flakes. The presence of multi-platform flake cores and waste flakes struck with a hard hammer suggest a late Neolithic /early Bronze Age date for the assemblage. Tools were restricted to a probable scraper and piercer. A single blade suggests an earlier component.

THE ECOFACTS

ANIMAL BONE

Ellen Hambleton

Introduction

All animal bones recovered from the excavation were examined as part of the assessment process. The small size of the assemblage severely limits the potential for meaningful and reliable conclusions concerning the role of animal species at the site. The fragmentation and surface erosion of the bone has undoubtedly resulted in loss of ageing, metrical, butchery and gnawing data as well as resulting in a high proportion of unidentifiable material. This has further reduced the analytical potential of this small assemblage. The following discussion is based on

Group	Description	Quantity	Description	Pottery
55	Roundhouse G54	1:19	Core fragment	✓
53	Enclosure ditch G50	5:39	Flakes and core fragment	✓
1	Ploughsoil	1:38	Scraper	
		7:96		

Table 4 Incidence of flint (fragment:weight)

the assessment report which is stored with the project archive and includes a text report, database and spreadsheet.

Species

A total of 165 animal bone fragments were recovered, 37% of which were identified to species. A further 45 small fragments of bone were recovered from sieved environmental samples, only two of which (sheep/goat tooth fragments) were identified to species.

Species present include cattle, sheep/goat, horse and pig (Table 5). The assemblage is too small to provide reliable information concerning the relative economic importance of different species at the site and any conclusions drawn must be treated with caution. However, the lack of wild species and the predominance of cattle and sheep/goat, which are present in relatively equal numbers, is a pattern that falls within the range of variation seen in other Iron Age settlement assemblages from the East Midlands and Eastern England (Hambleton 1999). A broadly similar pattern of abundance among the main domestic species can be seen in the Iron Age assemblage from Wilby Way, Wellingborough (Maltby pers comm.). However, assemblages from several other Iron Age sites in the region such as Pennyland (Holmes 1993), Hartigans (Burnett 1993) and Wavendon (Dobney and Jaques 1996), both Milton Keynes, exhibit considerably higher percentages of cattle than were found at Topler's Hill.

Species	Total no. fragments	%
Cattle	30	49%
Sheep/Goat	28	46%
Horse	2	3%
Pig	1	2%
Unidentified	104	
Total	165	

Table 5 Animal bone count by species

The largest assemblage derived, perhaps not surprisingly, from the largest feature, enclosure ditch G50. The total assemblage from this feature included sheep/goat (17 fragments), cattle (7 fragments) and horse (1 fragment). The higher proportion of sheep/goat compared to cattle remains is in contrast to the pattern seen in the overall assemblage, however this need not be significant as such small samples are subject to bias. It should be noted that these fragment counts include seven loose teeth of sheep/goat from tertiary fill G53, which would account for the appar-

ent high abundance of sheep/goat from this feature.

The availability of additional information in the form of measurements and epiphyseal fusion and toothwear ageing data (Table 6) was severely limited due to the small size and fragmentary nature of the sample.

Species	No. fragments with fusion data	No. mandibles with teeth	No. measurable fragments
Cattle	12	1	4
Sheep/goat	2	4	1
Horse	1		1
Totals	15	5	6

Table 6 Abundance of available ageing and metrical data

Provenance

The majority of the animal bone derived from settlement features E of the A1, with only 16 fragments from the field system to the W (Table 7). Very little faunal material was recovered from pits and the bulk of material came from ditch fills, in particular large enclosure ditch G50. Secondary and tertiary fills contained the majority of the bone. Two cattle limb bones from the drainage gully around roundhouse G56 are noticeably larger than the otherwise small sized Iron Age cattle from the rest of the assemblage and may be intrusive.

HUMAN BONE

Ellen Hambleton

Two fragments of human bone were recovered from a fill G67 of pit 102, one of the pits G66 adjacent to major enclosure ditch G50. Preservation was very poor with considerable erosion and loss of surface detail. The bones were identified as shaft fragments from a left humerus. Although the fragments did not join they almost certainly come from the same bone. The bone provided no reliable ageing information but the size is comparable to that of an adult or late adolescent individual. It is not uncommon to find occasional fragments of disarticulated human remains within pits and ditches on British Iron Age settlement sites (Cunliffe 1991, 505).

CHARRED PLANT REMAINS

Ruth Pelling

Introduction

On site very few deposits exhibited evidence of

Group	Description	Cow	Sheep/goat	Pig	Horse	Unid.	Total
8	Boundary ditch G7	1	0	0	0	0	1
9	Deposit in ditch G5/7	1	0	0	0	0	1
11	Boundary ditch G10	2	0	0	0	8	10
17	Ditch G17 recut of major boundary	1	0	0	0	1	2
23	Ditch G23 recut of major boundary	2	0	0	0	0	2
49	Internal boundary G48	4	2	0	0	11	17
50	Enclosure ditch G50	0	2	0	0	0	2
51	Enclosure ditch G50	2	0	0	1	4	7
52	Enclosure ditch G50	1	0	0	0	2	3
53	Enclosure ditch G50	4	15	0	0	35	54
57	Roundhouse G56	8	3	1	0	12	24
59	Roundhouse G58	1	1	0	0	5	7
61	Roundhouse G60	0	3	0	1	9	13
67	Pits G66	2	1	0	0	8	11
69	Soakaway G68 assoc. with roundhouse G60	1	0	0	0	1	2
70	Soakaway G68 assoc. with roundhouse G60	0	1	0	0	8	9
							165

Table 7 Animal species by Group (number of fragments)

potential to preserve charred plant remains. However, 14 samples were taken from a range of feature types and spatial locations. Any charred seeds or chaff were provisionally identified and an approximation of abundance was made as part of the assessment stage of the project. Detailed analysis was not carried out, as it was not likely to extend the species list.

Methodology

The volume of deposits processed was small, ranging from 6 to 10 litres for each sample. Samples were processed by bulk water flotation and flots collected onto 0.5mm mesh sieves. Dried flots were then scanned under a binocular microscope at magnification of x10 to x20.

Results

The samples all produced small flots, generally around 5ml in volume, but up to 20ml. Many contained moderate quantities of modern rootlets.

Charred cereal grain was recorded in 11 samples, while chaff and weed seeds were noted in three. In most cases the number of items estimated is low (less than 10 for each category). Sample 9 (roundhouse drainage gully fill G57) produced a slightly greater amount of chaff with up to 20 *Triticum spelta* (spelt wheat) glume bases. Cereal grains noted included *Triticum spelta* and *Hordeum vulgare* (barley). Occasional asymmetric *Hordeum vulgare* grains indicate the presence of six-row variety. The weed category included *Rumex* sp. (docks) seeds, small seeded Gramineae (grass) and a single

Arrhenatherum elatius (false oat-grass) tuber in sample 9. *Triticum spelta* and *Hordeum vulgare* were the principal cereal species recorded from Iron Age samples at Biddenham Loop, Beds. (Albion in prep.) and also form the basis of the cereal economy for much of southern and central England during this period.

Charcoal was present, usually in small quantities in 11 samples. *Quercus* sp. (oak) was most commonly identified while occasional fragments of Pomoideae (apple, hawthorn etc) were also provisionally identified.

MOLLUSCS

Mark Robinson

Mollusc shells, mostly of dry ground open country species, are present in seven samples. *Trichia hispida* gp., *Vallonia costata* and *V. excentrica* are very numerous in sample 13 (settlement enclosure ditch G50), suggesting dry open conditions. However, there is also a slight presence of *Anisus leucostoma* and *Lymnaea truncatula*, which were perhaps associated with temporary puddles of stagnant water in the ditch bottom. Sample 5 (major field boundary ditch G22) contains a somewhat different dry ground open country fauna in which *Pupilla muscorum* and *Vallonia excentrica* predominate. Molluscs of shaded habitats are sparse in all the samples.

DISCUSSION

The open area excavations were very limited in extent. Nevertheless, when combined with the

results of the non-intrusive evaluation they make a useful contribution to the debate on the origins and nature of the early-middle Iron Age landscape. The chronological discussion below is followed by a critical review of the methodologies used during the investigations.

LIMITATIONS OF THE CHRONOLOGICAL FRAMEWORK

The chronological framework for Toppler's Hill is based on an established pottery sequence reflected in the Bedfordshire Type Series. As is the case nationally, the framework for the pre-Roman Iron Age is only understood in outline terms (Bryant 1995, 1997 and 1999, 25; IARS 2001, 2-7). The pottery chronology at Toppler's Hill is divided into late Bronze Age/early Iron Age (800-400/300BC) and early-middle Iron Age (600-400/300). The transition is marked by changes in pottery forms and fabrics (Bryant 1997, 26). The lack of diagnostic pottery forms, stratigraphic relationships and radiocarbon determination (*see below*) precludes a more refined dating than early-middle Iron Age for the settlement and field system.

EARLIER ACTIVITY

Many of flints recovered from field artefact collection and excavation had been struck by a hard hammer, which is suggestive of a late Neolithic/early Bronze Age date. Other pieces are associated with Iron Age pottery from settlement features. However, the small quantity prevents any contribution to the debate on the use of flint during this period (Gardiner 1993, 458; Pollard 1996, 108-109; Robins 1996, 269-70; Young and Humphrey 1999).

A small quantity of flint tempered pottery was recovered from both the settlement and the field system. This fabric is characteristic of the late Bronze Age/early Iron Age in the region (Bryant 1995, 17 and 21). At Toppler's Hill it was found in association with later pottery fabrics and, although exhibiting no signs of abrasion, is presumed to be residual. It does, however, suggest that a late Bronze Age/early Iron Age settlement may have existed in the vicinity. Settlements of this period are still relatively rare within the region. This is in part because they are difficult to detect, often being unenclosed, dispersed over a large area and lacking large quantities of domestic debris, for example Yarl's Wood (this volume).

EARLY-MIDDLE IRON AGE SETTLEMENT

A previously unknown early-middle Iron Age settle-

ment and field system has been located. Settlements during this period are believed to be concentrated on lighter soils and along river valleys (Bryant 1997, 25). The site can be added to a small, but increasing, number of settlements of this period situated on clay soils (*ibid.* 1995, 22-4).

Origins

The origins of the settlement are difficult to determine, in part due to the restrictive nature of the investigations. It is possible, given the presence of earlier pottery, that the settlement developed from earlier, probably unenclosed, occupation of the hill-top.

Nature

Geophysical survey has identified a series of eight inter-linked ditched enclosures extending over at least c. 0.8ha. Many of the enclosures contained buildings and pits suggestive of domestic activity and, therefore, presumably, they were occupied by individual households.

In contrast to Toppler's Hill the majority of settlements from the region for this period are unenclosed (Bryant 1997, 25). Nationally, as well as regionally, where enclosed settlements do occur they usually comprise a single or occasionally double enclosures (*see* Cunliffe 1991, Fig 12.11 and Fig 12.14; Hunn 1996, Fig 3-8). No exact parallels could be found for the arrangement of interlinked enclosures (*see* Hunn 1996, Fig 3-8). Perhaps the closest parallel comprises an arrangement of seven interlinked enclosures at Hinksley Road, Flitwick, Beds. (Luke 1999, Fig 5). However, this settlement was different in that it comprised one main (larger) enclosure containing round-houses with attached smaller enclosures, which contained no evidence for domestic occupation (*ibid.* 82). At Toppler's Hill no "main" enclosure could be identified, although L6 would appear to be the largest.

Although we cannot be sure that the different enclosure units at Toppler's Hill were contemporary their arrangement suggests this is possible. Broadly speaking the enclosures can be divided into four units L5, L6, L13 and L14 based on their different shapes and layouts. The agglomerations of family/households units that this suggests are relatively rare, although Hill believes they occur more frequently after c. 300BC, for example Catswater, Cambs. (1995a, 58-9).

Activity at enclosed settlements is believed not to have been restricted solely to enclosures, for example Pennyland, Milton Keynes (Williams 1993, Fig

5) and Twywell, Northants. (Jackson 1975, Fig 3). However, it is often difficult to demonstrate that activity outside enclosures is contemporary with that inside. All that can be said for Topler's Hill is that a small number of geophysical ditch- and pit-type anomalies were detected adjacent to the enclosures.

The enclosures ditches

The geophysical survey suggested that the enclosure boundaries comprised wide ditches and this was confirmed by the excavation of ditch G50. At c. 4.3m wide and c. 1.5m deep it was slightly bigger than the settlement enclosure ditch at Hinksley Road, Flitwick (Luke 1999, Fig 6). It would seem inevitable that the large quantity of material produced by the digging of this and other ditches would have been utilised to construct a bank. Unfortunately the ditch fills contained no evidence for bank material. However, on the N side there is a gap of c. 2.3m, between the enclosure ditch G50 and the soakaway pit G68, suggesting that this space could have been utilised for a bank. This would explain why the soakaway did not run into the enclosure ditch. If the pits adjacent to the S side of the ditch were contemporary, there is no room for a bank on this side.

It was not possible to establish the location of entrances or even the full extent of any enclosures. The entrances may have been located on the destroyed western side, although Hill believes that settlements like houses would normally be entered from the direction of the rising sun i.e. E to SE (1995a, 54). It is possible that relatively small entrance gaps may not have been detected by geophysical survey. Many of the enclosures appear to have been sub-divided given the identification of ditch-type geophysical anomalies within their interiors.

The absence within the excavated ditch fills of any evidence for the removal of the bank and the way most geophysical and excavated features appear to respect the enclosure ditches, suggests that the enclosures, once established, were retained throughout the life of the settlement.

Internal activity

Evidence for activity within the enclosures comprised roundhouses and pits (from geophysical survey and excavation), and postholes (only from excavation).

Roundhouses

Evidence for five roundhouses, in the form of penannular ditches, was located in three enclosures.

Two of these were subject to hand excavation and are therefore known in greater detail. The ditches are presumed to have served a drainage function around the outside of roundhouses. They had projected diameters of between c. 13m and 18m, and are comparable to the sizes of roundhouses G105 and G109 at Hinksley Road, Flitwick (Luke 1999, 51). No structural evidence for walls survived at Topler's Hill. Both ditches had gaps on the E side suggesting this was the location of the entrance, a common feature of Iron Age roundhouses (Oswald 1997).

The ditch surrounding one roundhouse had been redug on at least two occasions. Although this does not necessarily mean the entire house was rebuilt, each new ditch provided a greater amount of room in the interior. Roundhouse G60 had an elongated, deep pit at one of the ditch terminals. This may have functioned as a soakaway leading water away from the house. Elsewhere pits in similar proximity to roundhouses have been interpreted as water tanks, quarries and even latrines. The latter was suggested for House 3 at Mingies Ditch, Oxon. (Allen and Robinson 1993, 49).

Pits

Clusters of large pit-like geophysical anomalies occurred within three enclosures. Based on the size of the anomalies these are large enough to have been storage pits (Cunliffe 1991, 375-376). Within the excavation area five shallow pits G66 were located in an alignment parallel to but adjacent to enclosure boundary ditch G50. Although their function is uncertain their profile and shallow depth would suggest they were not suitable for storage. Given their peripheral location within the enclosure they may have been dug as quarries in an area where no other activity was taking place. However, their fills contained only a relatively small quantity of domestic debris, surprising given that if they had been dug as quarries they are likely to have been left open, thus allowing domestic debris to accumulate.

Ritual and rubbish

Domestic debris recovered from the settlement-type features mainly comprised small quantities of pottery, fired and burnt clay, animal bones and charred plant remains. The majority of the pottery derived from three deposits: substantial enclosure ditch G50, the terminal of roundhouse ditch G56 and ditch G5/7.

The limited extent of the investigations precludes a significant discussion on ritual and rubbish (Hill 1995b). However, a number of aspects can be high-

lighted. Of the five terminals of roundhouse drainage ditches only one contained a significant quantity of pottery. This was part of the earliest roundhouse which may have been rebuilt, larger, on two occasions. Deposit G9 contained one of the largest assemblages of pottery from the investigations. This was particularly significant because it derived from a fairly small ditch within the field system (*not* the settlement). Although it does not fit into Hill's suggestion of the significance that can be attached to the distribution of decorated, fine or uncommon fabrics (1995b, 109), it is an unusual occurrence presumably associated with deliberate smashing, 'killing' of pottery.

Pit 102 (within alignment G66 adjacent to enclosure ditch G50) contained two fragments of a human left humerus. Settlements of this period often produce human bone fragments, most commonly skulls, which superficially appear to indicate the 'casual' treatment of dead bodies (Wilson 1981, 130-131; Bryant 1997, 26). However, Hill and others have argued that individual bones usually occur in peripheral locations within settlements, suggesting their deposition may have been deliberate (1995b, 105-108). The human bone from the Toppler's Hill would, therefore, fit this pattern.

The field system

Weak cropmarks on aerial photographs suggest that a field system, on different alignments, extended over c. 10ha to the W of the settlement. In places the cropmarks are ambiguous and confused by similar trends which appear to be associated with the underlying geology. It was not possible to establish a direct relationship between the settlement and the field system, although the recovered pottery suggests they were contemporary.

An integral part of the field system is a NW-SE ditch. This was clearly an important boundary because it had been redug on a number of occasions and the majority of the perpendicular cropmarks only occur to the S of it. Overall, in plan, the fields comprise long axes, orientated SW-NE, with a smaller number of perpendicular boundaries. These are the hallmark characteristics of a coaxial field system (Williamson 1993, 24-25), which elsewhere in the country have been shown to be Bronze Age, for example the Dartmoor Reaves (Fleming 1988) and Iron Age or later, for example in East Anglia (Williamson 1987). The apparently systematic layout, often ignoring local topography, suggests that they were consciously planned rather than allowed to develop organically. At Toppler's Hill they may have

been associated with expansion onto previously unsettled areas of clay upland.

The status of the low levels of domestic debris recovered from the field system is uncertain (pottery from G9 has been discussed above). It may reflect the partial manuring of the fields with middens containing settlement rubbish. However, there is only a slight difference in the average sherd weight and vessel:sherd ratio between the settlement and field system pottery assemblages. Given the presence of occasional postholes, it is possible that some of the material was deposited during short-term activity, undertaken within the field system.

Agriculture

There is sufficient information to demonstrate that mixed farming was undertaken which was the norm for this period (Hill 1995a, 60). However, the charred plant and animal bone assemblages are too small to comment on the relevant importance of plants versus animals, or of particular species.

Although it is presumed that the field system, which is extensive, was utilised for cereal cultivation, the charred plant remains do not suggest large-scale production. However, given the small number, volume and restricted spatial distributions of the samples, the results may be misleading. The remains are likely to have derived from background scatters of cereal processing waste and damaged grain, which has been distributed in deposits across the site.

The predominance of cattle and sheep/goat, which are present in relatively equal numbers, is a pattern that has been seen in other Iron Age settlement assemblages from the East Midlands and Eastern England (Hambleton 1999). Horse and pig bones were also present in small numbers. The grazing of animals during the summer probably took place in the river valleys several kilometres from the settlement but they would presumably have been corralled much nearer during winter months. No wild species were identified, possibly a reflection of taboo and ritual (Hill 1995a, 60).

Craft production

As is so often the case with farmstead-type settlements there is no direct evidence for craft production at Toppler's Hill. However, there is indirect evidence for localised production of pottery. The commonest pottery fabric types from the site, constituting over a quarter of the assemblage, are micaceous wares. This fabric was not found in quantity at the contemporary settlement at Stotfold, c. 4km to the S (Albion in

prep.) possibly suggesting it was produced at Topler's Hill for local use. It should, however, be noted that no firing faults, in the form of spalling, distortion or cracking were noted on the pottery assemblage.

The wider Iron Age landscape

Very few sites of this period have been positively identified in the vicinity of Topler's Hill. One exception is at Norton Road, Stotfold, c. 4km to the S, excavated in the late 1990s. Here an enclosed farmstead comprising two roundhouses with associated pits and a post-built structure was identified (Albion in prep.).

There are a large number of undated cropmark enclosures in the vicinity (Fig 1). The majority, unlike Topler's Hill, are located along the valley of the River Ivel, for example near Broom, Stotfold and Newnham (Fig 1). Many of these enclosures, including those in Hertfordshire (Hunn 1996, Fig 2), have been assumed to be late Iron Age or Roman in date (Bryant 1995, 24). However, this was also the case with the Topler's Hill enclosures prior to excavation. It is therefore likely that some of these undated enclosures will also prove to be early-middle Iron Age in date, thus considerably enhancing the distribution of known settlements of this period.

LATE IRON AGE ACTIVITY

Five sherds of late Iron Age pottery were recovered from field artefact collection. No additional pottery of this period was produced from the open area excavation despite the fact that two of the sherds recovered from field artefact collection were found in the vicinity. Therefore there is no evidence that the settlement continued into this period.

ROMAN ACTIVITY

Prior to open area excavation the discovery of Roman material (11 pottery sherds and a quernstone) during field artefact collection had led to the conclusion that the enclosures were part of a Roman roadside settlement. However, the hand excavation of features within the open areas has demonstrated this was not the case.

It is still tempting, given Topler's Hill location halfway between the Roman settlements at Baldock, Herts. and Sandy, Beds., to suggest a settlement of this period existed. However, it has been known since the 1950s that low densities of Roman pottery occur in areas well away from settlement (Rhodes 1950, 13). This phenomenon was observed at Maddle Farm, Berks. where pottery occurred 2km

from the nearest settlement and is presumed to be the result of manuring of the fields (Gaffney and Tingle 1989, 210). Its presence at Topler's Hill may equally reflect the proximity of a major Roman settlement, possibly a villa c. 1.5km to the S.

MEDIEVAL

The 23 medieval pottery sherds were concentrated towards the S of the field E of the A1 within 200m of surviving earthworks (HER 2848). The finds are therefore presumed to be associated with the medieval settlement in this area (Hall 1991, Fig 2).

CRITICAL REVIEW OF THE METHODOLOGIES USED DURING THE INVESTIGATIONS

Various methods of archaeological investigation were utilised at Topler's Hill. It was observed that if any of the methods had been undertaken in isolation, the conclusions drawn about the site would have been very different. It was therefore proposed in the updated project design that the different methods utilised would be reviewed as part of the post-excavation analysis and the publication would discuss their limitations.

Aerial photograph analysis

It is well known that aerial photographs can reveal evidence for past human activity in the form of cropmarks (Wilson 2000). Although there had been poorly recorded discoveries of artefacts in the vicinity of Topler's Hill for some time, it was the identification of cropmarks that provided the first accurate locational information for the settlement and field system.

A relatively large number of aerial photographs of the area exist. However, the settlement enclosures and field system were only visible in 1996 when, for the first time, the site was photographed in July. Although late May to early July are considered the best months for cropmarks to be visible (Wilson 2000, 81), the "window" of time within which they occurred at Topler's Hill was clearly extremely narrow.

The fact that only some of the ditched enclosures were visible as cropmarks is interesting. This may be a reflection of the different ditch dimensions (width and depth) or the nature of their filling material.

The field immediately to the W of the A1 has never revealed cropmarks despite the presence of ditches in the excavation area. This may be because this field is in different ownership and therefore the crops are planted within a different agricultural regime to those E of the A1. Wilson states 'in evalu-

ating cropmarks a fundamental rule is not to rely on negative evidence' (2000, 84). This is because when cropmarks are visible the probable causes can be inferred, but when absent no inference can be made without additional information on the nature of the land (including depth and overburden) and crop regime. The small dimensions of many of the underlying ditches would probably make them less likely to affect the growth of a crop. However, one might have expected the major boundary ditch in the SW corner of the excavation to show up, especially as it does further to the W. Its absence is almost certainly a reflection of its position in the corner of the modern field where agricultural practice, particularly machine turning, will have affected crop growth.

Further to the W there were a large number of cropmarks, whose diffuse and irregular edges suggested a possible geological cause. It is unfortunate that these share the same alignment as cropmarks more likely to be of human origin inevitably leading to some confusion in identification. A similar situation at Hinksley Road, Flitwick, prevented the identification of an Iron Age settlement enclosure based on cropmark evidence alone (Luke 1999, 46).

Geophysical survey

The geophysical survey was undertaken by GSB Prospection and comprised magnetometry. This detects magnetic variations (anomalies) between topsoils, subsoils and the underlying natural strata and thus should make it possible to detect buried ditches and pits (Clark 1990, 78-80). Initially scanning was undertaken, comprising a rapid walkover during which no readings were recorded (*ibid.* 83-89). This was followed by detailed, recorded survey in areas where potential archaeological anomalies had been detected during scanning.

Ditch-type anomalies coincided with the position of the cropmarks on the 1996 aerial photograph. However, the geophysical survey indicated a far more extensive and interlinked enclosure system. In addition ditch- and pit-type anomalies were identified within the interior of the enclosures suggesting many were the focus of domestic activity. A comparable situation was observed at Norse Road, Bedford, where geophysical survey located considerably more potential archaeological features than suggested by aerial photographs (Dawson and Gaffney 1995, 107). At Topler's Hill, where excavated, the anomalies which did not show up as cropmarks proved to be small and shallow which may explain their absence.

Several pennanular arrangements of ditch-type anomalies were identified leading to the suggestion

that these represented drainage ditches surrounding roundhouses. However, the two roundhouses within the excavation area were not clearly visible as geophysical anomalies. This is probably due in part to their location on the edge of the survey area in proximity to the field boundary.

Despite the presence of ditches W of the A1, no significant anomalies were located during scanning. This is probably, in the main, a reflection of their size (shallow and narrow), but the ditches of the major boundary to the SW were more substantial. It is likely that their sterile infilling, along with the presence of a wire fence and overhead cables around the perimeter of the field made these undetectable.

Field artefact collection

The presence of artefacts within ploughsoil is sometimes indicative of underlying archaeological features (*see* Foard 1978). Where evidence, such as cropmarks and geophysical anomalies, indicate the presence of sites (as at Topler's Hill) the presence of artefact scatters in their proximity is often used to assist in classification and dating (Haselgrove 1985, 7; Gaffney and Tingle 1989).

Interestingly, the field artefact collection at Topler's Hill produced only a small number of late Iron Age/Roman finds (and none of early-middle Iron Age date). It was originally suggested that the Roman finds probably indicated the date of the cropmark and geophysical anomalies (BCAS 1998, 23). After all, it is not uncommon for ploughsoil to produce small quantities of artefacts where subsequent excavation demonstrates the presence of contemporary settlement activity. For example at Maxey East, Cambs. only six Iron Age sherds were recovered from the ploughsoil, although subsequent excavation produced at least 500 sherds (Pryor *et al* 1985, 46).

A total of 238 sherds of Iron Age pottery (weighing c. 1.5g) was recovered by hand excavation at Topler's Hill including six sherds recovered during machine excavation of the ploughsoil. It is now clear that the artefact assemblage recovered from the ploughsoil provided a misleading date for the underlying settlement. There may be a number of possible reasons for this.

Haselgrove has described the complex processes which may be involved in the creation of a ploughsoil assemblage over a former settlement (1985, 16). These start with deposition (deliberate, accidental or rubbish), but are complicated by a range of post-depositional processes (scavenging, disturbance by later activity, removal of primary rubbish etc). These issues will not be repeated here as they refer to the

significance of artefact scatters, rather than the possible reasons that a ploughsoil assemblage does not reflect the assemblage from underlying features.

It has often been presumed that certain fabrics, especially those with shell tempering, are more vulnerable to destruction within ploughsoil (Pryor *et al* 1985, 46). However, the presence of shell and grog tempered fabrics of late Iron Age and medieval date within the ploughsoil at Topler's Hill suggests this was not an explanation in this case. In addition the pottery assemblage recovered by excavation was generally hard fired and therefore should have survived in the ploughsoil.

The ground and weather conditions at the time of artefact collection appeared to be nearly ideal for the time of year and had been inspected by the CAO who gave his approval. Four weeks had passed since ploughing, allowing sufficient time for any clods of earth containing artefacts to have been broken down by agricultural activity (the field E of the A1 had been harrowed) and nature (September rain). A 10% sample collection was undertaken by five experienced archaeologists over two days when the light was good with little shadow.

One factor that may have biased the collection was the requirement of the Brief to collect all artefacts including medieval/post-medieval brick/tile. This material was extensive (521 fragments), highly visible (red in colour) although small in size. The identification and collection of so much brick/tile may have obscured other material. In the future it may therefore be more appropriate to undertake two episodes of collection: one concentrating on tile/brick and a second on other material.

It is clear from our experiences at Topler's Hill that 'a site cannot be characterised by field survey [i.e. field artefact collection] alone' (Pryor *et al* 1985, 46).

Trial excavation

Trial excavation was confined to that part of the road corridor that was to be subject to topsoil removal ahead of construction works. Therefore to the E of the A1 the trial trenching was only undertaken away from the enclosures identified as cropmarks and geophysical anomalies because no topsoil was to be removed from this area. The trenches confirmed the absence of archaeological remains away from the enclosures. On the W side of the A1 they located an area of late Bronze Age/early Iron Age activity, which had not been detected by any of the other methods of investigation. The latter was probably in part due to its location adjacent to the field boundary

making the identification of cropmarks and geophysical anomalies problematic.

Open area excavations

Although the evaluation had served its purpose in terms of the planning process, if open area excavation had not been undertaken the settlement enclosures would have been classified as a Roman roadside settlement. After all, its location adjacent to a Roman road and the results of field artefact collection had suggested a Roman date was most likely. It was therefore a major surprise when open area excavation demonstrated that the settlement was in fact Iron Age in date.

The limited extent of the open area excavations means we cannot pretend to fully understand the origins, nature and economic framework of the settlement. However, the 'keyhole' that was available for examination has provided a broad understanding of its date, internal organisation and economic basis. The hand excavation strategy (i.e. what, where and how much was dug) was designed to provide sufficient information to address the issues of dating, sequence, nature and infilling. Ditch terminals and changes in alignment were routinely examined while other segments were dug to provide an even coverage. The IARS has recently addressed the issue of the location of sample excavation segments, along with the contentious subject of optimum sample size, i.e. how much of a ditch should be hand-excavated (2001, 9-10). They have suggested that 20% should be regarded as a minimum for drainage gullies around buildings and enclosure ditches. At Topler's Hill the ditches within the settlement were subject to 35% excavation, which appears to have been adequate to provide the required information. For example, only the terminal of the drainage ditch associated with G56 contained significant quantities of domestic debris. It is inevitable with any sampling strategy that some information will be lost, however, although desirable, a larger sampling coverage may not have added significant information in this case.

With regard to the ditches within the field system, the same sampling strategy was implemented although a smaller percentage was excavated. It should be noted that the discovery of 'special' deposit G9 did not occur in one of the segments targeted to locate such a deposit i.e. the terminals.

It was also fortuitous that the ditched boundary which appears to have been an integral part of the system, occurred within the excavation area, even if it was in the corner. Based on the pottery recovered from this ditch it was thus possible to demonstrate the

field system was contemporary with the settlement.

Post-excavation

Given the absence of a refined chronology for the Iron Age, both regionally and nationally, it is perhaps unfortunate that no multiple single-entity radiocarbon determinations were undertaken (IARS 2001, 6). Two deposits may have been appropriate for such work because they were relatively uncontaminated, contained significant pottery assemblages and suitable charred plant remains. However, the value of only two determinations from adjacent features within a much larger settlement would have been limited in terms of the chronology of the Topler's Hill. However, as part of a much larger programme of radiocarbon determinations for the Iron Age, it may eventually have made a small contribution to refining the chronology for this period.

SUMMARY/CONCLUSIONS

It is clear from the review of the investigative techniques utilised at Topler's Hill that, in the main, the staged evaluation approach was highly effective in determining the nature and extent of archaeological remains within a proposed development. These were two of the requirements needed to assess the impact of the road scheme at the design stage. It is interesting to note that if any of the stages had been undertaken in isolation a very different picture of the site would have been produced.

It is perhaps unfortunate that no trial trenching was undertaken within the settlement area. This may have made a significant contribution to understanding the origins and development of the settlement. However, the other evaluation techniques were highly effective in determining the location and nature of the archaeological remains. Both the evaluation and open area excavations were restricted to what was required for the design, and later, construction of the much needed road improvements. This project was undertaken as a consequence of developer-led archaeology and therefore, at the evaluation stage, inevitably focussed on the impact of the development rather than on archaeological research agendas.

The evaluation provided sufficient information to ensure that the majority of a previously unknown early-middle Iron Age settlement was preserved *in situ*. In addition, our understanding of this type of settlement in this region has been significantly increased.

ACKNOWLEDGMENTS

The Highways Agency sponsored both the archaeological fieldwork and the publication of this report. Particular thanks are due to David Lee, the Project Manager, Bedfordshire County Archaeology Service (now known as Albion Archaeology) would also like to thank their consulting engineers, URS Corporation Ltd, and in particular Marcus John and Peter Hammond, for their assistance and support during the execution of the project.

In addition, thanks are due to Martin Oake (County Archaeological Officer for Bedfordshire County Council) who monitored the archaeological aspects of the project. David Smyth of Edworth Manor and David Lamman of Bleak Hall kindly granted access to the land during the evaluation. Thanks are also due to Stephen Coleman (Historic Environment Information Officer for Bedfordshire County Council), Alison Tinniswood (Archaeological Records Officer for Hertfordshire County Council) and the library staff at CUCAP and NLAP.

The project was managed by Mike Luke and supervised by Mark Phillips (Field Artefact Collection) and Rob Edwards (trial trench and open area excavation). Aerial photograph analysis was undertaken by Rob Edwards with assistance from Jonathan Edis.

Field Artefact Collection was undertaken by Gary Edmondson, Craig Halsey, Joan Lightning, Christiane Meckseper and Mark Phillips. GSB Prospection undertook the geophysical survey which was coordinated by Dan Shiel.

Hand excavation and investigation were undertaken by Caroline Clarke, Sally Dicks, Matt Edgeworth (trial trench only), Ed Frost, Jim McQueen and Amy Rushton. Processing of artefacts was undertaken by Jackie Wells, and of environmental samples by Jerry Stone. Joan Lightning carried out digitisation of the site records.

Ellen Hambleton would like to thank Mark Maltby for making available unpublished data from Wilby Way, Wellingborough, Northants. Ruth Pelling would like to thank Mark Robinson for his comments on her assessment report. All Albion Archaeology projects are under the overall management of Drew Shotliff.

I am grateful to Martin Oake and Drew Shotliff for reading and commenting on a draft version of this article.

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*The Bedfordshire Archaeological Council is grateful to the Highways Agency
for supporting the publication of this paper.*

Evidence for Iron Age, Roman and early medieval occupation on the Greensand Ridge at Haynes Park, Bedfordshire

MIKE LUKE AND DREW SHOTLIFF

with major contributions by

Jackie Crick (results of the investigations), Rowena Gale (waterlogged wood), Mark Robinson (charred plant remains) and Jackie Wells (artefacts)

and other contributions by

Anthony Clark (archaeomagnetic dating), Gill Cruise (pollen), Richard Darrah (woodworking technology), Brenda Dickinson (samian), Roger Engelmark and Jöhan Linderholm (soil chemistry), Cathy Groves (dendrochronology), Richard Macphail (soil micromorphology, soil chemistry and palynology), Carole Morris (wooden artefacts), Quita Mould (leather) and David Williams (petrology)

Illustrations by Cecily Marshall, Lisa Padilla and Mike Trevarthen

SUMMARY

During 1993 and 1994 Bedfordshire County Archaeology Service (now known as Albion Archaeology) undertook archaeological fieldwork in advance of the construction of a substantial new access road at Haynes Park House, Bedfordshire. Evidence for settlement from the early-middle Iron Age through to the early medieval period was located.

The early-middle Iron Age settlement was unenclosed and comprised small pits and scatters of post-holes (some associated with hearths) suggestive of buildings. Very little artefactual or ecofactual material was recovered. The periphery of a 'Belgic' Iron Age/early Roman farmstead, continuing beyond the limit of the excavation, was examined. The farmstead was significant for two main reasons. It was located c. 200m south of the earlier settlement, possibly fitting a regional trend of settlement shift. Also, when combined with probable contemporary crop-mark enclosures in the vicinity, it fits a pattern of increasing settlement density during this period. The evidence for the Roman period was more extensive, comprising a ditched field/enclosure system with three discrete activity foci: a probable continuation of the earlier settlement, relatively isolated post-built buildings and an isolated drying oven. No exact parallels have been found for the structure of the drying oven. However, archaeomagnetic dating indicates that it is a relatively early example, which may account for its unusual design.

The Late Saxon / Saxo-Norman evidence appears to relate to the dispersed settlement of Haynes Church End. It comprised post-built buildings and a succession of timber structures associated with a natural spring hollow. A major boundary ditch separated these two elements of the settlement, suggest-

ing that they were under different ownership. However, their broad contemporaneity was demonstrated by scientific dating techniques. The investigation of timber hurdling and a substantial timber tank have provided much information about contemporary woodworking techniques. The spring hollow contained waterlogged deposits, which have contributed to an understanding of the local environment. As for the Roman period, a range of ecofactual data suggests that the settlement was based on a mixed farming regime, operating within an open, managed landscape.

By the end of the 12th century the former settlement site had been incorporated into the township's field system. At some point after the late medieval period the fields were incorporated into the park.

INTRODUCTION

In 1993 a planning application was submitted for the construction of a new access road to Haynes Park House. The route of the proposed road was in an area of known archaeological interest. Following advice from the County Archaeological Officer (CAO) of Bedfordshire County Council (BCC), the local planning authority (Mid Bedfordshire District Council) requested a programme of archaeological investigation. This was in line with local plan policy and the guidelines in the Department of the Environment's *Planning Policy Guidance Note 16: Archaeology and Planning* (PPG 16). A field evaluation was undertaken which identified significant archaeological remains. These were then subjected to open area excavation prior to their unavoidable destruction by road construction. Bedfordshire County Archaeology Service (renamed Albion Archaeology during the preparation of this report) undertook the work on behalf of Radha Soami Satsang Beas (British Isles).

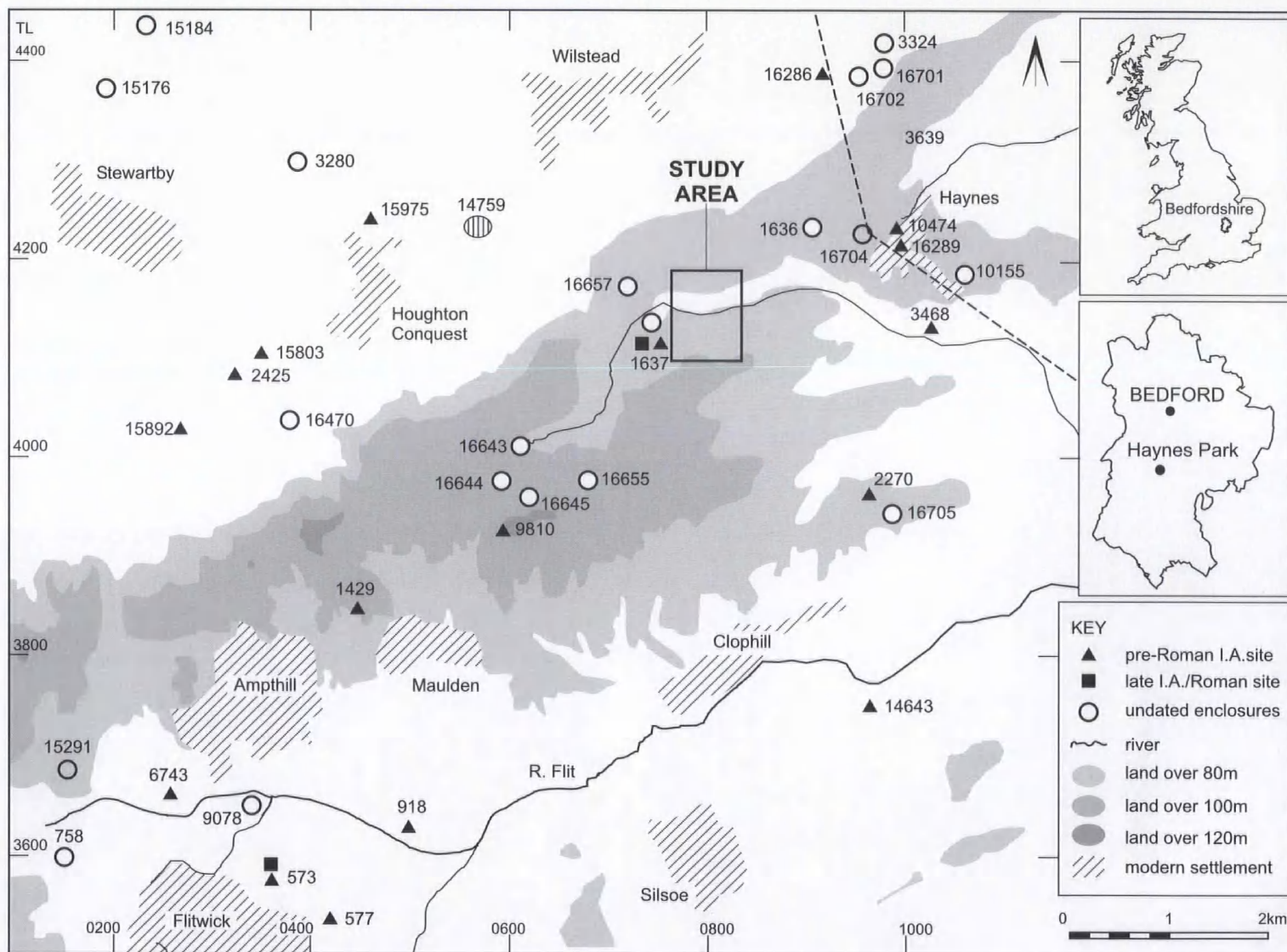


Figure 1 Topography and known Iron Age and Roman sites in the vicinity

SITE LOCATION AND CONDITIONS

The investigations took place within the grounds of Haynes Park House, 9km SE of Bedford (Figs 1 and 2). They were centred on TL 07954120, adjacent to St. Mary's Church, which is located on the periphery of the hamlet of Haynes Church End.

Topographically the study area is located on a SW-NE ridge known as the "Greensand Ridge". From S to N the land slopes down from 120m OD to an E-W running stream at 85m OD before rising again towards the house itself at 95m OD. The underlying geology is Lower Greensand overlain in places by chalky Boulder Clay, as was the case towards the S of the study area. A number of natural springs occur at the junction of the sands and clays.

Downslope movement of both sand and chalky soils has led to the deposition of colluvial deposits which mask the original topography of the slope. A narrow band of alluvium is associated with the stream.

ARCHAEOLOGICAL BACKGROUND

The Bedfordshire Historic Environment Record (HER) of BCC contains a considerable amount of evidence for the history of Haynes and adjacent parishes (Fig 1). However, prior to the investigations reported on here, no pre-medieval remains were known within the study area (these are now recorded as HER 15840).

Approximately 400m W of the study area a wide V-shaped ditch and a "possible occupation layer" were found in 1976 during limited archaeological investigations associated with the construction of the Southern Feeder gas pipeline (HER 1637) (Catherall et al. 1984, 24). The pottery associated with these features was considered to be both early-middle Iron Age and late 'Belgic' Iron Age in date.

Isolated finds of Roman pottery and coins are known from the parish. Many were recorded during the 19th century with no exact provenance (HER's 305, 1357 and 11294) and are, therefore, not shown on Fig 1. Discoveries of 'Belgic' and Roman pottery, along with metalwork, are not unusual on the Greensand Ridge (e.g. HER's 1429, 3468, 9810, 10474 and 16289). Two substantial Roman settlements are located in the Flit Valley to the S of the Greensand Ridge at Ruxox (HER 918) and Shefford (Fig 1). The Viatorez suggested (1964, 260-263), based on circumstantial evidence, that a Roman road existed, c. 2km to the NE of the study area (HER 3634), linking settlements at Shefford and Bedford.

Prior to an aerial photographic survey undertaken in 1996 the Greensand Ridge had produced very few

cropmarks suggestive of enclosed settlements. However, the 1996 survey was particularly effective in locating such sites (as indicated by the quantity of HER numbers in the 16000's on Fig 1). The nearest of these new sites was located c. 1km NW of the study area on the S-facing slope (HER16657). It comprised a group of small enclosures and a more extensive series of sub-circular enclosures linked to linear boundaries. Such enclosures are often interpreted as late Iron Age/Roman in date. However, only in a small number of cases has their date been confirmed.

The Manor of Haynes was recorded in Domesday Book, indicating the existence of a late Saxon settlement. Stone roofing tiles and 12th-15th century pottery located during fieldwalking E of the study area suggest that the village once continued to the N of the present church. Extensive cropmarks (HER 5481) to the E of Haynes Church End were originally interpreted as village earthworks but are now believed to be geological in origin (pers. comm. Stephen Coleman).

The earliest known references to a park in Haynes date to the 14th century (VCH 1908). However, its exact location is not known and it is not certain that it can be identified with the present-day park. A map of 1676 (BLARS: Z385/1 and 2) demonstrates that Haynes Church End was once a more extensive settlement than it is today.

THE ARCHAEOLOGICAL INVESTIGATIONS

FIELD EVALUATION

The field evaluation was undertaken between August and September 1993 in accordance with the Specification (BCC 1993a). It comprised a staged sequence of investigative techniques, each of which informed and partly determined the next stage (Fig 2).

An earthwork survey was carried out on the S-facing slope between Haynes Park House and the stream. The majority of the identified features were associated with the post-medieval garden (BCAS 1993). Four areas along the route of the proposed road were subject to detailed geophysical survey and a number of ditch- and pit-type anomalies were identified (Stratascan 1993).

Initially seven trial trenches (with a combined length of 365m) were opened to investigate geophysical anomalies and those areas that had not been subject to survey. Towards the N of the study area trenches 1-4 located post-medieval features associated with Haynes Park House and its gardens. Trenches 5, 6 and 7 contained a small number of pits,

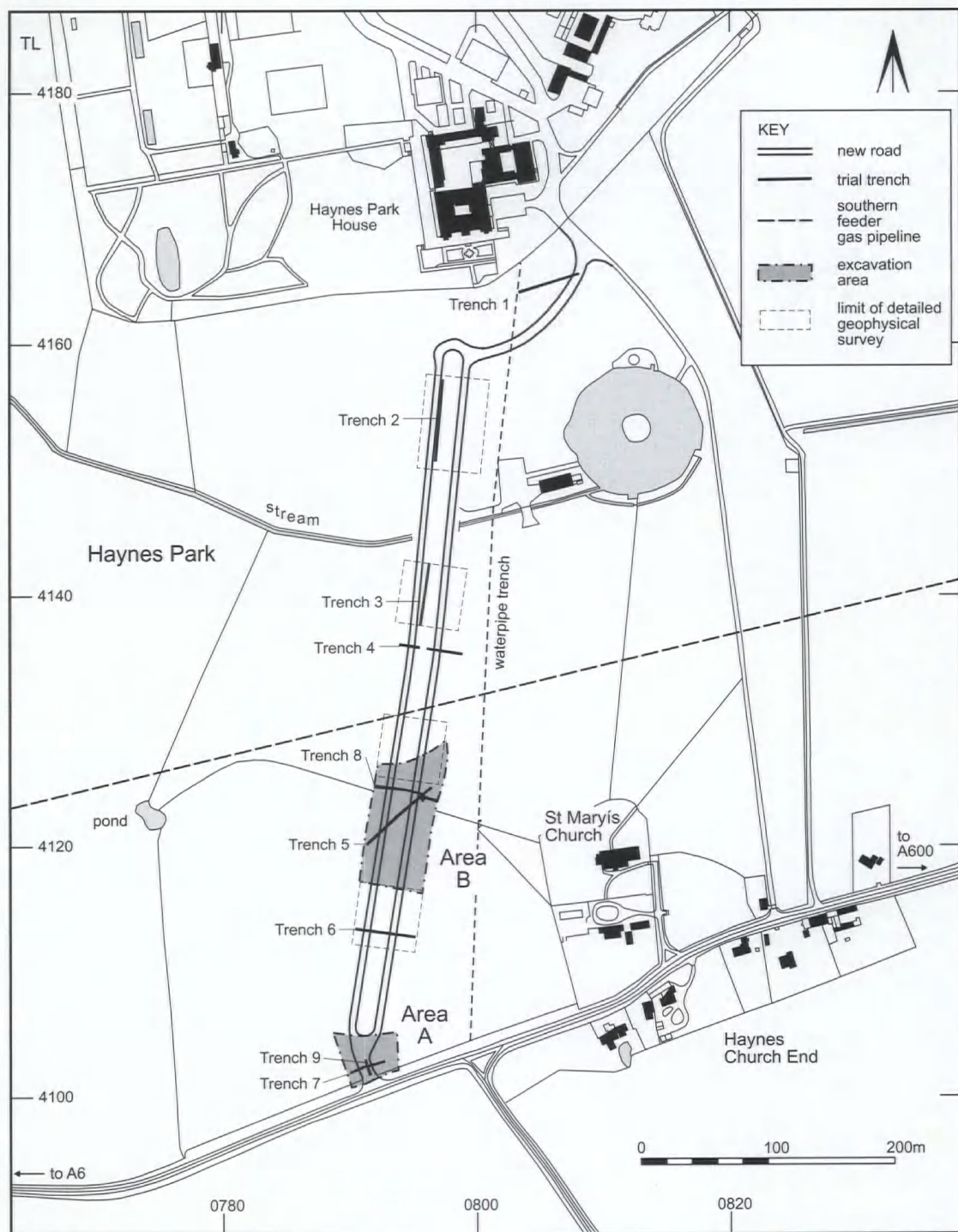


Figure 2 Site location and areas of investigation

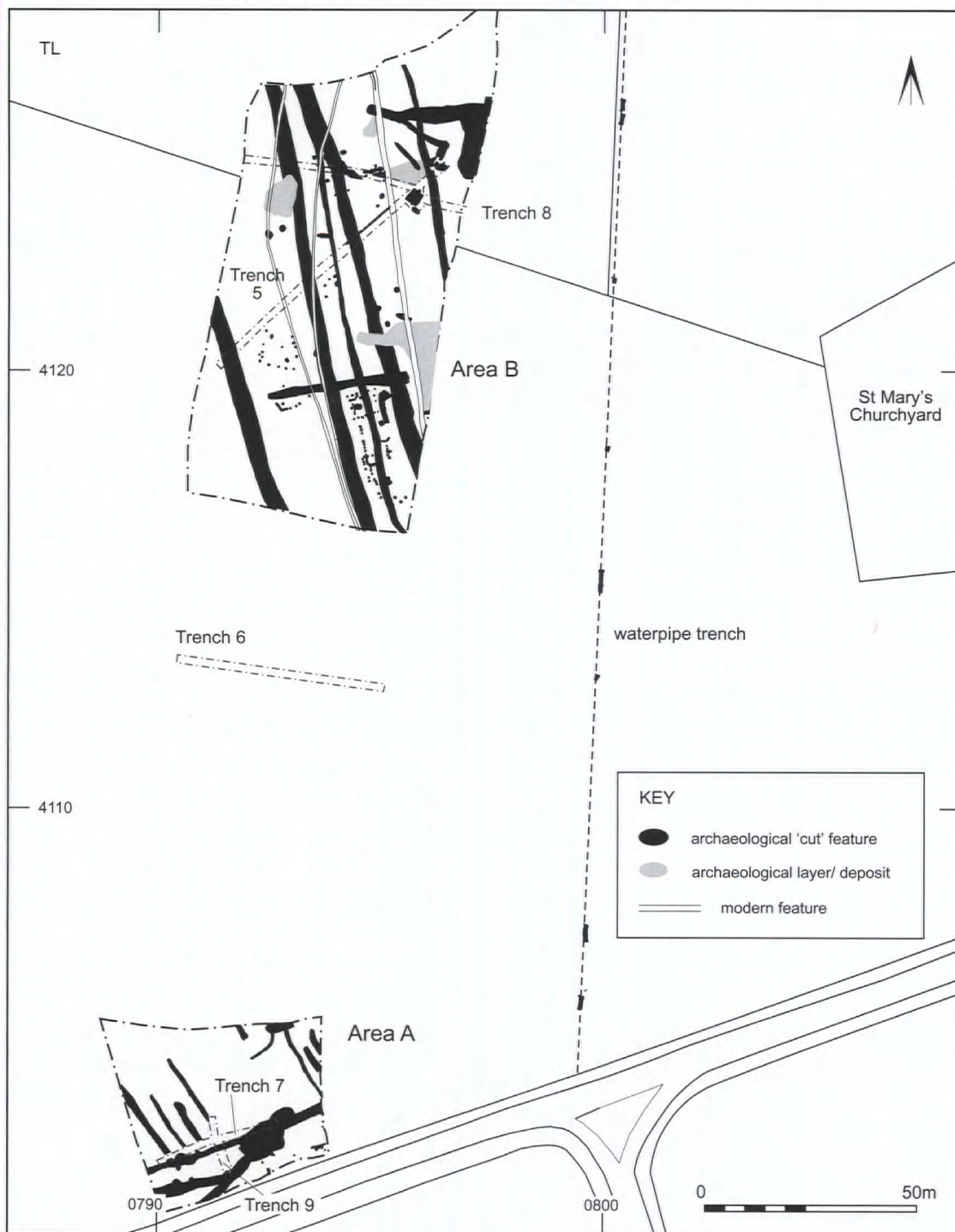
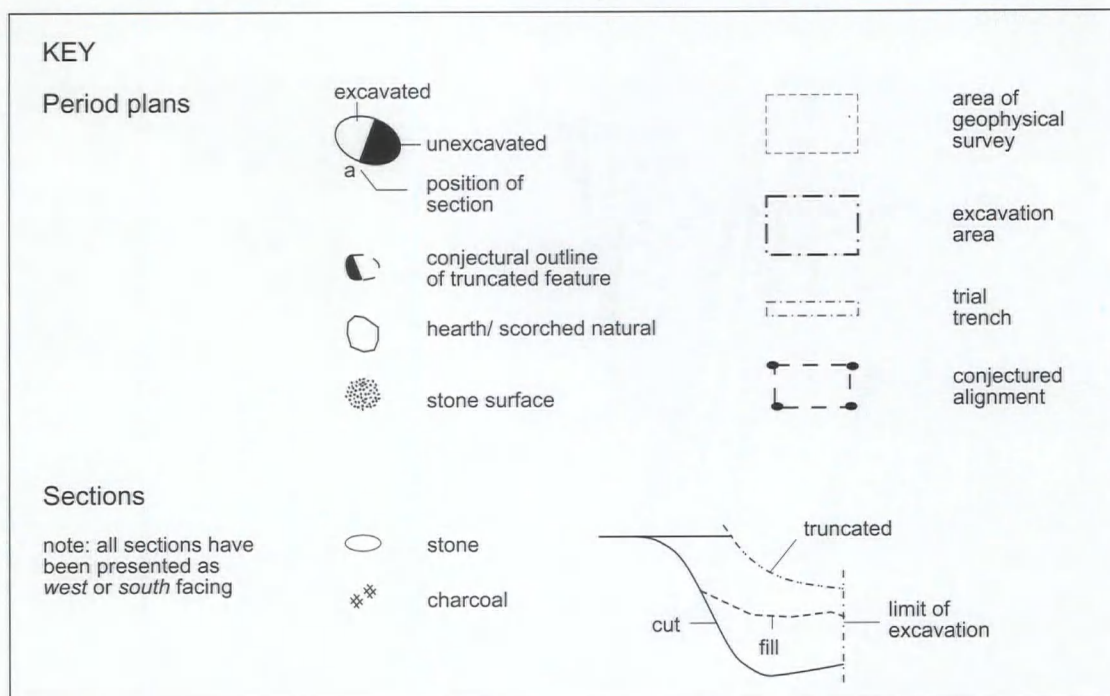


Figure 3 All features plan



Key to plans and sections

ditches and postholes associated with late Iron Age and Roman pottery. In trench 5 a Roman drying oven was identified. To clarify the nature and extent of archaeological remains two additional trenches (8 and 9) were opened.

MITIGATION STRATEGY

The field evaluation identified three areas of archaeological significance (BCAS 1993). Although important, they did not warrant preservation *in situ* and could be dealt with by detailed archaeological investigation in advance of construction. The Brief (BCC 1993b) required the implementation of an open area excavation over the two areas of Iron Age/Roman/Saxo-Norman remains to the S of the study area, along with a watching brief on post-medieval garden features to the N.

Open area excavation

The excavation was undertaken between June and September 1994 (Fig 3). The excavation areas were 120m apart and covered 1,600m² (Area A) and 5,000m² (Area B). The depth of the overburden removed by machine to reach archaeological features varied from 0.4m (Area A and S part of Area B) to 1.2m (N part of Area B, just below the crest of the

ridge where colluvial deposits had accumulated). The site recording sequences started during the evaluation were continued. The majority of isolated archaeological features were half-sectioned, and ditches were investigated within segments.

Watching Brief

Observations were made along the road corridor N of Area B and within the entire length of a water pipe trench to the E of the excavation areas.

POST-EXCAVATION METHODOLOGY

During analysis a structural hierarchy was defined, comprising:

- sub-groups (indivisible units of interpretation, *e.g.* the primary fills of the same ditch);
- groups (more interpretative entities, *e.g.* a building, concentration of pits, or a boundary ditch);
- landscapes (a collection of broadly contemporary and spatially coherent groups, *e.g.* a boundary and associated activity, or a field system);
- phases (divisions of periods based on stratigraphical evidence);
- periods (broad chronological divisions *e.g.* Roman, Saxo-Norman *etc.*)

STRUCTURE AND TERMINOLOGY IN THIS REPORT

After this introductory section, the site narrative presents the results of the investigations within a chronological framework of Period (in Roman numerals) and where appropriate Phase (in Arabic numerals). The site narrative is further sub-divided by Landscape (L prefix) and Group (G prefix). Along with describing the archaeological features the site narrative integrates a summary of the artefactual and ecofactual evidence. Where necessary an individual Feature number (F prefix) is provided in the text and labelled on the illustrations. More detailed artefactual and ecofactual data are presented within separate sections for the individual specialisms. It should be borne in mind that most of the specialist reports were written in 1996. A discussion of the results of the investigations is presented towards the end of the article. Appendices contain technical details on the artefactual and ecofactual evidence.

RESULTS OF THE INVESTIGATIONS

Mike Luke and Jackie Crick

The results of all stages of fieldwork are presented here in chronological order. Although a small lithic artefact assemblage (spanning the Mesolithic to the late Neolithic/early Bronze Age) was recovered, it is entirely residual within later features. This prehistoric evidence has not been assigned to a phase and is only briefly described in the artefacts section.

PERIOD I: EARLY-MIDDLE IRON AGE (PHASE 1) (Fig 4)

The earliest firm evidence for human activity within the study area occurred in Area B and probably represents an unenclosed farmstead L9. It comprised three structures. G69 and G73 were scatters of post-holes, associated with hearths. G74 may have been similar but only the hearth survived. Three pits G55, c. 25m to the S of the structures, have been tentatively included in this period on stratigraphic and spatial grounds.

Although small and derived from a single feature within G69, the pottery assemblage comprised only pre-'Belgic' types. The assignment of the other features to this period is based on their proximity and similarity to the single dated structure, along with the fact that several were truncated by the Period III ditches G42 and G43.

Unenclosed farmstead L9

The three structures G69, G73 and G74 are located

within c. 25m of each other, to the N of pit group G55.

Structures G69, G73 and G74

The location of hearths was indicated by either oval areas of scorched orange/red subsoil *e.g.* F1400 or by small pits with evidence of *in situ* burning on their sides *e.g.* F811 and F890 (Fig 4d and c respectively). Hearth F1400 was 2.7m by 0.7m; the other two were 1m by 0.7m. Hearth F890 contained a small quantity of pre-'Belgic' Iron Age pottery and fired clay. Unfortunately the *in situ* scorched/burnt clay was too fragmentary and cracked to be suitable for archaeomagnetic dating (pers. comm. Anthony Clark).

The postholes to the W of hearth F1400 appeared to form an arc around it, but those associated with hearth F890 formed no obvious pattern. All postholes were circular to sub-circular in shape, under 0.35m in diameter with concave profiles and c. 0.2m deep (Fig 4a and b). They were filled by a mid orange brown silty sand with occasional small stones and charcoal flecks. Posthole F1405 (associated with structure G73) was unusual in that it was larger and contained occasional medium-sized limestone fragments, possibly used for post packing.

Pit group G55

Little can be said concerning the three pits G55, partly because they had been truncated by later activity. They were oval in plan, c. 1.5m by 1m, with concave profiles and 0.55m deep (Fig 4e and f). They were filled by mid brown sandy silt with occasional small stones and charcoal flecks and fired clay. A small quantity of tiny pottery sherds of 'Belgic' and Roman types along with fired clay was recovered from pit F872. However, for stratigraphic reasons and given their spatial location, they are more likely to belong to this earlier period.

PERIOD II: 'BELGIC' IRON AGE/EARLY ROMAN (PHASES 2, 3 AND 4) (Fig 5)

Evidence for activity during this period is restricted to Area A. At least two phases of occupation are suggested by the stratigraphic relationships between features. The earliest evidence is in the form of pitting and a post-built structure (Phase 2), with a trackway and boundary ditch established later (Phases 3 and 4). It is clear that the features within the excavation area are only a small part of a larger settlement which, given the absence of features in the northern part of Area A, probably extends to the S beneath the modern road.

The features contained a moderate quantity of pottery (mainly 'Belgic' types) and fired clay, along with small quantities of animal bone and ferrous slag. No pre-'Belgic' pottery was present within the assemblage, supporting the idea that this is a new settlement in a previously unoccupied area. The presence of a small quantity of later Roman material and a medieval coin RA 4 within these deposits is likely to be the result of contamination from overlying fills.

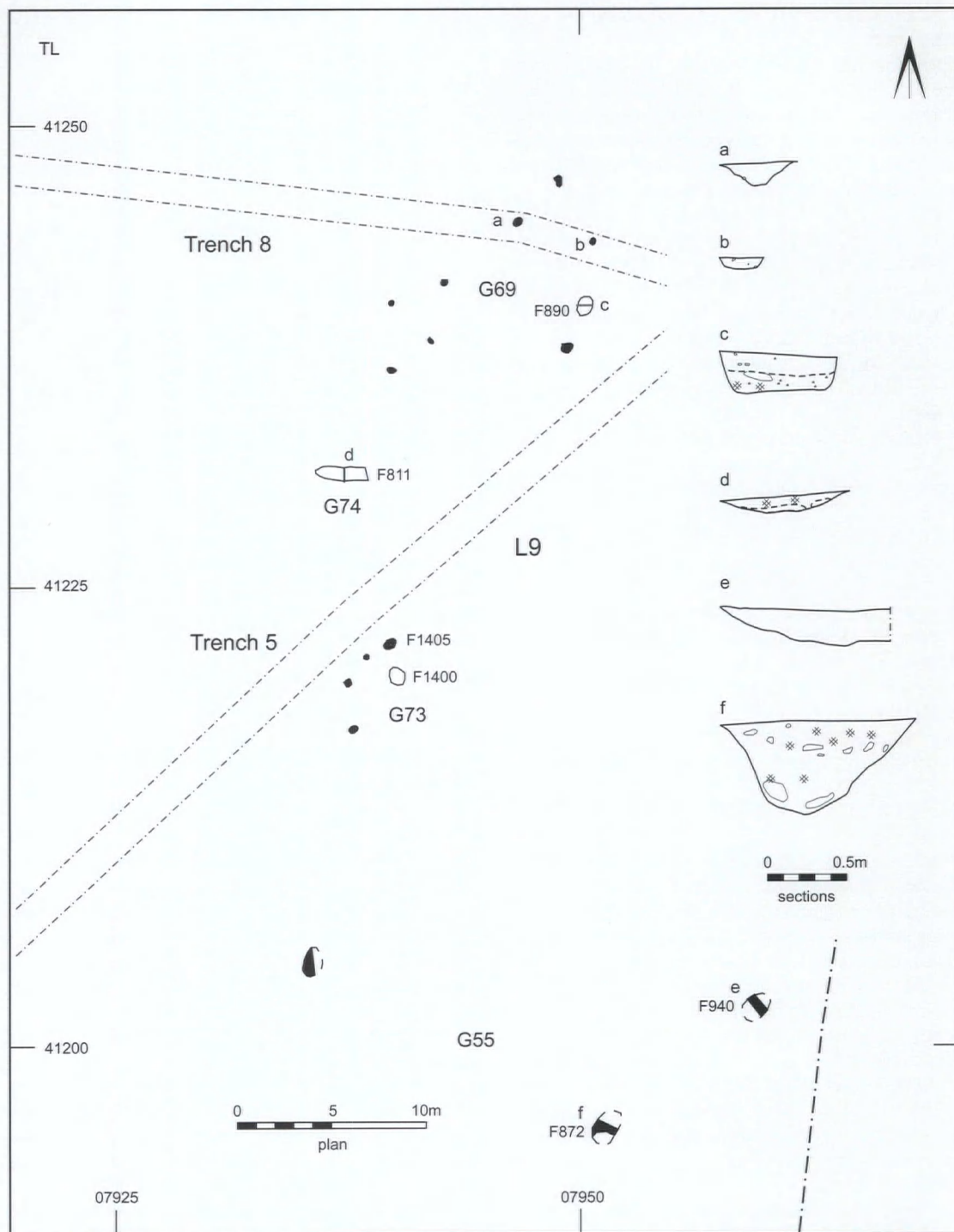


Figure 4 Period I: Pre-'Belgic' Iron Age (Phase 1); Overall plan

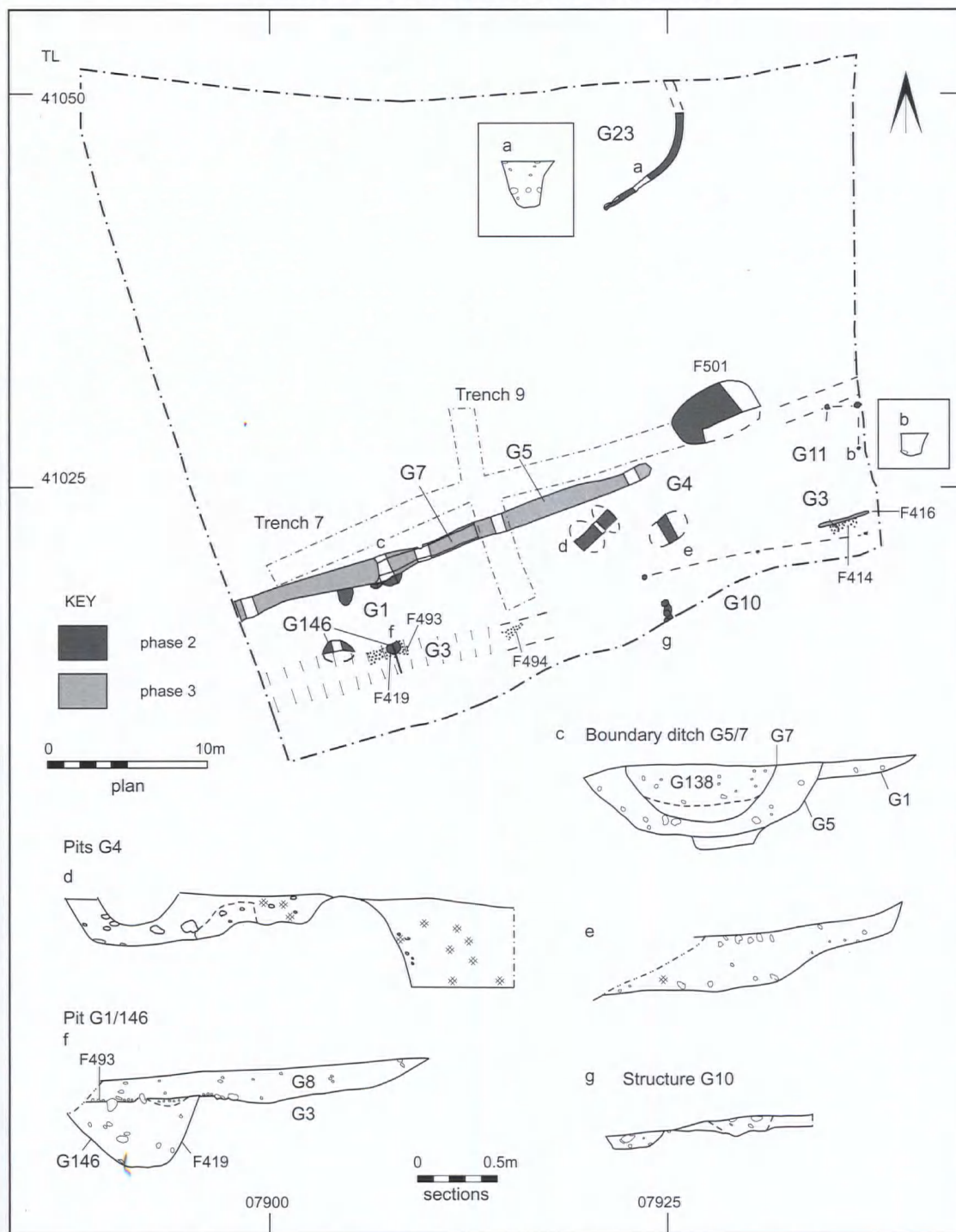


Figure 5 Period II: 'Belgic' Iron Age/early Roman (Phases 2 and 3); Overall plan

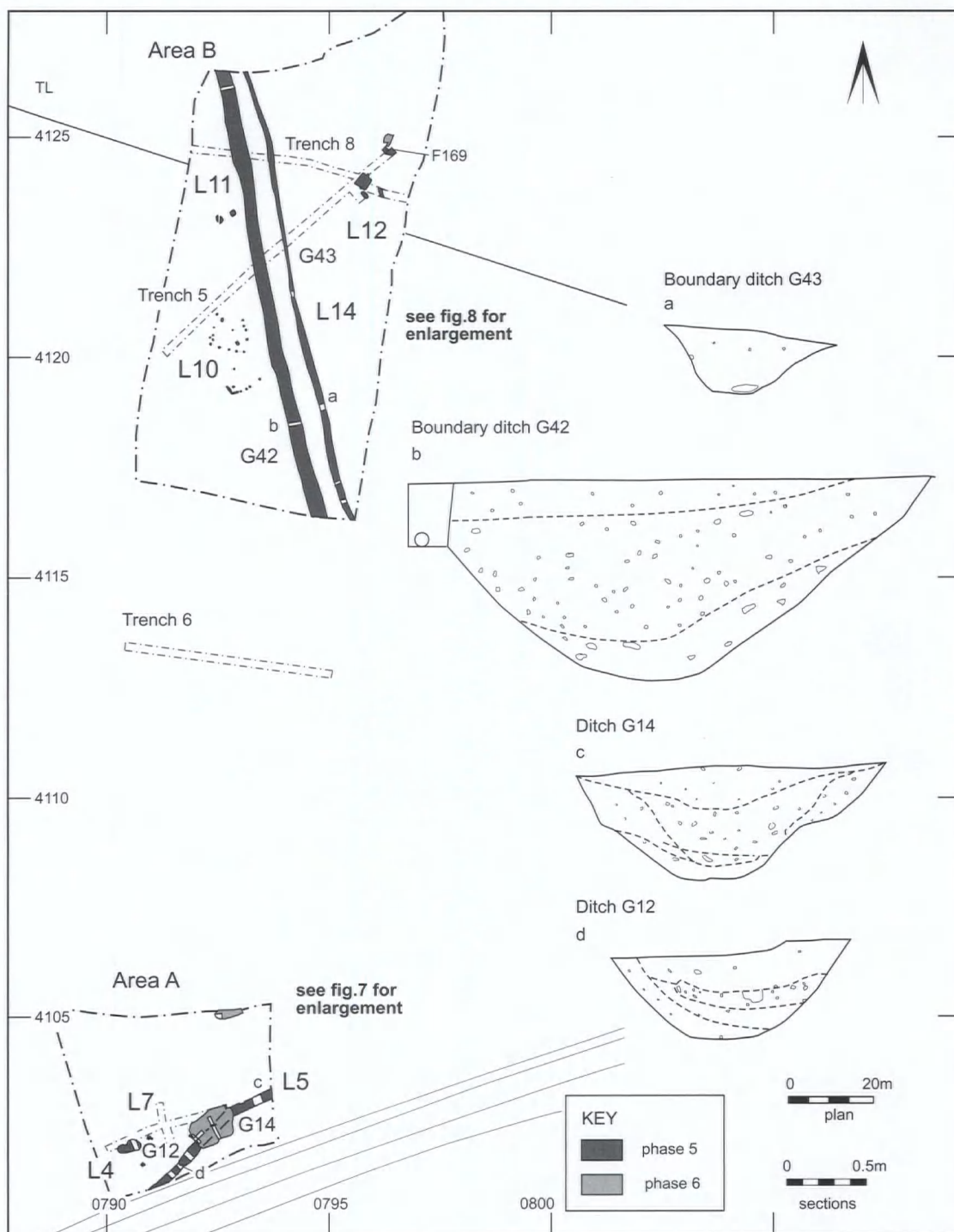


Figure 6 Period III: Early Roman (Phases 5 and 6); Overall plan

Farmstead L1 (Phase 2)

The earliest activity comprised two possible post-built structures G10 and G11, with a scatter of pits G1 and G4 to the west. Located c. 17m N of the pits was a curving ditch G23. The presence of domestic debris within the L1 features suggests they are associated with a settlement, although they presumably represent peripheral activity.

Post-built structures G10 and G11

The precise nature of G10 is uncertain but it appeared to comprise an arrangement of three postholes within a shallow slot and a perpendicular alignment of postholes. The former were all oval, 0.2m by 0.1m, with U-shaped profiles, 0.2m deep (Fig 5g). Although they may represent a rectangular building at least 14m in length, it is equally possible that they are better interpreted as a fenced yard. They were filled by a mid red brown silty clay with occasional small stones, charcoal flecks and a small quantity of 'Belgic' pottery.

Approximately 5m to the N a three-post structure G11, 2m W-E and 2.8m N-S, was identified. The postholes were sub-circular, 0.3 to 0.4m in diameter, with U-shaped profiles at least 0.2m deep (Fig 5b). They were filled by a mid reddish brown silty clay with occasional small stones and charcoal flecks. They contained a small quantity of 'Belgic' pottery and fired clay.

Pits G1/146 and G4

To the W of these structures was a scatter of eight pits, several truncated by later activity. Pits G1/146 to the W were generally oval in plan, under 1m in diameter, with U-shaped profiles between 0.3m and 0.8m deep (Fig 5c and f). Pits G4 to the E were larger, all over 1m in diameter, but of uncertain shape because they had been truncated by later activity. Their profiles varied from concave to vertical with flat bases (Fig 5d and e). Although pit F501 appeared to be very large at c. 5m by 3m, it was only 0.5m deep. Overall the size of pits G4 suggests they could have originally been dug to extract clay.

They were filled by G148, fairly uniform light brown grey silty clay deposits, varying slightly in colour and stone content. These contained moderate quantities of 'Belgic' pottery (the majority from pits G4), fired clay, a small quantity of animal bone, copper alloy waste RA 7, an iron nail and ferrous slag.

Ditch G23

This curving ditch terminated within the N part of Area A but continued beyond the limit of excavation. It was 0.35m wide with a U-shaped profile and flat base, 0.3m deep (Fig 5a). Only a tiny quantity of domestic debris (pottery and fired clay) was recovered from the fills suggesting it was some distance from the focus of the settlement. Given its isolated location, its function remains uncertain. It could have formed the boundary of an open sided enclosure or, less likely, a drainage gully associated with a roundhouse.

Trackway and boundary L2 (Phase 3)

A SW-NE trackway G3 and parallel boundary ditch G5/7 truncated a number of the earlier pits and postholes. As these features are later in date, they have been assigned to Phase 3. Although they may be peripheral to the main settlement, the quantity of

domestic debris recovered from the ditch fill suggests that the focus lies only a short distance away.

Trackway G3

A linear hollow, 3m wide and 0.1m deep, crossing the S of Area A indicates the presence of a trackway G3 (Fig 5f). At its base three discrete patches of gravel survived (F414, F494 and F493), the largest 2.7m by 1m. They comprised small to medium sized rounded flints within a dark brown silty clay matrix. The medium sized stones tended to occur near the edge of the hollow. Adjacent to gravel patch F414 was a short (3.3m), narrow (0.2m) slot F416 which may represent a wheel rut. It is presumed that the trackway was bounded by ditch G5/7 to the N but no corresponding ditch was located to the S.

Boundary ditch G5/7

Boundary ditch G5 and its recut G7 were aligned SW-NE and terminated within Area A. The original ditch G5 was 1.5m wide with a concave profile 0.5m deep. A recut G7 with a similar profile was identified centrally within the original ditch fills (Fig 5c). The fills of both ditches were light to dark brown orange silty clays with occasional small stones. They contained moderate quantities of 'Belgic' pottery (with large quantities recovered from the W segments) and small quantities of fired clay and animal bone.

It is possible that evidence for the continuation of this boundary ditch in the E part of Area A has been destroyed by a later Period III ditch (G14) which followed its course.

Infilling of trackway and ditch L3 (Phase 4)

Fill G8 of the linear hollow and fill G138 of the adjacent boundary ditch were both light brown silty clays with occasional small stones. They contained moderate quantities of 'Belgic' pottery, fired clay, a fragment of vitrified clay hearth lining and small quantities of animal bone. The presence of these deposits could suggest occupation continued in the vicinity, beyond the excavation area. Fill G8 also contained an intrusive 13th century silver coin RA 4.

PERIOD III: ROMAN (PHASES 5 AND 6)

(Figs 6, 7 and 8)

Evidence for activity was identified in both excavation areas suggesting a shift or expansion of the earlier settlement. The arrangement of ditches L11/L14/L4/L5 suggests they could be part of a large rectangular enclosure or field system (Fig 6). The alignment of L5 within excavation Area A suggests that it was utilising part of the earlier Period II boundaries. Three zones of activity were identified within the ditch system: pitting L7 (within Area A), buildings L10 and a drying oven L12 (both within Area B).

Within Area B the large quantities of domestic debris, especially pottery, recovered from the fills of ditches L11/14 and drying oven L12 suggest nearby occupation. Although the features associated with

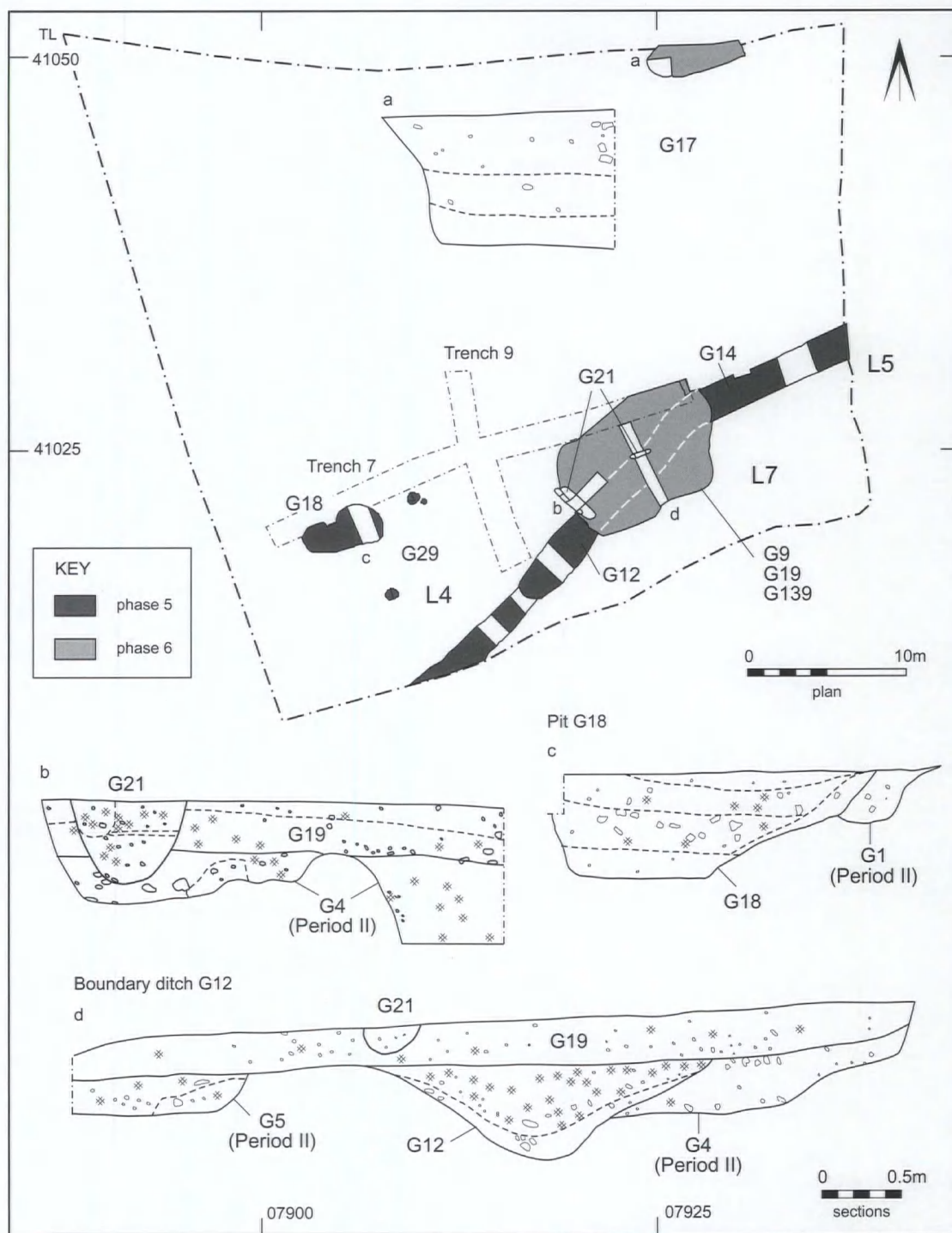


Figure 7 Period III: Early Roman (Phases 5 and 6); Area A only

the buildings L10 produced few artefacts, the material within the nearby ditch fills suggests that they may have served a domestic function.

The pottery assemblage comprises both 'Belgic' and Romano-British wares. An especially high proportion of 'Belgic' pottery was recovered from deposits within Area A. Although much of this material is derived from the upper fills of Period II features, the longevity of 'Belgic' wares is well known (see below). A sherd of type R11 pottery, which could not be earlier than the 3rd century, was recovered from colluvial deposits sealing the drying oven. This would appear to complement the archaeomagnetic dating of this structure to the late 1st/early 2nd century.

Other artefacts of note from these deposits included a 1st century AD brooch RA 3, two whetstones RA 6 and RA 61, and a millstone RA 24. The contrasting amounts of pottery recovered from the phases within this period may be significant. It could characterise Phase 6 as a period of less intense occupation and attest a shift in settlement away from the excavation areas.

A considerable quantity of Roman material was also recovered from colluvial deposits assigned to Saxo-Norman Periods IV and V. This material is presumably derived from Roman settlement remains situated on higher ground to the S. Approximately half of the pottery from the Period IV timber tank G132 is of late Roman date possibly suggesting this settlement was long-lived.

Southern field boundaries L4/L5 (Phase 5) (Figs 6 and 7)

Within Area A the E part of the S field boundary G14 (L5) partly corresponded to the earlier Period II boundary. However, the W part G12 followed a more southerly alignment.

These features contained a mixed assemblage of 'Belgic' and Roman pottery, along with small quantities of daub and a fragment of ferrous slag. Environmental samples 21 and 22 taken from pit G18 and ditch G14 respectively contained charred plant remains derived from grassland/wayside locations or from crops grown on ploughed up grassland. These results are consistent with the position of these features on the S edge of a field in an area that had once been a trackway (Phase 2). In the samples hulled wheat glumes substantially outnumbered cereal grains.

Boundary ditches G12 and 14

Ditch G14 was c. 1.8m wide, with steep sides and a flat base, 0.7m deep (Fig 6c). The continuation G12 of this ditch to the W took a more southerly alignment, possibly to avoid pits G18

and G29 (Fig 7). It was 1.5m wide with a similar profile and depth (Fig 6d and Fig 7d). The sequence of infilling of the two ditches differed slightly. However, the fills were similar mid to dark brown or orange silty clays with variable quantities of charcoal flecks. Ditch G12 contained a primary fill, which lay against the W side of the ditch only, suggesting it may have been derived from a bank on that side (Fig 6d). The fills contained large quantities of pottery, moderate quantities of fired clay, a small quantity of animal bone and ferrous slag. The secondary fills G16 of ditch G14 contained fragments of quernstone RA 10 and whetstone RA 6. Environmental sample 22 contained spelt wheat, along with a high proportion of small grass seeds and common mallow seeds.

Pit G18

Pit G18 was dug into the infilled Phase 4 ditch G5. It was sub-oval in plan c. 5m by 1.9m, with asymmetrical sides (the N near vertical, the S gently sloping) and a flat base (Fig 7c). It was filled by dark grey brown silty clay deposits G149, containing large quantities of fired clay, small and medium sized stones (many burnt) and charcoal flecks. It is clear that much of this material derived from the destruction of an oven or furnace, although there was no evidence for *in situ* burning of the sides of the pit. It is, therefore, uncertain if the pit was part of such a structure or merely a convenient place to dump material from one located in the vicinity. The fills contained a large pottery assemblage, a 1st century AD brooch RA 3 and a small quantity of animal bone. Environmental sample 21 contained a small quantity of six-row hulled barley, along with spelt wheat. Weeds included a high proportion of small grass seeds.

Pits G29

Three small pits G29 lay within 6m of pit G18. All were sub-circular, 0.8m in diameter with U-shaped profiles, less than 0.3m deep. They were filled by grey brown silty clay deposits, with occasional small stones, charcoal flecks and small quantities of pottery.

Disuse L6 of southern Phase 5 features (Phase 6)

The infilling of Phase 5 features within Area A contained rich deposits of occupation debris, including large quantities of pottery, a whetstone RA 6, a quernstone RA 10 and small quantities of animal bone. The majority of the material derived from fill G16 of ditch G14. This could suggest that settlement continued outside the excavation area while these features were infilled.

Unspecified activity L7 (Phase 6) (Fig 7)

Based on stratigraphic relationships between features it is clear that some activity continued to take place in Area A after the Phase 5 ditches had apparently gone out of use. Evidence for activity comprised gravel and other deposits G9 and G19/G139, an isolated pit G17 and short slots G21.

These deposits contained large quantities of pottery, moderate quantities of fired clay, animal bone and an iron staple RA 8. The majority of the ferrous slag from the excavation was recovered from these

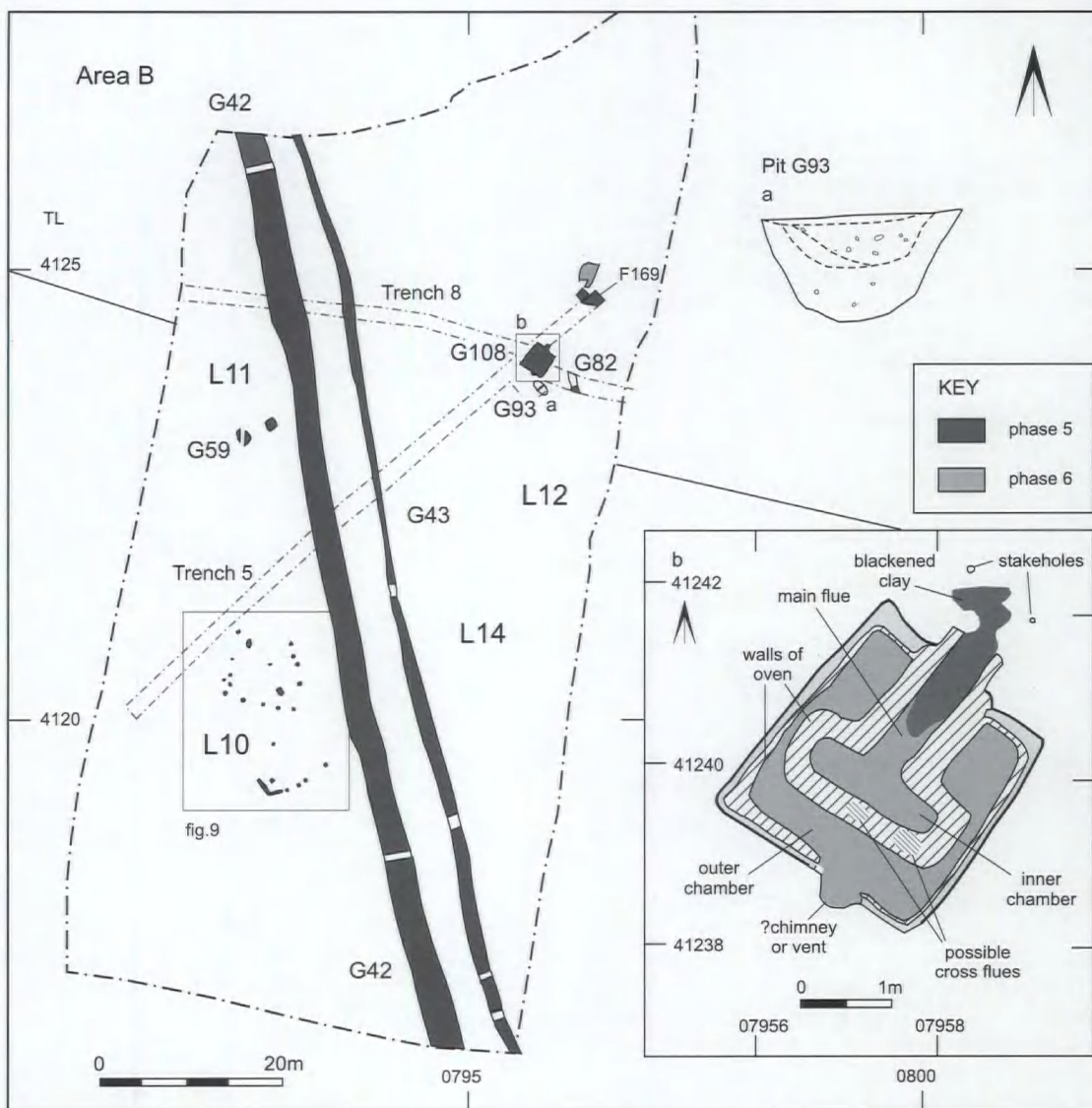


Figure 8 Period III: Early Roman (Phases 5 and 6); Area B only

deposits, along with fragments of vitrified clay hearth lining and hearth bowls. The two portions of plano-convex hearth bowls suggest iron smelting or smithing was taking place in the vicinity.

Gravel and clay deposits G9 and G19/G139

The Phase 5 ditches were sealed in places by a series of gravel spreads G9 and dark silty clay deposits G19/G139 up to 0.4m thick (Fig 7b and d). It is possible that the former were deposited to provide hardstanding over soft ground. This activity may have been associated with slots G21 although these appeared to truncate the layers. The deposits contained a moderate quantity

of ferrous slag, vitrified clay hearth lining and plano-convex hearth bowls. They also contained large quantities of pottery and fired clay, along with an iron nail and a staple RA 8.

Slots G21

Two short (under 2.6m) linear slots gave the appearance of features that would be associated with structures, but none were identifiable. They were both c. 0.4m wide with steep sides and a concave base, but differed in depth (Fig 7b and d). One was aligned NW-SE, while the other was E-W. They were filled by mid grey brown silty clay deposits with occasional small stones and charcoal flecks. A small quantity of pottery and fired clay was recovered from the fills.

Pit G17

Isolated pit G17, situated at the N limit of Area A, was substantial and probably sub-rectangular in plan. It was 6.1m long and over 1.9m wide, with near vertical sides and a flat base, 0.8m deep (Fig 7a). Light to mid brown silty clay deposits with occasional charcoal flecks and small stones filled the pit. They contained large quantities of 'Belgic' and Roman pottery and small quantities of fired clay.

Northern field boundaries L11 and L14 (Phase 5) (Figs 6 and 8)

Two NW-SE boundary ditches L11 and L14 ran perpendicular to the S ditch L4/5. Their parallel arrangement only c. 6m apart suggests that while they may not have been dug at the same time they were broadly contemporary. Two unexcavated pits G59 were situated c. 6m to the W of ditch G42.

Small quantities of domestic debris were recovered from the ditch fills, including a mixed assemblage of 'Belgic' and Roman pottery, a single fragment of *tegula* and animal bone.

Ditch G42 (L11)

This ditch was substantial, 3.2m wide and 1.3m deep with a concave profile (Fig 6b). It was filled by a mid reddish brown silty sand with occasional small and medium stones. A small quantity of pottery and animal bone were recovered from the ditch.

Ditch G43 (L14)

Ditch G43 ran parallel to G42, c. 6m to the E. It was 1.1m wide, 0.4m deep with steep sides and a flat base (Fig 6a). Its fill was very similar to G42, although occasional charcoal flecks were present. It contained a small quantity of pottery and a fragment of *tegula*.

Farmstead L10 (Phase 5) (Figs 8 and 9)

Two adjacent rectangular buildings G35 and G37 lay c. 3m apart on differing alignments. Both were post-built, although G35 featured slot construction at the SW corner. They were situated c. 4.5m W of ditch G42 in an area devoid of other evidence for activity. The only domestic debris recovered from the constituent features of the buildings was a small quantity of tiny Roman pot sherds from G35.

Building G35

The ground plan of the more southerly of the two buildings was incomplete; only the S and part of the W wall survived. It was constructed with a combination of structural slots F645/F688 and postholes. The two slots were contiguous but not quite perpendicular. They were 0.3m wide with vertical sides and a flat base, 0.2m deep (Fig 9d). The postholes were generally circular, 0.35m in diameter, with concave profiles, under 0.25m deep (Fig 9e and f). A single posthole F1363 may represent the wall line on the N side. The surviving elements suggest the building was sub-rectangular in plan, orientated

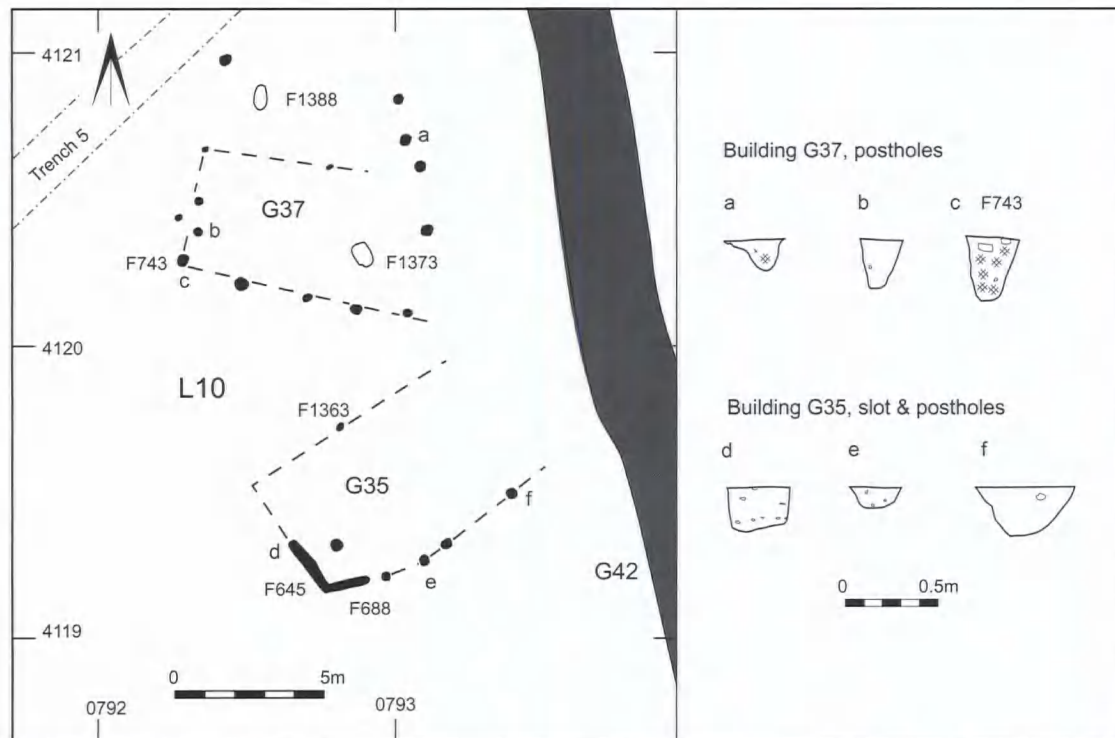


Figure 9 Period III: Early Roman; Buildings in L10

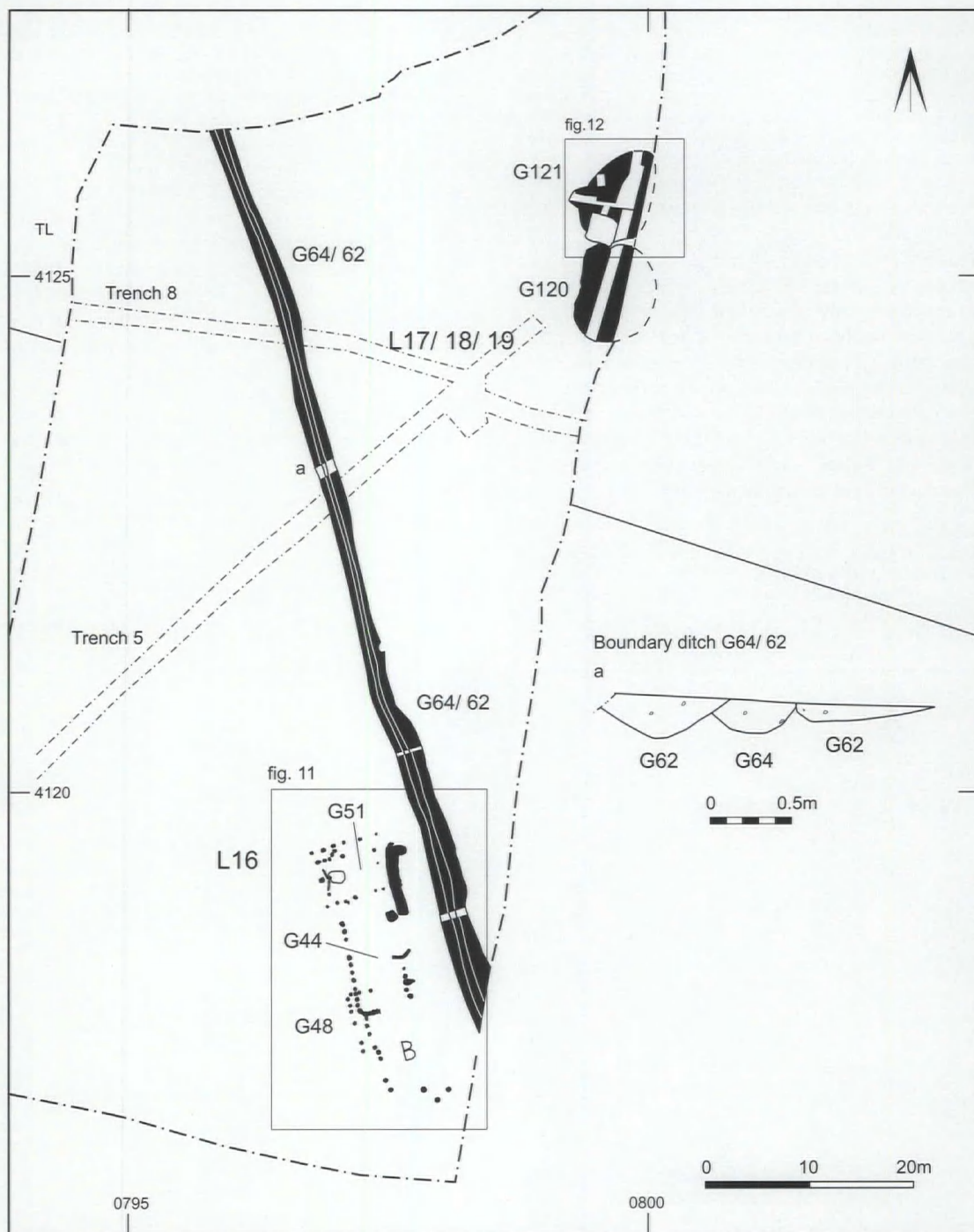


Figure 10 Period IV: Saxo-Norman (Phase 7); Overall plan

SW to NE, at least 7m long and 4.7m wide.

These features were filled by a mid red brown silty clay with occasional small stones. Two postholes contained charcoal flecks and others contained tiny quantities of pottery.

Building G37

The S and W walls of the more northerly building appeared fairly complete with close-set postholes. More scattered arrangements of postholes probably represent the position of the N and E walls. The postholes were generally sub-circular in plan, 0.35m in diameter, with steep sides and a flat base, between 0.15m and 0.35m deep (Fig 9b and c). To the SE of the interior an oval (0.9m by 0.6m) area of orange/red, burnt subsoil F1373 probably represents the location of a hearth. The intensity of scorching and cracked nature of the ground prevented archaeomagnetic dating (pers. comm. Anthony Clark). This building would probably have been rectangular in plan, orientated NW to SE and at least c. 7.7m by 4.5m in size.

The postholes were filled by a light-mid brown grey silty clay with occasional stones and charcoal flecks. Corner post F743 contained an exceptional fill with frequent charcoal flecks (Fig 9c). Environmental sample 33 from this deposit produced several fragments of oak charcoal along with a single grain of the weed, black medick.

Additional similar postholes (Fig 9a) and another probable hearth F1388 were located to the N of this building and may represent an extension to the original structure.

Activity area L12 (Phase 5) (Fig 8)

A square drying oven G108 was identified c. 50m NE of buildings L10, beyond boundary L14. Because it had been terraced into the hillside and was sealed by colluvium, it was reasonably well preserved. Deposits F169, which only survived in a restricted area downslope (below colluvial deposits G105) are believed to be associated with the use of the oven. Pits G82 and G93 were situated within c. 3m of the oven and are presumed to be contemporary. They may have been dug to provide material for use in the construction of the oven.

Domestic debris from the construction and use deposits associated with these features is restricted to small quantities of pottery (pre-'Belgic' and Roman), a millstone RA 24 and nine iron nails. A large amount of material was recovered from destruction and disuse deposits, but these are only discussed in this section where they may provide evidence for the original structure of the oven.

Drying Oven G108 (Fig 8b)

The drying oven was nearly square in shape, 3m by 2.8m, and orientated SW-NE. It was constructed in part within a deliberately dug terrace in the hillside, onto which clay had been spread out as the base of the structure and built up to create walls. The walls defined two chambers. The inner chamber was T-shaped in plan and 0.6m to 0.8m wide. It also functioned as the main flue, opening to the NE where an area of intensely blackened clay suggests that it continued for at least 0.4m beyond the main structure. The outer chamber was c. 0.7m wide, narrowing to 0.15m in proximity to the T of the inner chamber.

Base and walls

The base of the structure and the walls of the chambers were constructed of similar clay, although some organic tempering was used in the latter. The walls of the outer chamber survived to a height of 0.3m and had been constructed within, but not apparently directly against the sides of the terrace cut. A brown sand filled the gap between the outer wall and the natural subsoil. The walls of the inner chamber survived to a height of 0.35m and were a continuous build with the outer chamber. Two hollows within the T-shaped area of the walls of the inner chamber may represent the location of cross flues. A chimney or vent was also constructed off-centre in the outer wall of the structure. Two stakeholes, approximately on line with, but 0.95m beyond the walls of the main flue, may have supported a roof or windbreak structure associated with the stakehole.

The clay base of the main flue had been blackened and vitrified by intense heat indicating the seat of the fire. Hot air would have circulated from the inner chamber into the outer chamber *via* the cross flues in the walls. As a result the walls of both chambers had been oxidised to varying degrees.

Superstructure

Evidence for the nature and form of the superstructure derives primarily from the destruction deposit G110 (L13), which contained c. 60kg of daub or baked clay. The larger fragments retain impressions of circular wattles and/or square pieces of timber suggesting they were part of the walls.

Nine nails from the dark, charcoal-rich, silty clay deposit G108 and seventeen from the destruction deposits G110 (L13) may have derived from a timber floor within the oven. A substantial Roman brick was found in between the primary fill G108 and destruction deposits G110. Its position suggests it may have been used in roofing the main flue hole. It is uncertain if the millstone fragment RA 24, found adjacent to the chimney or vent in the outer chamber, was also an integral part of the superstructure.

Primary charred deposits

Environmental samples 2 and 9 from the ashy lower fill of the main flue contained little grain or charcoal. However, a grain-rich layer G108, dominated by spelt wheat and possible spelt wheat (environmental sample 12), was recovered from the base of the inner chamber. Similar material was recovered from the destruction fills of the oven (environmental samples 5 and 11). This suggests that the drying of spelt wheat was undertaken within the oven, although it is possible that some of the wheat glumes present were used as fuel.

Dating evidence

A small quantity of pottery was recovered from the primary fills of the drying oven. It included both pre-'Belgic' and Roman types and was considered unreliable for dating the construction of the oven. Therefore, twelve samples were taken for archaeomagnetic dating from the clay base of the main flue (see Appendix 5). The mean magnetic direction at the last firing was:

Dec= 2.35°W; Inc= 63.4°; alpha -95= 2.33° (12 samples).

This gives a date span of AD90-140 (68% confidence) or AD60-160 (95% confidence) (measurement reference AJC-132).

Charred deposit F169

A dark, charcoal-rich deposit F169, c. 6.5m NE of the drying oven, survived because it had been sealed and protected by colluvial deposits G105. Charred plant remains (environmen-

tal sample 3) from this material suggest that the waste products of de-husking grain were used to fire the drying oven. Soil analysis has also identified a considerable dung content within this deposit suggesting that this too was used as a fuel.

Pit G82

Pit G82 was located c. 3m E of the drying oven. It had been truncated by later activity but appears to have been sub-rectangular, c. 2m long and 1.5m wide with a U-shaped profile, 0.7m deep. It was filled by a mid grey brown silty sand with occasional small to medium sized stones, frequent charcoal flecks and small quantities of pottery.

Pit G93

Pit G93 was located immediately to the SE of the drying oven. It was oblong c. 1.8m long and 1m wide with a concave profile, 0.5m deep (Fig 8a). The lower deposits appeared to be naturally derived from the sides of the pit. However, the upper fills G143 were grey brown silty sand, containing occasional small stones, moderate quantities of fired clay, and frequent charcoal flecks. A tiny quantity of 'Belgic' pottery and animal bone was recovered. Environmental sample 5 from this deposit was found to contain similar charred plant remains to those from drying oven G108. The daub was also comparable to that from the destruction of the oven.

Destruction of drying oven L13 (Phase 5)

The drying oven was initially infilled by deposit G110. The presence of c. 60kg of daub or baked clay in the light-mid brown silty clay matrix suggests this material principally derives from the oven's destruction. It also contained a small quantity of pottery, a substantial Roman brick, 17 nails, a whetstone RA 61 and animal bone. It was sealed by a dark brown silty sand deposit G111, which contained domestic debris including a moderate quantity of pottery, a single fragment of *tegula*, small quantities of animal bone, but very little fired clay. This material is presumably derived from the deliberate dumping of rubbish into the convenient hollow provided by the disused drying oven.

Disuse L15 of northern Phase 5 features (Phase 6)

Deposits G103 sealed the destruction layers associated with the drying oven. Although they contained a large quantity of fired clay, presumably derived from the oven's destruction, they are likely to be col-luvial in origin. Within the small quantity of Roman pottery was a sherd of a type (R11) that could not be earlier than the 3rd century.

PERIOD IV: SAXO-NORMAN (PHASE 7) (Figs 10, 11, 12 and 13)

Evidence for activity during this period was only identified in Area B. Major boundary ditches G64/62 were dug adjacent to the Period III ditches, suggesting the earlier field/enclosure system was still a vis-

ible feature in the landscape. Three post-built buildings G44, G48 and G51 (L16) were constructed adjacent to these boundaries. Two large, natural spring hollows G120 and G121 (L17) had formed c. 65m N of the buildings, within a separate field/enclosure. Various attempts were made to prevent the spring hollows from silting up, including the construction of a hurdle revetment G125, which was replaced in turn by a timber tank G132.

Domestic debris derived from these features included pottery, animal bone, daub and two incomplete rotary quernstones RA 52 and RA 53. A small quantity of St Neots-type pottery was recovered, although the vast majority was residual Roman material. Waterlogging within the spring hollows G120 and G121 ensured the survival of fragments of leather shoes, typical of the Saxon or Saxo-Norman periods (with the exception of RA 30). A wooden spade/shovel handle RA 41 was also preserved; on typological grounds it too is likely to be post-Roman in date. Scientific dating confirms that at least one of the buildings and wooden structures G125 and G132 belong to this period. In addition, the absence of hulled wheat from the environmental samples from buildings G44 and G51 supports their assignment to the post-Roman period. Environmental samples 31, 35, 39 and 41 (building G44) and samples 28 and 44 (building G51) contained small quantities of grain and weed seeds, consistent with small-scale cereal processing.

Field/enclosure boundary ditch G64/62

The NW-SE ditch G64 was the only boundary identified during this period. Within the excavation area it divided three buildings from the spring hollows to the E. Although it was clear that the original ditch had been redug on several occasions, it was impossible to identify the same sequence of recuts along the entire ditch.

The boundary contained moderate quantities of pottery (mainly from the segments near the buildings) but no other domestic debris. The pottery was predominantly of Saxo-Norman date but included residual 'Belgic' and Roman wares.

Original boundary ditch G64

Originally the ditch was c. 0.5m wide with a concave profile, c. 0.5m deep. It increased in both width and depth to the S (Fig 10a). It was filled by G65 a mid grey sandy silt with occasional charcoal flecks, small stones and a moderate quantity of St Neots-type pottery.

Recuts G62 of boundary ditch G64

The later recuts G62 tended to be wider but not always deeper than the original ditch G64 (Fig 10a). They were filled by G63,

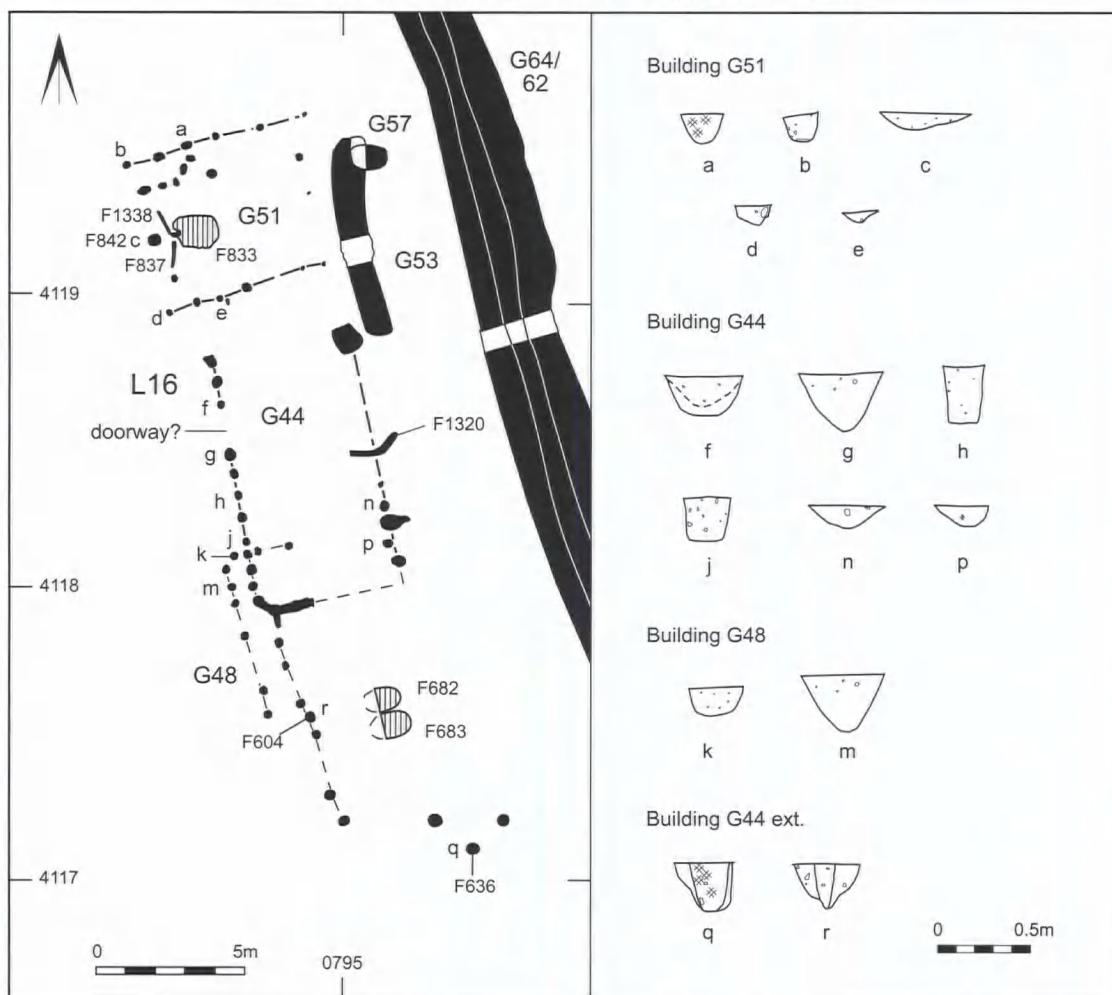


Figure 11 Period IV: Saxo-Norman (Phase 7); Buildings L16

a light yellow brown sandy silt, which contained a large quantity of St Neots-type pottery, along with a tiny quantity of animal bone and a large quantity of charcoal.

Buildings G44, G48 and G51 (L16) (Fig 11)

Three rectangular post-built buildings were situated c. 1.5m to the west of ditch G64/62. All three appeared to be parallel or perpendicular to the ditch suggesting they were contemporary with it. The arrangement of buildings G44 and G48 demonstrates that they were not contemporary. Regularly spaced postholes represented the main wall construction technique for all three. At least two contained hearths suggesting they served a domestic function. Although they contained little in the way of datable artefacts, an archaeomagnetic determination on the

hearth in G51 confirms its assignment to this period.

Building G44

This building was positioned parallel to ditch G62/64. It was rectangular in plan, 9m by 5m, and orientated NW-SE. The W wall line was probably complete and comprised evenly spaced postholes under 0.7m apart. The only exception to this was one gap of 1.4m, which could represent a doorway. The postholes were all sub-circular in plan, c. 0.3m in diameter and under 0.3m deep. Those to the N had to have more concave profiles, while those to the S had near vertical sides and flat bases (Fig 11f, g, h and j). Evidence for the E wall line survived only to the S, in the form of postholes and pits. The postholes had concave profiles, but were considerably shallower than those in the W wall line suggesting that they had been truncated (Fig 11n and p). The surviving part of the S wall at the SW corner comprised postholes placed in a short slot.

A shallow curving slot F1320 was aligned perpendicular to the E wall line and continued outside the building where it

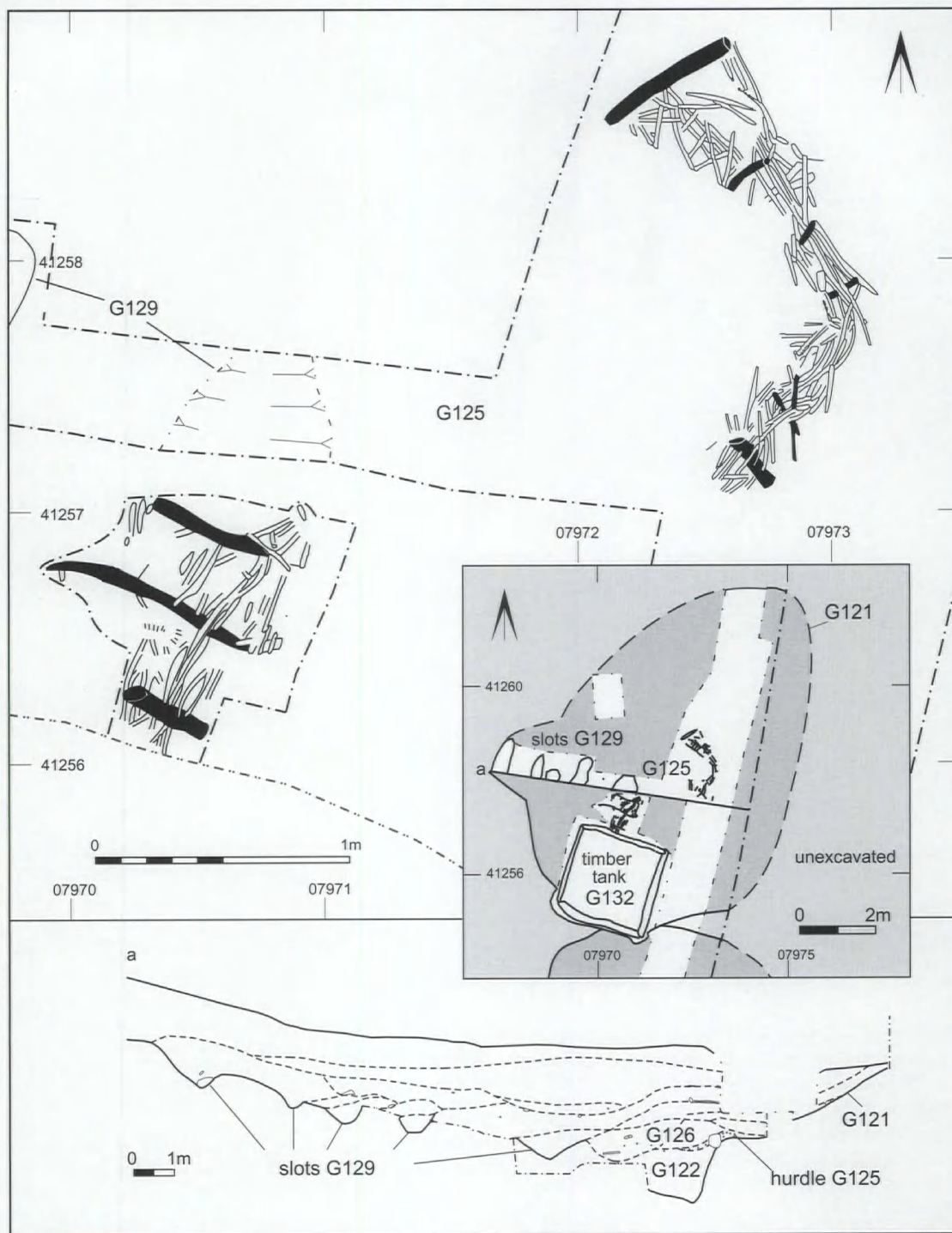


Figure 12 Period IV: Saxo-Norman (Phase 7); Hurdles G125

changed alignment slightly. It may have been associated with a doorway and it may be significant that it is nearly opposite the possible doorway in the W wall. Alternatively, it may represent a drain, associated with ditch G53 (see below).

All the constituent features of this building contained reddish brown silty sand with occasional small stones and charcoal flecks. Small quantities of residual Roman material recovered from these fills included pottery and *tegula* fragments, the latter at least used as packing material. The only other finds were small quantities of animal bone and a single nail. Environmental samples 31, 35, 39 and 41 were taken from postholes that formed both the W and E walls. They contained grain including wheat, rye, hulled barley and oats, along with weed seeds including vetch or tare. The charcoal was mostly oak and appeared to have been derived from domestic hearths rather than the building's destruction.

Possible extension to building G44

The approximate alignment of the W wall line of building G44 was continued by seven postholes. A scatter of three additional postholes to the SE may also be associated. All were sub-circular, under 0.4m in diameter, with steep sides and often a flat base. Two postholes F604 and F636 contained packing material, surrounding a circular post-pipe, 0.12m in diameter (Fig 11q and r). They were filled by similar material to the other postholes in G44, although a small number contained moderate quantities of charcoal. No pottery was recovered.

Approximately 2.4m E of the wall line extension were two oval areas F682 and F683 of scorched subsoil c. 0.8m long and 0.75m wide. The intensity of scorching and cracked nature of the ground prevented archaeomagnetic dating (pers. comm. Anthony Clark).

The existence of one clear wall line and two hearths suggests building G44 was extended to the S creating a building 17m in length.

Building G48

The NW corner of another building G48 overlapped the SW corner of building G44. The arrangement of closely spaced postholes suggests a rectangular building, at least 5.6m by 2.3m. Although there was no stratigraphic relationship between the two buildings, it is clear that they could not be contemporary. The postholes were sub-circular, under 0.3m in diameter with U-shaped profiles and depths between 0.15m and 0.4m (Fig 11k and m). They were filled by mid grey brown silty sand with occasional small stones and charcoal flecks.

Building G51

The plan of the northernmost building survived in a more complete form than that of G44 or G48. It was rectangular in shape c. 6.7m by 5.5m, orientated SW-NE, with postholes c. 1m apart forming the N and S walls. They were generally sub-circular under 0.3m in diameter with steep, concave profiles, between 0.1m and 0.4m deep (Fig 11a, b, d and e). Generally the postholes appear to get smaller to the E, possibly indicating a greater degree of truncation in this direction. Given its location it is presumed that posthole F842, is part of the W wall, possibly supporting the gable end of the building although it was not significantly larger than the others (Fig 11c). An alignment of postholes within the building, parallel to but 0.9m S of the N wall, may define an internal structure or partition.

The postholes were filled by a mid reddish brown silty clay with rare charcoal flecks and small stones. One posthole con-

tained a medium sized, vertically positioned stone, suggestive of post packing. No pottery was recovered from the fills of any of the postholes. Charred plant remains from the western postholes of the N and S walls contained small quantities of grain and weed seeds, as well as hazelnut shells (environmental samples 28 and 44).

Situated centrally within the building, but towards the W end, was an oval-shaped area of scorched subsoil F833, 1.4m by 1.1m in extent, presumably representing the location of a hearth. Adjacent to its W side were two shallow slots F837 and F1338 situated to either side of the axis of the building. Although they are presumed to be associated with the hearth, their proximity to the postulated end wall of the building leaves their precise function uncertain.

Thirteen samples were taken for archaeomagnetic dating from hearth F833. Most of these gave scattered and unusable magnetic direction. However, the results from four samples formed a distinctly tight group and it was believed these were the only samples unaffected by disturbance. The mean magnetic direction at the last firing was:

Dec= 24.07°W; Inc= 62.68°; alpha -95= 1.66° (4 samples).

This gives a date span of AD1040-1090 (68% confidence) or AD1020-1100 (95% confidence) (measurement reference AJC-133).

Ditch G53

This ditch was c. 1.1m wide with a steep concave profile, c. 0.6m deep, but only c. 7m long. It was located adjacent to buildings G44 and G51 and was parallel to boundary ditch G64/62. It was filled by similar material to that within the postholes and contained very little domestic debris.

The juxtaposition of this ditch and building G44 suggests they are broadly contemporary. It is possible, therefore, that it was originally a quarry for clay required for construction. Alternatively, it may have functioned as a drainage ditch to the W of a bank/hedge located in the c. 1.8m gap between it and boundary ditch G64/62.

Pit G57

Oval pit G57 was located to the E of building G51 and was c. 1.45m by 0.85m with a concave profile, 0.5m deep. It was filled by a mid brown grey silty sand with occasional small stones, charcoal flecks and a small quantity of residual 'Belgic' pottery.

The function of the pit is uncertain. Although its proximity to building G51 could suggest they are associated, it is stratigraphically later than ditch G53, which might also be thought to be related to this building.

Spring line hollows L17

A spring, which may have existed in some form in the Roman period, created large hollows in the hill-side approximately 60m N of the buildings on the opposite side of boundary ditches G64/62 (Fig 10). Their upper fills, which comprised colluvial deposits, were removed by machine revealing the approximate shape of the spring hollows. A 1m wide trench was then dug by machine on a N-S alignment to clarify the nature of the hollows. This resulted in the discovery of waterlogged deposits and, within the N hollow, waterlogged wood. Thereafter, hand

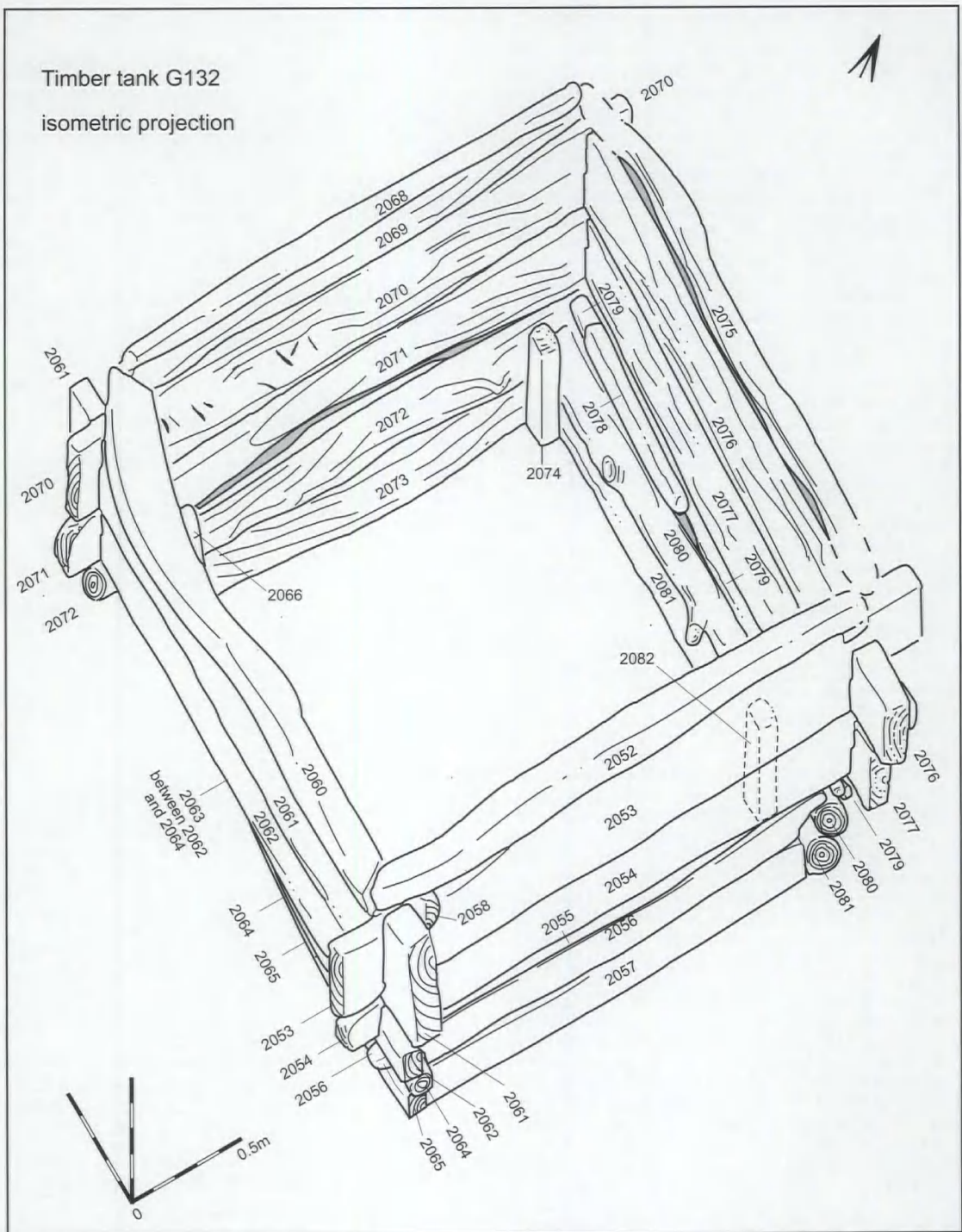


Figure 13 Period IV: Saxo-Norman (Phase 7); Timber Tank G132

excavation was concentrated on the investigation of restricted areas of the deposits where wooden structures were present and on the opening of a W-E trench to clarify the association of these deposits with the W side of the hollow.

The N hollow G121 was 8m by 6m; the S hollow G120 was 9.5m by 4m. The sides appeared to be steeper to the S and N and were more gently sloping to the W. Although the two spring hollows appeared to be separated by a gap of 0.5m, it is possible that they represent the deeper parts of a single, larger feature.

The primary fills of both hollows comprised dark grey black silty clay deposits with occasional small and medium sized stones. Only those in the N hollow produced any domestic debris: a single sherd of Iron Age pottery, a hobnail and a small amount of animal bone.

Human use of spring hollows L18 (Fig 12 and Fig 13)

Deposits of dark greenish grey silty sand G122 with occasional small stones sealed the primary fills of both spring hollows. These are interpreted as colluvial deposits, derived from unstable, upslope soils. Timber hurdles G125 were used to create a rectangular structure at least c. 3m by 1.2m in the base of the N spring hollow G121, presumably in an attempt to keep an area open as a source of water. Situated on the W side of this structure were a number of linear slots G129 dug either into the side or primary fills of the spring hollow. It is unclear if these were parts of further revetments or represent the position of steps giving access down into the spring. There was no evidence of a deliberate attempt to keep the S spring hollow open, although along with brushwood, fragments of broken hurdles were found within deposit G122.

Deposit G122 also contained small quantities of pottery and fired clay, along with a relatively large quantity of animal bone. However, the latter was all very fragmentary and worn and was probably derived from the higher ground to the S. Although small in quantity, the assemblage of charred grain from these deposits is consistent with a medieval date (environmental sample 59).

Hurdles G125 (Fig 12)

Two lengths of interwoven wooden hurdles were found partly embedded in the primary fill of the N spring hollow G121. The N hurdle was c. 2m long and 0.3m wide with a distinct curve. It was composed of six sails, set c. 0.25m apart and linked by closely interwoven roundwood rods. The S hurdle was c. 0.9m long and 0.6m wide aligned SW-NE. It comprised three sails, set c. 0.25m apart linked by closely interwoven roundwood rods.

The majority of the rods and sails were hazel (*Corylus*). Where examined, the sails were found to have sharpened ends, which had been embedded not just in the primary fills of the spring hollow but also in the natural clay. Characteristic coppice 'heels' were visible confirming that they were grown and cut from coppiced stools.

The structure was fairly well preserved but had disintegrated at its extremities. Thirty-seven samples were taken from the N hurdle and twenty-two from the S hurdle. The range of species and the woodworking technology is described more fully below. It is clear that the hurdles continued beyond the area that it was possible to investigate fully.

The deposits directly around the hurdles contained a small quantity of Roman pottery, an undiagnostic leather shoe fragment RA 57 and a tiny quantity of animal bone, none of which provided reliable dating evidence. However, both hurdles are presumed to be contemporary because they were only c. 1m apart and shared the same stratigraphic position, construction method and materials. Modelling of radiocarbon determinations on samples from each hurdle suggests a date of cal AD960-1060 (95% confidence) for the structure. For further details see Appendix 5.

Slots G129 (Fig 12)

A number of shallow slots G129 dug into the W side of the N spring hollow were identified. They were over 0.7m long, between 0.2 and 0.4m wide with concave profiles and under 0.15m deep (Fig 12a). They were filled by mid to dark grey sandy clays with occasional small stones and no domestic debris. It is possible that they originally held timber as part of another attempt to keep the hollow clear of colluvial deposits. Alternatively they may represent the position of steps leading down to the area of open water.

Disuse of spring hollows L19

Deposits G126 (Fig 12a), overlying the hurdles in the N spring hollow, contained a mass of timber and wood. Along with fragments of rods and sails presumably derived from the collapse/robbing of the hurdle, there was also a mix of chips, brushwood, offcuts and planks clearly associated with woodworking. Fifty-two wood samples were taken and the range of species and the technology is described in more detail below. In addition, a hazel ?cattle goad RA 59 and a small quantity of Roman pottery were recovered.

Overlying G126, deposits G127 comprised mid to dark brown grey sandy clays with occasional small and medium sized stones. They contained a range of domestic debris including pottery, brick, a rotary quernstone fragment RA 52 and a relatively large quantity of animal bone, along with a small fragment of vitrified clay hearth lining. Waterlogged material included fragments of leather shoes RA 36, 38, 39, 42 and 43, an individual fragment of leather waste RA 55 and a wooden spade handle RA 41. Much of the pottery was Roman in date, although a small quantity of typical St Neots-type pottery was also recovered. Several pieces of animal bone exhibited

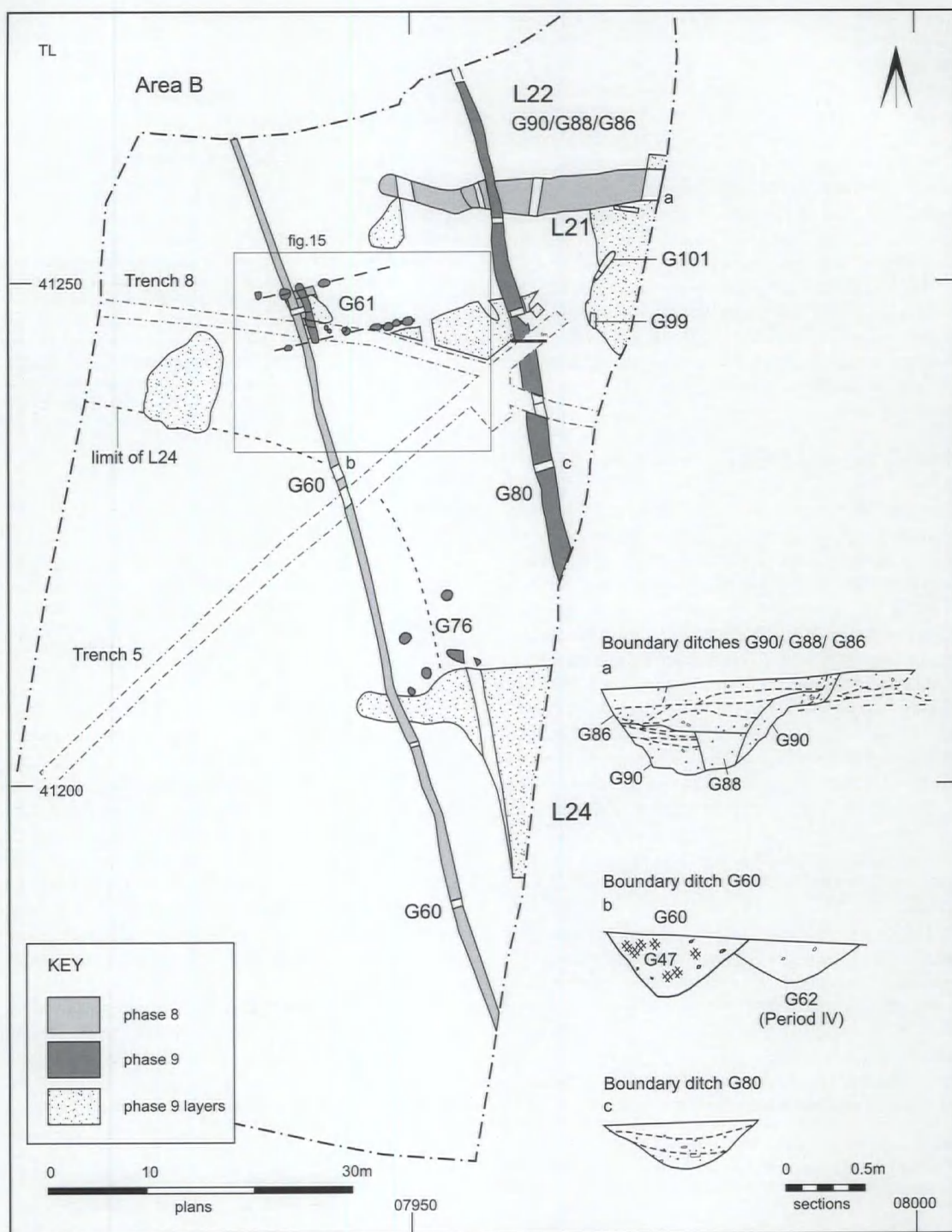


Figure 14 Period V: Early Medieval (Phase 8 and 9); Overall plan

evidence of gnawing suggesting this material may have been derived from a midden where animals were permitted to roam.

Deposits G123 within the S spring hollow G120 were very similar in both nature and inclusions. A few pieces of waterlogged wood were found, including fragments from two rods. In addition, there was a small quantity of residual Roman pottery, leather shoe fragments RA 30 and 31 (typologically Roman in date) and a relatively large quantity of animal bone.

The domestic debris was sealed by deposits G124, G128, G129 and G130, comprising light-mid grey brown sandy clays with rare small stones, suggestive of a colluvial origin. They contained moderate quantities of pottery (mainly Roman, but some Saxo-Norman), quern fragments RA 53 and a tiny quantity of animal bone.

Timber tank L20

Following the infilling of the N spring hollow, a large pit was dug through the colluvial and other deposits to allow the construction of a substantial timber tank G132, presumably again to provide a source of water. A small pit G109 situated immediately to the NE of the tank may relate to its use, perhaps functioning as part of a frame supporting a bucket or ladder.

Timber Tank G132 (Fig 13)

A construction pit (at least 1.2m deep) was dug through the deposits filling the N spring hollow into the underlying natural clay (Fig 12). It was 2.7m square, orientated WNW-ESE. Within the pit an arrangement of interlocking timbers created a 2.2m square structure.

The tank was constructed in three distinct parts (Fig 13). The lower part comprised unworked, roundwood logs up to 0.48m in diameter laid horizontally and butted up at their ends. These were held in place by large, pointed cleft stakes at each corner of the structure. The middle part consisted of two major timbers on each side of the tank, linked by lap joints at the corners. These timbers comprised split lengths of oak, laid on edge and halved near their ends. The uppermost level of timberwork, as it survived, was not jointed but was butted at the corners. Smaller pieces of timber were used as packing in-between and behind the major timbers.

The gap between the edge of the tank and the side of the construction pit was packed with fairly pure, blue grey clay, although it also contained "packing" material in the form of a small number of timber offcuts. The clay may have acted as a seal to prevent groundwater escaping through the timber walls.

Dendrochronological analysis indicates that there was no difference in felling date between the timbers used in the lower and upper parts of the structure. Most were felled in the summer of AD1081.

No evidence for any craft or industrial processing was recovered within or in the vicinity of the tank, so it is presumed that it was used purely for water collection. The primary

deposits within the tank contained a small number of residual Roman pottery sherds and animal bone fragments.

Pit G109

Pit G109 was circular with a diameter of 0.9m, steep sides and a slightly concave base, 0.35m deep. It was filled by a dark greyish brown silty clay with occasional small stones and a small quantity of fired clay.

PERIOD V: EARLY MEDIEVAL (PHASES 8 AND 9) (Figs 14 and 15)

Evidence for activity during this period was restricted to Area B and initially comprised the digging of two ditches G60 and G90/88/86. The former was a recut of the earlier Period IV ditches G62/64 and the latter, positioned perpendicular, may have been designed, with an associated hedge/bank to the S, to restrict downslope soil movement. The majority of the colluvial deposits, including L21 within the former spring hollows and L24 have been assigned to this period based on their stratigraphic locations. Later within this period (Phase 9) ditch G60 was abandoned, but a new ditch G80 was dug c. 18m to the E. Contemporary activity includes building G61 and pit group G76.

Contemporary domestic debris recovered from these features is restricted to a small quantity of pottery and a single iron horseshoe RA 22. This may suggest that activity during this period was not domestic in nature. The incidence of residual 'Belgic' and Roman pottery is extremely high presumably reflecting the absence of contemporary domestic occupation and the continued erosion of material from the earlier settlement on the higher ground to the S. Ditches G90/88/86 produced small quantities of St Neots-type and Stamford wares of 10th-12th century date. The possible floor make-up layers within building G61 (Phase 9) also produced a small quantity of St Neots-type pottery suggesting that they are contemporary.

Environmental sample 30 from ditch G60 contained a considerable quantity of grain, probably from rye or bread wheat, which may represent the accidental charring of clean, processed grain.

Boundary ditches G60 and G90/88/86 (L22) (Phase 8)

The near-perpendicular arrangement of NW-SE ditch G60 and W-E ditch G90/88/86 suggests they are contemporary. The absence of domestic debris may indicate that they were part of a field system. Both appear to have remained in use during Phase 8 only. G60 was the latest in a series of ditches in this location, originating in Period IV. However, ditches

G90/88/86 represent repeated redigging of a boundary, which, due to the accumulation of colluvial deposits G117, went out of use by the end of Phase 8.

The ditches contained only small quantities of pottery (mainly residual Roman but also some St Neots-type wares), fired clay, a *tegula* fragment, an iron horseshoe RA 22, part of a shoe RA 54 and animal bone.

Boundary ditch G60

Ditch G60 was a recut of Period IV ditches G64/62. It was c. 0.9m wide with a concave profile, 0.5m deep (Fig 14b). It was filled by yellow brown silty sand deposits with occasional small and medium sized stones. The fills contained a small quantity of residual Roman pottery, fired clay, a single iron shoeing nail and an iron horseshoe RA 22. Although charcoal flecks were relatively rare to the S, they occurred far more frequently in the N segments. The charcoal from environmental sample 30 was predominately Pomoideae type, e.g. hawthorn, apple *etc.* and may represent the burning of a hedge associated with the ditch. This sample also contained a relatively large quantity of grain but hardly any weed seeds.

Boundary ditch G90/88/86

The boundary formed by ditch G90 and its recuts may have been designed to restrict downslope erosion (Fig 14a). The original ditch G90 was dug through colluvial deposits G91. It was 2.5m wide, with steep sides and a concave base, 1m deep. It was filled by light to mid grey brown silty sand deposits with occasional small stones. Recut G88 was 0.6m wide with near vertical sides, which may have been partially revetted with large stones. It was 1m deep with a flattish base. Its fills G89 were peat-like deposits comprised of black silty clay with rare small and medium sized stones. They contained a moderate quantity of animal bone including badger, a fragment of *tegula* and part of a shoe RA 54. The final form of the boundary G86 was 3m wide with steep sides and a flat base, 0.7m deep. It was filled by light grey brown sandy silts with rare small stones and charcoal flecks. These deposits contained only small quantities of residual Roman pottery and animal bone.

Other evidence for activity (Phase 8)

The only other evidence for activity within Phase 8 was the digging of a gully G101 and pit G99 into the infilled S spring hollow. The gully was aligned SW-NE. It was 3.5m long, 0.65m wide with a gentle concave profile, under 0.2m deep. Its fill contained only small quantities of domestic debris. Pit G99 was sub-circular, 0.8m in diameter with a concave profile, 0.5m deep. Although darker in colour, its fills were similar to the colluvial material it was dug into. Both features contained moderate quantities of residual Roman pottery.

Disuse of the timber tank L21 (Phase 8)

Dark grey brown silty sand deposits G118 accumulated within the timber tank G132 and were progres-

sively darker with depth. They contained rare small stones and occasional charcoal flecks. Many of the offcuts and wood chips found within this deposit bore tool marks, suggesting that they were waste materials from woodworking. It also contained residual Roman material including pottery, two coins RA 35 and 37, along with flue and brick fragments. In addition, a moderate quantity of animal bone and a single iron nail were recovered. Overlying deposits G131 contained an undated lead weight RA 17.

Other colluvial deposits L24 (Phase 8)

During machining of the topsoil, extensive colluvial deposits were removed over the N and E of Area B. Small areas were left *in situ* to permit hand excavation and the recording of soil profiles. The depth of these deposits (confirmed in the sides of the excavation area) increased from 0.1m in the S, to 0.8m to the N. They comprised mid to dark orangey brown silty sands with rare small stones and charcoal flecks. Deposits G79 and G106 contained moderate quantities of pottery, the majority Roman but also some St. Neots-type ware, along with a single iron nail.

Boundary ditch G80 (Phase 9)

Approximately 18m E of boundary ditch G60 a new ditch G80 was dug on the same alignment. It was dug into colluvial deposits sealing the Period IV spring hollows. It is possible the boundary was moved eastwards to maximise the area of useable land to the W of the soft ground overlying the former spring hollows.

Boundary ditch G80

Ditch G80 had a consistently concave profile, increasing from 1m wide and 0.25m deep at the N to 2m wide and 0.6m deep at the S (Fig 14c). Its fills comprised mid orange brown silty sands with occasional small stones and rare large stones in the primary levels. The ditch produced moderate quantities of pottery (mainly Roman but also a small amount of Saxo-Norman and medieval wares) and fired clay.

Building G61 and pit group G76 (L25) (Phase 9) (Fig 15)

The alignment and location of building G61 would suggest it is contemporary with boundary ditch G80. It was constructed over the infilled Phase 8 ditch G60. One of its fills, G147, contained Pomoideae type charcoal (hawthorn, apple *etc.*), which may have derived from the destruction of an associated hedge prior to building construction (environmental sample 30). Situated c. 30m S of the building was a group of five pits or postholes G76.

The artefact assemblage from structural elements of the building was restricted to a small quantity of pottery (mainly residual but including St. Neots-type ware), fired clay and fragments of a rotary quern RA 44. The small quantity and limited range of artefacts recovered could suggest that the building served an agricultural rather than a domestic function.

Building G61

The N and S wall lines of this building were identified by two parallel alignments of postholes/pits. These suggest the building was at least 14m long and 6m wide. The postpits were generally oval in shape and large (0.7m in diameter and 0.5m deep) e.g. F855. They usually had steep sides and a gently concave base (Fig 15a, b and c). Those in the E part of the S wall were associated with a narrow slot, which may have held vertical planks (Fig 15c). These and the other postholes were filled by mid to dark orangey brown silty sand with rare small stones and occasional charcoal flecks.

Internally the building was partitioned into two by a substantial slot F916. This was 0.6m wide with near vertical sides and a flat, but sloping base, 0.5m deep (Fig 15a). It is possible

the depth of this slot reflects the fact that it was dug into the soft infilling of ditch G62. The slot was filled by a light brown, red-mottled sandy clay with moderate quantities of small to large stones (some burnt) and charcoal flecks. The red mottling represented tiny fragments of fired clay. Despite being apparently truncated by the slot, deposit F899 was very similar to the fill of the slot and may be associated with the building, possibly representing a floor make-up. It contained seven fragments of quernstone RA 44. Three smaller postholes were situated inside the building adjacent to the S wall, but they formed no significant pattern.

The limited pottery assemblage from fills G61 and G68 associated with this building included residual 'Belgic' and Roman sherds, but also a small quantity of St Neots-type ware.

Pit group G76

G76 comprises five pits or large postholes, clustered within a 10m by 7m area. At least one of the pits truncated the upper fills of ditch G60, hence their assignment to this phase. They were all sub-circular in shape, under 1m in diameter with concave profiles and under 0.2m deep. Their fills G77 comprised yellowish brown silty sand with rare small stones and frequent charcoal flecks; they contained no artefacts. Large quantities

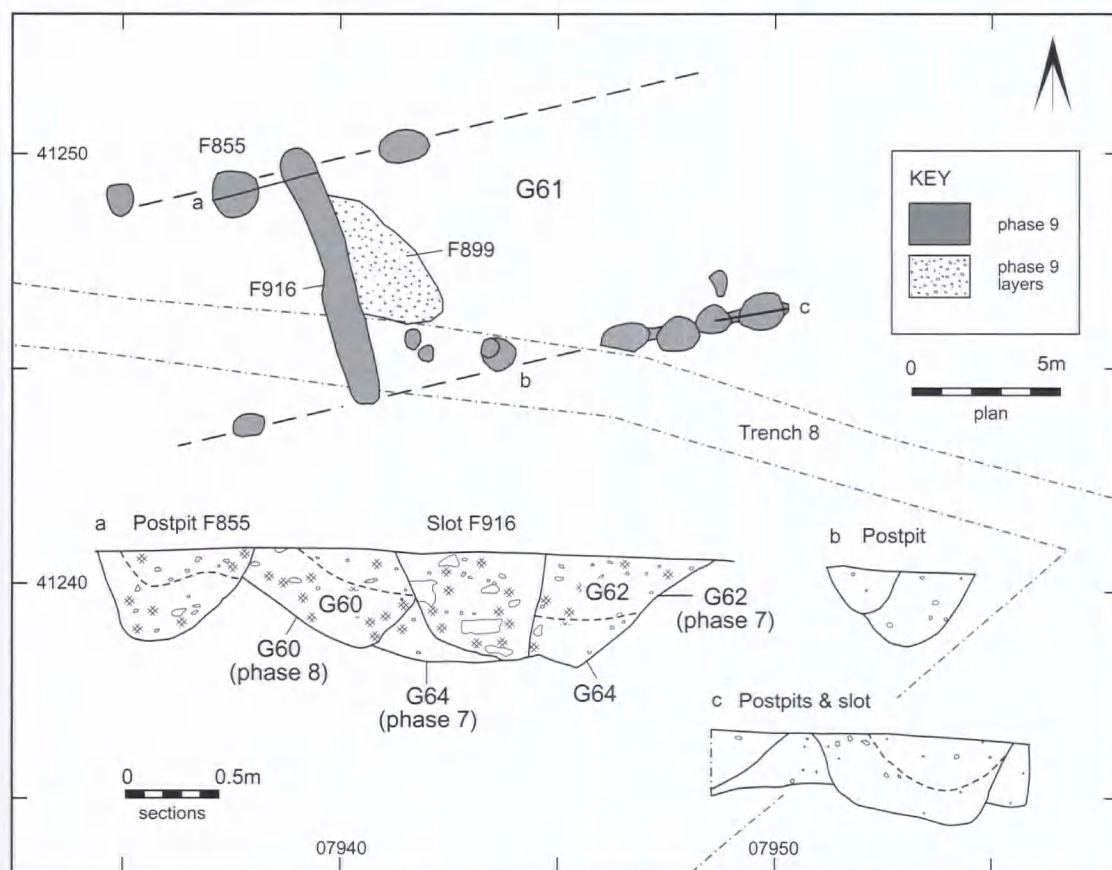


Figure 15 Period V: Early Medieval (Phase 9); Building G61

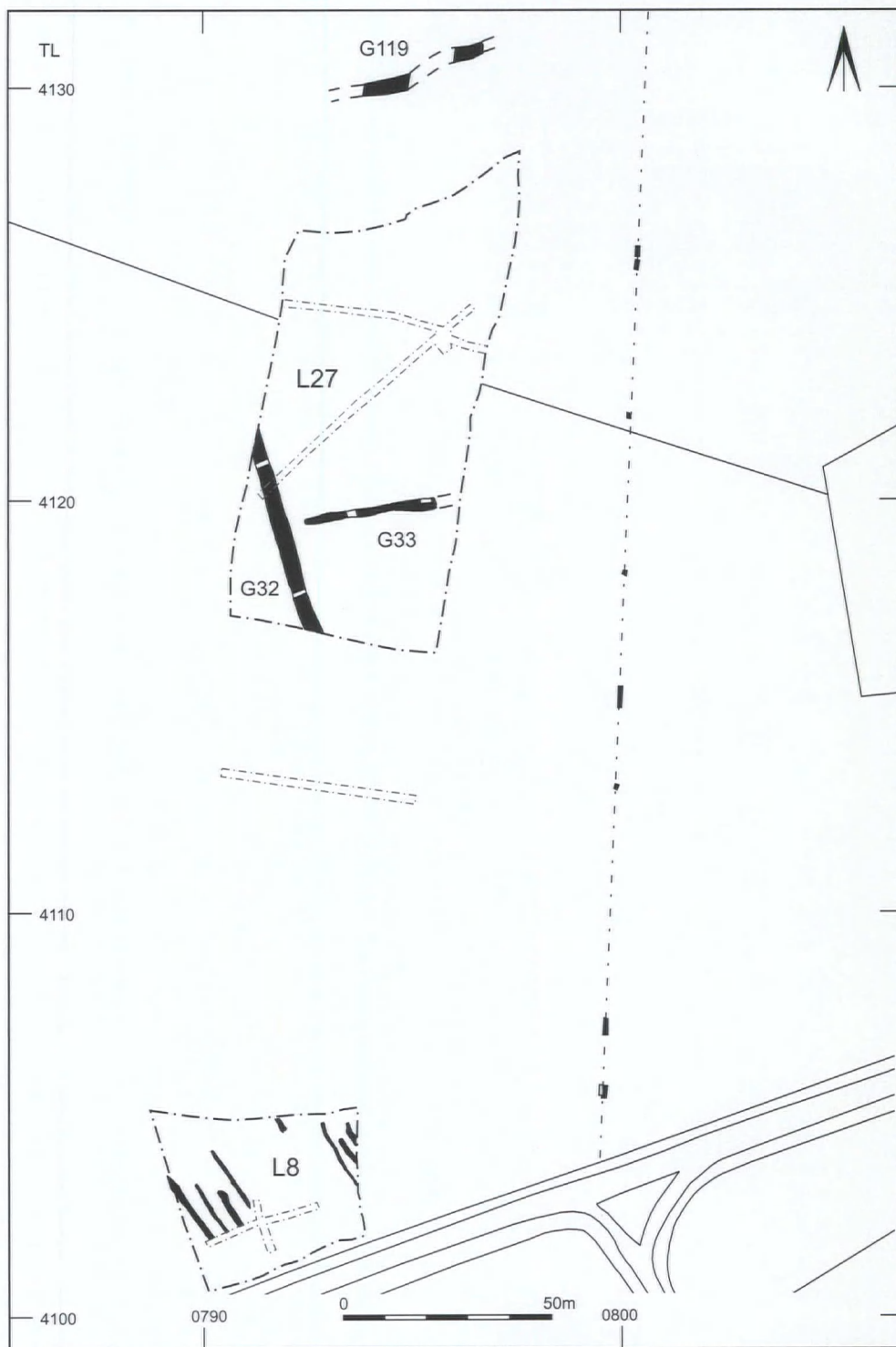


Figure 16 Period VI: Medieval (Phase 11); Overall plan

of oak charcoal but only small quantities of grain and chaff were recovered from environmental samples 38, 43 and 45.

PERIOD VI: MEDIEVAL (PHASES 10 AND 11) (Fig 16)

There is no evidence in terms of types of features or artefacts to suggest that domestic activity took place during this period. It is presumed that settlement was focused on St. Mary's Church, c. 160m to the E (Fig 2). Apart from post-medieval and modern features, not described in this article, the features assigned to this period were the latest in the stratigraphic sequence.

Evidence for a field system, presumably associated with this settlement, was recovered from the excavation areas and the watching brief. Ditch G32 represents a major new boundary, although it was on the same alignment as the earlier boundaries. Perpendicular to this were two ditches, G33 within Area B and G119 located during the watching brief.

It is interesting to note that furrows L8 (within Area A) only appear to occur to the W of the major ditch G32. This could indicate that the land on either side of the boundary was subject to different use, although furrows to the E, truncating the colluvial deposits, would have been very difficult to identify. It may be significant, however, that (in contrast to the E) no sub-divisions were identified to the W of the boundary. Given its proximity to the Haynes Church End settlement and previous problems with erosion it may have been used solely for pasture.

Disuse L26 of Phase 9 features (Phase 10)

The Period V boundary ditch G80 was infilled by a deposit G81 which contained 10th and 13th century pottery and a knife blade RA 46, along with a fragment of copper alloy waste RA 2. Colluvial deposits G116 continued to accumulate during this phase; they contained only small quantities of residual Roman pottery and tile.

Ditches G32, 33 and 119 (L27) (Phase 11)

NW-SE ditch G32 at 3.3m wide and 1m deep clearly represents a major boundary. It was filled by light to mid brown silty clay with frequent small stones and rare charcoal flecks. It contained one sherd of medieval pottery and little other domestic debris. This ditch might correspond to a boundary marked on the 1676 map.

Perpendicular to G32, ditch G33 terminated 3.8m to the E. It had a similar profile but, at 2.1m wide and 0.9m deep, was less substantial. The full extent eastwards of this ditch could not be determined but it is

presumed to have continued beyond the limit of excavation. It was filled by light brown silty clays with moderate quantities of small stones. Its upper fill contained a relatively large quantity of animal bone and small quantities of residual Roman and Saxo-Norman pottery.

Another substantial ditch G119 was located during the monitoring of ground disturbance to the N. It would appear to have been perpendicular to G32 and at c. 4m wide and over 0.5m deep was substantial. Its fills were similar although with a higher sand content. It also may correspond to a boundary visible on the 1676 map.

Furrows L8 (Phase 11)

A system of parallel furrows G25 aligned NW-SE was located within Area A. They were between 2 and 3m apart with the spacing getting narrower to the E (nearer to the projected position of boundary ditch G32). They contained a small quantity of residual Roman pottery. Although the furrows are not precisely parallel to the ditch G32, this is likely to be the result of the curve in alignment that furrows normally exhibit towards the edge of a field (in this case only 10m beyond the excavation area).

PERIOD VII POST-MEDIEVAL AND LATER ACTIVITY

Numerous post-medieval features were recorded during the fieldwork, especially near Haynes Park House. Many of these appear to represent park or garden features. They are not reported on here.

ARTEFACTS

POTTERY

Jackie Wells incorporating Samian report by Brenda Dickinson

Introduction and methodology

The investigations produced 1622 sherds of pottery, representing 1058 individual vessels, weighing 17.79kg.

The pottery was examined by context and forty-three fabric types were identified (see Appendix 1) in accordance with the Bedfordshire Ceramic Type Series, held by Albion Archaeology. The assemblage was quantified by minimum vessel and sherd count, and by weight. Sherds belonging to the same vessel, but deriving from separate contexts were quantified as a single vessel. Unless otherwise stated, quantitative data in the text is based on vessel count.

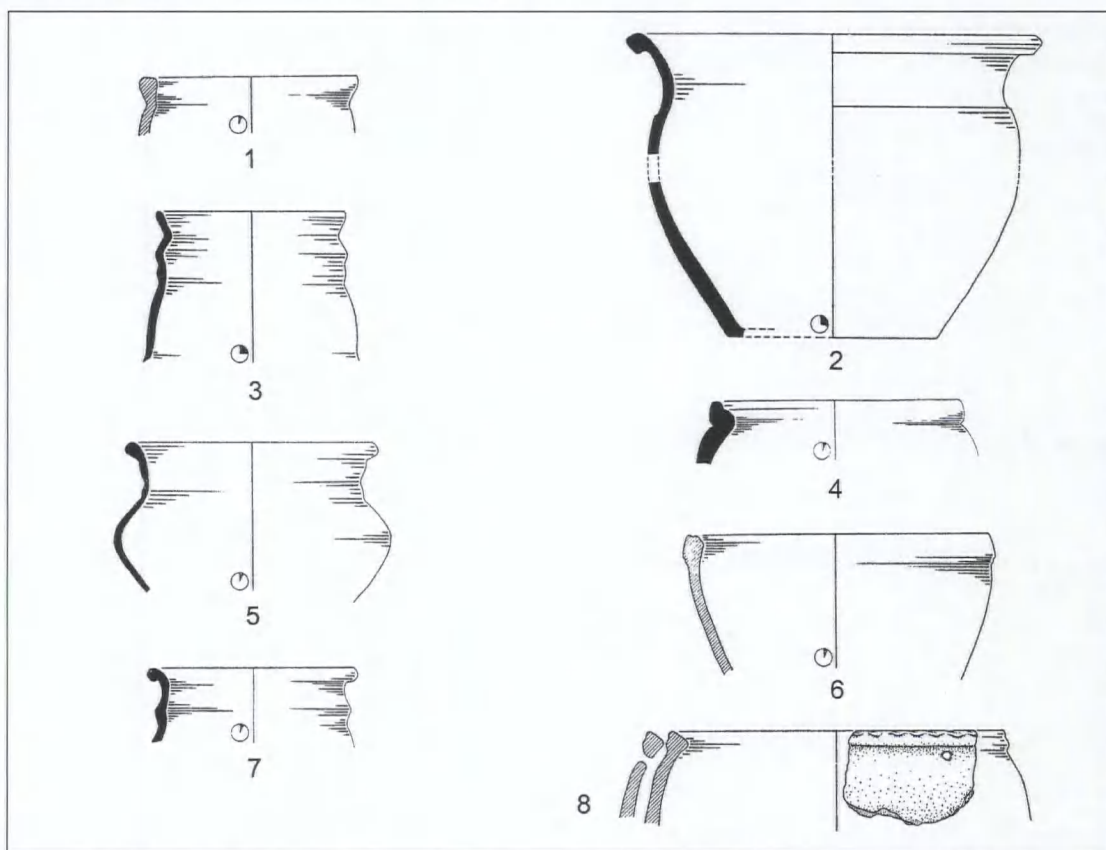
Examination of attributes including extent of

abrasion, presence/absence of residues, sooting and wear marks was undertaken to provide an indication of vessel function.

A representative sample of the pottery has been illustrated (Figs 17-20). Standard drawing conventions have been used, with vessels shown at one-quarter size, external view on the right and a section and internal view on the left. Hand-made vessels are illustrated with hatched sections and wheel-thrown vessels with solid sections. The pie diagram at the base of each illustration indicates the proportion of the vessel recovered. Omission of the pie diagram

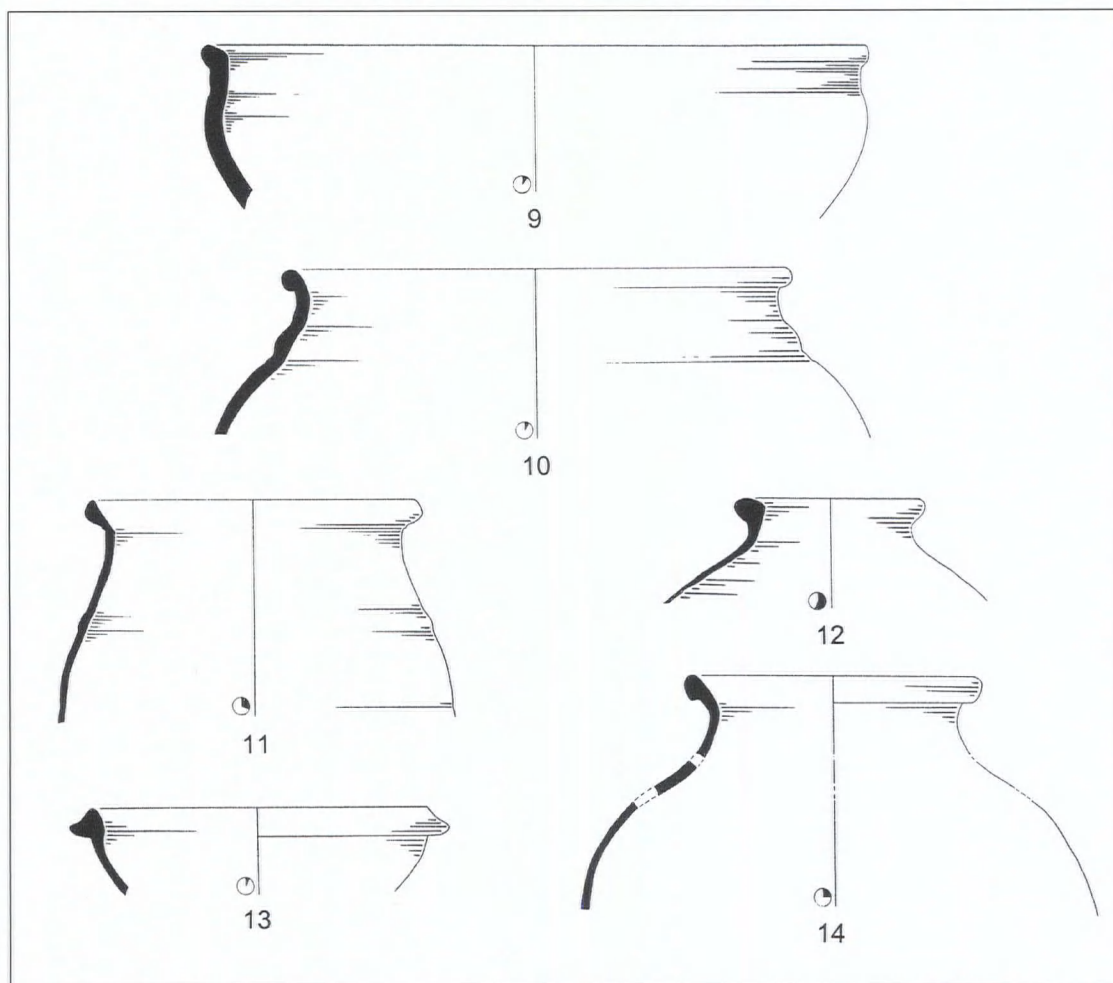
indicates illustration of all surviving sherds.

Approximately 7% of the assemblage displays abrasion and fabrics tempered with shell or organic matter are extensively leached as a result of deposition in acidic soils. The abraded nature of the shelly material, coupled with a general dearth of diagnostic forms has made the precise classification of Roman and Saxo-Norman wares problematic. A number of sand tempered sherds, particularly those deriving from waterlogged deposits are also poorly preserved, and have suffered a degree of surface damage.



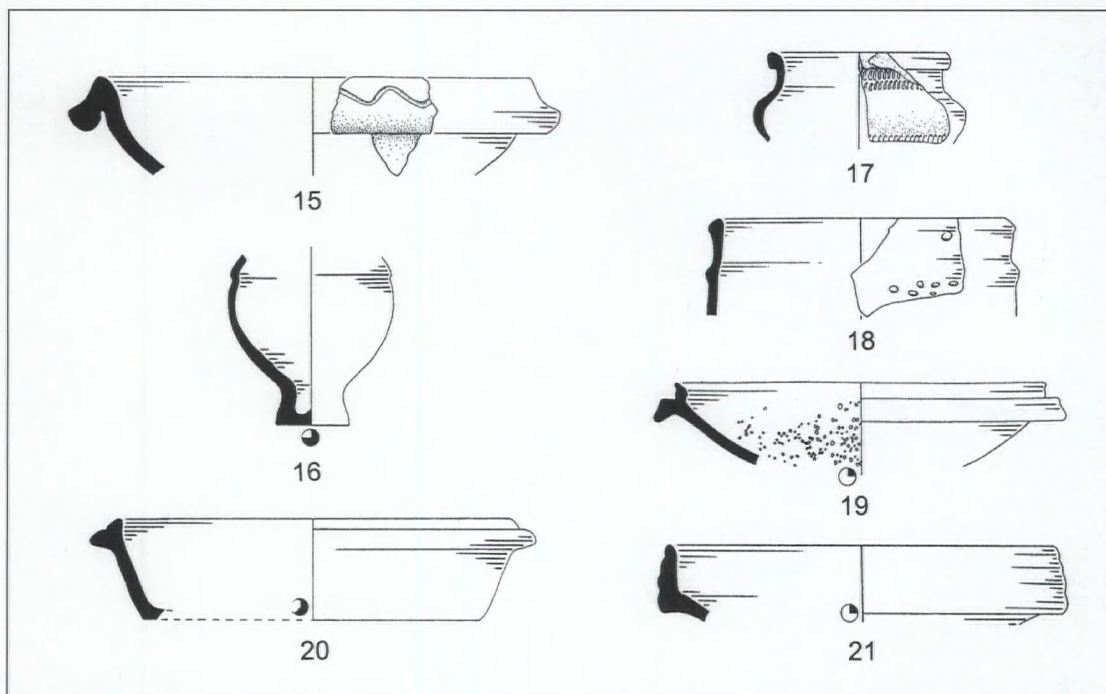
ILLUST.	FABRIC TYPE	Description	PERIOD	Phase	Landscape	Group	Context
1	F03	Vessel	III	6	6	16	316
2	F05	Necked bowl	III	5	13	111	155
3	F06A	Cylindrical jar	III	5	4	18	426
4	F07	Lid-seated vessel	II	4	3	8	326
5	F06B	Cordoned bowl	II	2	1	148	452
6	F09	Lid-seated bowl	II	3	2	6	351
7	F06B	Cordoned jar	III	5	4	12	336
8	F05	Lid-seated bowl with perforation	II	4	3	138	353

Figure 17 Selected pottery (illust 1-8)



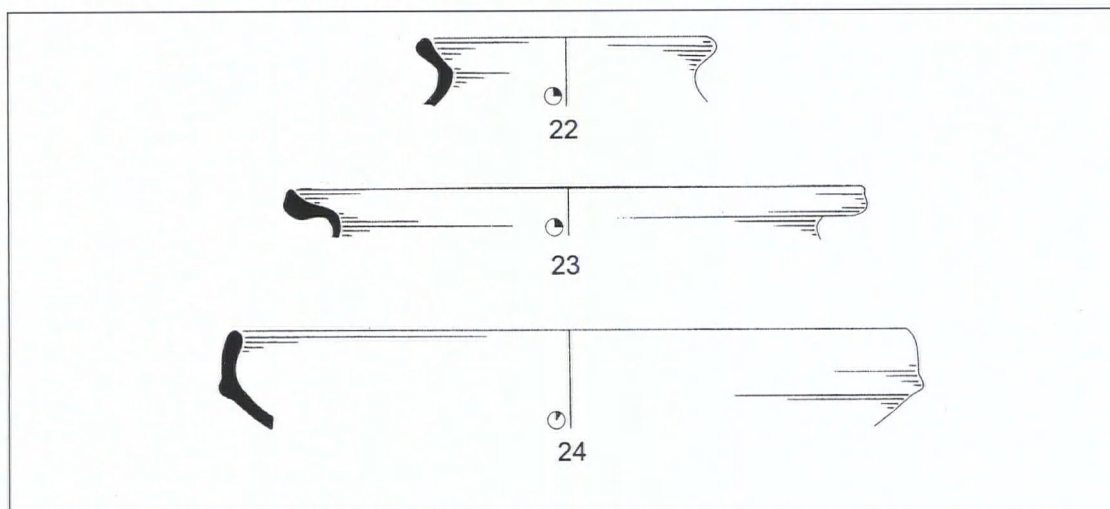
ILLUST.	FABRIC TYPE	Description	PERIOD	Phase	Landscape	Group	Context
9	F09	Bowl	II	4	3	138	328
10	F09	Cordoned jar	II	2	1	148	477
11	F34	Butt beaker	II	2	1	2	420
12	R13	Neckless jar	-	-	-	113	723
13	R13	Bowl	III	5	13	111	155
14	R13	Triangular rim jar	V	7	19	128	1009

Figure 18 Selected pottery (illust 9-14)



ILLUST.	FABRIC TYPE	Description	PERIOD	Phase	Landscape	Group	Context
15	R13	Bowl	IV	8	21	118	1068
16	R12B	Beaker	V	8	22	117	800
17	R11D	Rouletted bowl	IV	7	19	127	1067
18	R11D	Cordoned bowl with white-painted dot decoration	III	5	13	111	155
19	R11F	Flanged mortarium	V	8	22	100	763
20	R12B	Flanged bowl	V	8	22	100	763
21	R12A	Wall-sided mortarium	IV	7	18	122	1038

Figure 19 Selected pottery (illustrations 15-21)



ILLUST.	FABRIC TYPE	Description	PERIOD	Phase	Landscape	Group	Context
22	B01	Everted rim jar	IV	7	19	127	1085
23	B01	Everted rim jar	V	9	25	61	204
24	B01	Bowl with inturned rim	V	9	25	61	899

Figure 20 Selected pottery (illust 22-24)

89

	Roman												Saxo-Norman			Medieval			
	R	R02	R01	R03	R06	R13	R07	R05	R14	R11	R12	R22	B01	C08	C12	B07	C60	Mod	Total
	1:1				1:1			1:1					1:1			1:1			1:1 2:2 4:4 7:7
					1:1	1:1	1:1	2:2		2:4				1:1	1:1		1:1	1:1	2:2 2:2 7:9 14:18 3:3 2:2 15:31 4:4 6:7 1:1 10:18 19:20 2:4 32:37
					1:1	1:1				1:2 1:1 4:4 6:7 1:3 10:10	3:11 5:5 1:1 6:6		1:1 1:14 1:1 1:1						2:2 4:6 19:28 17:45 1:1 6:7 3:3 1:1 1:1 6:10 17:26 4:4 3:6 1:1 2:2 1:1
					1:1	1:1				1:1	1:1		2:2 1:2 6:10 10:16 4:4		1:1			1:1	5:6 6:8 4:7 22:25 15:28 153:184 7:8 146:238 3:3 2:2 34:104 14:29 5:5 8:20 1:1

Period	Phase	Lscp	Gp	Group description	Early-middle Iron Age				'Belgic' Iron Age					
					F	F28	F16	F19	F03	F05	F06	F07	F09	F34
III	5	10	36	secondary fills of building G35										
	5	5	14	primary fills of boundary ditch G14					4:6	2:2			5:5	
	5	5	13	secondary fills of boundary ditch G12							2:3		8:8	
	5	4	149	secondary fills of pit G18					6:13	6:9	1:2	14:18		
	5	4	29	primary fills of pits G29							4:6		1:1	
	5	4	18	primary fills of pit G18					9:10	12:27			26:36	
	5	4	12	primary fills of boundary ditch G12					1:1	2:2			4:4	
II	4	2	138	secondary fills of W part of boundary ditch G7					4:4	15:22			26:49	
	4	2	8	secondary fills of trackway G3 & ditch G7					3:3	19:26	3:6		17:30	
	3	2	24	single fill of ditch G23										
	3	2	7	primary fills of recut boundary ditch G5									2:2	
	3	2	6	secondary fills of boundary ditch G5					1:1	3:3			3:6	
	2	1	148	secondary fills of pits G4					2:4	10:17	1:4		22:28	
	2	1	146	primary fills of pits G146					1:1	1:2			3:6	
	2	1	136	secondary fills of structure G10									1:1	
	2	1	11	primary fills of structure G11									1:2	
	2	1	4	primary fills of pits G4					1:1				5:6	
	2	1	2	secondary fills of pits G146						1:2			1:4	1:6
I	1	9	56	secondary fills of pits G55								1:1		
	1	9	97	secondary fills of structure G69			1:29							
	1	9	69	Primary fills of structure G69				3:6						
				Totals	4:16	1:1	1:29	5:9	1:1	66:122	133:196	22:31	304:401	1:6

Table 1 Pottery seriation table presented in chronological order (by vessel and sherd count).

Discussion

The proportions of fabric types within each period, phase and landscape are presented in the form of a seriation table (Table 1). This provides the structure for the following discussion, which considers the pottery characteristic of each period with percentage figures for the total assemblage. For clarity, fabric type divisions have been amalgamated where appropriate, and are represented in the table by a generic type code. Approximately 8% of the assemblage derives from unphased features; this material is not considered in the following discussion.

Early-middle Iron Age (Period I: Phase 1) (< 1%)

The Period I assemblage comprises locally manufactured vessels in coarse shell (F16), sand/organic (F19) and sandy (F28) fabrics. It derives from features in unenclosed farmstead L9 and residually within later deposits.

'Belgic' Iron Age/early Roman (Period II: Phases 2-4) (16%)

Period II is characterised by the appearance of local-

ly produced vessels in grog (F06), shell (F07), grog/shell (F05) and grog/sand tempered (F03/F09) fabrics. The predominance of the latter is likely to reflect the exploitation of raw materials deriving from the lower Greensand Ridge. Recognisable forms are indicative of a domestic assemblage, comprising tablewares, storage jars and cooking pots (Fig 17 and Fig 18, nos. 9-11). Use of the latter for this purpose is indicated by the presence of sooting on the exterior of the vessels. A number of sherds bear traces of internal black residues, probably resulting from the accidental burning of vessel contents during cooking. A single sherd has a severely pitted internal surface, suggesting that the vessel from which it derived may have contained acidic substances.

Roman (Period III: Phases 5 and 6) (52%)

This assemblage attests both the continuity of late Iron Age traditions and a transition to the use of Romano-British wares. The similar quantities of 'Belgic' material (c. 60%) within both phases of the Period III assemblage, and association with early

Roman												Saxo-Norman			Medieval			
R	R02	R01	R03	R06	R13	R07	R05	R14	R11	R12	R22	B01	C08	C12	B07	C60	Mod	Total
				1:1														1:1
				3:3														14:16
		2:2		2:3	1:3		1:1											16:20
				13:15	1:2													41:59
				6:8														5:7
				2:2	1:1													53:81
																		10:10
				1:1			1:1											47:77
				4:7				1:1										47:73
		1:1																1:1
					1:1													2:2
					3:5													8:11
					2:2													38:58
																		7:11
																		1:1
																		1:2
																		6:7
			1:2	2:2			1:1											7:17
				2:5														3:6
																		1:29
																		3:6
1:1	4:7	16:17	10:19	138:235	117:213	12:13	9:10	2:2	48:55	27:35	1:1	28:52	1:1	2:2	1:1	1:1	2:2	958:1479

Pottery that is unstratified, unphased or in post-medieval features has been omitted

Roman fabrics attest the longevity of this tradition. This is consistent with the established regional pattern, where the longevity of 'Belgic' form and fabric has been demonstrated, in some instances, to extend into the early second century (cf. Stagsden (Slowikowski 2000) and Biddenham Loop (Albion in prep. a)).

Amongst the Roman material, jars and bowls constitute the majority of diagnostic vessels. Less common forms are generally represented by single vessels only. The basic, utilitarian types present, coupled with the relatively small amount of both regional and continental imported wares, are indicative of a low status, domestic assemblage. Coarsewares are represented by a standard range of local greywares (R06), oxidised sandy wares (R05), blackwares (R07) and imported whitewares (R03) from the Verulamium region. Diagnostic shell tempered forms (R13) (Fig 18, nos. 12-14, and Fig 19, no. 15) are comparable to vessels produced at kilns in Harrold, N Bedfordshire (Brown 1994). Exteriors of the shelly wares are sooted, while those of the greywares are clean, indicating the use of the former

for cooking and the latter for storage. Internal residues were noted on nine vessels.

A limited range of continental and regional finewares is represented in the assemblage. The former comprise Samian ware vessels (R01) of 2nd-3rd century date, and the latter colour coat vessels from Oxfordshire (R11) (Fig 19, nos. 17-19), Hertfordshire (R22) and the Nene Valley (R12) (Fig 19, nos. 16, 20 and 21), datable to the 3rd-4th centuries.

The Period III pottery assemblage does not enable a division into two phases to be confirmed. However, the fragmented nature of the Phase 6 'Belgic' material, indicated by a vessel:sherd ratio (233:279) close to equality, implies a greater degree of residuality than the preceding phase.

Saxo-Norman (Period IV: Phase 7) (7%)

Period IV pottery derives entirely from Area B. Vessels of Saxo-Norman date are restricted to a small assemblage of utilitarian wares in the St Neots-type tradition (B01) (Fig 20). Five jars bear external sooting, and a single vessel has an internal black

residue, suggesting the contents were either deliberately or accidentally burnt.

Over 80% of the Period IV assemblage comprises residual Roman material, mainly recovered from the infilling of spring hollows G120 and G121. This is likely to have derived from Roman settlement remains on the higher ground to the S.

Early medieval (Period V: Phases 8 and 9) (12%)

The Period V assemblage contains very little contemporary material. A small amount of St Neots-type ware and contemporary Stamford ware (C12) was recovered.

Residual pottery, predominantly of late Roman date, constitutes over 86% of the Phase 8 assemblage. The majority, however, occurred within colluvial deposits L22 and L24 and had presumably eroded downslope, as in the preceding period, from Roman settlement remains. The incidence of 3rd-4th century wares (fabrics R11, R12 and R22) may suggest this settlement continued into the later Roman period. In Phase 9, the incidence of residuality rises to 94% with the assemblage comprising a comparable range of 'Belgic' and Roman wares to those of the preceding phase.

Medieval (Period VI: Phases 10 and 11) (2%)

The paucity of the ceramic evidence for this period

indicates that domestic activity no longer took place within the excavation areas. Single vessels of imported Stamford ware and Hertfordshire-type greyware (C60) suggest occupation may have ceased in the late 12th or early 13th century. The remainder of the Period VI assemblage (c. 88%) comprises residual Roman material.

CERAMIC BUILDING MATERIAL

Jackie Wells

The ceramic building material comprises a small quantity of roof tile and brick, and a sizeable assemblage of structural daub and fired clay. These are discussed separately below. Quantification of all material is by fragment count and weight, and unless otherwise stated, quantitative data in the text is based on the latter.

Brick and Tile

Introduction

The assemblage comprises 27 fragments, weighing 5.7kg and includes material of both Roman and late medieval/post-medieval date (Table 2).

The assemblage was examined by context and six broad fabric types were defined (*see* Appendix 2).

Period	Phase	Landscape	Group	Group description	Roman brick	Flat roof	Flue	Tegulae	Unid	Total
VI	11	L27	G94	secondary fills of ditch G32					7	7
	11	L8	G25	fills of furrow G25					18	18
	10	L26	G116	colluvial deposits		305		176		481
V	8	L24	G79	colluvial deposits					11	11
	8	L22	G89	secondary fills of recut G88 of ditch G90				138		138
	8	L21	G118	secondary fills of timber tank G132	44		69			113
IV	7	L20	G132	primary fills of timber tank G132					47	47
	7	L19	G127	upper fills of N spring hollow G121	63					63
	7	L19	G128	colluvial deposits within S spring hollow G120					46	46
	7	L16	G44	primary fills of building G44	205			145		350
III	6	L15	G103	colluvial deposit				25		25
	5	L13	G111	occupation deposits sealing drying oven G108				566		566
	5	L13	G110	destruction deposits of drying oven G108	3700					3700
	5	L12	G108	primary fills of drying oven G108					131	131
II	2	L1	G2	secondary fills of pits G146					36	36
		Total			4012	305	69	1050	296	5732

Table 2 Brick and tile seriation table (by weight). Unstratified, unphased and brick/tile in post-medieval features has been omitted

The majority of the assemblage is battered and abraded, and those fragments containing calcareous inclusions are leached.

Discussion

The majority of the diagnostic types comprise shell tempered forms of Roman date, the bulk of which (c. 4.3kg) are associated with the Period III drying oven G108. It is worth noting, however, that this material comprises only eight fragments, (including an incomplete brick weighing 3.7kg), and there is, therefore, no suggestion that Roman buildings with tiled roofs existed within the excavation areas. It is conceivable that the brick could have formed part of the oven superstructure, functioning as a cheek or cap associated with the main flue arch. One surface is differentially scorched, although it is unclear whether this occurred during the manufacturing

process, or as a direct result of use within the oven. Extant dimensions (290mm wide by 33mm deep) suggest the brick is either a *pedalis* or *lydion* (Brodrigg 1987, 36-7), although its incomplete nature precludes precise identification. The remainder of the assemblage derives from secondary fills of features.

Daub and fired clay

Introduction

A total of 2862 fragments, weighing 69.93 kg were retained for analysis. An additional 9.44kg of miscellaneous daub and fired clay recovered from the drying oven G108 was assessed on site and subsequently discarded.

Four fabric types A to D were identified and are described in Appendix 3. Types A-C bear traces of

Period	Phase	Landscape	Group	Group description	Type A	Type B	Type C	Type D	Total
V	9	L25	G95	secondary fills of ditch G60	47				47
	9	L25	G61	primary fills of building G61	61				61
IV	7	L20	G46	secondary fill of pit G109	54				54
	7	L18	G122	lower fills of S spring hollow G120	84				84
	7	L16	G51	primary fills of building	5				5
	6	L15	G103	colluvial deposit	2703				2703
	6	L7	G140	secondary fills of slots G21	84				84
	6	L7	G139	clay deposits	55				55
	6	L7	G19	clay deposits	147				147
	6	L7	G17	primary fills of pit G17	14				14
	6	L6	G16	secondary fills of boundary ditch G14	23	31	19		73
	5	L13	G143	secondary fills of pit G93	208	30			238
	5	L13	G111	occupation deposits sealing drying oven G108	85				85
	5	L13	G110	destruction deposits of drying oven G108	46405	1047			47452
	5	L12	G108	primary fills of drying oven G108	7141			8994	16135
	5	L12	G105	colluvial deposits G105	25				25
	5	L5	G14	primary fills of boundary ditch G14	15	18			33
	5	L4	G149	secondary fills of pit G18			56		56
	5	L4	G18	primary fills of pit G18	342	619			961
	5	L4	G12	primary fills of boundary ditch G12			128		128
III	4	L3	G138	secondary fills of western part of boundary ditch G7	336				336
	4	L3	G8	secondary fills of trackway G3 & boundary ditch G7	121		69		190
	3	L2	G24	single fill of ditch G23	3				3
	3	L2	G7	primary fills of recut boundary ditch G5			20		20
	3	L2	G6	secondary fills of boundary ditch G5	14				14
	2	L1	G148	secondary fills of pits G4			79		79
	2	L1	G11	primary fills of structure G11	3				3
	2	L1	G4	primary fills of pits G4	13				13
	2	L1	G2	secondary fills of pits G146	102				102
	2	L1	G2	secondary fills of pits G146	102				102
II	1	L9	G56	secondary fills of pits G55	23				23
	1	L9	G97	secondary fills of structure G69	69				69
		Total			58182	1745	371	8994	69292

Table 3 Daub and fired clay seriation table (by weight). Unstratified, unphased and daub/fired clay in post-medieval features has been omitted

organic matter, presumably added during preparation to strengthen and bind the clay. These are most frequent in the coarser fabric A. Occasional distinct grain impressions are also present on the surfaces of many fragments.

Discussion

The incidence of daub and fired clay is presented in Table 3. Approximately 86% of the total assemblage derived from excavation Area B, and is associated with the construction/use (16.1kg) and destruction (44.6kg) of the drying oven G108. The upper fills G143 (L13) of adjacent pit G93 produced 238g of clay fragments and are probably derived from the drying oven.

Small quantities of daub and fired clay, predominantly of fabric type A, were recovered from the fills of structural features associated with farmsteads L1 (Phase 2), L16 (Phase 7) and L25 (Phase 9). The remainder of the assemblage derived largely from ditch fills across all periods, and cannot be directly associated with the use of these features.

Drying Oven

The base and lower walls of the oven were made from untempered natural clay (fabric type D). By contrast the upper portion of the *in situ* wattle and daub walls was constructed almost entirely using fabric type A; small quantities of fabric type B also occurred. This specific use of fabrics indicates that organic tempering was considered unnecessary for flooring, but provided a useful addition to the wall fabric, increasing the binding and adherence qualities of the material.

Most of the larger daub fragments retain impressions of circular wattles and/or squared pieces of timber, which range in size from 25-30mm in fragments of fabric type A and 10-15mm in fragments of fabric type B. This distinction between wattle dimensions, coupled with the differentiation between the rough, uneven surfaces of daub in type A and the smoother, higher quality of those in type B, may suggest the use of the latter for more delicate, finishing work.

Eleven fragments have finished edges, which represent either the top or bottom of a wall. One has the impression of a brace running behind and at right angles to a thinner wattle, while the second shows impressions of a pair of parallel struts of approximately 10mm diameter, although their orientation is uncertain. A single fragment appears to bear impressions of thin vertical beams and two horizontal braces.

Fragments of fired clay with gently curving outer surfaces are similar to those recovered from hearth linings, and may be the remnants of a clay lining to the sub-structure.

The remaining fragments lack finished edges. However, the majority have one finished surface - the oxidised external wall face, with wattle impressions on the reduced sides and reverse. A single fragment displays two alternately oxidised and reduced layers, each approximately 30mm thick, indicating rebuilding or repair of the structure.

Evidence of scorching and the carbonised remains of roundwood wattles on the daub are likely to relate to the accidental destruction of the oven, rather than an isolated drying episode.

OTHER ARTEFACTS

Jackie Wells incorporating reports by Quita Mould (leather), Carole Morris (wood) and David Williams (petrology).

Introduction and methodology

Excavation produced sixty registered artefacts, thirty-five iron nails and 479g of ferrous metalworking debris (Table 6).

These artefacts were assigned broad terms and functional categories, in accordance with the Bedfordshire Artefact Typology. Catalogue entries are given only in cases where the artefact is typologically datable or of intrinsic interest (see 3.3.11). Unstratified finds deriving from ploughsoil, and those artefacts whose date range places them beyond the scope of this article are not included. Full details of these objects are contained within the site archive.

All iron objects were submitted for X-radiography; the X-ray plates and assessment cards form part of the site archive. Leather shoe RA 54 was selected for stabilisation treatment and was subsequently freeze-dried to allow examination and illustration of the object.

Nails and staples

Thirty-five iron timber nails and nail fragments, and an iron staple RA 8 were recovered. Staples were used to hold together adjacent pieces of wood and to reinforce joints in timbering. They are a long-lived form, and are well attested from sites of Roman, medieval and post-medieval date. However, the association of RA 8 with a quantity of Roman pottery suggests that the find may be dated to this period. Comparative Roman examples are known from excavations at Gorhambury (Neal et al. 1990, Fig

Period	Phase	Landscape	Group	Group description	Artefact summary
VI	11	L8	G25	fills of furrow G25	fe nail x1
	9	L25	G95	secondary fills of boundary ditch G60	fe horseshoe (22), fe shoeing nail x1
	9	L25	G81	secondary fills of boundary ditch G80	fe knife (46), ca waste (2)
	9	L25	G61	primary fills of building G61	quern (44)
	8	L24	G106	colluvial deposits	fe nail x1
	8	L22	G89	secondary fills of boundary ditch G88	leather shoe (54)
	8	L21	G131	colluvial deposits sealing timber tank G132	pb disc (17)
V	8	L21	G118	secondary fills of timber tank G132	ca coins (35 & 37), fe nail x1
	7	L19	G130	colluvial deposits	quern (53)
	7	L19	G127	upper fills of N spring hollow G121	quern (52), wooden spade (41), primary leather waste (55), leather shoe fragments (36 38, 39, 42, 43)
	7	L19	G126	destruction of hurdles G125	wooden ?cattle goad (59)
	7	L19	G123	upper fills of S spring hollow G120	leather shoe frags (30, 31)
	7	L18	G125	wooden hurdles G125	leather shoe (57)
	7	L17	G120	primary fills of S spring hollow G120	fe nail x 1
IV	7	L16	G45	secondary fills of building G44	fe nail x 1
	6	L7	G19	clay deposits	fe staple (8), fe nail x 1
	6	L6	G16	secondary fills of boundary ditch G14	quern (10), whetstone (6)
	5	L13	G110	destruction deposits of drying oven G108	whetstone (61), fe nails x 17
	5	L12	G108	primary fills of drying oven G108	millstone (24), fe nails x 9
III	5	L4	G149	secondary fills of pit G18	ca brooch (3)
	4	L3	G8	secondary fills of trackway G3 & boundary ditch G7	ag coin (4)
II	2	L1	G148	secondary fills of pits G4	ca waste (7), fe nail x 1

Table 4 Summary of other artefacts. Bold figures denote registered artefact number

137) and Baldock (Stead and Rigby 1986, Fig 68).

Twenty-six of the timber nails were recovered from the Phase 5 drying oven G108. Four bore traces of charcoal and mineral-preserved wood. These probably derived from a timber floor within the oven. It was possible to classify 23 examples according to head form (Table 5), after Manning (1985). The remainder were too fragmentary, corroded or distorted through use to be positively identified. The majority of the nails comprise examples of Type 1B, measuring, on average, 90-95mm in length. This is consistent with the incidence of nail types on other sites of Romano-British date, where this form is most prevalent, reflecting their general usefulness.

Nail type	Description	Quantity
1A	Conical/pyramidal head	1
1B	Flat, round, square or rectangular head	20
4	Flat-headed, rectangular off-set	2
Unclassified	Shank only	12
		35

Table 5 Nail types

Head types are a combination of round, square and rectangular shape. All have square or rectangular

sectioned shanks, tapering towards the tip, which are predominantly rounded, although a single wedge-shaped example was noted. Three shanks are clenched, indicating use. Additionally, two nails with flat, rectangular off-set heads (type 4) were recovered. The latter is a relatively rare form, which could be driven into wood almost concealing the head.

Quernstones

Fragments of at least four rotary querns RA 10, 44, 52 and 53 and one millstone RA 24 were recovered. Quern RA 52 was made from ferruginous sandstone which was probably obtained locally. On the basis of King's work (1986, 86), the Millstone Grit quernstone (RA 10) and millstone (RA 24) probably originated in the Yorkshire/Derbyshire area.

RA 44 and 53 are manufactured from imported material deriving from either the Mayen quarries of Germany, or from French lava outcrops found near Volvic (King 1986, 94). During the Roman period there was considerable trade with Britain, which although ceasing in the early Saxon period, was well established again by the 9th/10th century and continued throughout the medieval period (Crummey 1983, 75). Although distinct date ranges, based on form, have been recognised (King 1986, 95), it has been impossible, due to the incomplete nature of the

examples, to determine the date of these fragments. Their recovery in association with pottery of Roman and Saxo-Norman date (RA 53 and 44 respectively), may suggest that they derive from these periods, although this cannot be demonstrated with any certainty. Although the quernstone and millstone fragments were recovered from Roman, Saxo-Norman and early medieval periods they were all found within c. 30m of the Roman drying oven G108. It is possible, therefore, that they derived from activity associated with this oven.

Crafts and industry

Metalworking residues

A small quantity (total weight 479g) of ferrous slag and vitrified clay hearth lining was recovered. The former, comprising amorphous, highly vesicular fragments of iron silicate, is not indicative of a particular type of ironworking: neither are the remains of hearth lining. Both may represent the debris from either iron smelting or smithing processes. Material clearly indicative of the latter, however, consists of two portions of plano-convex hearth bowls and a small quantity of flake hammerscale, the latter dislodged by mechanical or thermal shock during hot working. The former are both approximately 75mm in diameter, and range between 15mm and 34mm in depth.

The bulk of the assemblage derived from early Roman features associated with L7 (Phase 6). None of the metalworking residues were recovered *in situ*, having been redeposited within external dumps and the fills of ditches and pits. This secondary redeposition of material is not uncommon, presumably resulting from the periodic cleaning of hearths and surrounding areas.

Non-ferrous metalworking debris

Two amorphous copper alloy waste fragments (RA 2 and 7) provide minimal evidence for the working of

non-ferrous material. Given the absence of crucibles or moulds at the site, they may represent the reworking of material, or repairs and alterations to copper alloy products manufactured elsewhere.

Multi-purpose

Multi-purpose implements are extremely common on sites of all periods, and for this reason, are largely undatable. Whittle tang knives like RA 46 are known to have been used throughout both the Roman and medieval periods. It is too fragmentary to allow recognition of blade form, and consequently cannot be classified. Whetstone fragment RA 6 is an example of a primary hone, deliberately quarried and traded probably from the Forest of Dean, Bristol and South Wales regions. In contrast, RA 61 is a secondary hone in that it happened to possess honing properties, but was not specifically quarried or imported for this purpose (Moore 1978, 65). It is likely to have been obtained from local formations.

Coins

Of the three coins recovered, RA 4 is medieval and therefore intrusive within 'Belgic' Iron Age/Early Roman deposits L3 (infilling of trackway/boundary L2, Phase 4). Roman coins RA 35 and RA 37 are residual within the infillings G118 of 11th century timber tank G132 (L20, Phase 7).

Horseshoe

Based on the classifications devised by Clark (1995), RA 22 is a type 2A, 'Norman' horseshoe. These first appear in the archaeological record in mid-late 11th century contexts and continue in use throughout the 12th century, when they predominate. They are superseded by shoes with rectangular nail holes during the 13th century. Horseshoes of this type are well attested from excavations in London, where examples were recovered from contexts dating from c. AD1050-1150 (Clark 1995, 96).

Period	Phase	Landscape	Group	Description	Total wgt (g)
II	2	L1	G148	Ferrous slag	28
	4	L3	G138	Hearth lining	10
III	5	L5	G14	Ferrous slag	6
	6	L7	G19	Ferrous slag (258g); hearth lining (48g)	306
	6	L7	G139	Ferrous slag (98g); hearth lining (21g)	119
IV	7	L17	G120	Ferrous slag	1
	7	L19	G127	Hearth lining	9
					479

Table 6 Metalworking residues

Personal adornment

Brooch

Langton Down brooch RA 3 represents one of the less numerous brooch forms in use during the 1st century AD in this country. The type distribution is restricted almost entirely to eastern and southern England (Olivier 1988, 45). Langton Down brooches occur mainly in deposits of c. AD43-63, as at Baldock, Herts (Stead 1986, 113) and Gorhambury, Herts (Neal et al. 1990, 117), although some examples are known to derive from pre-conquest contexts, as at King Harry Lane, St Albans (Stead and Rigby 1989, 17).

Shoes

With the exception of RA 54 recovered from fill G89 of boundary G88 (Saxo-Norman/early medieval Period V), all the leather shoe fragments were recovered from waterlogged deposits associated with the Saxo-Norman

spring hollows G120 and G121 (L18 and infilling L19, Period IV). In addition to those given registered artefact numbers, other highly fragmentary shoe remains and a piece of primary waste (hide edge) were also recovered from Period IV deposits.

Dating of the assemblage is problematic due to the highly fragmentary nature of the shoe components. RA 30 is believed to be a Roman shoe of nailed construction and is therefore residual. The remaining fragments, with the probable exception of RA 54 (see below), are believed to date to the late Saxon or Saxo-Norman periods. Distinguishing characteristics include large circular stitch holes indicative of the use of woollen thread (RA 38 and 43) and the use of fine thonging to sew a side seam (RA 43). A fragment of very narrow rand (RA 42) was also recovered, a feature observed on turnshoes from the Sutton Hoo ship burial (East 1983, 788ff) and also noted on two shoes of 10th century date from the

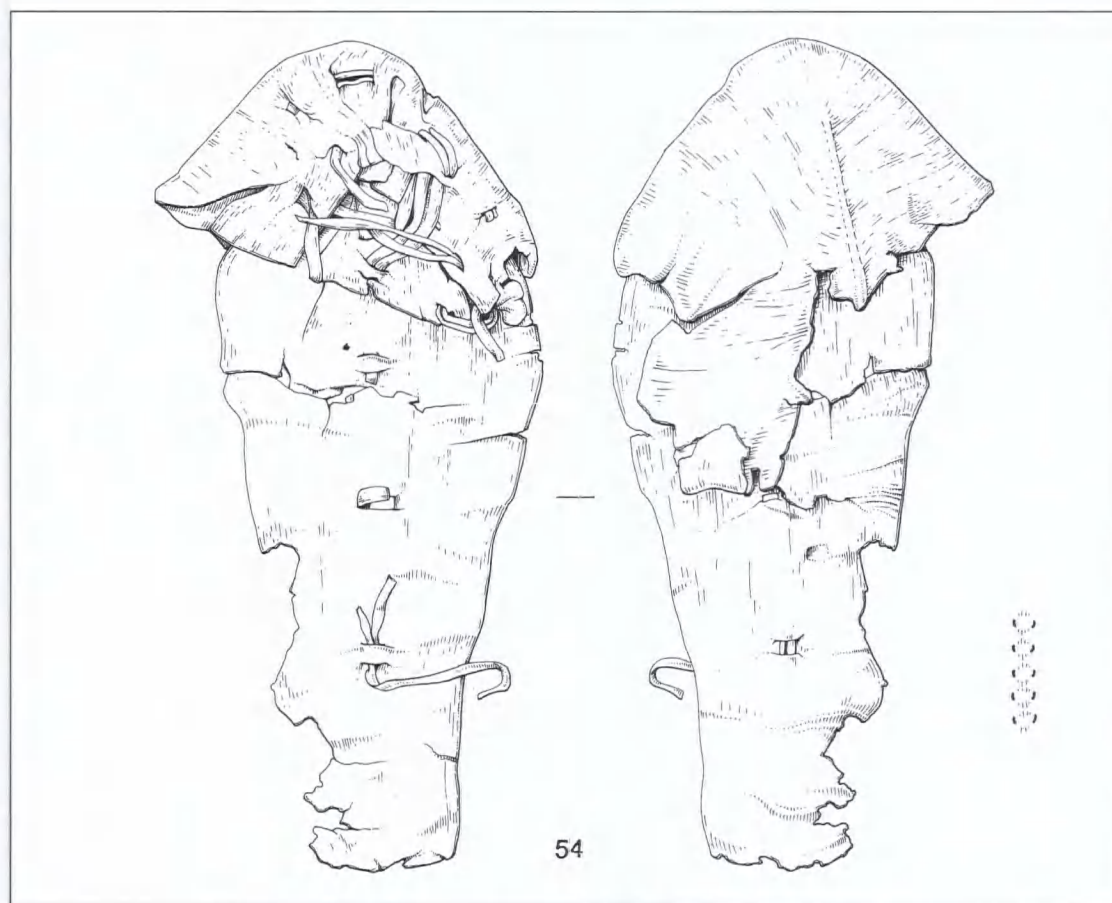


Figure 21 Leather shoe (RA 54) (scale 1:2)

City of London (Pritchard 1991, nos. 271 and 279).

RA 54 (Fig 21) is of particular interest as it is of Roman shoe construction with a decorative technique on the vamp first seen on shoes of late Roman date and occurring subsequently on Saxon and later footwear. The multi-part bottom unit, comprising a separate insole, middle and sole is a commonly found Roman construction. Although the insole showed no obvious signs of nailing, the attachment of the insole and middle by constructional thonging running vertically down the centre, suggests that the shoe was originally of nailed construction, rather than stitched. The attachment of the upper to separate bottom unit components by simple 'running' thonging along the edge was used on Roman shoes of stitched and of nailed construction. (*c.f.* a nailed shoe from late 3rd/4th century well deposits at Dalton Parlours, Yorks. (Mould 1990, 231 Fig 142/11). The sewing of the upper to the sole by narrow thongs was also common on Saxon footwear of turnshoe construction though different types of stitching were employed. The use of similar, simple, running thonging was used to attach clump sole repairs.

The vamp had a line of paired slits running vertically toward the toe. These slits are the remains of a decorative embroidered toe stripe. In England embroidered toe stripes are more frequently found on turnshoes of 10th-12th century date, see for example, those from London (Pritchard 1991, 218, 232), and are commonly represented in English figurative art of the period. Amongst the earliest known toe stripes are those found on turnshoes from Sutton Hoo (East 1983, 794 Fig 520, 573, shoes 2 and 4). The use of a decorative stitched toe stripe on shoes of Roman date is extremely rare, but not unparalleled. An example occurred on a shoe of nailed construction recovered from a late Roman pit fill at Rectory Farm, West Deeping (WED94 (40662), tag 201044, Mould in prep.), associated with Roman pottery post-dating AD250. This fragmentary shoe shares several construction characteristics with RA 54. A shoe from a mid-4th century deposit at Portchester (Ambrose 1975, 250/267 and Fig 133) may be a more complete example; the slightly ambiguous description suggests that the line of stitching present running up the vamp may not have been functional. A single line of tunnel stitching down the front of the vamp, thought to be decorative, occurred on an unstratified shoe of Roman date recovered at Bancroft, Bucks. (Swann 1994, 365 and Fig 188/409).

It is interesting to note here, that a turnshoe with a round-toed vamp with stitching from a double toe stripe, recovered from Swan Lane in the city of

London (Pritchard 1991, 218 and Fig 3.103), was associated exclusively with Roman pottery. This shoe was attributed to the 10th century on stylistic grounds, though it could be of earlier date.

The decorative stitched toe stripe could be considered as a skeuomorphic representation of the central toe seam commonly found on shoe uppers of Roman date. The line of decorative thonging running down the vamp from throat to toe noted on two shoes deriving, respectively, from the backfill of 4th century wells at Skeldergate, York (MacGregor 1978, 31 Fig 28/353), and Piddington, Northants. (Friendship-Taylor 1997), is apparently in the same decorative tradition.

RA 54 derives from a deposit of Saxo-Norman date, and bears a decorative toe stripe commonly found on shoes of this period. However, the construction technique, comparable decoration on a small number of late Roman shoes from southern England and the presence of a probable Roman shoe RA 30 as a residual find, suggest that RA 54 is Roman. It probably dates to the 4th century, and certainly no earlier than the mid-3rd century.

(Note – this report submitted in 1995).

Spade handle

Typologically, the fragment of wooden spade/shovel handle RA 41 (Fig 22) appears to be a triangular-enclosed type, known to have been in use during the Saxon and medieval periods (Edlin 1949, Fig 3.6c). For strength, however, it would have required a separate cross-piece to link the ends of the arms into a triangle.

There are no other documented archaeological examples of triangular-enclosed handles such as RA 41. The handle form is, however, depicted in various representations and manuscripts, and occurs on both spades and shovels. Figures using these implements can be seen on two 11th century representations: 'Aelfric's Paraphrase of the Pentateuch and Joshua' (BL Cotton Claud. B IV fol 22v), and the Bayeux Tapestry (Wilson 1985, 12). An early 12th century manuscript 'The Chronicle of John of Worcester' (CCCO MS 157 fol 382) depicts the same handle type, and there are later medieval illustrations which show the form to be long-lived.

(Note – this report submitted in 1996).

Objects of unknown function

Wood

Object RA 59 (Fig 22) was recovered from fills G126 associated with hurdle structure G125 (Period IV) suggesting it may have been re-used as a sail.

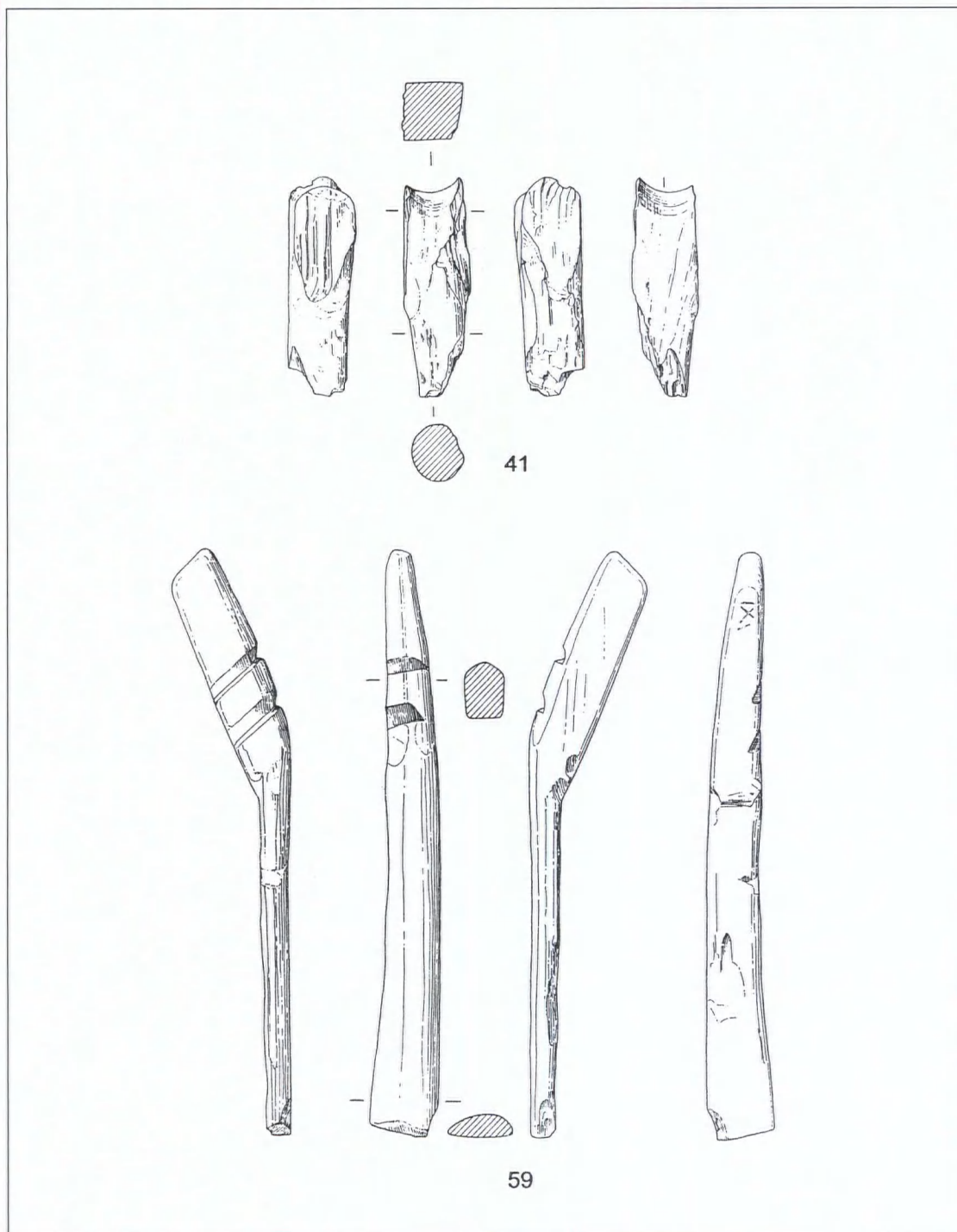


Figure 22 Wooden spade/shovel handle (RA 41) and wooden implement (RA 59) (scale 1:4)

The precise function of RA 59 remains unclear, although a possible use may have been as a cattle switch or goad. The pliable nature of the shaft, attained by the use of young hazel (c. 5 years old) and the shaped handle would make the object ideal for this purpose. Subsequent re-use of the object within the wattle hurdle reflects a common practice, and is paralleled by the recovery of a re-used wooden shovel within a hurdle structure from excavations at Saddler Street, Durham (Carver 1979, 24-6, Fig 16; Morris 1980, 206, Fig 2d).

Lead

The form of RA 17 is broadly comparable with those of disc-shaped weights, used in conjunction with scale pans and it is possible the object may be a degraded example.

Catalogue

The catalogue is organised by registered artefact number (only those objects relevant to this publication are listed). The coding which prefixes each entry contains the following information:

51	G108	L20	Phase 3	Period III	no. 1
registered	group	landscape	phase	period	illustration no.
artefact no.					

In all cases measurements denote the maximum surviving artefact length unless otherwise stated.

RA 2 G81, L26, Phase 10, Period VI. *Copper alloy waste fragment*. Amorphous lump of cast material. Weight 16g.

RA 3 G149, L4, Phase 5, Period III. *Copper alloy Langton Down brooch*. Camulodunum Type XII. Fragments of spring, cylindrical housing and upper part of reeded bow with a convex, curved head. Poorly preserved and extremely fragile. Length 13.7mm.

RA 4 G8 (G3), L3 (L2), Phase 4, Period II. *Silver coin*. Henry III, Long-Cross penny 1247-1272, Class III.

RA 6 G16 (G14), L6 (L5), Phase 6, Period III. *Pennant Sandstone whetstone*. Dark grey in colour and medium-grained in texture, containing quartz and micaceous grits. Sub-rectangular in shape and section, broken at both ends. Surfaces smoothed through use, one bearing a series of striations towards the broken end. Deep, angled sharpening grooves run along both edges. One edge is markedly dished. Length 54.2mm, width 47.3mm, thickness 18.1mm.

RA 7 G148, L1, Phase 2, Period II. *Copper alloy waste fragment*. Highly corroded strip fragment. Length 15.1mm.

RA 8 G19, L7, Phase 6, Period III. *Iron staple*. Incomplete L-shaped, square sectioned bar, probably part of a staple or small timber dog. Length 36.9mm.

RA 10 G16 (G14), L6 (L5), Phase 6, Period III. *Millstone Grit rotary quern*. Indeterminate fragment with a worn, burnt grinding surface and a roughly pecked surface and part of outer edge. Weight 1.1kgs, max. thickness 70mm, est. dia 300mm.

RA 17 G131, L21, Phase 8, Period V. *Lead disc*. Crudely formed, sub-rounded disc with one surface slightly bevelled. Dia 16.6mm, thickness 6.3mm, weight 11.7g.

RA 22 G95 (G60), L25 (L22), Phase 9, Period V. *Iron horse-shoe*. Incomplete branch of type 2A shoe with lobate outer edge and three circular nail holes which have oval/rectangular countersinking. A single shoeing nail of fiddle-key type recovered from the same context is likely to be associated with the horseshoe. Length 80.7mm.

RA 24 G108, L12, Phase 5, Period III. *Millstone Grit millstone*. Portion of lower stone with part of central feeder surviving. Surfaces roughly dressed by pecking. The outer edge does not survive. Max. thickness 105mm, est. dia > 110mm.

RA 30 G123 (120), L19 (L17), Phase 7, Period IV. *Leather shoe fragments*. Bottom unit of nailed construction, comprising a middle and middle packing, with a fragment of the upper lasting margin. The latter is thonged to the edge of the middle packing. The middle has constructional thonging of type 1 running in a central line, thong width 3.0mm. A number of small hobnails are present, each with a head diameter of 9.0mm.

RA 31 G123, L19, Phase 7, Period IV. *Leather scrap fragments*: Four irregularly shaped calfskin scraps, two of which have a cut edge. Length (largest fragment) 35mm.

RA 35 G118 (G132), L21 (L17), Phase 8, Period V. *Copper alloy coin*. ?late Roman, illegible.

RA 36 G127 (G121), L19 (L17), Phase 7, Period IV. *Leather shoe fragments*. Nine+ fragments.

A Three pieces, (two joining) of possible shoe sole with fine grain/flesh seam, stitch length 5.0mm. Stitch holes are figure-of-eight form, suggesting the seam had been sewn with either two threads or using a back stitch. Length (largest joining fragments) 30.0mm, width 62.0mm.

B Narrow, folded binding, width 4.0mm, with a grain/flesh seam, stitch length 4.0mm.

C Two fragments of ?upper or clump repair, one with fine thonging present in one corner. Length a) c. 100 x 62mm, b) c. 80 x 53mm.

RA 37 G118 (G132), L21 (L17), Phase 8, Period V. *Copper alloy coin*. 4th century, illegible.

RA 38 G127 (G121), L19 (L17), Phase 7, Period IV. *Leather shoe fragments*. Ten+ pieces of turnshoe upper, including two with a line of grain/flesh stitching with a scored line running parallel, possibly a lasting margin. The stitch holes are round and relatively large, stitch length 8.0mm, suggesting original stitching with a woollen thread. Length (largest fragment) 58.0mm.

RA 39 G127, L19, Phase 7, Period IV. *Leather shoe fragments*: Nine pieces of upper, two of which bear stitching from a grain/flesh seam. The leather is worn and compacted. Length (largest fragment) 30.0mm.

RA 41 G127 (G121), L19 (L17), Phase 7, Period IV, Fig 22. *Wooden spade/shovel handle*. Fragment of a composite handle of willow (*Salix* sp.), made from either a radially or tangentially split section from a sizeable tree. In its original form, the handle would have been Y-shaped, with a circular cross-sectioned shaft surmounted by bifurcating arms of oval cross-section, the terminals of the latter joined by a linking cross-bar. The shaft would probably have terminated in a carved, single piece blade. Extant remains of the Haynes Park example are limited to a small portion of the shaft. The original surface at the base of the Y is rounded and smoothly polished, and the surfaces at the junction of the shaft and arms are cut flat, indicating that the tool was carefully made and finished. Length 83.0mm, width 32mm, dia (shaft) 27.0mm, arm cross-section c. 52x27mm.

RA 42 G127, L19, Phase 7, Period IV. *Leather shoe fragments*. Portion of turnshoe upper of worn ?calfskin, and numerous undiagnostic fragments, including a very fine rand 3.0mm wide. Length (upper fragment) 76.0mm.

RA 43 G127 (G121), L19 (L17), Phase 7, Period IV. *Leather turnshoe fragments*.

A Small piece of clump sole repair with tunnel stitching on the flesh side along the remaining original edges.

B Fragment of worn calfskin upper quarters area with a closed grain/flesh seam.

C Piece of worn calfskin upper with a butted edge/flesh seam and a closed grain/flesh seam. The latter has large, round stitching, suggesting the use of a woollen thread.

D Six miscellaneous fragments, two with evidence of fine thonging. One fragment with a butted edge/flesh seam retains a thong *in situ*. Thong width 2.0mm, thong slots 8.0mm apart.

RA 44 G61, L25, Phase 9, Period V. *Lava rotary quern fragments*. Seven abraded, irregularly-shaped, indeterminate fragments, none of which join or retain any trace of original surfaces. Weight 65gms.

RA 46 G81 (G80), L26 (L25), Phase 10, Period VI. *Iron knife*. Fragment of whittle tang knife blade, the surfaces of which bear traces of carbonised organic material. Length 63.8mm.

RA 52 G127 (G121), L19 (L17), Phase 7, Period IV. *Ferruginous sandstone rotary quern*. Abraded fragment of upper stone with worn and eroded surfaces, occurring as a result of deposition in waterlogged conditions. Weight 2.0kgs, max. thickness 48mm.

RA 53 G130 (G121), L19 (L17), Phase 7, Period IV. *Lava rotary quern fragments*. Two sub-rectangular conjoining fragments of upper stone, which retain a worn grinding surface and a roughly pecked upper surface and part of the outer edge. Weight 363gms, max. thickness 24mm, est. dia. 560mm.

RA 54 G89 (G88), L22, Phase 8, Period V, Fig 21. *Leather shoe*. Worn calfskin insole for the left foot with an oval toe, medium tread tapering to the waist and seat. There is no distinct waist and the seat shape is unknown as it is torn away. The insole has constructional thonging of type 1 running vertically down the centre, thong width 3.0mm. Insole length c. 222mm, tread width 82.0mm, and waist width 58.0mm.

The toe area and part of the vamp of the upper are *in situ*, no upper seams remain and all edges are torn away, although suf-

ficient remains to indicate a closed upper of heavily worn sheep/goatskin. On the vamp, running vertically from the toe towards the throat, is a line of paired small incisions from a single decorative, embroidered stripe. The incisions occur only in the upper face of the leather and do not penetrate to the interior, flesh, side.

The upper lasting margin is preserved at the toe. It has been folded under the insole, causing it to be pleated under the oval toe and braced together from one side to the other with narrow thonging 3.0mm in width. A fragment of the middle present at the toe, is held to the insole by the vertical constructional thonging. The lasting margin of the upper overlies this and, therefore, was originally sandwiched between the middle and the sole.

Running along the edge where the upper has been folded over the insole, is a line of fine thonging by which the sole was originally attached. A small, delaminated fragment of the sole can be seen attached to the thonging at the toe.

RA 55 G127, L19, Phase 7, Period IV. *Leather primary waste*. Undiagnostic, folded fragment of hide edge. Length 34.0mm.

RA 57 G125, L18, Phase 7, Period IV. *Leather shoe fragment*. Portion of worn shoe upper with lasting margin, stitch length 5.0mm, edges cut and torn away. Length 67.0mm.

RA 59 G126 (G125), L19 (L17), Phase 7, Period IV, Fig 22. *Wooden implement*. Hazel (*Corylus* sp.) ?handled tool, made from a naturally curving branch, deliberately selected to allow the tool to be fashioned in one piece. Roundwood handle, cut and shaped to a sub-rounded cross-section, with smooth, flat sides and an angled, flat cut terminal, set at an angle of 155 degrees to the shaft. Two deeply incised, asymmetrical V-shaped notches 4mm deep (?finger grips) are cut into one side, and, if held in the right hand, the upper surface of the handle. The handle has broken across one of the grooves. A small incised X bounded by two incised lines, possibly representing an owner's mark, is cut into the lower edge of the handle approximately 20mm from the end. The surfaces of the handle are darkened and polished/smoothed as if by constant use. The slightly tapering shaft has a D-shaped cross-section and in its original form, may have measured up to 535mm in length. Present length (handle) 115mm, (shaft) 273mm, width (shaft) 30mm, thickness (shaft) 11-12mm, (head) 29x19mm.

RA 61 G110 (G108), L13 (L12), Phase 5, Period III. *Jurassic Limestone whetstone*. Light grey in colour and fine-grained in texture. Sub-rectangular in shape and section with smooth/polished surfaces through use. Length 31.9mm, width 22.4mm, thickness 18.7mm.

ECOFACTUAL EVIDENCE

The investigations produced assemblages of animal bone (hand collected and from environmental samples), waterlogged wood and charred plant remains (from environmental samples). A multi-disciplinary study into evidence for land-use history at the site was also undertaken. Samples were taken to recover waterlogged plant and insect remains; unfortunately, due to incorrect processing, no material of analytical value was recovered. Material with high analytical potential is presented in detail here. Otherwise, the

assessment reports are in the site archive.

ANIMAL BONE

Mike Luke based on assessment by Tony Roberts

Introduction

The small size of the animal bone assemblage from each chronological period severely restricted the potential for analysis to provide meaningful and reliable conclusions concerning the exploitation of animal resources at the site. The fragmentation and surface erosion of the bone resulted in loss of ageing, metrical, butchery and gnawing data. It also left a high proportion of unidentifiable material, further reducing the analytical potential of the material.

No detailed analysis was undertaken; the following discussion is based on the assessment report.

Summary discussion

A total of 130 animal bone fragments were recovered (113 from the chronological periods that are the subject of this article) weighing c. 13.5kg. The bulk (93%) of the assemblage was recovered from Period IV and V (Saxo-Norman/early medieval) deposits, principally from spring hollow G120 (Phase 7).

The Iron Age and Roman assemblage is too fragmentary for identification. Cattle and to a lesser extent pig and horse were the dominant species within the Saxo-Norman and early medieval periods. This is fairly typical of a rural settlement of this time, although the small number of sheep bones may be significant. Butchery marks, usually made by knives, occur mainly on cattle bones but occasionally on horse bones. Evidence for gnawing occurs in most periods mainly on cattle and pig bones.

CHARRED PLANT REMAINS

Mark Robinson

Introduction

Extensive sampling was undertaken for charred plant remains during the investigations resulting in 114 samples. These were deliberately taken from a range of feature types and spatial/chronological locations. The samples were floated onto a 0.5mm mesh and dried. Following assessment twenty flots, sub-sampled as necessary, were subject to detailed analysis on the basis of significant charred plant or wood remains. Nine were from Roman deposits (Period III), eight from Saxo-Norman deposits (Period IV) and four from early medieval deposits (Period V). The results are given in Tables 7-10. Nomenclature follows Clapham et al. (1987).

The Roman charred plant remains (Period III)

Two samples from Area A (pit G18 and ditch G14) and six from Area B (all from or associated with drying oven G108) were analysed in detail (Table 7 and Table 8).

Crops (Table 7)

Area A

Samples 21 (pit G18, L4) (ditch G14, L5) and 22 (ditch G14, L5) both contained waste apparently derived from the weed seed cleaning and de-husking of spelt wheat. Apart from a very slight presence of six-row hulled barley (sample 21), all the cereal remains could have been from spelt wheat (oats being regarded as a weed because these are Roman deposits). Hulled wheat glumes outnumbered cereal grains by a factor of 75 in sample 22 and a factor of 71.3 in the much smaller assemblage from sample 21. Allowing that chaff is more vulnerable to complete combustion than grain, the remains probably represented material that was very rich in chaff.

None of the grain had germinated, which suggests that grain was being de-husked and cleaned prior to milling for flour rather than that the material was from the cleaning of malt.

Area B

Samples 2 and 9, from the lower fill of the main flue of the drying oven G108 (L12), contained little charred grain or charred wood and this deposit was probably ash from burning under almost fully oxidising conditions. There was, however, a grain-rich layer from the base of the inner chamber dominated by spelt wheat and possible spelt wheat (sample 12). Cereal grain predominated in this sample and outnumbered hulled wheat glumes by a factor of 718. Many of the better preserved grains of wheat had compressed ventral surfaces and glume impressions along their length, suggesting that they had been charred while they were still tightly enclosed in their spikelets. Allowing again for chaff being more vulnerable than grain to complete combustion, it is possible that these samples represent the accidental burning of spelt spikelets (clusters of grains in their glumes) that were being parched in the oven.

In contrast, flots from a nearby deposit F169 (sample 3 analysed in detail and sample 4 assessed only) were dominated by glumes of spelt and emmer or spelt wheat, which outnumbered the grain by a factor of over 73. No sprouted grains were observed. This material probably represents the burning of waste from the parching of spelt wheat spikelets in

Sample Group Group description Landscape Sample volume (litres)				Area A		Area B					
				21 G18 pit	22 G14 ditch	2+9 G108 use of drying oven	12 G108	3 G108	5 G143 destruction of drying oven	11 G110	
				L4 10	L5 10	main flue L12 10	inner chamber L12 1.25	spread F169 L12 4	pit G93 L13 2.5	inner chamber L13 4	
Cereal Grain											
<i>Triticum spelta</i> L.		spelt wheat		2	14	3	187	29	112	21	
<i>Triticum</i> sp.		wheat		5	53	4	287	72	188	45	
<i>Hordeum vulgare</i> L.	- hulled lateral grain	six-row hulled barley		1	-	-	-	-	-	-	
<i>Hordeum</i> sp.	- hulled median grain	hulled barley		1	-	-	-	-	-	-	
<i>Hordeum</i> sp.	- hulled	hulled barley		-	-	-	1	1	-	-	
cereal indet.				18	36	6	498	103	475	115	
Total cereal grain				27	102	13	973	205	775	181	
Cereal Chaff											
<i>Triticum</i> cf. <i>dicoccum</i> Shubl.	- glume base	emmer		-	-	-	-	1	-	-	
<i>Triticum spelta</i> L.	- glume base	spelt wheat		13	331	1	25	238	37	3	
<i>T. dicoccum</i> Shubl. or <i>spelta</i> L.	- glume base	emmer or spelt wheat		22	184	1	28	426	72	22	
<i>Triticum</i> sp.	- rachis	wheat		1	17	1	-	16	2	-	
<i>Hordeum</i> sp.	- rachis	barley		1	1	-	-	-	-	-	
<i>Avena</i> sp.	- awn fragments	oats		-	1	-	-	-	1	-	
Total chaff excluding awn fragments				37	533	3	53	681	111	25	
Weed Seeds											
<i>Stellaria media</i> gp.		chickweed		5	1	-	-	1	-	-	
Caryophyllaceae indet.				-	1	-	-	-	-	-	
<i>Chenopodium album</i> L.		fat hen		3	-	-	-	-	-	-	
<i>Atriplex</i> sp.		orache		-	1	-	-	-	-	-	
Chenopodiaceae indet.				-	-	1	-	-	-	-	
<i>Malva sylvestris</i> L.		common mallow		-	18	-	-	-	-	-	
<i>Vicia</i> or <i>Lathyrus</i> sp.		vetch or tare		2	-	-	3	2	-	1	
cf. <i>Medicago lupulina</i> L.		black medick		-	2	-	-	-	-	-	
<i>Aphanes arvensis</i> agg.		parsley-piert		1	-	-	-	-	-	-	
<i>Polygonum aviculare</i> agg.		knotgrass		4	3	-	-	-	-	-	
<i>Rumex acetosella</i> agg.		sheep's sorrel		2	-	-	-	-	-	-	
<i>Rumex</i> sp. (not <i>acetosella</i>)		dock		8	8	-	1	6	-	2	
<i>Urtica dioica</i> L.		stinging nettle		-	2	-	-	-	-	-	
<i>Euphrasia</i> or <i>Odontites</i> sp.				1	-	-	1	-	-	3	
<i>Valerianella dentata</i> (L.) Poll.		cornsalad		2	-	-	-	-	-	-	
<i>Tripleurospermum inodorum</i> (L.) Sch. B.		scentless mayweed		1	12	-	-	1	-	2	
<i>Carduus</i> or <i>Cirsium</i> sp.		thistle		-	3	-	-	-	-	-	
<i>Eleocharis</i> S. <i>Palustris</i> sp.		spike rush		-	1	-	-	-	-	-	
<i>Carex</i> spp.		sedge		-	4	-	-	-	1	-	
<i>Bromus</i> S. <i>Eubromus</i> sp.		brome grass		7	-	1	14	21	15	3	
<i>Avena</i> sp.		oats		-	15	-	4	1	41	12	
Gramineae indet.		grass		18	33	-	-	2	-	3	
weed seeds indet.				21	54	1	1	3	2	4	
Total weed seeds				75	158	3	24	37	59	30	

* sample 33 from F743 (building G37) is not tabulated but contained one grain of black medick

Table 7 Roman (Period III, Phase 5) charred plant remains* (excluding charred wood)

the oven in order to de-husk them prior to milling. Such waste would, prior to burning, have comprised almost entirely glumes.

Two samples were analysed from deposits believed to represent destruction deposits associated with the oven. Samples 5 (G143 within pit G93, L13) and 11 (G110 within inner chamber of drying oven G108, L12) yielded high concentrations of cereal remains. Remains of spelt wheat and possible spelt wheat dominated the cereal component, like

sample 12. Cereal grain outnumbered hulled wheat glumes by a factor of x7 in sample 11. A similar grain-rich assemblage was present in sample 5 and, therefore, both deposits are thought likely to have resulted from the use of the drying oven.

Weeds (Table 7)

Area A

The weed seeds from samples 21 and 22 were most-

ly from typical arable weeds. However, both flots contained a rather high proportion of small grass seeds and sample 22 also had many seeds of *Malva sylvestris* (common mallow). This hints that some of the material could have had a grassland / wayside origin or possibly that the assemblages were derived from crops grown on ploughed-up grassland.

Area B

Concentrations of weed seeds were low in relation to cereal remains in all the samples associated with the drying oven G108. Those weed seeds that were present were mostly from plants with large seeds such as *Rumex* sp. (dock), *Bromus* S. *Eubromus* sp. (brome grass or chess) and *Avena* sp. (oats, probably wild oats). The spikelets of spelt wheat had probably been cleaned of small weed seeds by sieving prior to parching in the oven. This was in contrast to the assemblages from Area A, where spelt wheat had evidently been parched along with the full size range of weed seeds.

Charred wood (Table 8)

Area A

The charred wood in samples 21 and 22 was mostly oak and presumably represents fuel.

Area B

Oak charcoal was present in all the flots from samples associated with the drying oven G108. Ash, hazel, hawthorn type and sloe type charcoal were also identified from some of the flots. This presumably

represented mixed wood used as fuel. There was no evidence that any of the charcoal amongst the demolition debris of the oven was part of its structure.

Roman summary

The results show part of the typical pattern for Roman rural settlements in the South Midlands. Spelt wheat would certainly have been a major crop but six-row hulled barley, here no more than a minor contaminant of the wheat, would also have been important. The reason that more barley was not found was probably due to the limited range of activities represented by the charred remains. Had a greater part of the Roman settlement been excavated, a more balanced picture would probably have emerged. The charred wood was unexceptional and derived almost entirely from fuel.

The Saxo-Norman charred plant remains (Period IV)

The analysed samples from Saxo-Norman deposits can be conveniently divided into those from buildings (the majority) and those from colluvial deposits (Table 9 and Table 10).

Samples from buildings G44 and G51 (Table 9 and Table 10)

The samples from building G44 (31, 35, 39 and 41) and building G51 (28 and 44) contained very small quantities of grain and weed seeds, with no more than 16 items per flot. A few of the grains were from hulled barley and the other seeds were mostly from potential arable weeds, although a couple of hazelnut

Sample Group Group description	Area A		Area B					
	21 G18 pit	22 G14 ditch	2+9 G108 use of drying oven	12 G108 main flue	3 G108 inner chamber	5 G143 spread F169	11 G110 oven pit G93 inner chamber	33 G37 building
Landscape	L4	L5	L12	L12	L12	L13	L13	L10
Sample volume (litres)	10	10	10	1.25	4	2.5	4	10
Weight of charred wood (gm)	2	28	<1	5	3	10	11	8
<i>Prunus</i> sp.				+				
Pomoideae indet.	+	+					+++	
<i>Corylus avellana</i> L.					++			
<i>Quercus</i> sp.	++	+++	+	+	+	+++	+	++
<i>Fraxinus excelsior</i> L.				+				

(+ present, ++ several fragments identified, +++ many fragments identified)

Table 8 Roman (Period III) charred wood

		Sample Group Group description Landscape Sample volume (litres)	31 G44 Building L16 10	35 G44 G44 L16 10	39 G45 L16 10	41 G44 L16 10	28 G51 Building L16 10	44 G51 G51 L16 10	59 G122 colluvium L18 10
Cereal Grain									
<i>Triticum</i> sp.	- free threshing short grain	rivet or bread wheat	-	-	-	-	-	-	5
<i>Triticum</i> sp.		wheat	1	-	1	-	-	-	-
<i>Secale cereale</i> L.		rye	2	-	-	-	-	-	-
<i>Hordeum</i> sp.	- hulled median grain	hulled barley	1	-	-	1	-	-	-
<i>Hordeum</i> sp.	- hulled	hulled barley	-	-	1	4	-	-	-
<i>Hordeum</i> sp.		barley	-	-	-	-	2	1	-
<i>Avena</i> sp.		oats	33	2	1	-	-	-	-
cereal indet.			21	3	17	5	1	-	1
Total cereal grain			58	5	20	10	3	1	6
Cereal Chaff									
<i>Triticum</i> sp.	- free threshing tetraploid rachis	rivet-type wheat	-	-	-	-	-	-	1
<i>Secale cereale</i> L.	- rachis	rye	-	-	-	-	-	-	1
Total chaff			0	0	0	0	0	0	2
Weed Seeds									
<i>Papaver rhoeas</i> tp.		poppy	1	-	-	-	-	-	-
Caryophyllaceae indet.			1	-	-	-	-	-	1
<i>Chenopodium album</i> L.		fat hen	-	-	-	-	1	-	-
<i>Atriplex</i> sp.		orache	2	-	-	-	-	-	-
<i>Vicia</i> or <i>Lathyrus</i> sp.		vetch or tare	16	-	2	2	-	-	-
<i>Polygonum aviculare</i> agg.		knotgrass	-	-	-	-	-	1	-
<i>Corylus avellana</i> L.		hazel	-	-	-	-	1	1	2
<i>Anthemis cotula</i> L.		stinking mayweed	4	-	-	-	-	-	3
<i>Tripleurospermum inodorum</i> (L.) Sch.		scentless mayweed	4	-	-	-	-	-	-
<i>Centaurea</i> sp.			1	-	-	-	-	-	-
<i>Eleocharis</i> S. <i>Palustres</i> sp.		spike rush	-	-	1	-	-	-	-
<i>Carex</i> sp.		sedge	1	-	-	-	-	-	-
Cyperaceae indet.			-	-	-	1	-	-	-
<i>Bromus</i> S. <i>Eubromus</i> sp.		brome grass	-	-	1	-	-	-	-
Gramineae indet.		grass	-	-	-	1	-	-	1
weed seeds indet.			4	-	6	2	1	-	2
Total weed seeds			34	0	10	6	3	2	9

Table 9 Saxo-Norman (Period IV, Phase 7) charred plant remains (excluding charred wood)

shells were found from G51. Some of the samples from G44 contained higher concentrations of remains, with wheat, rye, hulled barley and oats amongst the cereal grains. The majority of grains in sample 31, the richest of the flots, were oats. This sample also contained many weed seeds, especially *Vicia* or *Lathyrus* sp. (vetch or tare).

The absence of hulled wheat, which might be expected in Roman deposits, confirms the post-Roman date for these buildings. The charred grain and weed seeds from the buildings would be consistent with small-scale domestic activity involving the use of cereals, but in contrast to the Roman period they need not imply large-scale crop processing.

Sample Group	31	35	39	41	28	44	53	59
Group description	G44	G44	G45	G44	G51	G51	G63	G122
Landscape	Building	G44			Building	G51	Ditch	Colluvium
Sample volume (litres)	L16	L16	L16	L16	L16	L16	L16	L18
Weight of charred wood (gm)	10	10	10	10	10	10	10	10
	4	35	8	3	1	3	8	7
<i>Corylus avellana</i> L.	hazel	+		+		+		+
<i>Quercus</i> sp.	oak	+	+++	++	+	+	+++	+

(+ present, ++ several fragments identified, +++ many fragments identified)

Table 10 Saxo-Norman (Period IV) charred wood

The charred wood from the buildings was mostly oak, with large quantities from sample 35. It appears to have been derived from domestic hearths rather than being debris from the destruction of the buildings.

Samples from colluvial deposits G122 (Table 9 and Table 10)

Colluvial deposits G122 within spring hollow G120 contained little charred material (sample 59). However, the occurrence of grains of free-threshing wheat and a rachis fragment of free-threshing tetraploid wheat (rivet-type wheat) confirm the Saxo-Norman rather than the Roman date for the accumulation of these deposits.

Saxo-Norman summary

The Saxo-Norman charred plant remains included most of the crops that might be expected on a settlement of this period in the region: wheat, rye, hulled barley and oats. Only free-threshing tetraploid wheat (rivet wheat) was identified with certainty but free-threshing hexaploid wheat (bread wheat) is also likely to have been grown. The barley would most probably have been six-row hulled barley. The identification of free-threshing tetraploid wheat, albeit one grain, adds to a growing number of records from the region for a species of wheat only recently shown to have been cultivated in medieval England (Moffett 1991). However, insufficient large assemblages of crop remains were found to establish the relative importance of the different cereals. This was also probably the reason that crop legumes such as field bean and pea were not found although they were identified from medieval sites along the Bedford Southern Bypass (Albion in prep. b).

The early medieval charred plant remains (Period V)

The analysed samples from early medieval deposits can be conveniently divided into fills of pits G77 and the fill of a ditch G60 (Table 11 and Table 12).

Samples from pits G76 (Table 11 and Table 12)

The fills G77 of pits G76 (samples 38, 43 and 45) all contained large quantities of oak charcoal but little other charred material. A glume of spelt wheat in sample 43 was perhaps residual from the Roman activity on the site. This sample also contained a rachis of rye.

Samples from ditch G60 (Table 11 and Table 12)

Ditch fill G147 (sample 30) of ditch G60 contained a surprisingly high concentration of charred remains. There was much charred wood, mostly of Pomoideae type (hawthorn, apple *etc.*) which may have been derived from the burning of a hedge. This sample also produced the highest concentration of grain (32 per litre) from any of the post-Roman flots. Most of the grain had been damaged by the process of charring. Apart from single grains of rye and barley, it either was or could have been from a free-threshing short grained variety of *Triticum* sp. (rivet or bread wheat). No chaff and only a couple of weed seeds were present in the flot. One of these was from *Centaurea* sp., probably *C. cyanus* (cornflower), an arable weed whose seeds are very difficult to clean from grain. This assemblage possibly represented the accidental charring of clean grain that was being parched to harden it prior to milling.

Early medieval summary

The charred plant remains included some of the crops that might be expected on a settlement of this

		Sample Group Group description Landscape Sample volume (litres)	30 G147 ditch G60 fill L22 2.5	38 G77 Pits G76	43 G77 L25 10	45 G77 L25 10
Cereal Grain						
<i>Triticum</i> sp.	- free threshing short grain	rivet or bread wheat	6	-	-	-
<i>Triticum</i> sp.		wheat	5	-	-	-
<i>Secale cereale</i> L.		rye	1	-	-	-
<i>Hordeum</i> sp.		barley	1	-	-	-
cereal indet.			67	-	2	1
Total cereal grain			80	0	2	1
Cereal Chaff						
<i>Triticum spelta</i> L.	- glume base	spelt wheat	-	-	1	-
<i>Secale cereale</i> L.	- rachis	rye	-	-	1	-
Total chaff			0	0	2	0
Weed Seeds						
<i>Crataegus</i> cf. <i>monogyna</i> Jacq.		hawthorn	-	1	-	-
<i>Galium aparine</i> L.		goosegrass	-	-	1	-
<i>Centaurea</i> sp.			1	-	-	-
<i>Bromus</i> S. <i>Eubromus</i> sp.		brome grass	-	1	-	-
weed seeds indet.			1	1	2	-
Total weed seeds			2	3	3	0

Table 11 Early medieval (Period V, Phases 8 and 9) charred plant remains (excluding charred wood)

		Sample Group Group description Landscape Sample volume (litres) Weight of charred wood (gm)	30 G147 Ditch G60 fill L22 2.5 31	38 G77 Pits G76 L25 10 33	43 G77 L25 10 39	45 G77 L25 10 25
Pomoideae indet.	hawthorn etc	+++				
<i>Corylus avellana</i> L.	hazel					
<i>Quercus</i> sp.	oak	+		+++	+++	+++

(+ present, ++ several fragments identified, +++ many fragments identified)

Table 12 Early medieval (Period V) charred wood

period in the region: wheat, rye and barley. The assemblage is too small to comment on any changes from the preceding period. The preponderance of oak amongst the charred wood might suggest that the settlement had a woodland source of fuel and was not just dependent on hedgerows or scrub for firewood.

WATERLOGGED WOOD

Rowena Gale, with discussion of the timber tank by Richard Darrah

Introduction

Two hundred and forty-two samples of wood were taken from waterlogged Saxo-Norman/early medieval deposits associated with spring hollows G120 and G121 (Periods IV and V). All sails and a selection of rods from the hurdles G125 were sampled (59 samples), along with a representative sample of wood within deposits G126 overlying the hurdles (52 samples). In addition, samples were taken from major timbers along with offcuts that had been used as "packing" associated with the timber tank G132 (7 samples). The remainder was derived from other fills of the spring hollows. All sampled wood was issued a unique number during fieldwork commencing at 2000 and where relevant this is referred to in this article.

Microscope slides were prepared from all samples. Thin sections were taken using a double sided razor blade to show the transverse, tangential longitudinal and radial longitudinal planes. These were mounted in 50% glycerol on glass microscope slides and protected with glass cover slips. The anatomical structure was examined using a light transmitting microscope at magnifications of up to $\times 400$ and matched to reference material.

There follows a description of the wood used in the construction of the hurdles and the timber tank, with a discussion of the wood types and woodworking techniques. Appendix 4 contains a fuller description of the waterlogged wood but for details of individual pieces the site archive should be consulted.

Description of the two timber structures

Hurdle G125 and collapse G126 (Period IV)

Two arrangements of interwoven timber hurdles were recorded. Both were made predominantly of hazel (*Corylus*) sails and rods. The sails were between 30mm and 50mm in diameter and the rods, with one exception, between 12mm and 22mm. Willow (*Salix*) and/or poplar (*Populus*) rods were

also present (Fig 23, nos. 2184, 2185 and 2193). In general they appear to be fast grown, and the occasional presence of characteristic coppice 'heels' confirms that they were grown and cut from coppice stools. The anatomical structure suggested that the rods had mostly been gathered in winter while dormant, although a few had been collected during the growing season. The hurdles appeared to contain a mixture of winter and summer cut rods implying that they had been made from a store of rods containing this mixture, or if the hurdles were made in the summer months, some extra rods were cut then and used.

Many of the samples from the deposits G126 above the hurdle were consistent in species content and stem diameter to the rods used in the hurdle (Fig 23, no. 2011). In addition to wooden implement (RA 59, Fig 22), a number of wood chips were recovered, clearly representing woodworking waste.

The timber tank G132 (Period IV)

During the excavation it was possible to re-assemble six of the eight middle timber planks (2053, 2061, 2062, 2070, 2071 and 2076) into the single oak (*Quercus*) tree, from which they had been converted. In addition, dendrochronological analysis indicated that two other trees provided two lower timbers (2056 and 2066) and a corner stake (2074), and one lower timber (2065) and a corner stake (2073) respectively (see Appendix 5).

The tree that provided the middle timber planks would have been 0.35m in diameter, with a trunk length of 8.3m. The trunk length and absence of side branches indicate that this tree had grown in a wood, not a hedgerow. It had been split down its length into two halves, then cut into approximately 2.5m lengths with the sapwood hewn off to form 0.1m thick planks. These timbers had been cross-cut with a narrow-bladed axe which had a curved edge. The faces of the timbers were roughly dressed with a wide-bladed straight-edge axe hewing across the grain. On some of these surfaces the wood had been weakened by a series of steep, deep cuts made with the narrow-bladed axe before the surface was hewn flat with the broad axe.

One timber (2061) (Fig 28) also had its outer surface split off tangentially. It is unclear whether this piece was split off to reduce the amount of hewing required on this surface, or to produce a piece of wood which was used elsewhere, as this outer tangential split was not found in the timber structure.

Timber tanks made from cleft boards lapped together at the corners date from the Neolithic, but also occur in the medieval period (cf. the 11th/12th

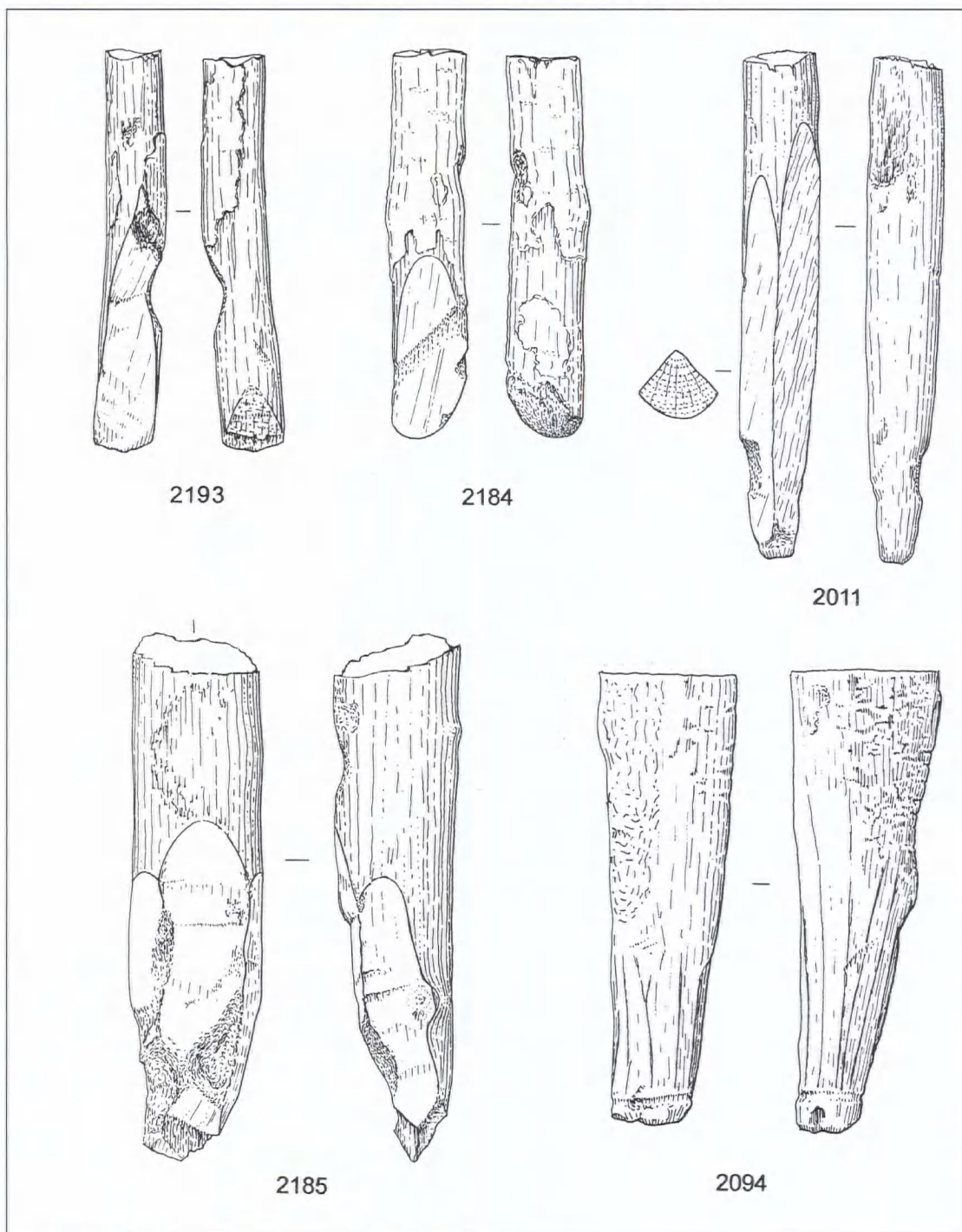


Figure 23 Rod, sail and stakes associated with hurdle G125, and packing from tank G132 (scale 1:4)

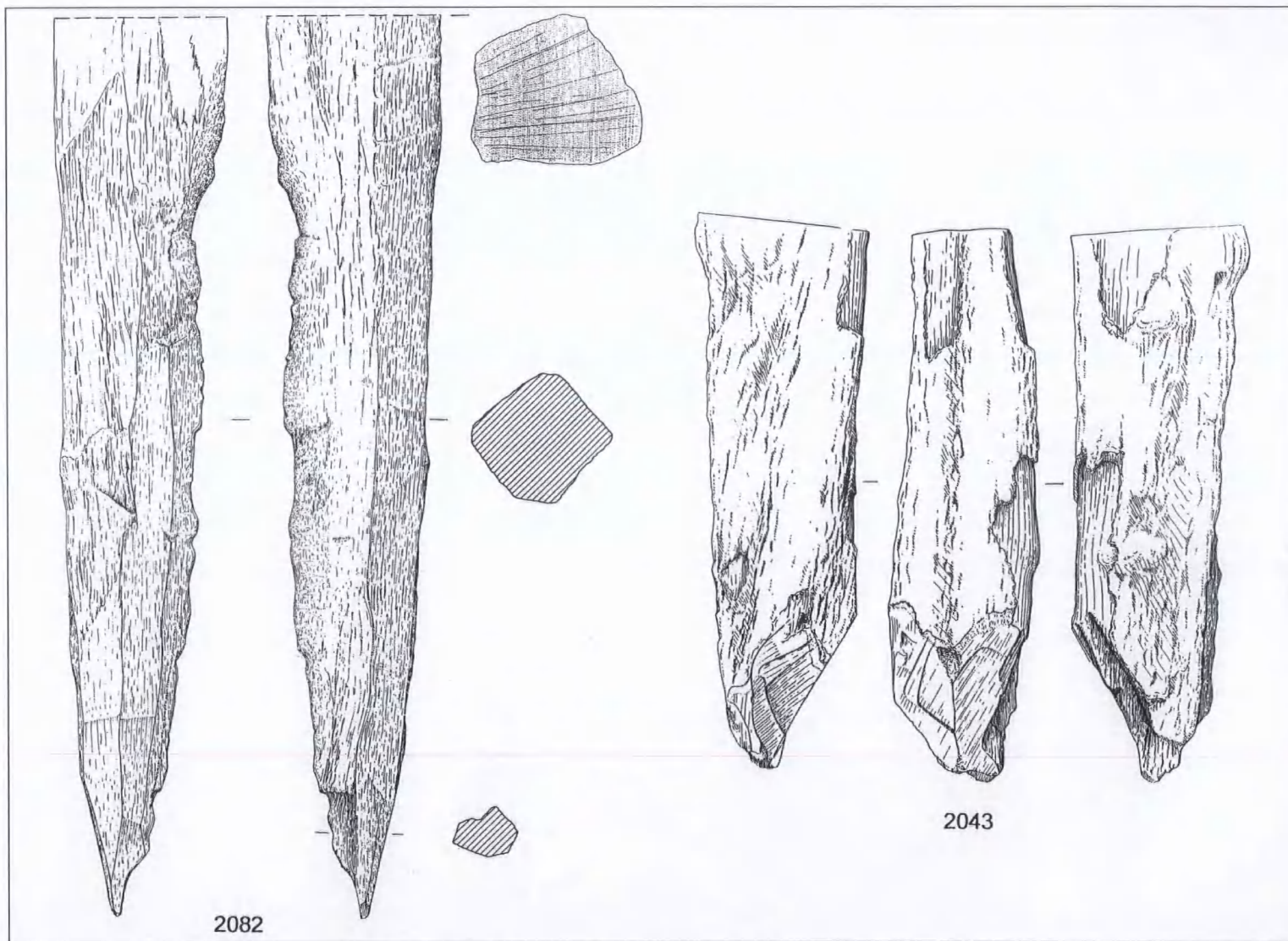


Figure 24 Post and stake from tank G132 (scale 1:4)

century bridge pier bases at Hemington Fields, Leicestershire (Cooper and Ripper 1994, 153). However, it is the use of broad-axes hewing across the faces of the timbers, narrow curved-edges cross-cutting, and felling axes which indicate a Saxon or Saxo-Norman date. This has been confirmed by dendrochronological analysis which indicates a felling date of AD1081 (see Appendix 5).

Resources

Several types of wood were available at the site and used to varying degrees. Some of the species may have grown as coppice woodland, the most evident being hazel (*Corylus*). The morphology and structure of the stems used for hurdle-making strongly suggested they were coppice rods, gathered for uniformity of size rather than on a strict rotational

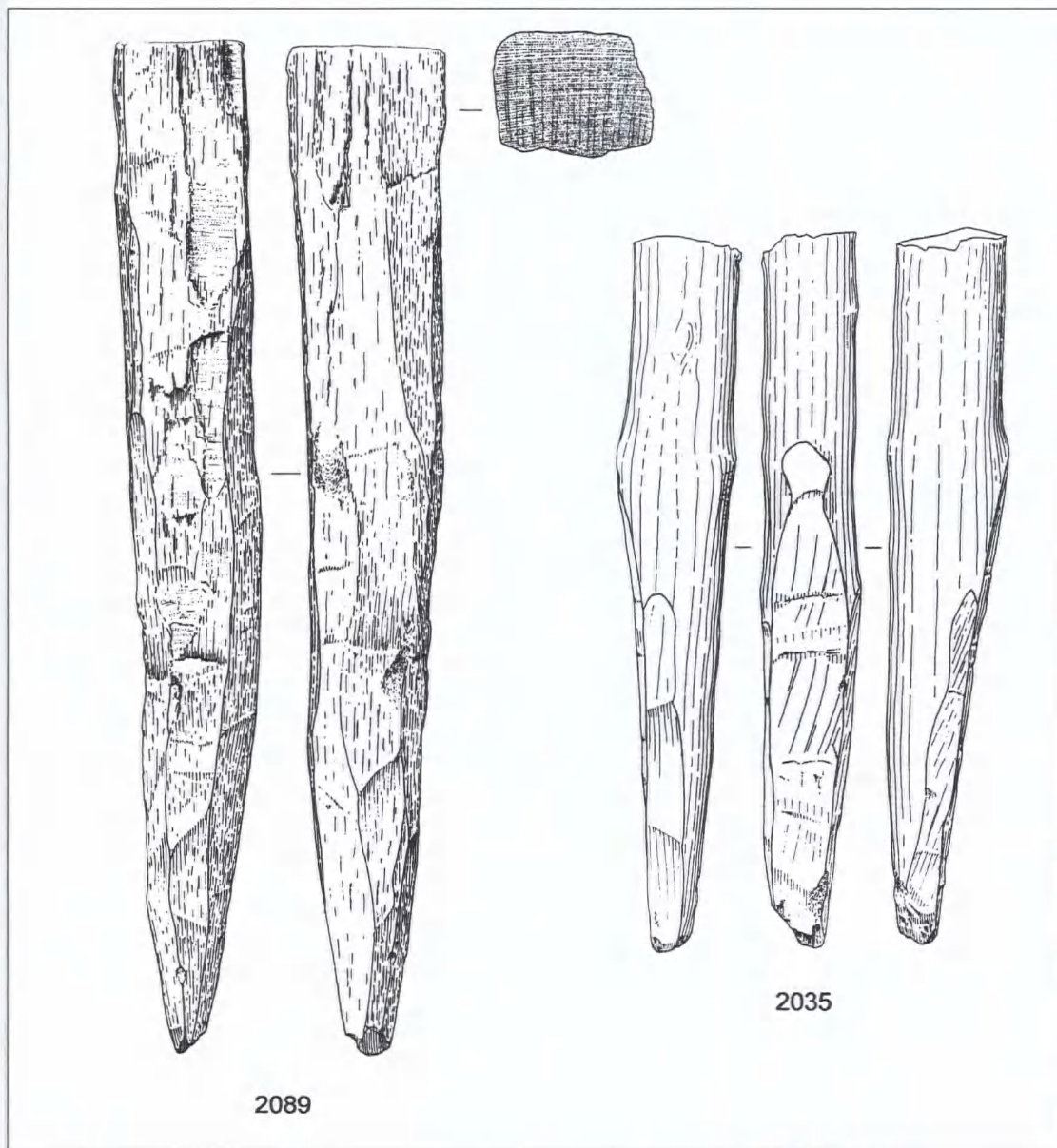


Figure 25 Stakes from tank G132 and the northern spring hollow (scale 1:4)

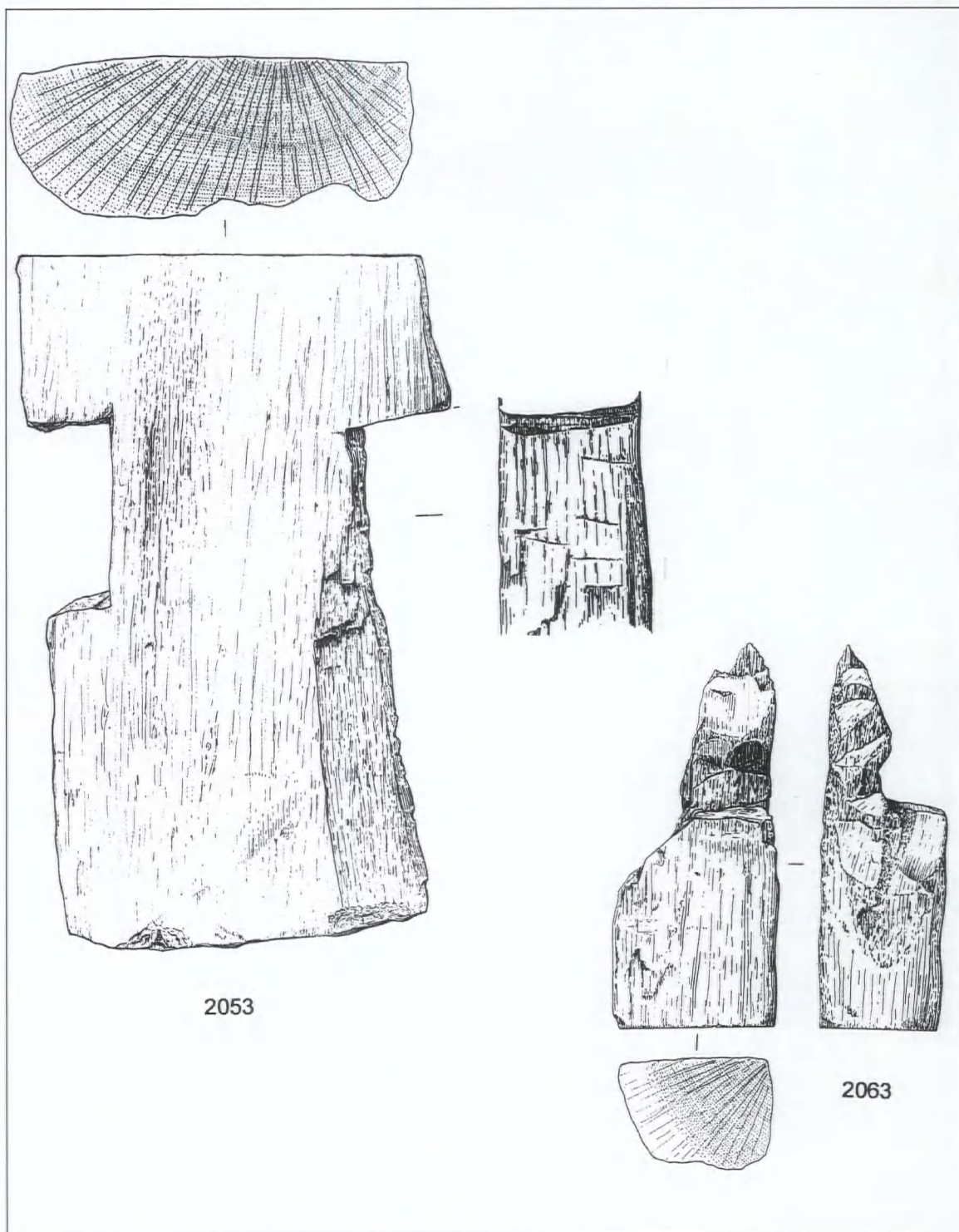


Figure 26 Lap and half lap joints from tank G132 (scale 1:4)

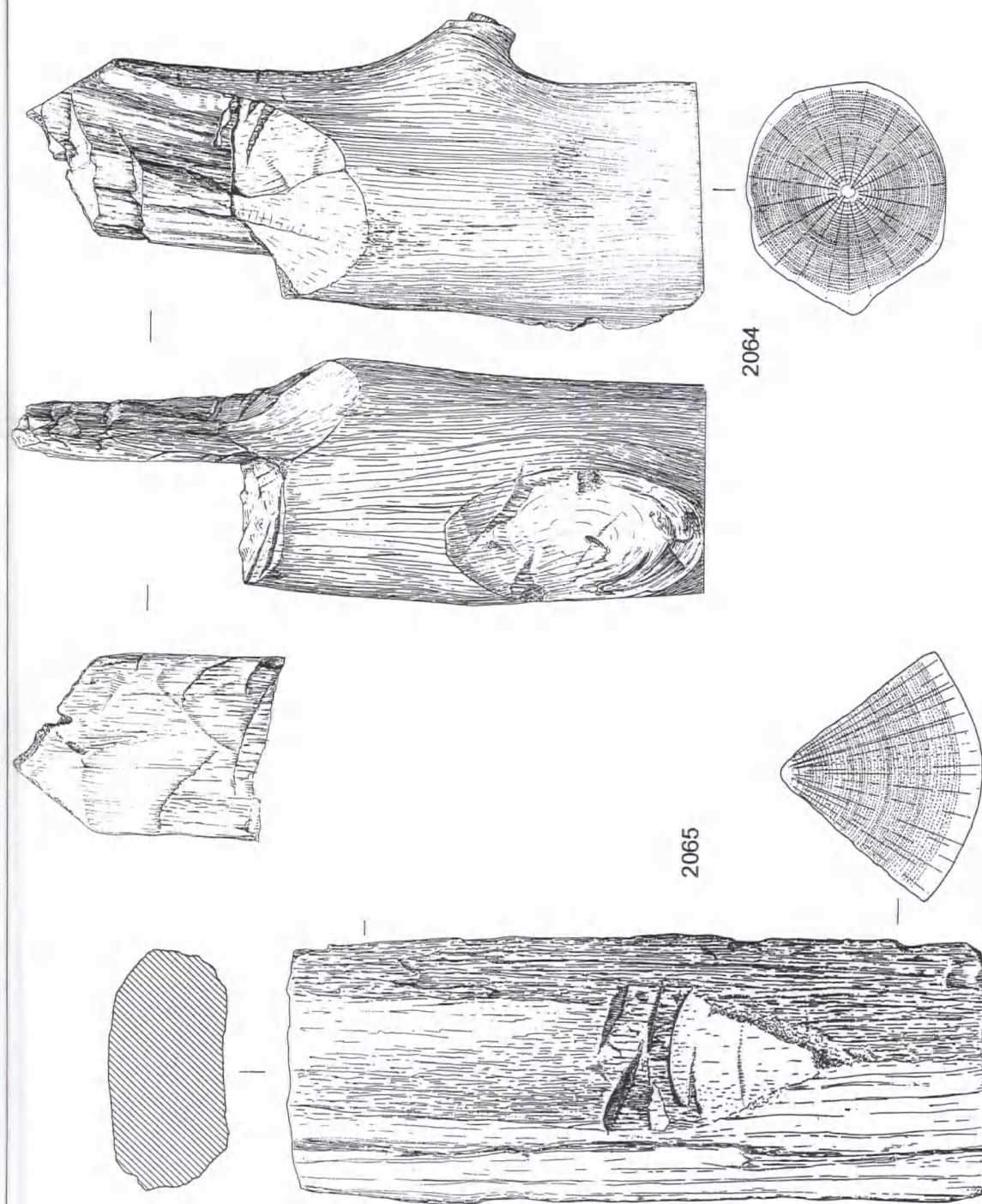


Figure 27 Half lap joints from tank G132 (scale 1:4)

harvesting based on age. Some stakes measured as much as 65mm in diameter indicating that poles were deliberately grown. The widely differing time-span taken for some stakes/sails to achieve similar diameters is of interest, since those used in the same structure were presumably felled or cut at a similar time and, therefore, growing in comparable climatic conditions. In roundwood samples from hurdle G125, the number of annual rings, measurements of stem diameter and the season of felling was noted. The rods ranged from 4-6 years and the sails from 9 to 33 years. Perhaps these differentials could be attributed to very localized environmental pressures such as vegetational competition and variations in soil.

With the notable exception of the timber tank G132, oak was rarely identified from the water-logged wood samples (however, see 0 for charred plant evidence). The main portion of the tank consisted of parts of three oak (*Quercus*) trees and one field maple (*Acer*), all of which had been summer felled. The common felling time of the trees and the use of six major pieces of one oak trunk suggest that they were felled specifically for the construction of the structure. Despite distinctions in building techniques, the two parts of the structure are contemporary as both sets of timber were felled in the summer of AD1081. It would have taken three or four person days to fell, split, shape and cut the joints in all the timbers used for this structure (Fig 26-28).

Maple (*Acer*) was not only used in the construction of the timber tank G132 but also as whole young poles or trunks for staves and stakes (Fig 24, no. 2043, and Fig 25, no. 2035). Ash (*Fraxinus*) appears to have been sparsely used, although this may reflect its lack of durability when used outside. Poplar and/or willow also appear to have been used relatively infrequently, but the presence of wood chips from widish branches or trunks suggests uses not identified on site. The sporadic use of holly (*Ilex*), bramble or rose (*Rosioideae*), elder (*Sambucus*), *Prunus* and *Pomoideae* was also noted. Elm (*Ulmus*) wood was also present but may represent later occupation of the site.

Methods

Facet type indicates the form of point produced and, indirectly, the style of working and level of effort invested in each piece. The recording of these on stakes and sails shows a preference for multi-variant points, which occur in both the hurdle and tank, and for chisel points, which are restricted to the hurdle. Although cutting angles were not recorded in detail, most appear to be reasonably shallow c. 0-45° (Table 13).

None of the woodworking techniques used in the timber tank were complex, and no timbers had been carefully shaped or finished. Three specific woodworking techniques were noted on the larger cleft timbers: splitting in half, use of a narrow-bladed axe and a wider bladed axe. One of the difficulties in identifying cleft timber is that timber may decay back to a surface that looks similar to a cleft surface. However, it was possible to confirm the use of cleft timber as the six timbers could be reassembled into the tree trunk from which they had been split. A narrow-bladed axe with a curved edge 67.5mm wide was used for cross-cutting the timbers, and had been used for cutting one of the halved joints on 2056 (one of the lower timbers in the tank). A wider bladed axe with a straight edge had been used for hewing across the grain. Although no complete tool marks were identified from this axe, its blade width was greater than 165mm as apparent on 2077 (one of the middle timbers of the tank).

The two distinct types of axes identified from their tool marks on the timbers had been used in conjunction in the hewing of the flat faces of the timbers. The narrow curved-edged axe was used for making weakening cuts at a steep angle to the surface. The wood was then hewn away with a wider blade axe with an almost straight-edge cutting parallel to the surface. Tool marks from the combination of narrow-bladed curved-edged cross-cutting axes and wide straight-edged hewing axes are known from the mid-Saxon and Saxo-Norman periods. In this structure both the narrow bladed axe and the hewing axe were used for cutting the lap joints near the ends of the timbers (Figs 26-28).

Facet type	Hurdle G125		Hurdle disuse G126		Tank G132		Total
	Stake	Sail	Stake	Sail	Stake	Post	
Chisel (one facet)	3	4		2			9
Wedge (two opposing facets)				1			1
Variant (two facets with a common edge)		1	3	1			5
Multi-variant (more than two facets)	2	7	1	2	1	4	17
Total	5	12	4	6	1	4	32

Table 13 Facet type on stakes and sails

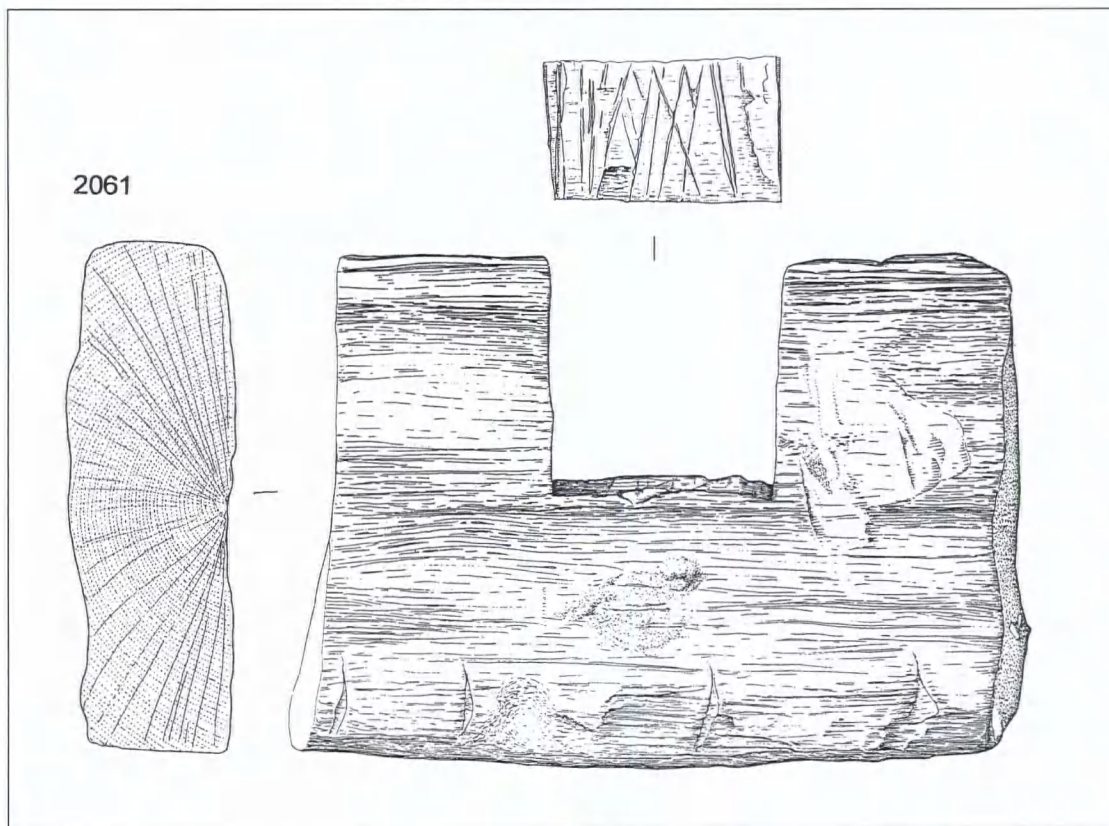


Figure 28 Lap joint from tank G132 (scale 1:4)

Fig	Timber No.	Description
23	2193	Willow/poplar rod from hurdle G125
23	2184	Hazel stake from hurdle G125
23	2011	Hazel stake from disuse G126 of hurdle G125
23	2185	Hazel stake from hurdle G125
23	2094	Willow/poplar packing from tank G132
24	2082	Oak post from tank G132
24	2043	Maple stake from disuse G118 of tank G132
25	2089	Oak stake from tank G132
25	2035	Maple stake from upper fills G127 of N spring hollow
26	2053	Oak lap joint from tank G132
26	2063	Oak half lap joint from tank G132
27	2065	Oak half lap joint from tank G132
27	2064	Oak half lap joint from tank G132
28	2061	Oak lap joint from tank G132

Table 14 Catalogue of illustrated timber

LAND-USE HISTORY (ROMAN TO EARLY MEDIEVAL PERIODS)

Richard Macphail, Mike Luke, and Drew Shotliff

Introduction

The following section summarises the results of a multi-disciplinary study into evidence for land-use history at the site. The study combined the three independent scientific disciplines of soil micromorphology, soil chemistry and palynology. The full, technical report (Macphail et al. 1997) forms part of the site archive.

The study focused on three areas of the site: the soil lying directly beneath the Phase 5 Roman drying oven (L12, G108), the build-up of colluvial deposits downslope of the oven, and the fills of the Phase 7 Saxo-Norman spring hollow (L17, G121). Nineteen undisturbed soil blocks and columns were collected. Associated bulk soil samples were also taken. Sub-samples for chemical and pollen analysis were removed prior to large format (6 x 7.5cm) thin section manufacture, allowing these data to be considered within the context of a known soil microstratigraphy.

The Roman landscape and soils

When the drying oven (L12, G108) was built at some point in the mid-1st to mid-2nd century AD, the local soils were already unstable and subject to truncation and colluviation. The soil micromorphology suggested that ploughing may have been a major factor in this process. Further evidence for cultivation was provided by the soil chemistry which indicated that dung had been used to enrich the soils. The pollen evidence was complementary to this picture of an open, occupied landscape. Tree and shrub pollen types were virtually absent. Similarly, no features that could be interpreted as tree throw holes were observed on the site.

The charred plant remains from the drying oven and other features indicate that cereals were being grown in the area. However, in addition to arable communities, pollen derived from grassland or fallow ground was also present. It seems likely that land was periodically taken out of cultivation to try to alleviate the soil erosion.

The effects of ploughing were still being felt immediately after the destruction of the drying oven. Arable cultivation appears to have been the major mechanism in continuing downslope soil movement and the spread of debris from the abandoned structure. Manuring remained a major source of soil

phosphate enrichment, although there was little evidence of *in situ* animal stocking.

During the 3rd/4th century there are strong indications that a marked change in land-use took place. The later colluvial deposits are typically dark with significantly enhanced phosphate levels and could have been affected by increased stocking levels. Although periodic ploughing continued to play a major role in destabilising local soils, land may have been left fallow for longer periods than before. It is believed that the sandy soils of the East Anglian Brecklands have a long history of alternating grassland and cultivation for crops and hay, and that such "shifting cultivation" may have been an integral part of the landscape for many centuries (Rodwell 1992, 306). Such a model, of mixed farming with heavy stocking levels during periods of fallow/grassland, may well be appropriate for Haynes Park, particularly for the later Roman period and possibly into the post-Roman period (see below).

Late Saxon / Saxo-Norman to early medieval

Evidence from the northern spring hollow G121 and overlying colluvial deposits suggests that mixed farming practices continued into the post-Roman period. With the exception of some low tree and shrub pollen frequencies, the pollen data show no major contrasts to the available Roman data. Arboreal taxa are too few to suggest widespread woodland development during the late Saxon period, which is consistent with the Saxon period in general (Rackham 1994).

The lower fills of the spring hollow built up rapidly, with the material derived from both dumping and continuing downslope soil movement. Again, the colluviation is likely to be the result of arable cultivation, as evidenced by charred plant remains and regular occurrences of cereal type pollen. It may be speculated that the presence of calcareous materials is indicative of marling in an attempt to improve the fertility of the acidic Greensand soils.

In contrast to the basal fills, dung is a relatively more important constituent of the deposits in the upper levels of the spring hollow. It is more difficult to specify whether this material is derived from dumping or from the *in situ* presence of animals at a watering hole. However, on balance the evidence does seem to be consistent with the latter hypothesis. Pollen grains from the dung give strong indications that the animals were fed from a variety of sources, including herb-rich grassland, short grassy sward, hedgerows and seasonally flooded land.

The upper levels of the spring hollow also con-

tained far more clay. This may well be an indication that erosion of upslope subsoils was taking place during this period.

DISCUSSION

Despite the relatively limited extent of the study area, evidence for five periods of activity, beginning in the early-middle Iron Age (Period I) and extending through to the medieval (Period V), was recovered. The following section is divided into the different chronological periods with sub-headings for the discussion of particularly significant aspects of the evidence.

EARLY-MIDDLE IRON AGE (PERIOD I)

Summary

The earliest firm evidence for human activity within the study area comprised at least two post-built structures associated with hearths, along with an isolated hearth and a group of pits. The total absence of boundaries suggests that the settlement can be classed as "open" or unenclosed. At the time of Knight's survey this class (Group 4) was considered to be relatively uncommon (1984, 223). Where they do occur, *e.g.* Hinksley Road, Flitwick (Luke 1999, 81) and Bancroft, Milton Keynes (Williams and Zeepvat 1994, 55), they are often situated on high ground. It has been assumed that livestock were stalled nearer the valley bottom, closer to the supply of water, thus preventing the need for ditched enclosures within the settlement (*ibid*).

Although the dating evidence is based on a small pottery assemblage (from a single feature), the stratigraphic relationships demonstrate that several of the features are the earliest in terms of the overall site sequence. The sparse pottery assemblage includes several sandy fabrics which correlate to the second chronological subdivision (5th-1st century BC) established by Knight (1984).

The limited nature of the artefactual and ecofactual evidence for this period means little can be inferred regarding settlement economy. It can, however, be noted that no four-post structures or storage pits were present.

Components of the settlement

The structures do not form "classic" roundhouses and only the postholes of G73 give an impression of a circular arrangement. They lack the drainage gully which is common feature of buildings of this period. For example, all five buildings at Hinksley Road, Flitwick were defined by drainage gullies and

few contained postholes (Luke 1999, Figs 3 and Fig 5). Although it is probable that only part of the Haynes Park structures survived, they share similar dimensions and form to those at Bromham, Beds. (Tilson 1975, Fig 1) and elsewhere (Knight 1984, Fig 28). The presence of hearths, also suggested for Bromham, may indicate that they served a domestic function.

Little can be said of pit group G55. The absence of significant quantities of domestic debris is more a feature of late Bronze Age/early Iron Age pits than those of this period.

'BELGIC' IRON AGE/EARLY ROMAN (PERIOD II)

Introduction

Firm evidence for this period of activity is restricted to the S limit of the study area (the higher ground). It comprised a trackway (indicated by a holloway and patches of gravel), ditches, pits and postholes (some possibly part of structures). It probably represents activity at the N limits of a settlement located beyond the limit of excavation. The exact nature and extent of occupation is, therefore, impossible to determine.

The sizeable 'Belgic' pottery assemblage is characterised by wheel thrown vessels in fabrics with grog and/or sand or shell inclusions. No pre-'Belgic' pottery was present, indicating that this was a new settlement in a previously unoccupied area. Stratigraphic relationships between features allow the identification of two phases of occupation activity, although their pottery assemblages are indistinguishable. It is interesting to note that in Area B residual 'Belgic' material was found in later (mainly Period V) features. It is unclear whether this derived from the settlement near Area A, or if it indicates the presence of a second settlement focus nearer to Area B.

Components of the settlement

The restricted distribution of features strongly suggests that ditch G5/7 represents the northern boundary of the settlement. It truncated a number of pits and, therefore, was not the primary feature in the area, although it may have completely truncated evidence for an earlier boundary. Despite being disturbed by later activity, it is clear that an entranceway existed providing access from the N.

The arrangement of postholes in the vicinity of the entranceway is suggestive of two structures: one four-post G11 and one rectangular G10. The former is more in keeping with so-called granaries prevalent

on early-middle Iron Age sites. However, the latter has been tentatively interpreted as a rectangular building. If correct, it would fit the general trend from circular to rectangular buildings without drainage gullies during this period (Rodwell 1978).

The function of pits G1/G146 and G4 is uncertain, but it is possible that they served as periodic quarries for clay to be used in buildings and other structures. It may therefore be significant that daub and fired clay, mainly in fabric A, were recovered from primary and secondary fills of contemporary features. The pits appear to be deliberately positioned in a linear band alongside ditch G5/7, possibly in an area of "dead" ground within the settlement.

The juxtaposition of a holloway and a number of gravel patches suggests that both are elements of a trackway. This post-dates the pitting activity but also runs parallel to ditch G5/7, probably demonstrating an association.

Economy

There are insufficient charred plant or faunal remains to comment on the economy of the farmstead. However, the small quantities of ferrous slag suggest that small scale metal working was being undertaken.

'Belgic' settlement shift and settlement patterns

Regionally there is considerable evidence for increasing settlement density during the late Iron Age. However, much of the Bedfordshire evidence derives from modern developments, which are concentrated in the river valleys (Dawson 2000a, 107 and 121). The investigations at Haynes Park, when combined with recent cropmark evidence, demonstrate that the Greensand Ridge, at least in this area, was quite densely occupied by the 'Belgic' Iron Age/early Roman period.

The 'Belgic' Iron Age/early Roman and early-middle Iron Age settlements at Haynes Park lay nearly 200m apart. This fits a general trend whereby surprisingly few early-middle Iron Age settlements are overlain by 'Belgic' replacements. For example, at Hinksley Road, Flitwick, c. 3km to the SW, despite evidence for early-middle Iron Age and Roman activity, no 'Belgic' activity was identified (Luke 1999, 83). In the 1970s Simco (1973, Fig 1) demonstrated that 'Belgic' sites were usually rarely found in the same locations as early-middle Iron Age material. She suggested two possible explanations for this phenomenon: the arrival of new peoples (the "immigrant or invasion" theories were popular at this time) or growth of the indigenous population resulting in increased settlement density (*ibid*). At

Haynes Park the shift in settlement location is fairly small, comparable to that at the Biddenham Loop (Albion in prep. a). The restrictive nature of most excavations makes it unlikely that even a small shift would be detectable within the investigated area.

The identification of boundary ditches of this date raises the possibility that many of the undated cropmark enclosures visible on aerial photographs in the vicinity may be contemporary (see Fig 1). Several, e.g. HER 16657 and 16703, occur in similar topographical positions on the other side of the stream. Although these generally appear to occur on the higher ground, there does not seem to be an obvious preference for the S- or N-facing slope. However, the dangers of making too many assumptions concerning undated cropmarks, even when subject to non-intrusive investigation, have been highlighted elsewhere in this volume (Luke 2004).

ROMAN (PERIOD III)

Introduction

Activity during this period was more extensive than in the earlier periods, occurring over both excavation areas. It comprised a rectilinear, ditched field/enclosure system, containing three discrete activity foci: pitting L7 (Area A), post-built buildings L10 (Area B) and a drying oven L12 (Area B). The distribution of features and contemporary domestic debris in Area A suggest that settlement continued beyond the limit of excavation. A similar arrangement of activity foci within a field system was observed at Hinksley Road, Flitwick (Luke 1999, Fig 9).

The quantity of Roman domestic debris recovered from the Saxo-Norman spring hollows suggests the presence of another settlement focus just beyond the E limit of Area B. This would be comparable with sites like Wavendon Gate, Milton Keynes (Williams et al. 1996, 85), where the settlement was removed from the smoky and smelly activity associated with a drying oven. Although buildings L10 were associated with hearths and are, therefore, presumed to be domestic in nature, it is surprising that no other features appeared to be associated with them. Trial trench 6 was devoid of features suggesting that the apparently isolated position of the buildings is genuine.

The proximity of the two ditches in Area B and intercutting of some of the features in Area A suggest a prolonged period of occupation. The large 'Belgic' pottery assemblage, occurring alongside early Roman fabrics, attests the longevity of this tradition. The presence of a largely residual assemblage of 3rd-4th century pottery indicates activity during the

later Roman period and therefore it is unlikely that the Haynes Park settlement fits the pattern of rural decline at the end of the 2nd century observed at Bancroft, Milton Keynes (Williams and Zeepvat 1994).

Nature of the field/enclosure system and settlement

The full extent of the field/enclosure system is unknown. However, it was observed within both excavation areas and clearly extends over at least 3ha. Williams et al. (1996, 83) have suggested that the creation of large enclosed areas was common practice in the second half of the 1st century AD and this would be broadly compatible with the dating of field/enclosure systems at nearby Hinksley Road, Flitwick (Luke 1999, 83) and Ruxox, near Maulden (Albion in prep. c).

At 3.2m wide and 1.3m deep, ditch G42 was clearly important and probably remained open as a boundary throughout the Roman period. Similar substantial ditches at Wavendon Gate, Milton Keynes formed the boundary of one field/enclosure system (Williams et al. 1996, 83). It is, therefore, possible that the land to the W (including buildings L10 and activity L7) and to the E (including the drying oven L12) was under different ownership. This interpretation is possibly supported by the proximity of parallel ditch G43.

Too few features were identified in Area A to determine the precise nature of activity there. However, it was probably peripheral to a more substantial settlement to the S. Large pit G17 is presumed to have been a clay quarry and this may have been the original purpose of pit G18. However, the latter was back-filled with oven/furnace debris (large quantities of fired clay, burnt stone and charcoal flecks) suggesting such a structure was situated in the vicinity.

Post-built buildings G35 and G37 were situated adjacent to major boundary ditch G42. Both buildings were rectangular and at least *c.* 7m long and *c.* 4.5m wide. Although the plan of building G35 was incomplete, it was unusual in that it included a structural slot at the SW corner. The plan of G37 was more complete and included an oval area of burnt subsoil within the interior, presumably indicating the location of a hearth. To the N of G37 lay a second possible hearth within what appears to have been a post-built extension or "lean-to". Evidence for post-built rectangular timber buildings is rare on Roman sites in the region, with none identified at, for example, Hinksley Road (Luke 1999), Wavendon Gate (Williams et al. 1996) or Bancroft (Williams and

Zeepvat, 1994). This is not particularly surprising given that timber-framed structures rarely require deep foundations (Williams et al. 1996, 86). Unfortunately, neither areas of burnt subsoil associated with the Haynes Park buildings were suitable for archaeomagnetic dating. Therefore, the assignment of the buildings to this period is based on stratigraphic relationships with other features, their apparent association with ditches G42/43 and the presence of one sherd of Roman pottery.

Discussion of drying oven G108

Introduction

Ovens/dryers similar to G108 have been discovered on numerous Roman sites in Britain (Morris 1979, 5-22). Despite the considerable variety of flue design, they have traditionally been interpreted as corn dryers (Cocks 1921). More recently several authors, *e.g.* Reynolds (1979) and Williams and Zeepvat (1994, 148), have suggested this class of structure may have served more than one function. The more neutral term, drying oven, is, therefore, preferred in this article.

Nature/construction

The major characteristic of drying ovens is the long main flue, typically 3-4m long and often lined with clay or stones. The vast majority are T-shaped in plan (Goodchild 1943) and published nearby examples occur at Manor Way, Flitwick (Fadden 1976) and Bancroft structure 200, Bucks. (Williams and Zeepvat 1994, Fig 45). The minority of non T-shaped forms show a wide range of alternative plans, including V-shaped at Kettering, Northants. (Wilson 1974), H-shaped at Catsgore F421, Somerset (Leech 1982, Fig 58), Y-shaped at Odell G187, Beds. (Simco 1984, Fig 19), key-shaped at Foxholes Farm comdryer 5, Herts. (Partridge 1989, Fig 18), and circular, *e.g.* Great Casterton, Leics. (Morris 1979 Fig 19). The Haynes Park oven comprised a T-shaped main flue, but unusually was surrounded on three sides by an outer chamber. The only comparable structure in Britain was found at the beginning of the 20th century at Hambleton, Bucks. (Morris 1979 Fig 13e).

The Haynes Park drying oven was built within a square construction pit terraced into the hillside. The substructure (base and lower walls) and superstructure appear to have been constructed with slightly different clay fabrics. For example, organic tempering was added to the clay used to build the superstructure, presumably to increase its binding and adherence qualities while reducing its weight. The undulations noted in the upper part of the inner walls at the end of the

main flue probably indicate the location of cross flues, designed to allow hot air to circulate into the outer chamber (cf. Foxholes Farm (Partridge 1989, Fig 18 and 19)). Elsewhere, the upper parts of the internal walls appear to be fairly even and horizontal, suggesting their surviving height (0.35m) also represents their original height. It is quite normal for the floor of the drying chamber to be at or slightly above ground level (Morris 1979, 10). The large brick fragment from the main flue may have originally acted as a cheek or cap associated with the flue arch (*ibid.*). The heavy burning in this area, indicated by blackened clay indicates the location of the fire place although no obvious stokehole was identified.

In stone areas of Britain, the floor of the drying chamber is usually constructed of stone slabs forming a rectangular shape, *e.g.* Catsgore (Leech 1982). Timber planking could also have made an adequate floor (Partridge 1989, 39) but may have required clay lining to prevent it catching fire. Such a feature may have been the source of the iron nails found within both the main flue and outer chamber at Haynes Park. As with the stone floors, strategically positioned gaps may have drawn the hot air either into the upper chamber or directly out of the oven *via* a chimney, as suggested for the drying oven at Bromham, Beds. (Tilson 1973, Fig 6). Such a feature may account for the undulation in the back wall of the outer chamber at Haynes Park.

The larger daub fragments from the destruction debris within the Haynes Park oven retained circular and/or squared impressions of wattles demonstrating that its superstructure was constructed of wattle and daub. At Manor Way, Flitwick (Fadden 1976, plate 4) small stakeholes appeared to represent the position of the wattled walls. With a postulated floor area of 3m by 2.8m, the Haynes Park drying oven is similar in size to that at Manor Way (*ibid.*) and many others in the country, for example Foxholes Farm, Leics. (Partridge 1989, Fig. 18).

Date

An archaeomagnetic date of AD60-160 (95% confidence) was obtained from the Haynes Park drying oven. The nearby drying ovens at Manor Way, Flitwick and Bromham were dated to the mid-second century (Fadden 1976, 31). Morris (1979, 20) has argued that T-shaped drying ovens had their origins in the 2nd century AD with more complex forms appearing in the 3rd or 4th centuries AD. The vast majority of dated drying ovens known from Britain belong to the latter period (*ibid.*), making the Haynes Park oven one of the earlier known examples.

Evidence of use

As is the case in other ovens (Morris 1979, 9), the Haynes Park structure contained charred wheat grains within the primary fill of the inner chamber and the destruction layers in the outer chamber. Although grains outnumbered glumes, the better preserved grains had glume impressions along their length. This could suggest that spelt spikelets (clusters of grains in their glumes) were being parched in the oven. However, Reynolds and Langley suggested there were alternative explanations for the occurrence of grain in ovens, such as the use of dry straw to start a fire in the stokehole (1979, 28). They felt it was much more likely that the structures were used as malting floors (*ibid.*, 41). Another possible explanation for the presence of charred grain is that it was derived from the burning of a thatched roof, although this was clearly not the case where charred grain was found in ovens constructed under stone or clay roofs. The accidental charring of grain being dried on the chamber floor, and the loss of grain through the floor or openings still provide the best explanation. Clearly, however, this does not imply that this was the sole function of such structures.

At Farmoor, Oxon., botanical evidence suggests that drying ovens were used for de-husking spelt wheat as much as for drying it (Lambrick and Robinson 1979, 75 and 103-104). Experiments, using a reconstruction of the Foxholes Farm drying oven, suggested they would be unacceptably inefficient if the entire harvest was to be dried (Reynolds and Langley 1979, 38). Other experiments demonstrated that the ovens were effective in roasting seeds sufficiently to stop seed germination, an important stage within the malting process.

Circumstantial evidence for the use of drying ovens to prepare grain not just for storage but also for milling is provided by the frequency with which quernstones occur in their vicinity (Morris 1979, 18). At Haynes Park four quern or mill stones occur within 20m of the oven. However, two of these were found in later features, although it is possible that they were residual. At West Blatchington, Sussex the nine fragments of rotary querns from the site all derived from drying ovens (Norris and Burstow 1951). At Catsgore oven structure F421 was situated immediately adjacent to an *in situ* quernstone (Leech 1982, Fig 58).

Location

The majority of the drying ovens described by Morris were located within houses or agricultural buildings (1979, 18-20). The latter were usually

aisled structures which are often assumed to contain grain storage lofts. However, drying ovens like the one at Haynes Park are also found in more isolated locations away from the nearest domestic occupation, for example at Manor Way, Flitwick (Fadden 1976) or at the edges of fields, for example at Farmoor (Lambrick and Robinson 1979, 75).

Drying ovens are frequently associated with sunken areas interpreted as threshing-floors, e.g. Welton Wold, Yorks. (Wilson 1973) and wells or water containers, e.g. Catsgore. No such structure was identified at Haynes Park, although the charred material downslope from the oven probably derives from the burning of cereal glumes, a waste product of the threshing process.

Economy

Evidence for the processing of spelt wheat came not only from the drying oven but also from features in Area A. As on other Roman rural settlements in the region, wheat would certainly have been a major crop. Six-row hulled barley would also have been important, although only minor quantities were present in the particular samples taken at Haynes Park. A range of typical arable weed seeds was also recovered. On Area A there was a rather high proportion of small grass and common mallow seeds. This material could have had a grassland / wayside origin or may have derived from crops grown on ploughed-up grassland.

The presence of slag and hearth linings on Area A suggests iron smelting or smithing was taking place, albeit on a small scale. No metal artefacts associated with either cultivation or animal rearing were recovered from Roman features. However, single fragments of four separate rotary querns (three in later features) and a millstone were found. Clearly, these types of artefacts are long-lived and the recovered examples are not, therefore, all necessarily Roman. Despite the paucity of the animal bone assemblage, it must be assumed that, overall, the settlement's economy was based on a mixed arable / pastoral farming regime. The results of the study into land-use history at the site complement this conclusion and, for the later Roman period, hint at the possibility of increased stocking levels with agricultural land left fallow for longer periods in response to continuing soil erosion.

Status

Artefacts recovered from the settlement included small quantities of imported finewares, a Langton Down-type brooch, two leather shoes and two

Roman coins. Overall the assemblage is not of particularly high quality, confirming the site's status as a fairly typical rural settlement. However, small quantities of Roman brick and *tegulae* may indicate the presence of a more substantial building in the vicinity.

SAXO-NORMAN/EARLY MEDIEVAL (PERIODS IV AND V)

Introduction

Periods IV and V clearly represent distinct, stratigraphically defined phases of activity. However, they are discussed together because it has only been possible to date them broadly to the Saxo-Norman/early medieval period (see below). Boundary ditches, buildings and wooden structures associated with water management were identified. The nature and disposition of the evidence, together with the proximity of Haynes Church End, suggest the remains represent part of a dispersed settlement. A number of comparable settlements are known within the county and some are believed to be quite extensive, for example, Marston Moretaine (Edmondson and Steadman 2001, 54) and Stratton, Biggleswade, Beds. (Albion in prep. d).

The majority of the colluvial deposits, both within and beyond the spring hollows, have been assigned to Period V. It is believed they were accumulating rapidly during this period due to the unstable nature of the soil.

The dispersed settlement

The Manor of Haynes was recorded in Domesday Book, confirming late Saxon occupation of the area. It is likely that the Period IV buildings were part of a settlement associated with Haynes Church End. If so, and accepting the fact that the investigation area was inevitably restricted in extent, the results could suggest that this settlement was dispersed over a large area. Dispersed settlements rather than nucleated villages appear to be the norm at this time (Astill 1988, 37) and were certainly likely to be more common on the high ground of the Greensand Ridge.

Although the Period IV buildings are convincing as domestic dwellings, due to the presence of hearths, it is possible that building G61 (Period V) was an isolated agricultural structure located towards the edge of a field.

Dating evidence and settlement shift/migration

Although a considerable quantity of domestic debris was recovered, especially from the spring hollows,

the majority of it is residual 'Belgic' and Roman pottery. A small quantity of St Neots-type ware, notably from boundary ditches G64 and its recuts G62 (Period IV), and Stamford ware of 10th-12th century date was recovered. In addition, a single iron horseshoe of mid/late 11th-12th century date (RA 22) was found.

The waterlogged spring hollows preserved several organic objects, including three leather shoes and a wooden spade/shovel handle, which on typological grounds would date to this period. The distinguishing characteristics of the leather shoes are the large circular stitch holes and the use of fine thonging to sew a side seam. Scientific dating was undertaken on a hearth within building G51 (archaeomagnetic dating), the wooden hurdles (radiocarbon dating) and the timber tank (dendrochronology) confirming their Saxo-Norman date. The absence of hulled wheat (which might be expected in Roman deposits) from the environmental samples from buildings G44 and G51 (Period IV) also confirms their assignment to this period.

The end of domestic occupation within the study area and its replacement by arable cultivation appears to have taken place by the end of the 12th century. A similar date for settlement abandonment or shift was suggested at Marston Moretaine, Beds. (Crick 1999, 133; Edmondson and Steadman 2001, 52). Nationally, the absence of pre-12th century material from deserted medieval villages has in the past been used to argue for the "late" appearance of villages (Astill 1988, 37). However, it is always difficult within the confines of restricted excavation areas to determine whether the results are representative. For example, were parts of settlements abandoned or did they simply shift location slightly? The evidence from large scale excavations at Stratton, Beds. suggest that the extensive, but dispersed, late Saxon settlement was re-planned around this time to create a more regularly laid out village (Albion in prep. d).

Within Haynes Park stone roofing tiles and 12th-15th century pottery have been located during field-walking N of the church, suggesting that the settlement extended in this direction. If the trends identified elsewhere within the county (Lewis et al 1997) are paralleled, settlement density within the ends of Haynes parish could have been increasing during the 12th-13th century.

The field/enclosure systems

The ditches in both periods are parallel to many of the present-day boundaries within Haynes Church End. However, this may not be particularly signifi-

cant, as the Roman boundaries were also on the same alignment, following the slope of the ground.

The Period IV boundary ditch G64 was recut on at least two occasions (G62). It divided the post-built buildings L16 from the contemporary activity within the spring hollows L17/18. In Period V the earlier boundary was again re-dug (G60) and was respected by a new perpendicular ditch, itself re-dug on many occasions (G90/88/86). Later in Period V ditch G60 was replaced by ditch G80 c.18m to the E. Building G61 was constructed over ditch G60, which may have been deliberately infilled, its associated hedge burnt and removed. Both the building and pit group G76 lay immediately to the W of the new boundary. No evidence was recovered for activity to the E, possibly reflecting different land ownership. The location of the buildings adjacent to the boundary ditches in both periods suggests that they were positioned to avoid taking up too much space. This is especially clear with buildings G44 and G51, where an L-shaped arrangement would appear to have been more logical.

The buildings

Evidence was recovered for four rectangular buildings G44, G48, G51 (Period IV) and G61 (Period V). They were all post-built usually within holes/pits, but occasionally within intermittent slots. A similar variety of techniques was observed at St Neots, Cambs. (Addyman 1973, 73). The narrow slots associated with G61 may have held vertical timber planks as part of the wall. The intermittent use of postholes and slots was evident in building 7 at Caldecotte, Milton Keynes (Zeepvat et al. 1994, Fig 38). Although the full length of the buildings was difficult to determine, they were all in excess of 6.7m. In the case of building G44, if the postholes to the S do represent an extension, its total length would be at least 17m, comparable to the Goltho "long hall" (Beresford 1987, 38-52). In three cases their widths could be determined: 5m (G44), 5.5m (G51) and 6m (G61). Comparable dimensions have been recorded for contemporary buildings at Stratton (Albion in prep. d).

It is possible that the Period IV buildings continued to function into Period V, although there is no evidence for rebuilding or repair. The size of the post-pits within building G61 and their stratigraphic relationship with the slot suggest they may be associated with the removal of the posts.

Evidence for doorways was restricted to the W wall line of building G44 where there was a gap of 1.4m between posts, twice that of the regular spac-

ing. The postholes on either side of this gap exhibited no difference to those in the rest of the wall line.

Although the buildings were not particularly well preserved, they did contain some evidence for internal structures. Two slots associated with the central hearth in building G51 may represent the position of a screen. A more substantial slot, presumably serving a similar purpose, was located within building G538 at Stratton (Albion in prep. d). The extension to G44 was the only other building with internal hearths (two centrally located and adjacent to each other). An arrangement of postholes adjacent to the N wall of G51 may represent the foundations for a substantial internal structure. A similar configuration of postholes was identified within building 56 at Gorhambury, Herts. (Neal et al. 1990, Fig 107). On the E side of G44, a slot partly inside and partly outside the building may be associated with a doorway, or perhaps more likely a drain.

Internally, building G61 was sub-divided by a substantial slot. A comparable feature was located within a building at Marston Moretaine where it was interpreted as a partition rather than a drain (Edmondson and Steadman 2001, 50). A layer adjacent to the slot, comprising tiny fragments of fired clay, may represent remnants of floor make-up. It also contained seven fragments of quernstone (RA 44).

Ditch G53 to the E of buildings G44 and G51 may represent the site of a small clay quarry. Alternatively, it may have functioned as a drain. Similar features have been identified on buildings at Westbury, Milton Keynes, e.g. 55870, (Ivens et al. 1995, 112) and Stratton G538 (Albion in prep. d), where they have been interpreted as drains.

Very few finds were recovered from these buildings. This is not an uncommon occurrence and has been observed at Marston Moretaine, Beds. (Edmondson and Steadman 2001, 54), Barton Blount and Goltho, Lincs. (Beresford 1975, 21).

Water management structures in the spring hollows

Two large hollows appear to have developed naturally in the hillside due to the presence of springs at the junction of the Lower Greensand and the overlying Boulder Clay deposits. Locally, springs and ponds still occur today in comparable positions, e.g. the one c.200m to the W (see Fig 2). It is uncertain whether or not these features existed in the Roman period. However, from an early stage they are likely to have been exploited as a source of water for the Saxo-Norman settlement.

An early attempt to keep the N spring hollow open

for water collection took the form of a rectangular arrangement of hurdles G125 in the base. Modelling of radiocarbon determinations suggests a late 10th / early 11th century construction date. The hurdles were made with predominantly hazel sails and rods, derived from coppiced stools. Most, but not all, had been gathered in the winter. Hazel is a commonly used wood in hurdle-type structures of this period, e.g. context 261 in the Severn Estuary, near Caldicot, Gwent (Johnson 1994, 37) and in the well linings at Stratton (Albion in prep. d). A series of shallow, adjacent slots G129 in the W side of the N spring hollow give the appearance of foundation trenches, possibly for additional revetments or perhaps more likely for wooden steps leading down to the water.

The layers sealing the hurdles contained many fragments of rods and sails, possibly suggesting the structure had been partially dismantled for re-use. In addition, a quantity of woodworking waste was also recovered.

Following the abandonment and partial robbing of the hurdle structure, a series of deposits, some colluvial in origin, filled both spring hollows. Into these a large pit was dug for the construction of a timber tank G132. The lower and upper parts of the tank were built in quite different ways. The lower part comprised unworked roundwood laid horizontally, butting at the corners and held in place by stakes. However, the middle part comprised at least two levels of cleft and axe-cut timbers with half lapped corner joints. The gap between the edge of the tank and the side of the construction pit was filled with fairly pure clay, which also contained some timber offcuts.

Dendrochronological analysis demonstrated that the majority of the timbers (from the lower and middle parts of the tank) were felled in the summer of AD1081. The common felling date and the fact that six timbers from the middle part of the tank came from a single oak suggest that selected trees were felled specifically for the construction of the tank. The single tree was 8.3m long and had no side branches, indicating that it had grown in woodland rather than in a hedgerow.

Economy

The Domesday record for the Manor of Haynes indicates that there was sufficient woodland for 500 pigs (Morris 1977 (23,15)). Based on these numbers, it is possible that the extensive areas of woodland suggested by Darby and Campbell (1962) between Woburn, Flitwick and Clophill extended onto this part of the Greensand Ridge. Ample evidence for the management of woodland resources was certainly

recovered from the study area. This includes not only the coppiced hazel used in the hurdle structure and the woodland oak felled for the timber tank but also the preponderance of oak in the charred wood assemblage. This suggests the settlement had a woodland source of fuel and did not just have to rely on hedgerows and scrub for its firewood. In the vicinity there was undoubtedly some kind of mixed, managed woodland with standard trees and coppice. Interestingly, however, the pollen study did not produce any evidence for widespread woodland development during the late Saxon period. The open, managed landscape was not dissimilar to that of the Roman period. Wood was probably one of the most valuable raw materials available to the inhabitants and the waterlogged evidence demonstrates its widespread use, not just as fuel and in buildings, but for a wide range of other activities.

The charred plant remains include most of the crops that might be expected for a settlement of this period. They also include a single grain of free-threshing tetraploid wheat, a species only recently shown to have been cultivated at this time (Moffett 1991). Ditch G60 (Period V) contained the highest concentration of grain from any of the post-Roman samples. It probably represents the accidental charring of clean grain (rivet or bread wheat) that was being parched to harden it prior to milling. However, the overall assemblage is too small to comment on the relative importance of the different cereals over time. The association of charred grain and arable weed seeds, and quern fragments with the buildings is consistent with small-scale, domestic cereal processing.

Although the animal bone assemblage for this period was the largest from the investigations, the majority of it derived from the fills of the spring hollows, which also contained large quantities of residual Roman material. It is, therefore, unclear how much of it derives from the settlement itself. Cattle and to a lesser extent pig and horse may have been the dominant species. The presence of the former is indicated by the recovery of a possible wooden cattle switch or goad, which had been reused in the hurdle.

LATER MEDIEVAL (PERIOD VI)

Evidence was recovered from the excavation areas and watching brief for a field system, presumably associated with the settlement located near St Mary's Church. Ditch G32 represents a major new boundary, although it was on the same alignment as the earlier boundaries. Perpendicular to this were two

ditches: G33 within excavation Area B, and G119 located within the watching brief.

The first evidence for ploughing in the form of sub-surface furrows (L8) only occurred to the W of major boundary G32. It is interesting to note that subdivisions only occurred to the E of this boundary, adjacent to the settlement and in the area where there had been problems with erosion. It is, therefore, possible that the divided land to the E was used for pasture and that to the W was an open arable field.

The field system may not have been in use for long, if the 14th century references to a park at Haynes do indeed refer to what later became the present-day Haynes Park.

AFTERWORD

A number of methodological issues, not unique to this project, arose from the investigations at Haynes Park. Because of their wider relevance it was thought useful to consider them briefly here. Perhaps the most important relate to the outcome of the evaluation and the ability to date key elements of the site.

The aim of the evaluation was to determine the nature, extent and date of any archaeological remains in the study area. It was reasonably successful with the last of these aims but less so with the others. However, it should be remembered that it was undertaken in 1993 when evaluations were in their infancy. As is so often the case with single episode trial trenching, unenclosed pre-'Belgic' settlement, in this case of early-middle Iron Age date, was not identified (Hey and Lacey 2001, viii). In part, this was because the period produced little domestic debris, although the significance of two postholes located in Trench 8 was not appreciated (see Fig 4). Had the trench been widened around the two postholes, it should have been possible to identify additional features of this period.

Trial trenches frequently locate archaeological features such as pits and ditches, as they did at Haynes Park. More uncommonly, Trench 8 located post-built building G61 (see Fig 15) and Trench 5 located the drying oven (see Fig 8). However, trenches often do seem to have an uncanny ability to "just miss" significant archaeological features. At Haynes Park this can be seen in the way in which Trench 7 runs parallel and adjacent to ditches G5/7 (see Fig 5), how Trench 5 just misses building G37 (see Fig 9), or how Trench 5 stops a matter of metres short of the waterlogged spring hollow G120 (see Fig 10).

Perhaps most significantly, the evaluation failed to locate the waterlogged deposits. If it had done so, it is likely that minor changes to the road design could

have guaranteed their preservation. Although the waterlogged deposits have proved to be an important discovery, the complexity of their on-site investigation, together with the necessary post-fieldwork conservation and analysis, greatly increased the cost of the project.

One other significant aspect of the investigations relates to the dating of key elements of the site. Buildings are frequently dated by the artefacts that their constituent features contain. Such artefactual assemblages are often quite limited, as was the case at Haynes Park. If buildings G44, G48 and G51, which had no stratigraphic relationships, had been dated in this way, they would have been assigned to the Roman period. It was only the archaeomagnetic determination on the central hearth in building G51 which suggested that they belonged to the Saxo-Norman tradition of timber halls.

Interestingly, the relatively large artefactual assemblage from the waterlogged spring hollows illustrates

the converse of this situation. The pottery assemblage was dominated by Roman material, only some of which showed signs of abrasion. Two Roman coins and diagnostically Roman leather shoes were also present. However, tree ring and radiocarbon dating demonstrated that all the timber structures were actually Saxo-Norman. Similarly, without scientific techniques, the dating of the drying oven would probably have been misrepresented. The structure was sealed by a deposit containing late Roman pottery, which provided a *terminus ante quem* for its use. However, without archaeomagnetic dating, it is inconceivable that its date could have been pushed back as far as the late 1st/early 2nd century AD. Its significance as an early example would, thus, have gone unrecognised. Clearly, absolute dating techniques are not always either appropriate or indeed possible. Nevertheless, as at Haynes Park, they can make a significant contribution to the overall phasing and interpretation of sites.

APPENDIX 1: POTTERY TYPE SERIES

Jackie Wells

Fabrics are summarised below within chronological periods, using type codes and common names in accordance with the Bedfordshire Ceramic Type Series, held by Albion Archaeology. Full fabric descriptions are given only for those types not previously published. Bracketed figures after each fabric type denote a percentage of the total excavated assemblage. Percentages are noted for fabric types constituting over 1% of the total assemblage.

Iron Age

Type F Non-specific Iron Age (4 vessels)

Described in the site archive.

Early-middle Iron Age

Type F16 Coarse Shell tempered

Fabric: Slowikowski (2000, 63)

Forms: hand-made jar.

Type F19 Organic and sand tempered

Fabric: McSloy (1996, 24).

Forms: hand-made but otherwise indistinguishable.

Type F28 Fine sand tempered

Fabric: La Niece (1999, 22)

Forms: hand-made strap-handled vessel

Belgic Iron Age

Type F03 Grog and sand

Fabric: described by Slowikowski (2000, 61)

Forms: hand-made jar or bowl.

Illustration: Fig 17, no. 1.

Type F05 Grog and shell tempered (6%)

Fabric: Slowikowski (2000, 62).

Forms: storage jars, lid-seated jars with horizontal scoring, and a plain-rim bowl. One lid-seated jar has a post-firing hole drilled directly below the rim.

Illustrations: Fig 17, nos. 2 & 8.

Type F06 Grog tempered (13%)

Fabric: Stead and Rigby (1986); fully discussed by Thompson (1982). Three sub-divisions of this type have been defined, based on the size and frequency of the grog inclusions. All are present at Haynes.

Forms: storage jars, lid-seated jars, cordoned and narrow-necked jars, and jars with everted rims. Predominantly wheel-made, although hand-made examples are known. Surface finish and decorative elements include horizontal and vertical scoring, burnishing and impressed motifs.

Illustrations: Fig 17, nos. 3, 5, & 7.

Type F07 Shell tempered (2%)

Fabric: Slowikowski (2000, 62).

Forms: lid-seated jars.

Illustration: Fig 17, no. 4.

Type F09 Grog and sand tempered (30%)

Fabric: La Niece (1999, 24)

Forms: burnished cordoned jars, lid-seated jars with horizontal and vertical combing, neckless jars and jars with simple everted rims.

Illustrations: Fig 17, no. 6, Fig 18, nos. 9 & 10.

Type F34 Sand tempered

Fabric: Fine, hard-fired fabric with buff-orange surfaces and variable grey core. Contains sparse, well-sorted, sub-rounded quartz 0.1-0.5mm, and occasional mica.

Forms: butt beaker.

Illustration: Fig 18, no. 11.

Roman*Type R Non-specific Roman (2 vessels)*

Described in the site archive.

Type R02 Mica gilded wares

Fabric: Marney (1989, 185: fabric 34c).

Forms: wheel-made but otherwise indistinguishable.

Date: late 1st-2nd century.

Type R01A Samian - Central Gaulish: Lezoux (1%)

Fabric: Tomber and Dore (1998, 31-32).

Forms: moulded dish/bowls (Dr 18/31), bowl (Dr 31) and conical cups (Dr 33), one bearing the potter's stamp 'TITURO' (AD 160-190).

Date: early 2nd-3rd century.

Type R01C Samian - East Gaulish: La Madeleine

Fabric: Tomber and Dore (1998, 38)

Forms: moulded dish/bowl (Dr 18/31 R) and conical cup (Dr 33).

Date: late 2nd-early 3rd century.

Type R01D Samian - Romano-British

Fabric: Webster (1975, 163-4).

Forms: moulded Dr 33 variant, identified as a product of the Aldgate-Pulborough potter.

Date: c. 2nd century.

Type R03A Fine white ware (Verulamium region)

Fabric: Marney (1989, 182: fabric 18g).

Forms: wheel-made body sherd, possibly deriving from a flagon.

Date: late 1st-2nd century.

Type R03B Gritty white ware

Fabric: Marney (1989, 186: fabric 39).

Forms: wheel-made jar with a reeded rim.

Date: 2nd century+

Type R03C Smooth white ware

Fabric: Hard fired smooth fabric, cream-buff throughout. Contains common, well-sorted, sub-rounded clear or opaque quartz, 0.1-0.5mm, and occasional red iron ore.

Forms: wheel-made but otherwise indistinguishable.

Date: late 1st-2nd century.

Type R06B Coarse grey ware (9%)

Fabric: Harsh gritty fabric, with variable reduced core and surfaces, the latter often smoothed and/or burnished. Contains abundant, ill-sorted, sub-rounded quartz, 0.5-1.0mm.

Forms: wheel-made bowls and plain rim 'dog' dishes, a single platter, storage jars and jars with everted rims.

Date: 2nd-4th century.

Type R06C Fine grey ware (5%)

Fabric: Hard fired, smooth fabric with variable reduced surfaces and paler core. Contains frequent, well-sorted fine quartz, 0.1-0.5mm.

Forms: poppyhead beakers, plain-rim bowls and plain-rim 'dog' dishes, a single platter, narrow-necked jars, neckless jars and jars with everted rims. All are wheel-made. Some examples are burnished and two jars bear wavy incised decoration.

Date: 2nd-4th century.

Type R06D Micaceous grey ware

Fabric: Soft fired fabric with mid-grey surfaces and paler core.

Contains common, well-sorted, sub-rounded fine quartz, 0.1-0.5mm, and sparse inclusions of larger grains. Also rare red iron ore.

Forms: wheel-made jars with everted rims, some of which are rouletted.

Date: 2nd-4th century.

Type R06E Calcareous grey ware

Fabric: Hard fired fabric with variable reduced surfaces and core, characterised by a vesicular appearance resulting from the leaching or burning out of calcareous inclusions, up to 0.5mm in size. Also contains abundant clear or opaque white quartz, 0.1-0.5mm.

Forms: wheel-made but otherwise indistinguishable.

Date: 2nd-4th century.

Type R06F Grog and sand grey ware

Fabric: Hard fired, dense fabric, smooth to the touch, with variable grey-brown surfaces and core. Contains frequent well-sorted subangular quartz, 0.1-0.3mm, powdery buff grog particles, 0.5-1.0mm, and sparse black iron ore.

Forms: wheel-made jars with lid-seated and everted rims. One of the latter has a post-firing hole drilled directly below the rim.

Date: ?2nd-4th century.

Type R13 Shell tempered (13%)

Fabric: Brown (1994).

Forms: range from the first century, with lid-seated, narrow-necked and square rim jars, to the fourth century, represented by jars with everted, triangular and undercut rims, large storage jars, small and large bowl forms, with flanged and rectangular rims, and dishes. All are wheel-made. Surface finishes range from simple smoothing or wiping, to combing or rilling, the latter being more common on vessels of later date. Decoration is rare, and is largely restricted to incised linear motifs around bowl rims.

Date: 1st-4th century.

Illustrations: Fig 18, nos. 12-14, Fig 19, no. 15.

Type R07B Sandy black ware

Fabric: Hard fired fabric, with black surfaces and grey-black core, often with red margins. Contains frequent well-sorted, sub-rounded fine quartz, 0.1-0.5mm, and sparse inclusions of larger grains.

Forms: wheel-made bowl.

Date: c. 2nd century.

Type R07C Gritty black ware

Fabric: Coarse, hard fired fabric with black surfaces and grey-black core. Contains abundant, ill-sorted, sub-rounded quartz, 0.1-1.0mm.

Forms: wheel-made but otherwise indistinguishable.

Date: 2nd-4th century.

Type R05A Orange sand tempered

Fabric - hard fired fabric, orange-buff throughout, although surfaces are often slipped white. Contains frequent to abundant subangular quartz inclusions, 0.1-1.0mm.

Forms: wheel-made platter.

Date: 2nd-4th century.

Type R14 Sand tempered (red-brown harsh)

Fabric: Harsh, hard fired fabric with variable orange-grey-brown surfaces and core. Contains abundant, fine, clear or opaque quartz, 0.3-1.0mm, and sparse red iron ore.

Forms: wheel-made lid-seated jar.
Date: ?2nd-4th century.

Type R11 Oxford oxidised ware (3%)

Fabric: Young (1977, 185).

Forms: wheel-made jars with everted rims, and a flanged rim bowl. Two examples of the former are burnished.
Date: 3rd-4th century.

Type R11D Oxford colour coat (1%)

Fabric: Young (1977, 123).

Forms: wheel-made jars with everted and beaded rims, a mortarium, and a bead rim bowl. The latter bears rouletted decoration, while an undiagnostic body sherd has impressed decoration in the form of a circular stamp.
Date: mid 3rd-4th century.

Illustration: Fig 19, nos. 17-18.

Type R11E Oxford white mortaria

Fabric: Young (1977, 56).

Forms: wheel-made mortaria.
Date: mid 3rd-4th century.

Type R11F Oxford red mortaria

Fabric: Young (1977, 123).

Forms: wheel-made mortaria, one with painted and rouletted decoration.

Date: mid 3rd-4th century.

Illustration: Fig 19, no. 19.

Type R12A Nene Valley mortaria

Fabric: Tomber and Dore (1998, 119).

Forms: wheel-made mortaria.

Date: mid 3rd-4th century.

Illustration: Fig 19, no. 21.

Type R12B Nene Valley colour coat

Fabric: Tomber and Dore (1998, 118), Marney (1989, 176: fabric 6)

Forms: wheel-made beakers, bowls, 'dog' dishes, flanged

bowls and a Castor box lid. Decoration includes rouletting, barbotine and trailed slip.

Date: late 3rd-4th century.

Illustrations: Fig 19, nos. 16 & 20.

Type R22A Hadham oxidised ware

Fabric: Tomber and Dore (1998, 151), Marney (1989, 186: fabric 37).

Forms: wheel-made but otherwise indistinguishable.

Date: 4th century.

Saxo-Norman

Type B01 St Neots-type (3%)

Fabric: Hurst (1956), Hunter (1979) and Denham (1985).

Forms: wheel-made bowls with inturned rims and jars with everted rims.

Date: mid 9th-11th century.

Illustrations: Fig 20, nos. 22-24.

Type C08 Thetford-type

Fabric: Hurst (1957, 43).

Forms: wheel-made but otherwise indistinguishable.

Date: 10th-12th century.

Type C12 Stamford ware

Fabric: Kilmurry (1980, 8-12).

Forms: wheel-made jug/pitcher.

Date: 10th-12th century.

Early Medieval

Type B07 Shell tempered (developed St Neots-type)

Fabric: Baker and Hassall (1979, 167).

Forms: wheel-made plain rim bowl.

Date: 12th-13th century.

Type C60 Hertfordshire-type grey ware

Fabric: Brine (1988, 43).

Forms: hand-made but otherwise indistinguishable.

Date: 12th-13th century.

APPENDIX 2: CERAMIC BUILDING MATERIAL TYPE SERIES

Jackie Wells

Fabrics are summarised below using type codes and common names in accordance with the Bedfordshire Ceramic Type Series, held by Albion Archaeology. Full fabric descriptions are given only for those types not previously published. Bracketed figures after each fabric type denote a percentage of the total excavated assemblage.

Type 1 Sandy (15%)

Fabric: fine and hard fired, orange throughout, turning to brick-red where over-fired. Generally finely tempered, although some fragments are coarsely made and contain angular quartz of up to 6.0mm in size. Contains frequent, well-sorted, sub-angular multi-coloured quartz c. 0.2-0.5mm and dark red and black iron ore c. 0.1-0.3mm. Also rare angular flint inclusions of up to 5mm in size.

Forms: tegulae, flue tile and brick.

late medieval/post-medieval flat roof tile and brick.

Source: although no production centres are known in the

immediate vicinity, it is possible that quartz inclusions found in sandy types derive from the lower Greensand ridge.

Type 2 Gault Clay (2%)

Fabric: Wells (1999, 128: type 2)

Forms: late medieval/post medieval flat roof tile.

Source: originates in the Gault Clay area which runs through Bedfordshire from Leighton Buzzard in the SW to Wrestlingworth in the NE.

Type 3 Sand and Calcareous inclusions (4%)

Fabric: fairly hard fired, often gritty fabric, with variable orange to light red-brown surfaces and core. Contains frequent, ill-sorted calcareous inclusions of up to 2.0mm, frequent, well-sorted, sub-angular multi-coloured quartz c. 0.1-0.3mm and dark red and black iron ore c. 0.1-0.3mm. Also rare angular white flint inclusions of up to 5mm. Examples in this type are often characterised by a vesicular surface appear-

ance, caused by the firing or leaching out of calcareous inclusions.

Forms: *tegulae*

late medieval/post medieval flat roof tile.

Source: as Type 1.

Type 4 Grey cored Sandy (3%)

Fabric: Hard fired, fairly smooth fabric with bright orange to dark red-brown surfaces, and characterised by a distinctive blue-grey core. Contains variable multi-coloured quartz, 0.1-0.5mm and unevenly sized red iron ore inclusions, 0.5-1.0mm.

Forms: *tegulae*

Source: as Type 1.

Type 5 Roman Shell tempered (75%)

Fabric: Brown (1994).

Forms: *tegulae* and Brick

Source: Unknown. However, the fabric is comparable to those

from kilns at Harrold Lodge, Beds. Although these are c. 20km to the NW of Haynes, this kiln complex is known to have exported its shell tempered building material and pottery widely within the Ouse Valley and its tributaries (Brown 1994, 104-5). Shell tempered vessels within the Haynes Park pottery assemblage were also in a fabric comparable to those from the Harrold kilns.

Type 6 Sand and Grog tempered (1%)

Fabric: fairly coarse, soft and powdery fabric, dark orange-brown throughout. Characterised by abundant, ill sorted, sub-rounded grog particles, buff in colour, varying on average in size from 1.0-5.0mm, with some ranging up to 8.0mm. Frequent sub-rounded dark red iron ore c. 0.4-1.0mm and well sorted sub-rounded multi-coloured quartz c. 0.3-0.5mm.

Forms: late medieval/post medieval brick

Source: as Type 1.

APPENDIX 3: DAUB AND FIRED CLAY TYPE SERIES

Jackie Wells

Four fabric types were identified: all are likely to have derived from locally extracted clay. Bracketed figures after each fabric type denote a percentage of the total excavated assemblage.

Type A (84%)

Fabric: coarse, hard, mid to dark orange-red fabric with variable dark grey-black patches where reduced. Inclusions are abundant sub-rounded, sub-angular quartz c. 0.1-0.5 mm. Rare patches of powdery buff-white ?grog c. 0.5-2.0 mm and rare red iron ore c. 0.5 mm. Some larger fragments contain sub-angular/ angular flint or chert pebbles ranging in size between 1-2 cm.

Type B (2%)

Fabric: denser, softer and finer matrix than type A. Pale yellow-orange-buff fabric, dark blue-grey where reduced. Inclusions are frequent, well-sorted sub-rounded, sub-angular quartz c.

0.1-0.5 mm, occasionally ranging to 1.0 mm, predominantly milky/white in colour. Also frequent red and abundant black iron ore 0.5-1.0 mm and rare angular flint or chert c. 1.0mm.

Type C (1%)

Fabric: friable, soft, fabric with soapy texture. Buff-yellow in colour with variable blue-grey patches where reduced. Inclusions are abundant buff-white grog, sparse sub-angular quartz 0.2-0.4mm, and rare organic material, or more commonly, elongated voids where the latter has burnt/fired out.

Type D (13%)

Fabric: natural clay - extremely dense, hard matrix, pale buff-yellow-green throughout. Few inclusions are visible, and comprise rare, well-sorted, sub-angular quartz 0.1-0.3mm.

APPENDIX 4: WATERLOGGED WOOD

Rowena Gale

The waterlogged wood is described in some detail below, but for information on individual pieces the site archive should be consulted.

The taxa identified are listed below:

KEY

Acer sp. (maple)

Corylus sp. (hazel)

Fraxinus sp. (ash)

Ilex sp. (holly)

Pomoideae, a subfamily of the *Rosaceae*, which includes *Crataegus* sp. (hawthorn); *Malus* sp. (apple); *Pyrus* sp. (pear); *Sorbus* sp. (rowan, whitebeam, wild service).

Prunus sp. Native species include *P. spinosa* (blackthorn), *P. padus* (bird cherry) and *P. avium* (cherry)

Quercus sp. (oak)

Rosioideae, a subfamily of the *Rosaceae*, which includes *Rosa* sp. (rose) and *Rubus* sp. (bramble).

Salicaceae which includes *Salix* sp. (willow) and *Populus* sp. (poplar).

Sambucus sp. (elder)

Ulmus sp. (elm)

Primary fill G122 of spring hollow G120 (Period IV)

Samples from these deposits comprised brushwood and rods predominantly hazel (*Corylus*) but also with native species (*Prunus*) and oak (*Quercus*). Several of the samples were abraded pieces of roundwood measuring from 7-30mm in diameter. Tool marks were present on several of the samples identified as hazel.

Fill G123 of spring hollow G120 (Period IV)

Two oak (*Quercus*) samples identified as rods and one native species (*Prunus*) offcut were identified. The two rods were very abraded, one showing evidence of charring. Tool marks occurred on two of the samples.

Hurdle G125, within spring hollow G121 (Period IV)

The majority of the rods and sails were constructed from hazel (*Corylus*). Native species (*Prunus*), Pomoideae, Salicaceae, maple, ash (*Fraxinus*) and holly (*Ilex*) were also used. With the exception of one rod which was 7mm the others varied between 12mm and 22mm in diameter suggesting they were selected for their similarity of size. The rods ranged from 4-6 years but despite this the stems appear to have grown very fast. A number of rods were extremely long, for example 800mm in length.

The sails and supports were predominantly hazel, with rare holly (*Ilex*), maple (*Acer*) and ash (*Fraxinus*). The hazel sails measured between 30mm and 50mm in diameter, with age ranges from 9 to 33 years. The growth rates of these were far less consistent than those of the rods with one sail taking 33 years to reach a similar width.

Associated fragments of wood included five stakes of maple (*Acer*) and hazel (*Corylus*). The remaining wood is interpreted as offcuts, brushwood or a wedge. The occasional piece exhibited evidence of charring.

Destruction G126 of hurdle G125 (Period IV)

Fifty-two samples of rods and sails were examined from deposits stratigraphically later than the *in situ* hurdle. These comprised a similar range of species and types to those identified in the hurdle but also a mix of chips, brushwood, offcuts, planks and artefacts. The majority of the wood from these deposits is presumed to be associated with the destruction of the hurdle, but it could also relate to other hurdles or activity merely used to infill the spring hollow. The rods were mainly cut in the dormant period and like the *in situ* hurdle had been selected for their consistency of diameter. They mainly ranged between 3-10 years, but the widest was 24 years.

The sails were similar in diameter (20mm and 50mm) to the *in situ* hurdle, with age ranges between 6 and 14 years. The

growth rates of the hazel varied between fast growth, *e.g.* growing to 30mm diameter in 5 years, and those of much slower growth, *e.g.* 25mm diameter in 10 years.

A number of samples were less regular in shape or/and in comparatively poor condition and superficially abraded. These may have been natural accumulations of debris or, perhaps, brushwood dumped to provide a more stable surface. The use of blackthorn (*P. spinosa*) and/or hawthorn (*Crataegus*) which produce spines up to 60mm or more in length would have provided uncomfortable going for foot traffic. Several wood chips bore tool marks and one was charred. The type and nature of these samples suggest that they may have derived from the deposition of waste material.

Timber tank G132 (Period IV)

The majority of the timbers were oak and measured between 140mm and 110mm in length. An exception was 2075 (upper timber) which was identified as maple (*Acer*) and had a diameter of 55mm.

Samples taken from smaller "packing" timbers included a hazel (*Corylus*) roundwood (diameter 30mm); a fragment of oak (*Quercus*) heartwood; a stake measuring 60mm in diameter and a piece of willow or poplar (Salicaceae).

Deposits G118 filling timber tank G132 (Period V)

Samples from the filling deposits of the tank comprised chips, brushwood, stakes, rods and offcuts. These were primarily of oak (*Quercus*), but hazel (*Corylus*), maple (*Acer*) and Pomoideae were also present in smaller quantities. A number of samples showed traces of tool marks including one hazel (*Corylus*) roundwood (diameter 25mm) which also bore the characteristic coppice wood 'heel' indicating its severance from the coppice stool. A small number of samples exhibited evidence of charring.

APPENDIX 5: SCIENTIFIC DATING

Scientific dating was undertaken on suitable material from key structural elements of the site.

Timber tank	G132	L17	Period IV	dendrochronology	University of Sheffield
Drying oven	G108	L12	Period III	archaeomagnetic	Clark Consultancy
Building	G51	L16	Period IV	archaeomagnetic	Clark Consultancy
Hurdles	G125	L17	Period IV	radiocarbon	Beta Analytic Inc.

DENDROCHRONOLOGY

Cathy Groves with Mike Luke

Eleven samples from a range of positions within the timber tank G132 were analysed at the Dendrochronology Laboratory,

Sheffield, using standard dendrochronological techniques (Baille 1982). All the samples were of oak (*Quercus*) and in the absence of bark edge, felling dates were calculated using the sapwood estimate of 10-55 rings. This ring number range provides a 95% confidence for the sapwood rings on British oak trees over 30 years old (Hillam et al. 1986).

Timber	Position/use	Sapwood	No. of rings	Date span of measured rings	Felling date	Comment	Tree
2053	Middle major	12	74	AD1007-1080	AD1081	felled summer	1
2054	Middle major	19	58	AD1023-1080	AD1081	felled summer	
2056	Lower major	3	110	AD940-1049	AD1059-1104		2
2062	Middle major	17	53	AD1028-1080	AD1081	felled summer	1
2065	Lower major	16	66	AD1080/81	AD1080/81		3
2066	Corner stake		123	AD899-1021	After AD1031		2
2069	Upper major		c. 40			rejected	
2070	Middle major	17	74	AD1007-1080	AD1081	felled summer	1
2073	Lower major	15	68	AD1013-1080	AD1080/81		3
2074	Corner stake	25	105	AD976-1080	AD1081	felled summer	2
2077	Middle major	16	16	AD1024-1080	AD1081	felled summer	

Table 15 Details of the tree-ring dates

The results suggest that the timbers were felled in the summer of AD1081. The relationship between felling date and construction date is not always simple. However, in this case because of the consistency of dates and use of timbers from the same tree it is likely that the timbers were felled as required for almost immediate use and the presence of bark indicates that they were used while green.

ARCHAEOMAGNETIC DATING

Anthony Clark with Mike Luke

Drying oven G108

Measurement ref.	AJC-132
Drying oven	Context 152, G108, L12, Ph 5, Period III
NG	TL 07957/41239
Lat.: 52.05°N	Long: 0.42°W
Orientation	Magnetic north (calculated as 3.76°W)
Sampling method	Discs
No. of samples used/taken	15/16
Removal of viscous magnetisation	5 mT AF peak field
Sampled: 30/06/1994	Reported: 09/06/1995

Twelve samples were taken from the clay base of the main flue, the most physically stable material available. Four more were taken from the fairly well preserved west wall in the hope these might be usable for correcting magnetic refraction in the oven base samples.

The samples were of average magnetic intensity for fired clay. Stepwise AF demagnetisation showed that the magnetisation of the clay was only moderately stable. The removal of viscous components was therefore attempted at only 5 mT, but this produced a slight deterioration in clustering of results without any significant change in the mean direction. Therefore dating was based on the initial (NRM) measurements.

The mean magnetic direction at the last firing was Dec= 2.35°W; Inc= 63.4°; alpha -95= 2.33° (12 oven base samples)

This gives a date span of AD90-140 at 68% confidence level or AD60-160 at 95% confidence level.

After rejection of one sample as an outlier, the result from the wall samples was:

Dec= 0.73°E; Inc= 70.30°; alpha- = 5.90° (3 wall samples)

Although it provides broad support for the early Roman date of the base samples, this result is too imprecise to contribute to the refinement of the result. Therefore, the date quoted above is based on the normal assumption that refraction has caused inclination in the oven base samples to be too shallow by about 2.4°.

Hearth F833 (building G51)

Measurement ref.	AJC-133
Burnt subsoil	Context 833, F833, G51, L16, Ph 7, Period IV
NG	TL 07944/41192
Lat.: 52.05°N	Long: 0.42°W
Orientation	Magnetic north (calculated as 3.76°W)
Sampling method	Discs
No. of samples used/taken	4/13
Removal of viscous magnetisation	7.5 mT AF peak field
Sampled: 30/06/1994	Reported: 09/06/1995

An area of subsoil, c. 1.1m in diameter, had been burnt to an intense salmon pink. Although the magnetic intensity and stability of the material were high, most of the 13 samples gave very scattered and unusable magnetic directions. Material of this kind at such a shallow depth tends to be vulnerable to damage and distortion, for instance by ploughing, and especially when wet.

However, four samples formed a distinctly tight grouping, further improved by the partial demagnetisation treatment. These samples were well spread over the burnt area, showing that systematic movement was unlikely to have occurred, and it was concluded that these were the only samples unaffected by disturbance.

The mean magnetic direction at the last firing was
Dec= 24.07°W; Inc= 62.68°; alpha -95= 1.66° (4 samples)

This gives a date span of AD1040-1090 at 68% confidence level or AD1020-1100 at 95% confidence level.

RADIOCARBON DATING

Samples of coppiced, roundwood rods, from each of the two hurdles that made up structure G125, were submitted to Beta Analytic Inc., Florida for radiocarbon dating. Pretreatment, C14 content measurement and age calculation went normally. The calibrated dates were calculated using the computer program OxCal (v2.18) (Bronk Ramsey 1994; 1995) and the data published by Stuiver and Pearson (1986).

Sample	Context	¹⁴ C Age (BP)	Calibrated date range (95% confidence)
Beta-100077	1144	1040 ± 60	cal AD880-1160
Beta-100078	1161	970 ± 60	cal AD960-1220

The dates were modelled in OxCal (v2.18) on the basis of the following archaeological assumptions and data.

The two sampled hurdles were interpreted as contemporary elements of the same structure. Their radiocarbon dates were, therefore, combined to give an uncalibrated date of 1005 ± 42BP. The results of a chi squared test (df=1 T=0.7(5% 3.8), Ward and Wilson 1978) confirm that this is a statistically valid assumption.

Using the technique known as "Gibbs' sampling" (Gelfand and Smith 1990), this combined date was modified in the light of the following stratigraphic information and assumptions:

- a *terminus ante quem* for the construction of the hurdle lining is provided by the stratigraphically later timber tank G132, which on the basis of dendrochronological dating was constructed from trees felled in AD1081.
- a 2m thick deposit of colluvial hillwash physically separates the hurdle lining and the timber tank. No empirical data exist to indicate how long this material actually took to accumulate. Therefore, for the purposes of modelling the radiocarbon dates a period of 30 years has been assumed.

At 95% confidence the combined probability distribution of the two samples (modified by the *terminus ante quem* provided by the colluviation and the timber tank) is cal AD960-1060. This result is displayed graphically in Fig 29, where the white area beneath the curve represents that part of the probability distribution ruled out by the *terminus ante quem*.

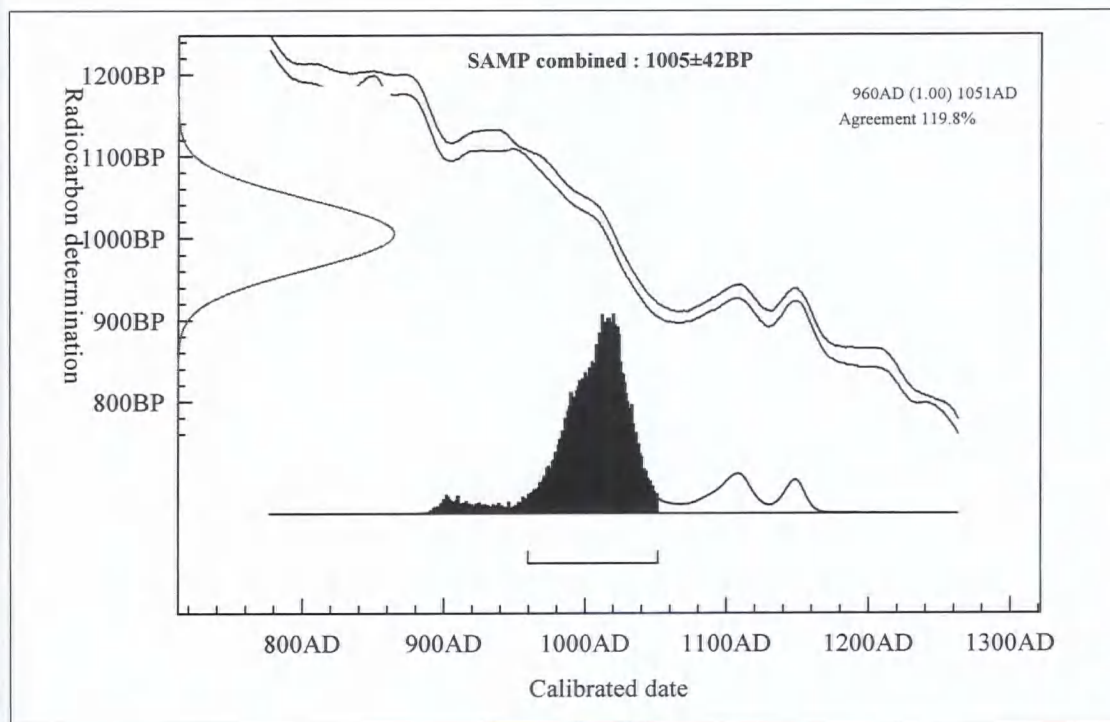


Figure 29 Modelling of radiocarbon dates from hurdle lining G125 of northern spring hollow

ACKNOWLEDGEMENTS

Radha Soami Satsang Beas (British Isles) sponsored both the archaeological fieldwork and the publication of this report. Particular thanks are due to Mr S K Bassi. Bedfordshire County Archaeology Service (now known as Albion Archaeology) would like to thank all members of RSSB (British Isles) based at Haynes Park during the fieldwork for their generous assistance, hospitality (especially lunches) and interest shown in the investigations. In addition, thanks are due to Martin Oake (County Archaeological Officer of Bedfordshire County Council) who monitored all stages of the project.

The project was managed by Drew Shotliff, with fieldwork being supervised by Chris Moore (evaluation), Mike Luke (open area excavation) and Jackie Crick (watching brief). Hand excavation and investigation were undertaken by Ian Beswick, Ron Humphries and Ed McSloy (evaluation), along with Judy Alderson, Ian Beswick, Ruarigh Dale, Matt Edgeworth, Mark Hutchinson, Dan Khahn, Darren Hall, Joan Lightning, John La Niece, Richard Owen, Richard Ozzane, Neil Perkin, Paul Gordon-Roberts, Howell Roberts, Julia Robinson, Andy Thomas, Mike Trevarthen, Hilary Valler and Twigs Way (open area excavation). Particular thanks should go to Darren Hall, John La Niece and Richard Owen who battled on in the inevitable mudbath to investigate the water-logged timbers structures and deposits. Processing of artefacts was undertaken by Jackie Wells and of ecofact samples by Eden Hutchins. Post-excavation timber recording was undertaken by Holly Duncan, Paula Gentil and Jackie Wells. Mike Luke digitised the site records.

Thanks are also due to Stephen Coleman (Historic Environment Information Officer of Bedfordshire County Council) for assistance using the HER, along with undertaking an earthwork survey as part of the evaluation. Stratascan undertook the geophysical survey.

Mike Luke, assisted at times by Jackie Crick undertook the structural analysis. Iron artefacts were x-rayed by Adrian Tribe (Institute of Archaeology). Tony Clark undertook the archaeomagnetic dating and also provided on-site advice. Alex Bayliss assisted with modelling of the radiocarbon dates. All Albion projects are now under the overall management of Drew Shotliff. Other members of the project team are acknowledged under their relevant sections of this publication.

The authors are grateful to Martin Oake for reading and commenting on a draft version of this article.

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The Bedfordshire Archaeological Council is grateful to Radha Soami Satsang Beas (British Isles) for supporting the publication of this paper.

Excavations at New House Farm, Billington, 1997-1999

REN HUDSPITH

SUMMARY

In order to elaborate on brief investigations carried out in the 1950's the Manshead Archaeological Society obtained permission from the landowner, Mr W Edwins, to excavate in an orchard on the hilltop at New House Farm, Billington. Seven trenches were excavated between 1997-99, giving an area excavation of c. 70 square metres. A palimpsest of medieval to post medieval occupation evidence was revealed adjacent to and partially overlying Romano-British features and two late Roman period burials, one within a recut Roman ditch and the other cut into the edge of a large Iron Age defensive ditch. The ditch had been filled with burnt material and destruction debris from some undatable but catastrophic event on the site in the later prehistoric period.

BACKGROUND

In The Manshead Magazine No 2, January 1959, C L Matthews reported:

"The Ordnance Survey are producing an Iron Age map of the British Isles and the Society have called their attention to a hitherto unrecorded site that occupied the crest of Billington Hill. This shows as a single rampart earthwork, and the Dunstable Rover Scouts (which included P Pratt and C L Matthews) carried out an excavation there some years ago, which produced Iron Age pottery. In an endeavour to find a little more information some members of the Society spent a weekend during August on this site and a few trial cuts were made, with the permission of Mr Day, the owner of the land. The upper soil on this hilltop is gravel (quite a change from our usual digging in chalksoil) and a large area of the site had been much disturbed in the past by gravel digging. All of the cuts taken showed evidence of gravel digging and a feature of the spoil heaps was that they contained nothing later than the Roman period. Whether they were in fact Roman gravel workings it is too early to say, and we will have to carry out much more work on the site before we can prove or disprove this. We did find ample evidence to prove that the site had been in long occupation during the Iron Age. A great amount of pottery was found and one flint hammer. Among the sherds were hand

made pots with flattened rims reinforced with crushed flint, and one piece carried an applied band in the Bronze Age tradition. This perhaps suggests an occupation that commenced at a very early period in the Iron Age. Other sherds show a continuity of this occupation. There were samples of Iron Age A,B, pottery, i.e. burnished wares with bead rims and sherds decorated with a curvilinear pattern. The Belgae were represented by coarsely combed pottery (probably early) and later types with finer combing. The latest pottery was a few Roman 'pie dishes' associated with fragments of Castor ware. The hilltop at Billington appears to have a history very akin to Puddle Hill"

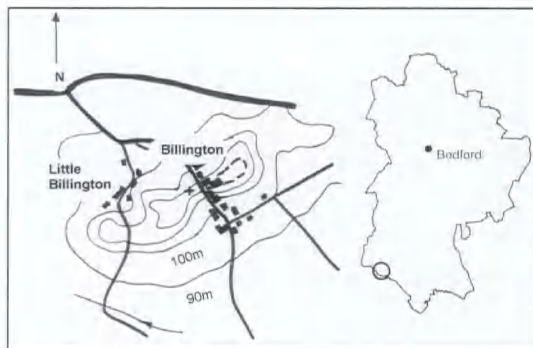


Figure 1 Site location

A plan of the 1958 excavation was not published with the report. However, a sketch plan of the site (at SP944227) dated 1954 was forwarded to the Ordnance Survey by C L Matthews (location illustrated by a dashed line in Fig 1). This shows extant earthworks to the south and east of the site, in places up to 12 feet (4m) high and 45 feet (15m) wide, apparently the features bulldozed in 1959. A neighbouring farmer recalls seeing only the upcast from gravel pits being bulldozed at this time.

Bedfordshire County Council's Historic Environment Record includes a note by an Ordnance Survey archaeological surveyor that the "banks of the earthwork were bulldozed in 1959, although the ground presents an uneven appearance, no recognisable features apparent. Site on level ground at NE

end of short ridge". Previously F G Gurney, a local amateur archaeologist, had noted that "the small ploughed field on top of the hill...is called Al(d)bury. This goes to confirm my impression that there is a line of earthwork on the brow of the hill along the southern hedgerow. The gravel which here lies on the hill top, used to be dug in some quantity and many human bones thrown out...They occur not so much in the gravel as in a shallow bed of deep black soil on the surface" (Gurney 1915).

In 1984 Simco summarised C L Matthew's report and suggested that the Iron Age site showed some re-use in the Roman period. The excavation archive (which may not be complete) held in the Manshead Society HQ consists of a limited number of sherds (not the great quantity reported) of mid to late Iron Age & Roman date.

Prior to the commencement of the 1997 orchard excavation at New House Farm (Warren 1998) a survey of the visible earthworks on the hillslope was carried out by the Society (Fig 2) and a small test pit dug to ascertain the depth of surviving archaeological deposits on one of the visible building platforms. The apparent evidence of other medieval building platforms (and possible hut hollows) on the hillslope should also be noted. Evidence of Medieval cultiva-

tion, in the form of ridge & furrow, can be seen on the lower slopes of the field.

TOPOGRAPHY

The hill spur at 131m OD dominates the landscape, with lower lying fields at 90m OD to the north and 85m OD to the south, draining to the Ouzel Brook. The geology is predominantly gault clay with deposits of sandy gravels along the hilltop overlain by calcareous clayey soils (Horne, 2000).

EXCAVATION

The initial excavations, (trenches A-C) carried out in 1997 at SP94222265, were across part of an identified building house platform on the hilltop (Fig 3) (Warren 1998). This revealed little structural evidence, apart from some rough circles of stones set about large lumps of chalk clunch, interpreted as post pads, with medieval sherds amongst the stones and seemingly unrelated postholes. Slight signs of internal floors and partitions were indicated by lines of yellow coloured clay on the gravel covered grey gault clay of the house platform. Where the platform sloped into a gully to the south of the trench (above the line of the Roman and Iron Age ditches) a tumble of sandstone boulders with pegtile was found

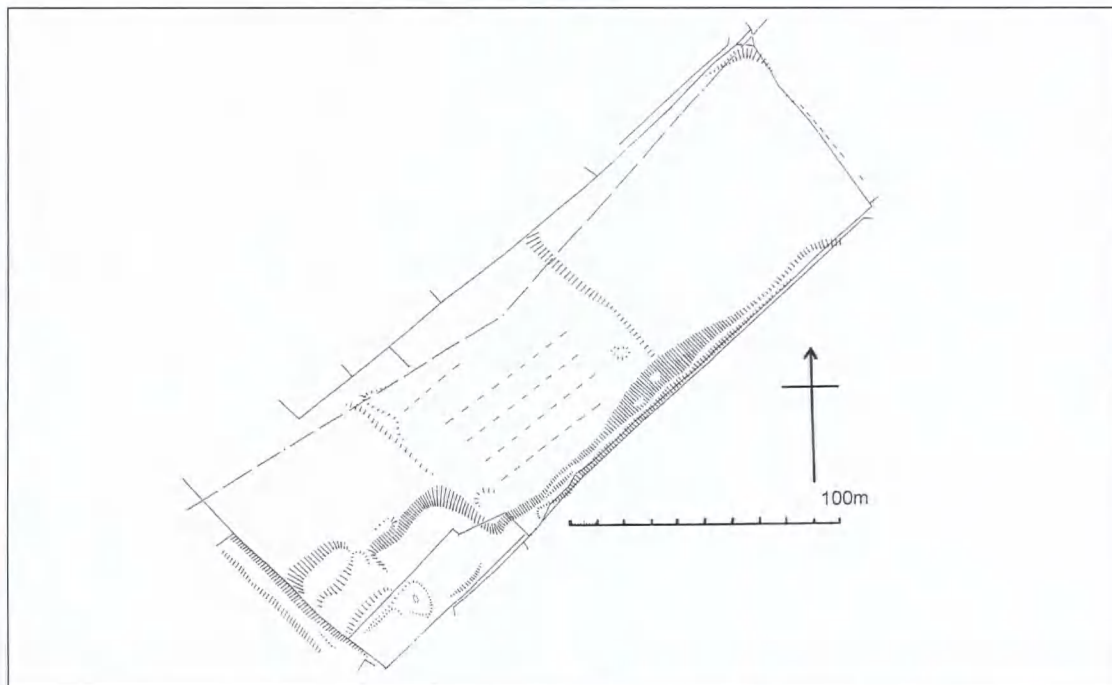


Figure 2 Survey of visible earthworks north of hill (1997)

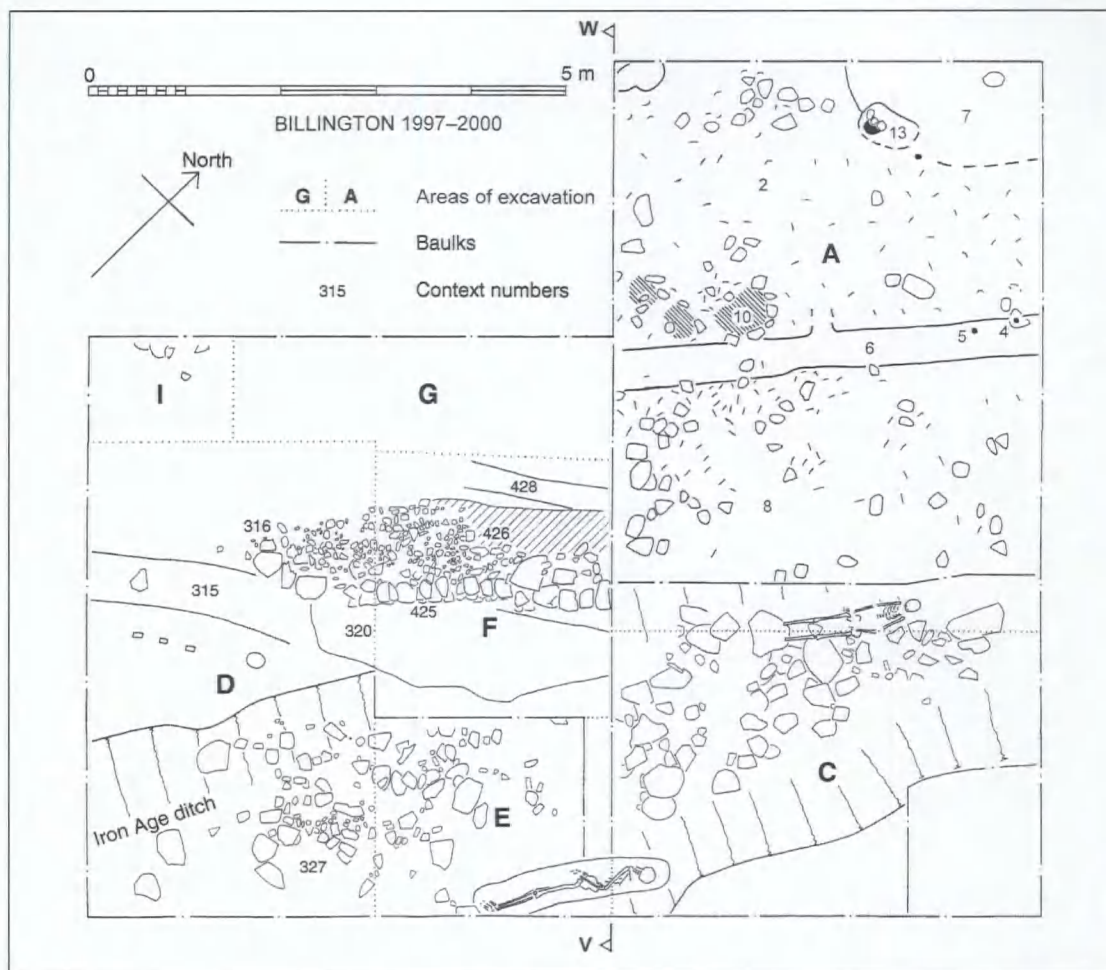


Figure 3 Plan of excavated areas

suggesting demolition material from the major building on the site. The latest datable finds within the loam filled gully [08] were potsherds, glassware fragments and pipebowls dating to the late 17C-early 18C. A quantity of medieval sherds, medieval metalwork finds, including a decorated Buckle plate, perhaps of C15-C16 date, and residual Saxon, Roman and Iron Age sherds were also found in the same deposit.

In trench C, sloping down to the north (from the rampart side of the ditch) was a deposit of 18C-19C building material - brick, tile and plaster - with potsherds and other material. This may indicate an attempt to make up the ground surface within the gully which leads to a hilltop pond some 20m to the east.

Excavation of the upper fill of the Iron Age ditch

revealed an inhumation burial, cut into a burnt clay deposit (Fig 3) at the ditch edge. The skeleton, lying on its right side and face down, was of a mature adult male: it showed no evidence of traumatic death and may have ended up in a contorted position due to having been rolled into the grave or buried while the body was still in rigor mortis (Isaac, 1999). A further ditch, of Roman date was identified in section cut inside the northern edge of the earlier and larger Iron Age ditch (Fig 4). Within the black silty fill of the Roman ditch a second inhumation burial was found. The incomplete skeleton was of a mature adult female (less feet bones) laid out with head to the east. There were no grave goods with either of the inhumations. The evidence suggests that the ditch burials were probably of late Roman date (Isaac, 1999).

In trench C, the ditch fill below the female grave was excavated, revealing a deposit of grey clay and charcoal above large blocks of sandstone at 1.5m DBS (Depth Below Surface). Some evidence for a slumped gravel bank or rampart was observed, in section, in the southern end of the trench. Finds of Roman sherds in soil above the gravel, suggest any earthworks (on this side of the hill) were removed in antiquity.

In trench D (Fig 3) in the upper fill of the large Iron Age ditch running east-west through the site, a roughly circular setting of stones [327] suggested something more than the random stone tumble found elsewhere along the ditch. This stone setting was filled by a loam deposit containing Romano-British sherds. Adjacent to [327] and partly covering the ditch was a flint, stone and burnt clay surface on which late Iron Age/early Romano-British sherds were found. A sawn antler fragment was found at the ditch edge and Iron Age sherds were found in the lower ditch fill at 1.25m DBS. Fragments of burnt timber were also found amongst the black charcoal laden deposits in the ditch fill.

In trenches F and G a deposit of chalk, flint and peg tile was noted (at 0.15m DBS) and medieval sherds were found in the loam below. This overlay a fragmentary cobbled surface [426] set in clay loam (with medieval sherd finds). Below this was a shallow truncated beam slot [428] cut into the clay at 0.4m DBS. The cobbled surface abutted a 2.4m long drystone foundation wall [425] constructed from sandstone boulders and standing 0.4m (four courses) high.

The drystone wall appears to have been robbed out away from the surviving remnant, appearing as stone tumble to the east on a solid clay and gravel surface overlying the northern Roman/ Iron Age

ditch edge and to the west as stone tumble [316] and as a robber trench [315]. To the south of the drystone wall a sandy clay deposit containing medieval sherds and mesolithic blade fragments overlay the end of the Roman re-cut ditch identified in 1997.

THE INHUMATION BURIALS

The two excavated skeletons were sent to the University of Bradford for analysis. The report concludes that the "adult male (skeleton 1- height 1.733m) suffered from a condition known as DISH (Diffuse Idiopathic Skeletal Hyperostosis-typically shown by ossification of spinal ligaments-or the conversion of soft tissue to bone) which is characterised by large flowing spinal osteophytes and extra-spinal enthesopathies. He also suffered from osteoarthritis of the neck and degenerative joint disease to the shoulders. Evidence suggests that Billington 001 was a bone former, certainly the changes in his spine suggest he may have had a hard life and a lot of heavy use of the spine. The osteoarthritis in the neck would have made it painful to use his neck and probably limited his mobility. He had poor dental health and suffered from caries, abscess, periodontal disease and had lost several teeth before death. During his life he had fractured the 5th metacarpal on his right hand; this had healed with slight deformity which may suggest that it was not kept motionless during healing. Billington 002 was a mature female who also suffered from poor dental health. The proximal fibula had been fractured but had healed well with little deformity, and perhaps had been kept motionless during the healing process. 002 also suffered from OA to the lower back and degenerative changes to both shoulders. In summary, both individuals were past the 4th decade of life and had not lived a life free from disease or trauma' (Isaac 1999).

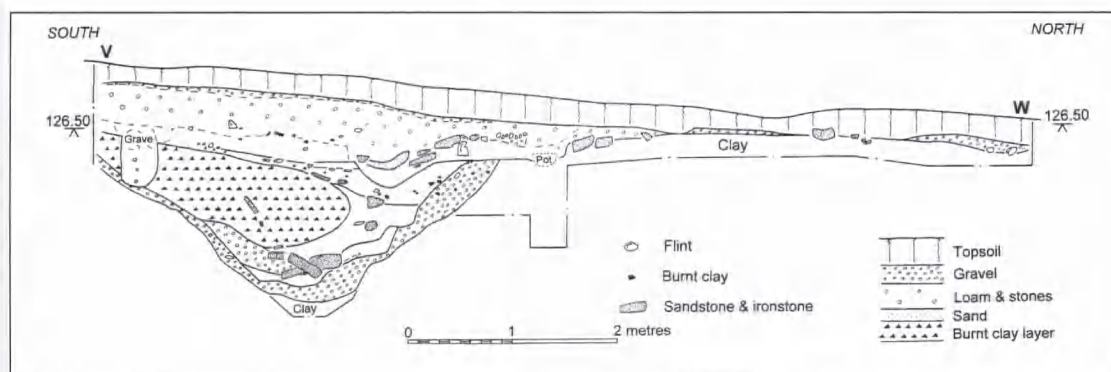


Figure 4 Section through Iron Age and Roman ditch

DISCUSSION

Sections of the Iron Age ditch were completely excavated in 1999. This revealed burnt clay and an ashy deposit with charcoal, overlying large sandstone boulders at the base of a cleanly scoured ditch. The evidence suggests a violent destructive event following the scouring of the ditch which included the burning and slighting of the enclosure (or hill fort's) defences. If the destruction was caused by the Roman army, a date close to the invasion in 43AD could be suggested. However, finds of late Iron Age-early RB pottery on the surface of the filled in ditch may well indicate the destruction of the site occurred in the later pre-Roman Iron Age. However, the way adjacent areas of the short length of ditch excavated contained quite different (almost segregated) destruction deposits: large boulders with ash, burnt clay with smaller stones; ash, charcoal and boulders; charcoal, ash and sand, hints at the possibility of ritualistic deposition of material. This may even represent deliberate demolition and clearance by the site's Iron Age occupiers. The use of large sandstone boulders, presumably as construction materials on the site in the prehistoric period - perhaps as rampart foundations, or drystone walling/ facing - should also be noted.

Roman activity on the site was indicated by a possible circular stone feature [327] set into the Iron Age ditch fill adjacent to a metalled surface, the re-cut ditch running along the northern side of the Iron Age ditch and the later ditch burials. Residual late Iron Age and Roman coarseware sherds were found across the site. Residual Saxon sherds, including a stamped fragment of mid-Saxon Ipswich ware, were similarly distributed. Saxo-Norman potsherds, in the form of shelly St. Neot's type wares indicate re-occupation of the site, perhaps commencing in the 11C. However, identifiable forms suggest that these were mainly of developed St Neot's type wares and

probably of 12C-13C date. This dating fits well with the other medieval coarseware sherd finds: sandy local wares and green glazed (Brill/Boarstall) wares many of which were redeposited within sealed contexts (below a floor and within a wall) following some late medieval restructuring (or rebuilding) on the site.

The main building appears to have been abandoned and demolished in the late 17C-early 18C. Some slight evidence for later, flimsier, structures was also noted; but these may have only been agricultural buildings. Once again, the use (and probable re-use) of sandstone as a drystone wall foundation for a later medieval timber framed building should be noted. Similar, sandstone foundations can be seen supporting c.19C brick buildings, in the modern village.

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Early Roman occupation on the site of the former Queensway Hall, Dunstable

ANDREW MUDD

With contributions by Jane Timby, Eden Hutchins and Mark Robinson

Illustrations by Mark Roughley, Cain Hegarty and Jacqui Harding

SUMMARY

Excavations in advance of the redevelopment of the former Queensway Hall, Dunstable, uncovered ditches and pits dating to the later part of the first century A.D. The quantity of pottery recovered indicated that the site was associated with settlement, although no evidence of buildings was present. Other finds and environmental material were meagre. While the site may have had an agricultural basis, it is possible that it was associated with the early establishment of the Roman town of Durocbrivis. It is unclear whether the site's abandonment in the late 1st or early 2nd century AD represents a purely local change of land use or has wider significance.

INTRODUCTION

Archaeological excavations were undertaken by Northamptonshire Archaeology (NA) on the site of the former Queensway Hall, Dunstable (TL 01902280) in order to satisfy conditions of a planning consent obtained by Asda for the construction of a new retail store. The overall project comprised a desk-based assessment undertaken by Bedfordshire County Archaeology Service (BCAS 1998); a ground-probing radar survey (Stratascan 1999); trial trench evaluation (NA 2000); and an area excavation and watching brief. The site covered 2.36ha of land surrounding the former Queensway Hall (Fig 1).

The main focus of the excavations lay at the front (NW side) of the development site where early Roman occupation was identified in Test Pits 3 and 8 of the evaluation (Fig 1). Subsequent excavations examined an area of c.100m by 40 m between these trenches where part of a rectangular enclosure and other features were recorded (Fig 2). A watching brief to the south-west (the former car park) revealed extensive modern disturbance and no features of significance.

LOCATION AND TOPOGRAPHY

The site lies close to the historic core of Dunstable, the Roman town of *Durocbrivis*, which grew up at

the junction of Watling Street and the Icknield Way. It is situated about 300m north of the road crossing in the NE quadrant of the town. The underlying geology here is Chalk. At the time of the excavations the ground was fairly level, with a slight rise from SE to NW. This rise is likely to have been more pronounced before the modern development of the area which appeared to have truncated the Chalk to a greater degree in the NW part of the site than elsewhere.

The layout and extent of the Roman town are not known. The NE quadrant of the present town has revealed evidence for Roman houses and a road just north of the Icknield Way (Matthews 1964), about 200m south of the Queensway Hall site. Other remains have been found further away in the SE, NW and most notably the SW quadrant, where a formal late Roman inhumation cemetery, and earlier pits and wells, have been investigated (Matthews 1981).

THE INVESTIGATIONS

The evaluation and subsequent excavation and watching brief were conducted to Briefs issued by the Heritage and Environment Section of Bedfordshire County Council and project designs for each stage of work, submitted by Northamptonshire Archaeology to Gifford and Partners, consultants for the developer.

The evaluation, undertaken in August 2000, comprised eight test pits, each 5m by 5m square, mechanically excavated in the car parks and open ground around Queensway Hall. Most of the test pits showed around 0.5m of modern deposits overlying a thin greyish subsoil. On the W side of the site, however, (test pits 2, 3 and 4) the modern makeup for the car park and pedestrian walkway appeared to have truncated the Chalk to some degree. Two of the test pits on the S side of the Hall (test pits 4 and 5) were targeted on possible archaeological anomalies identified in the GPR survey, but no archaeological remains were found here. Archaeological features were discovered in test pits 3 and 8 in front of Queensway Hall. These comprised three ditches and

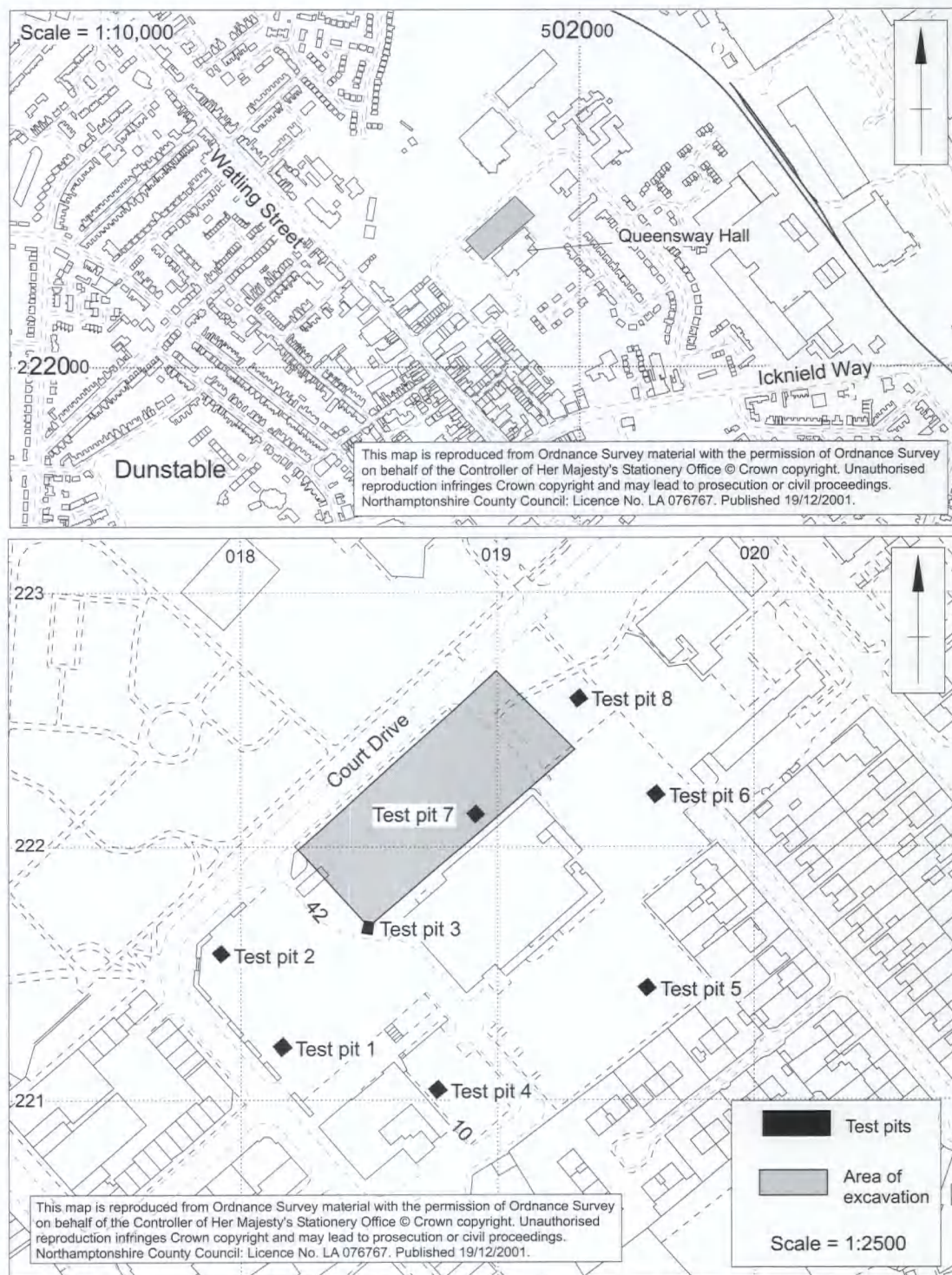


Figure 1 Site location

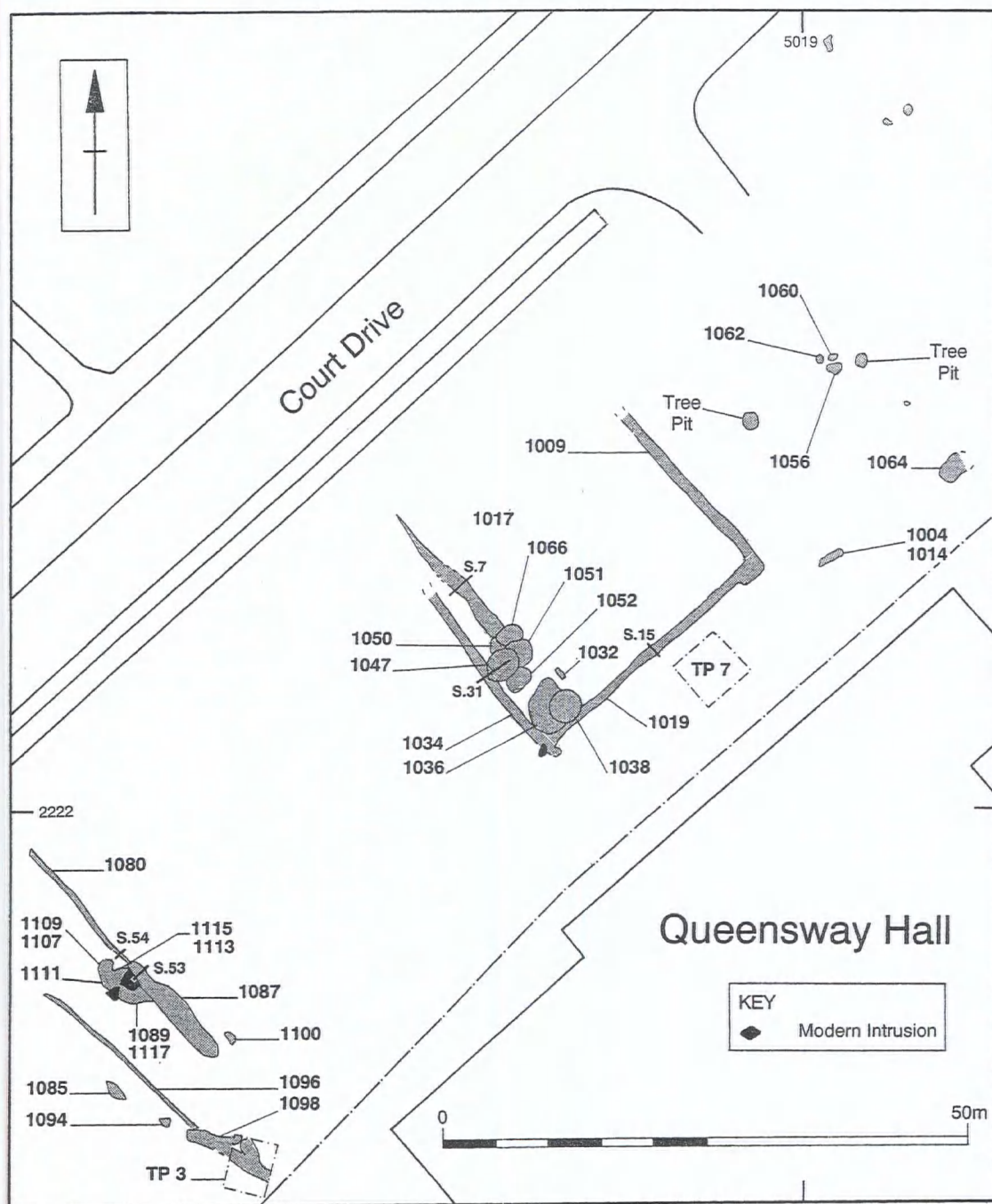


Figure 2 Site plan: all features except modern

three pits. The quantity of pottery and other finds from test pit 3, amounting to about 90% of the pottery retrieved, indicated occupation in the immediate vicinity, while finds from test pit 8 were far fewer, suggesting a more peripheral area.

Accordingly a mitigation strategy was adopted whereby the area between test pits 3 and 8 was stripped for detailed excavation, while a watching brief was subsequently maintained on the western car park in case further remains came to light. Due to time pressures the excavations were undertaken while construction works were in progress. The need to maintain access for construction plant resulted in three separate stages of work (the NE, central and SW areas – amalgamated in Fig 2).

As well as the archaeological features there were a number of modern intrusions and two post-medieval tree-planting pits. The planting pits would appear to correspond to the avenue of trees shown on the 1840 Tithe Map and later Ordnance Survey maps when the site was within Dunstable Park (BCAS 1998). The amount of 20th century intrusion along the Court Drive frontage means that the NW extent of the site was never recovered.

SITE DESCRIPTION

LAYOUT

The excavations revealed a generally sparse scatter of ditches, gullies and pits with associated pottery and a limited range of other finds dating to the early Roman period. The main feature of note was a rectilinear enclosure, defined on three sides, with two groups of pits in the south-western corner. Other ditches and gullies on a similar alignment lay SW of the enclosure, and there was a scatter of smaller pits to the NE of the enclosure. While some features were without finds, there was no evidence of earlier or later activity – with the exception of clearly modern features – and it is likely that all the archaeological features present were associated with the 1st century occupation.

The pottery assemblage indicates a relatively brief occupation in the second half of the 1st century AD, although it is possible that the occupation started slightly earlier (Timby, this report). The site is therefore of broadly one period, although several features were intercutting and occupation can be broken down into at least three phases in the complex areas of the site.

ENCLOSURE AND ASSOCIATED FEATURES

The enclosure was devoid of features, except in a quite tightly defined area inside the S ditch. Here a

ditch (1017) and two groups of intercutting pits were examined.

Phase 1 – Segmented ditch 1017

This feature was probably the earliest in this area. While it could have been contemporary with the Phase 2 enclosure, it was of a different form and probably pre-figured it. It ran south into a group of intercutting pits (Phase 3) and did not reappear.

Two sections excavated through this ditch showed the sides of the feature to be irregular in plan, suggesting that it had been dug as a series of linked pits rather than a continuous ditch. The feature was up to 1.5m wide and 0.4-0.5m deep with moderately steep sides and a flattish base (Fig 3, section 7).

The fill (1018) was similar in both sections, without evidence of re-cutting, indicating that, however originally dug, the feature had infilled as a single entity. The uniform greyish brown silt fill contained abundant chalk inclusions, with a middle fill lens of chalk rubble suggesting that it had been deliberately backfilled. This rubble may have come from a bank, although there was no indication on which side it might have been.

Phase 2 – Enclosure ditches 1034, 1019 and 1009

Three sides of a rectangular enclosure were found with an internal dimension of about 23m in a NE-SW direction. The NW-SE extent of the enclosure was not recoverable due to extensive modern disturbance to the NW.

The NE arm of the enclosure, ditch 1009, ran for about 20m within the excavation area. Four 1.0m wide sections were excavated through it. The ditch was about 1.0m wide and 0.4-0.5m deep with steep sides and a flat base. The main fill (1026) was a mid-grey brown silt with occasional chalk fragments, although the basal fill tended to contain more chalk lumps. One of the sections showed a distinct chalky rubble fill (1027) on the western side of the ditch, perhaps suggesting the collapse of an internal bank.

The SE arm of the enclosure, ditch 1019, ran for about 24m. The E corner was relatively wide (1.5m) suggesting the presence of a recut, although none was visible in the section. The remaining length of the ditch was between 0.65 and 0.80m wide and 0.25-0.40m deep, shallowing towards the SW where it was cut by pit 1038. It had steep sides and a flat base. Its main fill, 1020, was mid grey-brown silt with frequent medium (up to 40mm) chalk fragments. In the central section of the ditch, the upper 100mm of fill (1029 and 1043) was softer and siltier and contained the majority of the finds

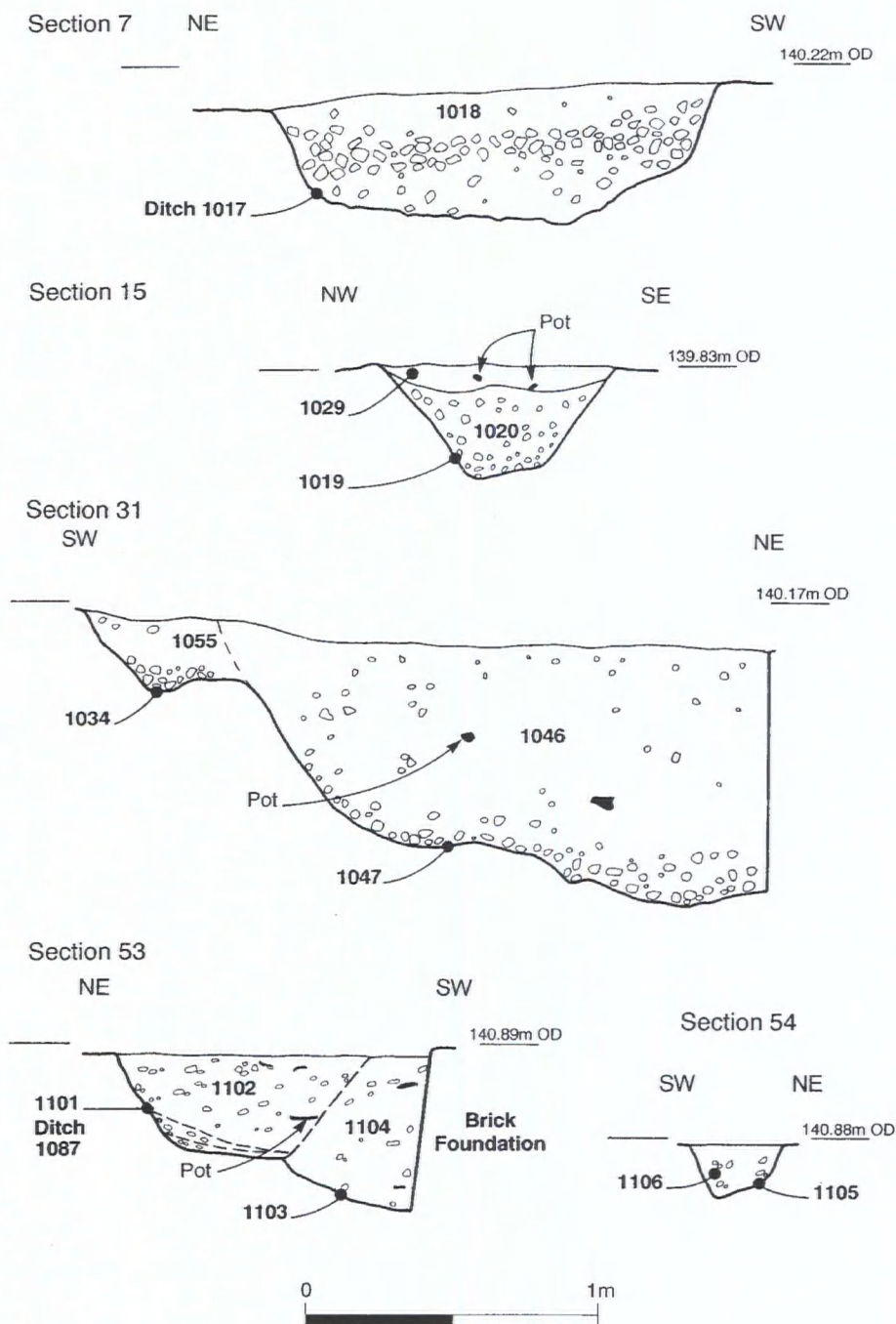


Figure 3 Sections

of pottery (Fig 3, Section 15).

The SW arm of the enclosure (1034) had a sharp but indistinct junction with ditch 1019 where there was modern concrete intrusion. Generally the ditch grew larger towards the NW from 1.0m wide and 0.3m deep to 1.2m wide and 0.4m deep. As elsewhere the fill (1035, 1054, 1055) was a uniform mid greyish brown silt with frequent chalk inclusions.

Phase 3 – Pits

The northern group of pits were not visible as individual features from the surface and were only defined through excavation. The relationships between these features, and between the pits and the later enclosure ditch, were difficult to determine, although on the evidence of the relationship between Pit 1047 and the enclosure ditch, which the pit appeared to cut, it seems likely that the group of pits was probably later than the enclosure. It is possible, however, that some or all of the earlier pits were contemporary with the enclosure.

Pit 1050

Pit 1050 was the earliest of the group of features in this area. It was roughly circular in shape, about 1.3m in diameter and 0.7m deep with steep sides and a flat base. Its fill (1048) was a mid-brown silt with moderately frequent chalk inclusions, becoming frequent towards the base. It was cut by pits 1066 and 1047.

Pit 1066

Ditch 1017 appeared to be truncated to the S by pit 1066, although it is possible that this pit was actually part of the ditch, turning or offset to the E. It was about 1.3m wide and 0.5m deep with a chalky rubble fill. It cut pit 1050 to the W and was cut by pit 1051 to the S.

Pit 1051

Pit 1051 was half-sectioned and projected to be roughly circular in plan. It was about 1.3m in diameter and 0.45m deep. It had a single mid brown silt fill with frequent chalk inclusions (1049). It was recorded as cutting pit 1066, and cut by pit 1047, although these relationships were difficult to determine.

Pit 1052

This pit was the southernmost of this group of pits. It was almost entirely excavated and found to be an irregular oval in shape (1.2-1.6m across) reaching a maximum depth of 0.3m. Its single mid-brown, chalky fill (1053) yielded a relatively large quantity of pottery and animal bone, including a large proportion of a hand-made bowl (Fig 4.1). It had an unclear relationship with pit 1047, but appeared to be cut by it.

Pit 1047

This was the largest, and probably the latest, of this group of pits. It was roughly circular or oval in shape, up to 3.2m in diameter and 0.7m deep, with moderately steep sides. Its single fill (1046) was a mid-brown silt with moderately frequent chalk inclusions increasing towards the base. It appeared to cut gully 1034 of the enclosure (Fig 3, Section 31).

Another group of pits was located in the southern corner of the enclosure. Pit 1038 appeared to cut enclosure ditch 1019. Pit 1036, the earlier of the two, had an unclear relationship with the enclosure ditch, although the fact that it had not completely filled by the time pit 1038 was dug may suggest that it did not pre-date 1038 by much and is likely also to have cut the ditch.

Pit 1036

This pit, in the southern corner of the enclosure, was sub-circular in shape and about 2.5m in diameter. It was, however, only 0.2m deep. Its main fill (1037) consisted of about 70% chalk rubble in a mid greyish brown silt matrix. This was overlain by 1039, a less chalky silt, which was common to both this and pit 1038.

Pit 1038

This pit was approximately circular in shape, 2.3-2.4m in diameter, and 0.6m deep with moderately steep sides and a flattish base. Its main fill, 1040, consisted of about 50% chalk rubble in a grey-brown silt matrix. This appeared to represent deliberate infilling. The upper fill, 1039, would appear to represent the natural silting of partly backfilled and abandoned features.

Unphased

Pit 1032

Pit 1032 was a shallow, sub-rectangular feature, 1.45m long, 0.35m wide and 40mm deep. Its single fill (1033) contained some pottery and bone.

FEATURES NE OF THE ENCLOSURE

A scatter of generally small and shallow pits lay NE of the enclosure.

Pit 1004

A pit, about 2.6m long and 0.7m wide, reaching a depth of 0.4m. It was cut to the S by pit 1014. It had an upper brown silty fill (1021) and a lower chalkier fill. It contained pottery and animal bone.

Pit 1014

A small, circular pit 0.45m in diameter and 0.1m deep. Its fill (1015) was a grey-brown silt. It cut pit 1004.

?Pit 1064

A shallow linear pit or possible ditch terminal in the extreme eastern corner of the site. Its exposed length was about 2.0m, although it extended outside the excavation area to the NE. It was about 1.6m wide and just 0.13m deep. Its single fill (1065) was a dark brown silt with few inclusions.

Pit 1056

Shallow, sub-circular pit 1.3m in diameter and 0.15m deep. It had a dark brown silty fill (1057) with few inclusions.

Pit 1060

Shallow, oval pit, 0.96m long, 0.66m wide and 0.11m deep. It had a single brown silt fill (1061) with few inclusions.

Pit 1062

Shallow circular pit, 0.5m in diameter and 0.10m deep, with a single dark brown silt fill (1063).

DITCH SEGMENTS, PITS AND GULLIES IN SW AREA OF SITE

A group of features was identified in the SW area of the site. This comprised two, or possibly three ditch segments, at least eight pits, some of them intercutting, and two rectilinear gullies. One of the ditches was the same feature as was found in test pit 3 of the evaluation. It is not possible to equate the phasing to that in the enclosure area.

Phase 1 pits

Two pits can be ascribed to the earliest phase of activity on this part of the site. Both were heavily truncated by later pit cuts.

Pit 1113

A feature, just 0.1m deep, almost entirely removed by later features 1111 and 1115 on either side. Its light brown silt fill (1114) was without finds.

Pit 1107

A shallow feature, 0.15m deep, largely removed by pit 1109. It had a light brown chalky silt fill (1108) without finds.

Phase 2 pits

Pit 1111

A shallow, sub-circular feature about 1.1m in diameter and 0.2m deep with a flat base. Its fill (1112) was a mid-brown silt with some chalk inclusions. It cut pit 1113 to the north.

Pit 1115

A shallow feature of probable oval shape, about 1.0m long by 0.7m wide and 0.2m deep, with a flat base. Its single fill (1116) was a mid-brown silt with some chalk inclusions. It cut pit 1113 to the south and was cut by ditch terminal 1101.

Pit 1109

A feature of uncertain, but probably sub-circular shape, about 1.0m in diameter and 0.22m deep. It contained a single fill (1110) of mid-brown silt with chalk inclusions.

Pit 1103

This pit was of unknown shape and dimensions as it was truncated both by ditch 1087 and by a modern brick foundation (Fig 3, Section 53). It was about 0.55m deep and filled with a mid-brown silt with some chalk inclusions (1104), without finds.

Phase 1-2 – Rectilinear Gullies 1080 and 1096

Two linear gullies were found running NW to SE across the site. They extended off site to the NW and their S terminals were truncated by the later ditches 1087 and 1098. They were approximately parallel and about 6.5m apart.

Gully 1080

Two sections were excavated (cuts 1080 and 1105). The feature was about 0.3m wide and 0.2m deep with an irregular base

(Fig 3, Section 54). Its fill (1081/1106) was a uniform mid-brown silt with some chalk inclusions. To the S it was cut by terminal 1101 of ditch 1087.

Gully 1096

Two sections were excavated (cuts 1096 and 1119). The feature was 0.45m wide and 0.22m deep with an irregular concave base. Its fill (1097/1120) was a uniform mid-brown silt with chalk inclusions containing some pottery. It was cut to the S by the terminal of ditch 1098.

Early phase ditch

Ditch 1089 (1117)

This feature appeared as a heavily truncated ditch on the W side of ditch 1087. It would have been in excess of 0.5m wide and 0.3m deep with a flat base. Its fill (1090) consisted largely of redeposited chalk rubble within a matrix of light brown silt.

Feature 1117 may have been the same ditch lying further N on the W side of ditch 1087, although its position would indicate that the ditch curved to the W. It was in an area of modern intrusions and its overall form and relationship with the pits to the N was unclear. Its fill (1118), however, contained less chalk rubble than 1090. Its W edge was stepped to a flat base 0.33m deep.

Later phase ditches

Ditch 1087

This ditch was the latest in the sequence of features in this area. It was examined by three sections (cuts 1087, 1101 and 1092). The ditch was 25.0m long, 0.9-1.3m wide and 0.30-0.58m deep. Its cross-profile was variable but it was generally steep or moderately steep-sided and flat-based.

Both its northern terminal (1101) and southern terminal (1092) were quite steep-sided, although the middle section (1087) was flatter and shallower. Cut 1087 had been cut to the same depth as the earlier ditch 1089. All sections had similar mid-brown silty fills containing chalk inclusions (fills 1102, 1093 and 1088).

Ditch 1098

This was a round-based ditch, over 17.0m long, 1.0m wide and 0.3m deep, with moderately sloping sides. Its fill (1099) was a light brown silt with moderately frequent chalk inclusions. The ditch was the same as ditch 302 of Evaluation Trench 3 which was 1.0m wide and 0.5m deep.

Pits on alignment with Ditch 1098

Two linear pits, 1094 and 1085, lay to the north of ditch 1098 and appeared to continue its alignment. They are therefore probably later than the other pits.

Pit 1094

This pit or slot was 1.3m long, 0.5m wide and 0.15m deep with gently sloping sides and a flattish base. It was filled with a light brown silt with some chalk inclusions, but without finds (1095).

Pit 1085

This pit or slot was 3.3m long, 0.6m wide and 0.35m deep. It had irregular, gently sloping edges. Its fill, 1086, was a mid-brown silt with some chalk inclusions.

Other pit*Pit 1100*

This pit lay to the E of ditch 1087. It was heavily truncated by modern intrusions, but was approximately circular in plan, over 0.75m in diameter and 0.3m deep. Its single mid-brown silt fill (1084) contained some pottery.

THE POTTERY

Jane Timby

INTRODUCTION

The pottery assemblage from all phases of archaeological work comprises some 1747 sherds weighing 24.7kg. With one exception, the group appears to belong to a single phase of activity dating to the second half of the 1st century AD, possibly just extending into the early 2nd century. The exception is a post-medieval sherd accompanied by a clay pipe stem from a tree planting pit (1006). In addition, a small quantity of fired clay and ceramic building material was retrieved.

Pottery was recovered from 42 individual contexts contributing to some 33 individual features, mainly pits, gullies and ditches. The pieces are quite well preserved with an overall average sherd size of 14g reflecting the undisturbed nature of the deposits from which it was recovered. In many cases, several sherds from the same vessel were present.

METHODOLOGY

The assemblage was sorted into broad fabric groups based on the nature of the inclusions macroscopically visible in the clay. Full details of the defined fabrics can be found below. The fabric groups were quantified by sherd count, weight and estimated vessel equivalent (eve) for each context. Rim sherds were identified to form and other details such as decoration and evidence of use or reuse were noted. The data was put onto an MS Excel spreadsheet, a copy of which is deposited with the site archive. A summary quantification of the fabrics is shown in Table 1.

ASSEMBLAGE DESCRIPTION

The assemblage comprised a mixture of indigenous late Iron Age wares alongside Roman material, the latter including a small number of imported vessels. The former occurs in both handmade, wheel-turned and wheel-made forms. The principle native fabrics

are grog-tempered, sandy and shelly. Grog-tempered wares dominate accounting for 53.5% by sherd count of the total assemblage, followed by sandy wares (c.35%) with shelly wares only accounting for 2%.

Amongst the Roman imported wares are nine sherds of imported South Gaulish Samian (forms Dragendorff 15/17, 18, 29 and ?30), two sherds of Dressel 20 olive oil amphora from southern Spain, and one colour-coated dish, possibly from central Gaul (Fig 5.23). The Samian includes a dish (Dragendorff form 18) stamped by the workshop of Pontus (OF.PONTI.) who was in production between AD 70 and 95.

A thin-walled globular, colour-coated beaker with fine roughcast decoration (Fig 4.11) is probably a regional import, as is a white ware flagon with a Hofheim-type rim (Fig 4.4). Other regional imports include 65 sherds of Verulamium white ware. Vessels include a large unguent jar comparable to an example found in London (*cf.* Davies *et al.* 1994, Fig 41.230) (Fig 4.5), a flat-rim dish (Fig 5.24) as Camulodunum type 243 (Symonds and Wade 1999, 478) and flagon. Three pieces of fine grey ware barbotine dot decorated beaker may also be regional imports. Other vessels of note include a white-ware bowl with traces of orange-red painted decoration (Fig 5.17) analogous to Young (1977) form W53 and probably an Oxfordshire product and a few fineware oxidised sherds or white-slipped sherds, mainly flagon, of unknown provenance.

Within the local ware groups the dominant form is the jar represented by several large, handmade, wheel-finished storage jars, channel-rim jars, and everted or thickened rim jars. Some of the vessels are decorated with impressed or incised designs including wavy lines, comb-impressed dots or with tooled or burnished line lattices (e.g. Fig 4.12-14). Some of the handmade storage jars have coarse combing or horizontal rilling. At least three vessels have post-firing holes. One grey ware sandy jar from ditch 1087 had a large hole, 16mm in diameter, drilled through the body; a sherd of shelly ware from ditch 1098 had a smaller wall perforation, whilst a grey ware jar from pit 1103 had a hole in the base.

Less common are bowls and platters. The latter includes at least five vessels imitating imported moulded Gallo-Belgic forms, in particular Camulodunum forms 8 and 12 (Hawkes and Hull 1947, 219) (*cf.* Fig 4.3, 6-8).

Two sherds show evidence of reuse, one from ditch 1098 has been shaped into a counter approximately 50 by 54mm, whilst a smaller perforated disk, diameter 25mm was present in ditch 1019.

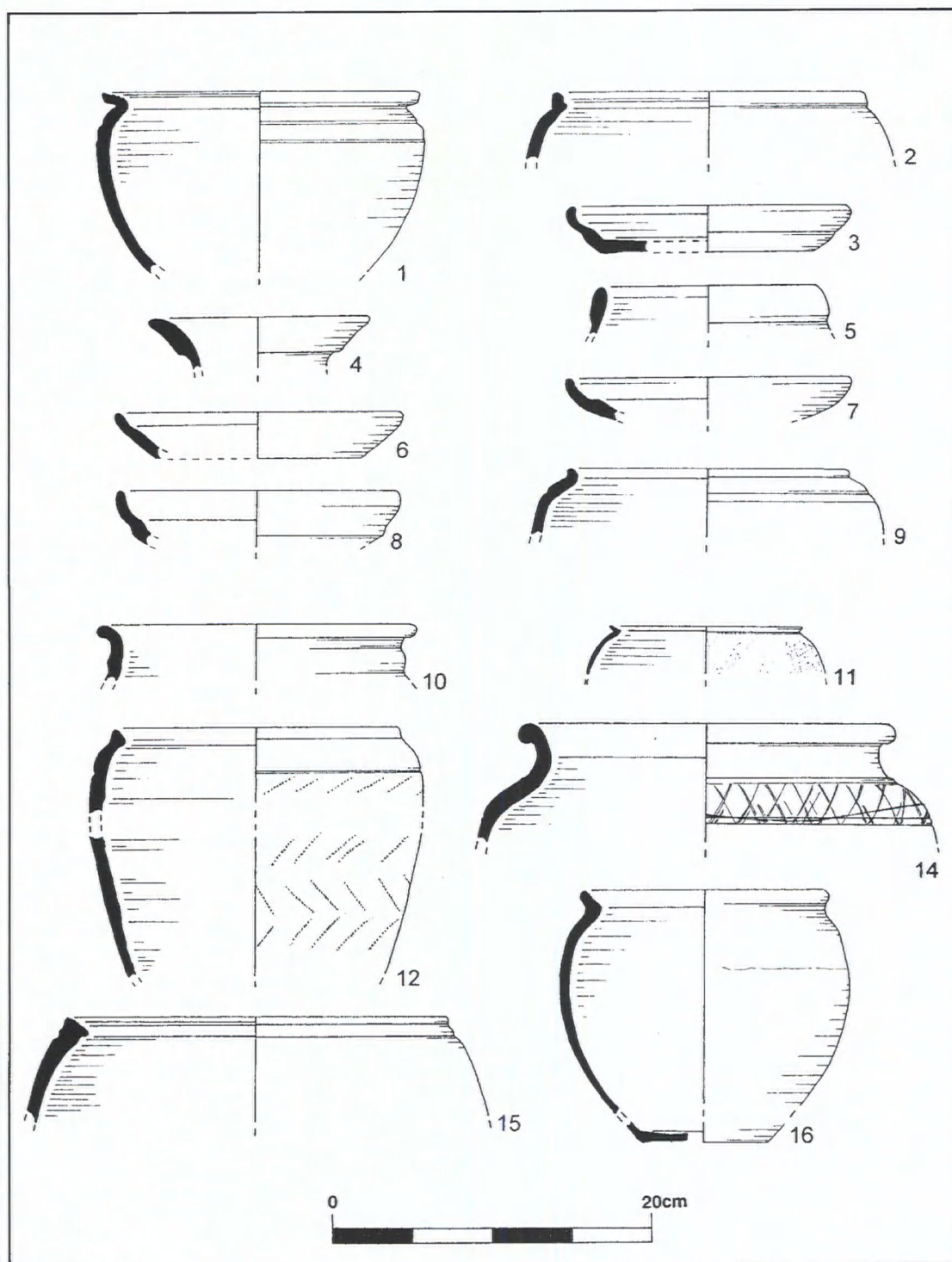


Figure 4 Pottery 1-12 and 15-16 (1:4)

	Fabric	Description	No	%	Wt	%	Eve	%
IMPORT	BAT AM	South Spanish Dressel 20	2	*	164	*	0.13	1
	SGSAM	South Gaulish sigillata	9	*	172	*	0.3	2.5
	CGCC	?Central Gaulish colour-coat	4	*	24	*	0.07	*
REGIONAL	VER WH	Verulamium white ware	65	4	523	2	0.24	2
	OXF WH	Oxfordshire white ware	11	*	30	*	0.25	2
	CC1	finely roughcast colour-coat	1	*	8	*	0.07	*
	WW1	white sandy ware	1	*	21	*	0.1	1
UNKNOWN	GREY5	fine grey/black sandy	4	*	15	*	0	0
	WSLIP	white-slipped oxidised	19	1	156	*	0.09	*
	OXID3	fine orange sandy	9	*	62	*	0.18	1.5
	WW2	miscellaneous white ware	1	*	3	*	0	0
LOCAL	GROG1	grog-tempered	512	30	10624	43.5	1.67	13.5
	GROG2	grog-tempered	103	6	997	4	0.65	5.5
	GRLI	grog and limestone-tempered	24	1.5	172	*	0	0
	GRSA	sandy with sparse grog	268	16	4164	17	2.47	20
	SHELL	fossil shell rich fabric	39	2	664	3	0.38	3
	CASA	sandy with calcareous	10	*	173	*	0.52	4
	GREY1	black, sandy, sandwich core	308	18	3291	13.5	2.08	17
	GREY2	grey sandy	120	7	1005	4	0.82	6.5
	GREY3	black sandy	71	4	864	3.5	0.97	8
	GREY4	light grey sandy with limestone	80	5	1145	5	1.36	11
	GREY6	black micaceous ware	3	*	37	*	0	0
	GREY00	miscellaneous grey sandy	7	*	28	*	0	0
	OXID1	medium sandy oxidised	2	*	30	*	0	0
	OXID2	medium sandy oxidised	10	*	129	*	0.02	*
	OXID00	miscellaneous orange sandy	5	*	12	*	0	0
Total			1688	100	24513	100	12.37	100

*=less than 1%

Table 1 Summary quantification of fabric types.

DISCUSSION

The earliest archaeologically defined feature in the area of the enclosure, linear ditch 1017, produced just six sherds of native ware: two grog-tempered and four sandy with limestone. Dating could thus lie anywhere in the 1st centuries BC-AD. Of the associated pit complex pottery was recovered from pits 1050, 1052 and 1047. Pit 1047 produced a large assemblage of 192 sherds (1846g). This contained several sherds suggestive of a date somewhere in the last quarter of the 1st century AD, or just possibly the early 2nd century; for example, a ring-necked flagon, Verulamium ware (VER WH), South Gaulish Samian and three fine grey wares decorated with

barbotine dots. The assemblages from the former two pits were much smaller but could be seen as broadly contemporary with pit 1047. Both contain Verulamium ware and various grey sandy wares alongside grog and grog-and-sand-tempered wares.

The enclosure ditches produced a good group of 293 sherds (3940g). The assemblage includes examples of Gallo-Belgic inspired native dishes, a Hofheim-type white-ware flagon, Verulamium wares including the unguent jar, South Gaulish Samian, local channel-rim jars and a fragment of Roman tile, probably pila. On balance a date in the period AD 50/60-80 would fit this group, possibly slightly pre-dating the latest pit group 1047.

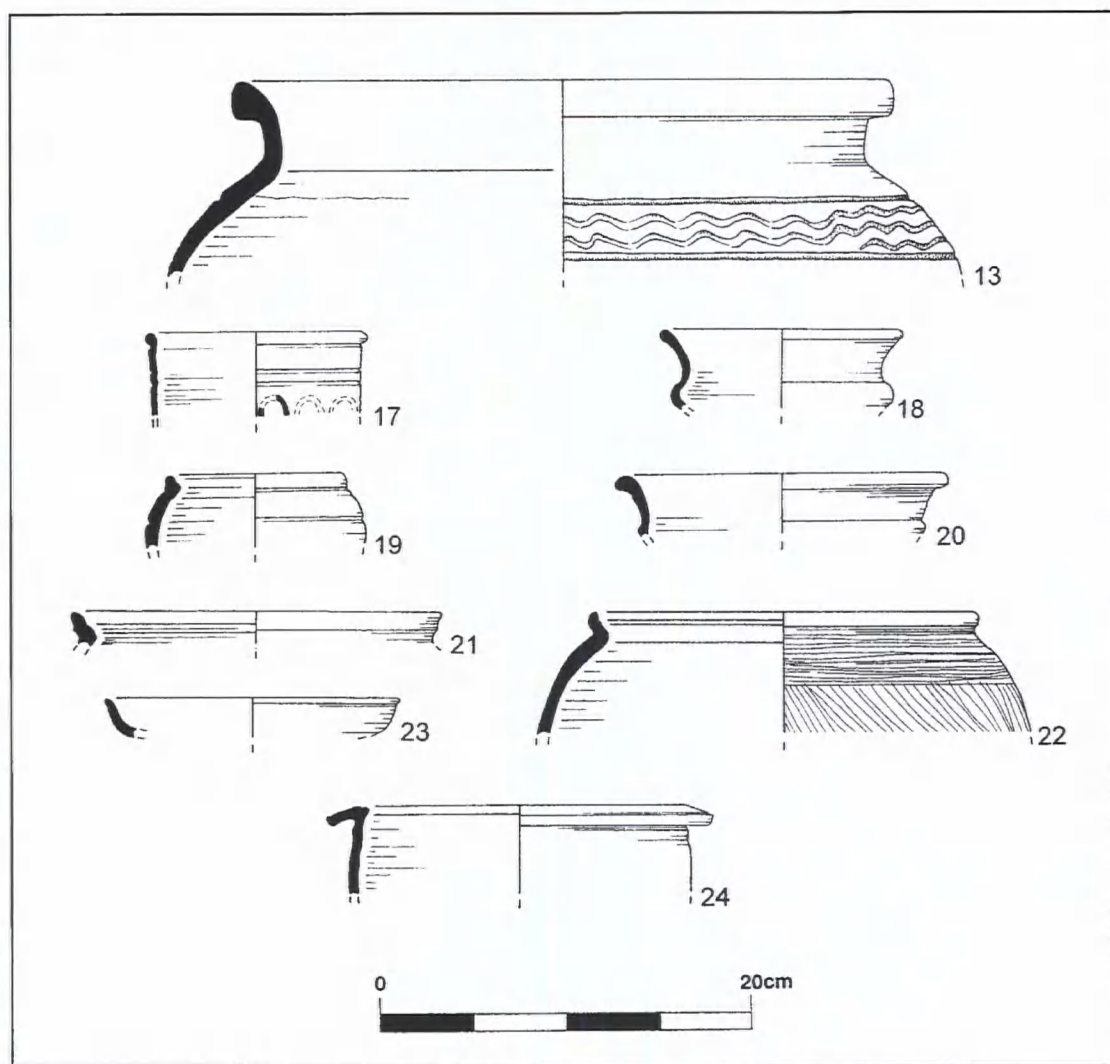


Figure 5 Pottery 13 and 17-24 (1:4)

In the southern corner of the enclosure a particularly large assemblage of pottery was recovered from layer (1039/1042) sealing pits 1036 and 1038, amounting to some 450 sherds (4632g). This includes the Oxfordshire painted ware bowl (Fig 5.17) along with several sherds of grog-tempered storage jar, various grey sandy wares, one tiny scrap of South Gaulish Samian (?Dragendorff 30) and four sherds of Verulamium ware. Shelly wares are sparse. The Oxfordshire bowl would suggest a date in the later 1st or very early 2nd century.

Of particular note from the features to the NE of the enclosure, is the group from pit 1004 with one

sherd of Dressel 20 amphora and the stamped Samian (see above) dated AD 70-95. The coarse-wares include two Gallo-Belgic inspired dishes and a handle from a Verulamium ware flagon. Ditch 1087 also yielded a good assemblage of 351 sherds (7475g). These sherds were particularly well preserved with an average sherd size of 21g. Amongst this group was the globular roughcast beaker (Fig 4.11) which shows a firing flaw suggesting that is was a waster or second, a Dressel 20 rim, 22 sherds of Verulamium ware and five fragments of ceramic building material. Again the group is consistent with a date in the later 1st century.

The presence of both continental and regional imports dating to the post-conquest period alongside wares of a more traditional nature raises the status of the group. The location of the site at the junction of Icknield Way and Watling Street would explain the marked presence of Verulamium white ware at the site. The fine tablewares and oil amphora suggest either familiarity with, or the adoption of, Roman eating and cooking habits.

The assemblage from Queensway Hall complements material previously excavated from the area, in particular, it is broadly contemporary with a group of pottery from a ditch excavated in Priory Meadow, immediately to the south (Hagen 1972). This appears to date to the late 1st or early 2nd century suggesting a phase of clearance or change at this time. Other Roman sites investigated within Dunstable have generally been slightly later (2nd-4th century) in date. Closer comparison comes with sites excavated to the north of the modern town. The Queensway Hall occupation appears to be partly contemporary with the multi-period site at Puddlehill also sited adjacent to Watling Street (Matthews and Warren 1992). It probably slightly post-dates a small settlement site investigated at Sewell Lane, immediately west of Puddlehill and possibly part of the same complex, which produced pottery dating from the 1st century BC to around the middle of the 1st century AD (Walker 1992). The Sewell Lane groups show some overlap in terms of form and fabric amongst the indigenous wares but lack any Roman element to the assemblage.

CATALOGUE OF ILLUSTRATED SHERDS

Enclosure and Pit 1052

- 4.1 Black, handmade bowl with a double groove on the rim. Irregular wipe marks on the interior. GRSA. Pit 1052 (1053).
- 4.2 Channel-rim jar, wheel-made. GREY2. Ditch 1019 (1029)
- 4.3 Black, handmade dish copying an imported form. Probably originally with a defined footring. GREY3. Ditch 1019 (1020).
- 4.4 White-ware collared rim flagon WW1. Ditch 1019 (1020).
- 4.5 White-ware unguent jar (VER WH. Ditch 1019 (1020).
- 4.6 Shallow dish, GREY2. Ditch 1009.
- 4.7-8 Shallow dishes, black in colour. GROG2. Ditch 1009.
- 4.9 Black, beaded rim, wide-mouthed jar. GRSA. Ditch Pit 1052 (1053).

Ditch 1087

- 4.10 Wide-mouthed jar/bowl with a bulged neck. GRSA. Ditch 1087 (1093).
- 4.11 Large ovoid beaker with a short everted rim. Sparse fine sand roughcasting on the exterior. CC1. Ditch 1087 (1093).
- 4.12 Several sherds from a grey, wheel-made jar with comb-impressed decoration. GREY4. Ditch 1087 (1093).
- 4.14 Necked jar, dark grey in colour with a lighter core. Decorated with a lightly incised lattice. GREY1. Ditch 1087 (1093).

- 4.15 Large channel rim jar with a double groove on the rim. GRSA. Ditch 1087 (1102).
- 4.16 Hand-made, black jar with a wheel-finished rim. GREY3. Joining sherds from ditch 1087 (1102) and pit 1103 (1104).
- 5.13 Large handmade jar with a wheel finished rim. GROG 1. Ditch 1087 (1093).

Other deposits

- 5.17 White ware bowl imitating a Dragendorff form 30 decorated with orange-red painted arcs. OXF WH. (1039).
- 5.18 Small flared rim bowl. GREY2. (1039).
- 5.19 Lid-seated jar with a black exterior and brown interior. GRSA. (1042).
- 5.20 Grey ware bowl. GREY4. (1042).
- 5.21 Channel rim jar. SHELL. (1042).
- 5.22 Wheel-made channel rim jar. Lightly combed exterior. SHELL. Ditch 1098 (1099).
- 5.23 Highly micaceous dish with traces of a dark red colour-coat on the interior and exterior. Burnt. Pit 1111 (1112).
- 5.24 Flat rim bowl with two grooves on the rim. VER WH. Ditch 302 (303).

DESCRIPTION OF FABRICS

Where applicable cross-references are given to the National Roman Reference Collection codes (Tomber and Dore (T&D) 1998) and no further description is given here. Fabrics are also tied in to the Bedfordshire Ceramic Type Series (BCTS) (*cf.* Dawson (1988, 10-16) for the late Iron Age fabrics). Comparison was also made with the Manshead Archaeological Society (MAS) reference collection (Horne and Schneider 1992) which mainly focuses on Roman and Saxon wares.

Continental imports

Dressel 20 South Spanish amphora (BAT AM) (T&D 1998, 84) BCTS R19A, MAS 98.

? Central Gaulish colour-coated ware (CGCC): A fairly soft, orange fabric distinguished by the presence of frequent flecks of gold and white mica up to 1mm and finer. Traces of a red colour-coated surface are present on both the interior and exterior surfaces. Represented by a single platter sherd, which has been burnt (Fig 5.23).

Regional Wares

White ware (WW1) (BTR R03): A pure white medium sandy ware. Wheel-made collared (Hofheim) flagon (Fig 4.4). Possible a continental import.

Colour-coated beaker (CC1) (BTRF R38): A fine, orange ware, with traces of dark red-brown matt colour-coat. Partial traces of a fine sandy roughcast finish. Globular beaker with a short everted rim (Fig 4.11).

Oxfordshire white ware (OXF WH) (T&D 1998, 174) BCTS R11A.

Verulamium white ware (VER WH) (T&D 1998, 154) BCTS R03B, MAS40, 54.

Source Unknown

Fine grey ware (GREY5) (BCTS R06C). Dark grey, fine ware with a sandy texture. No macroscopically visible inclusions. Wheel-made beakers with barbotine dot decoration.

White slipped oxidised ware (WSLIP) (BCTS R05A): Various oxidised sandy wares with white-slipped or orange slipped surfaces. Mainly flagons included one ring-necked example.

Fine oxidised ware (OXID3): A dark orange, fine sandy ware with a slightly powdery feel. Rare grains of rounded quartz and dark red-brown iron.

White ware (WW2) miscellaneous other white wares. BCTS R03.

Local wares*Grog-tempered wares*

GROG1 (BCTS F06C, MAS34). A moderately hard ware generally orange brown in colour with a grey core, slightly soapy feel. The paste contains a common frequency of rounded to sub-angular grog up to 4mm in size and rare quartz sand. Mainly used for handmade vessels, less commonly wheel-made forms.

GROG2 (BCTS F06B). A dark brown, or black, fine to medium grog-tempered ware. Soapy feel. Used for hand-made and wheel-made vessels.

GR1 (?BCTS F05). A fairly hard, grog-tempered ware, mainly reduced with sparse voids or calcareous inclusions visible at x20 magnification.

GRSA (BCTS F09). Hard, well-fired sandy ware generally with oxidised surfaces and grey core. The paste contains a moderate to common frequency of well-sorted mainly clear quartz accompanied by sparse sub-angular to angular fine grog (less than 1mm). Rare grains of flint and calcareous grains are also present.

Shelly wares

SHELL (BCTS F07). A brown, or orange-brown, ware containing a common frequency of fossil shell. Mainly occurs as channel rim jars.

CASA: Grey or brown sandy ware. At x20 a sparse frequency of calcareous inclusions or voids with traces of decayed calcareous material are visible.

Sandy wares

GREY1 (BCTS F28): A generally black ware with a red-brown core and grey inner core. At x20 the paste contains a sparse to moderate frequency of ill-sorted, rounded quartz and rare calcareous inclusions. Mainly wheel-made forms.

GREY2 (BCTS F28): A poorly consolidated ware with brown surfaces and a grey core. The paste contains a sparse scatter of ill-sorted, rounded, fine quartz with occasional grains up to 2mm. Rare inclusions of limestone and iron.

GREY3 (BCTS F12). Hard, black sandy ware with a slightly granular feel. At x20 the paste contains a moderate to common frequency of rounded quartz up to 0.5mm, rare limestone. Hand-made and wheel-made vessels.

GREY4 (BCTS R06E): A well-fired, light grey sandy ware with rare grains of black iron and limestone up to 1mm in size. At x20 the iron and limestone presence is more obvious along with some mica and a sparse scatter of rounded quartz.

GREY 6 (BCTS R06D): A wheel-made black ware with a red-brown core and interior. Distinguished by a highly micaceous (muscovite) content with flecks up to 1mm in size. Fine sandy texture with sparse visible grains of iron and quartz.

GREY00 (BCTS R06): Miscellaneous other grey wares.

OXID1 (BCTS R05A): A hard, mid orange medium sandy ware with a blue-grey inner core. The surfaces have a thin purplish-orange wash. The paste contains a moderate frequency of well-sorted rounded to sub-angular quartz, some iron stained, up to 0.5mm. Sparse limestone grains or voids.

OXID2 (BCTS R05): A hard, sandy textured orange ware with a brownish interior and mid grey inner core. The paste contains a common frequency of well-sorted, fine, rounded quartz (less than 0.5mm), some iron stained, along with rare iron and limestone grains up to 1mm.

FIRED CLAY AND CERAMIC BUILDING MATERIAL

Jane Timby

Fourteen fragments of fired clay of indeterminate form and function were recovered from ditch 302 and pits 1038 and 1047. The fabrics mainly contain coarse vegetation. Eleven fragments of Roman tile were recovered from ditches 1009 and 1087 and from pits 1036, 1047 and 1064. Parts of at least two tegulae and two pilae were present.

OTHER FINDS

There was an extremely limited number and range of other finds from the site. The Roman finds comprised a number of small fragments (540g) of lava quern from contexts 1039 and 1042 (pit 1038). Three struck flints are undoubtedly residual, while 15 iron nails and a fragment of glass are more likely to be post-Roman.

ANIMAL BONE

Eden Hutchins

A total of 544 fragments of animal bone were retrieved, of which 73 (13.4%) were identifiable to species. This is a low proportion reflecting the moderate to poor condition of the assemblage. Many remains were fragmentary and had suffered from post-depositional weathering and worm action.

<i>Species</i>	<i>Cattle</i>	<i>Sheep & Sheep/Goat</i>	<i>Horse</i>	<i>Pig</i>	<i>Dog</i>	<i>Roe Deer</i>	<i>Total</i>
Body Parts							
Skull/Mandible	15*	5	6	2**	-	-	28
Humerus	4	3	-	-	-	-	7
Femur	1	-	1	-	-	-	2
Metapodials	2	4	1	-	-	-	7
Scapula	1	1	-	1	-	-	3
Radius	1	2	1	-	-	-	4
Tibia	2	2	2	-	-	-	6
Digits/Ankles	4	-	3	-	1	-	8
Ulna	-	1	-	-	-	-	1
Pelvis	1	-	2	-	1	-	4
Horn Core	2	-	-	-	-	1	3
Total	33	18	16	3	2	1	73

* including 2 loose teeth ** Pig tusks

Table 2 Quantification of identified animal bones

Table 2 summarises the identifiable species and elements. The catalogue is retained in the archive.

Due to the small numbers of identifiable bones, few conclusions can be drawn about the assemblage, although the dominance of cattle and sheep/goat appears fairly typical of a Roman agricultural settlement. The high proportion of horse bones is noteworthy, although seven of the bones come from pit 1047 and only one or two animals need be represented. The roe deer horn is uncommon, but not significantly so. The antler was not shed – parts of the skull remained attached, and the animal would have been killed between late spring and late autumn in its third year.

No particular conclusions can be drawn concerning the representation of body parts. The high proportion of skulls is a result of the fragmentation of these bones. The overall distribution of one is similar to that of the pottery.

ENVIRONMENTAL AND ECONOMIC INDICATORS

Four 20-litre samples were taken for the recovery of

economic and environmental indicators, and were additional to the four samples taken during the evaluation phase of investigation which yielded meagre results. The charred plant remains and snails were assessed. The results did not warrant further detailed work and the assessments are presented here.

CHARRED PLANT REMAINS

Eden Hutchins

The results are presented in Table 3

The charred seed assemblage was particularly small. A small amount of wheat (*Triticum*) was present in every sample, but the condition was too poor to identify further. Dock (*Rumex*) is a common weed of disturbed ground, particularly at the edges of human activity. Overall the samples were unremarkable.

THE SNAILS

Mark Robinson

The results are given in table 4.

Sample	5	6	7	8
Context	1026	1039	1093	1086
Feature	Ditch 1009	Pit 1038	Ditch 1087	Pit 1085
<i>Triticum</i> sp.	1	2-10	11-100	2-10
<i>Triticum spelta</i>			1	
<i>Rumex</i> sp.		1		1

Table 3 Charred plant remains – species present

Sample	5	6	7	8
Context	1026	1039	1093	1086
Feature	Ditch 1009	Pit 1038	Ditch 1087	Pit 1085
<i>Pomatias elegans</i>	-	+	-	-
<i>Cochlicopa tridentatum</i>	-	++	-	-
<i>Cochlicopa</i> sp.	++	+	++	++
<i>Vertigo pygmaea</i>	++	+	++	+
<i>Pupilla muscorum</i>	+++	+++	+++	+++
<i>Vallonia costata</i>	++	++	++	++
<i>V. excentrica</i>	+++	+++	+++	+++
<i>Vallonia</i> sp.	+++	+++	+++	+++
<i>Punctum pygmaeum</i>	-	+	-	-
<i>Discus rotundatus</i>	-	+	-	-
<i>Aegopinella nitidula</i>	-	-	-	+
<i>Cecilioides acicula</i>	+++	+++	+++	+++
<i>Helicella itala</i>	++	++	++	++
<i>Trichia hispida</i> gp.	+++	+++	+++	+++
<i>T. striolata</i>	+	-	-	+

+present, ++many, +++ very many

Table 4 Snails – species present

All four samples contained several thousand snails, as might be expected from such large samples. All are dominated by the open-country snails *Pupilla muscorum* and *Vallonia excentrica*, along with the more catholic *Trichia hispida* gp. and the burrowing snail *Cecilioides acicula*. Another snail characteristic of dry open habitats, *Helicella itala*, is well represented in all the samples. In addition, Sample 6 contains lower concentrations of shells associated with more shaded habitats, including *Carychium tridentatum* and *Discus rotundatus*.

The results suggest that dry open conditions prevailed on the site during the early Roman period. However, it is possible that tall herbaceous vegetation, providing a little shelter, was growing in the tops of pits 1036 and 1038, the location of Sample 6.

DISCUSSION

SITE LAYOUT AND DATE

The layout of the site was relatively simple with a limited number and range of features, all of which were relatively shallow. It is evident that the site had been truncated by agriculture and modern development, but the degree of truncation has proved impossible to quantify and it is uncertain how many shallow features might have been lost. There was also considerable modern intrusion, particularly on the Court Road frontage and across the car park. There

is therefore no good indication that the limits of the site have been reached in any direction and the site plan must be assumed to be incomplete in its extent as well as in the number and density of features.

The site plan, together with the dating evidence provided by the pottery, indicates a relatively brief duration of occupation in the second half of the 1st century AD. It is possible that the Phase 1 ditch (1017) and the stratigraphically early pits in the SW area were earlier than this. These contained few or no finds, and no pottery diagnostic of the later 1st century. Ditch 1017 is interpreted as having been dug in segments and backfilled deliberately. It is considered unlikely to have been contemporary with the enclosure, (although stratigraphically this is possible), and appears instead to have conditioned the location and alignment of the enclosure in Phase 2.

The enclosure itself is more securely dated to the later 1st century. It can be seen to have had an influence on the location of the pit groups within it in Phase 3, even when it had apparently gone out of use and been cut by the latest pits in the sequence here. SW of the enclosure, gullies 1080 and 1096 are closely aligned with the enclosure ditches and of similar form. The pits were intensively recut and there is a repetitive pattern of the gullies cut by deeper but shorter lengths of ditch. Again, in this area land use would appear to have been quite tightly controlled.

The occupation was short-lived, ending in the late 1st or early 2nd century AD, and the site was not re-occupied. The snails from the top of the latest pits (1036 and 1038) suggest that the site may have become overgrown (M Robinson, this report).

NATURE OF THE OCCUPATION

Despite the absence of evidence for structures or other clearly settlement-related features, the quantity and condition of the pottery recovered strongly indicate that there was occupation in the immediate vicinity. The range of imported items and fine table-

wares may also suggest an occupation of relatively high status. There was, however, a lack of other material such as coins and personal adornments which may have helped confirm this impression. The small quantity of building material – *tegulae* from late-phase pits 1047 and 1087, and a possible *pila* from the enclosure ditch (1009) – is not sufficient to suggest the destruction of a Roman-style building in the area.

The absence of evidence for buildings should not be unexpected for this period, even on a moderately truncated site. For the 1st and 2nd century occupa-

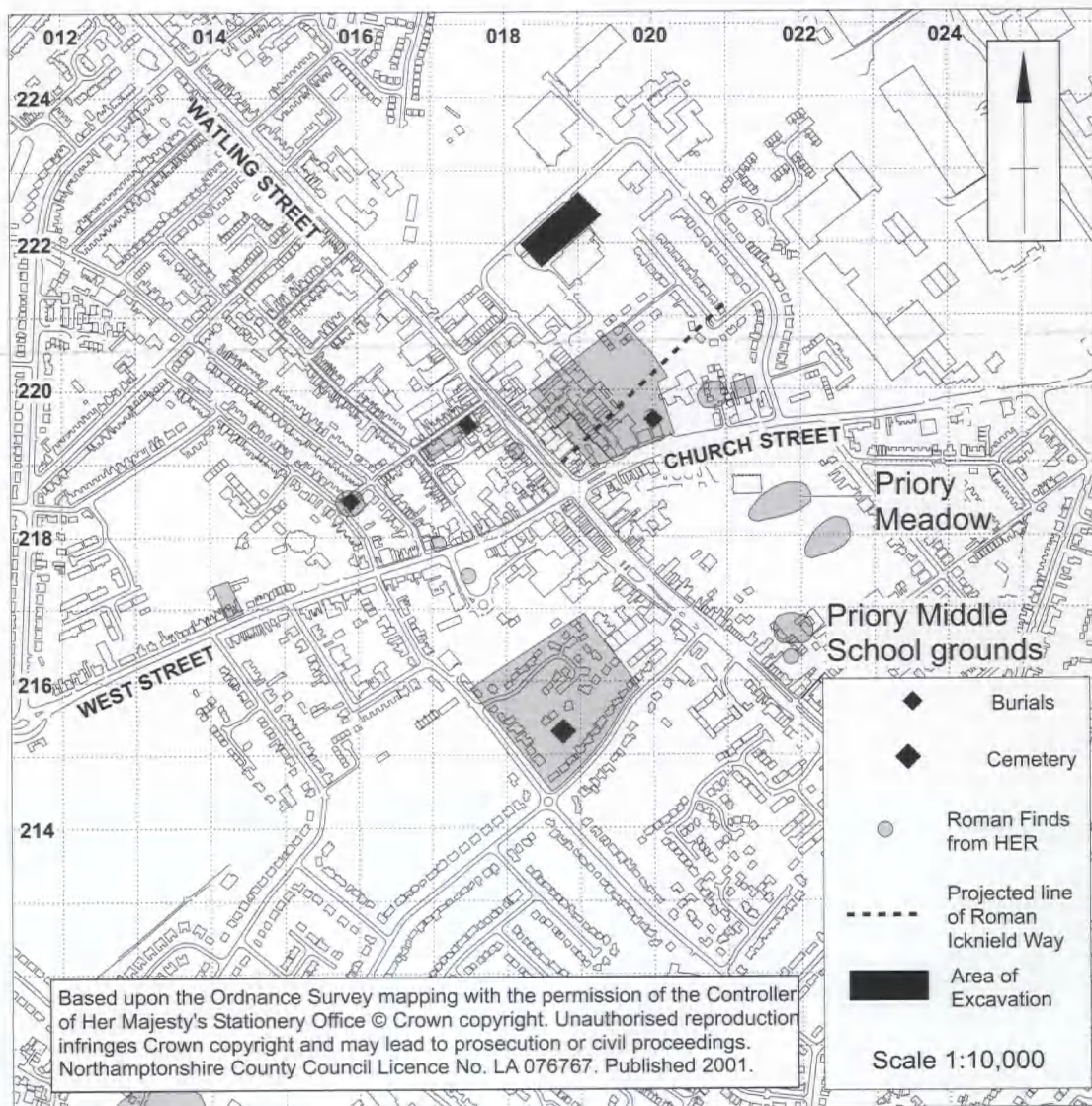


Figure 6 Site in relation to Roman finds in Dunstable

tion at Puddlehill, some structures were only evident as earthen floors containing trodden debris. The excavators considered that the buildings were likely to have been constructed on sill-beams laid directly on the Chalk surface or in very shallow trenches (Matthews and Warren 1992, 18-39).

The settlement may have had an agricultural basis although there was no real indication of this from the features or finds. It is unclear whether agricultural structures (such as barns, grain stores and corn dryers) were absent from the site, had been lost to modern disturbances, or may have existed outside the area investigated. The deeper pits may have functioned for grain storage although none were of typical grain store form, being rather wide in relation to their depth. Charred plant remains were found to be sparse and it is unclear whether crops were processed on site or not. With the exception of a few fragments of lava (probably from querns) there was an absence of agricultural or craft implements among the finds. The absence of metalworking residues can also be noted, although again, given the limitations of the investigations, the significance of this is uncertain. The animal bone assemblage was unremarkable but would not be out of place in a Roman agricultural settlement. In view of the site's date and proximity to the historic core of Dunstable it may be appropriate to consider possible urban associations, although there is no obvious evidence for these either. The position of the site set back from Watling Street probably rules out a direct concern with any official functions, or with trading or workshop activities. In common with other 'small towns', it is no doubt safe to assume that *Durocbrivis* maintained strong agricultural connections (Burnham and Wachter 1990, 44-5) and a predominantly agricultural basis to the settlement seems likely.

THE SITE'S RELATIONSHIP TO ROMAN DUROCOBRIVIS

Excavations since the 1960s have shown conclusively that a Roman settlement grew up at the junction of Watling Street and the Icknield Way, although its layout and extent are not known. Figure 6 shows the location of the site in relation to other Roman finds mapped in the Bedfordshire Historic Environment Record (up to 1999). In the NE quadrant, about 200m S of the Queensway Hall site, extensive remains of Roman wells, pits and houses were uncovered and partly recorded under salvage conditions during site clearance along Church Street (Matthews 1964). A roadway was recorded surviving as a hollow way about 15m wide and running at a slight angle to

Church Street so as to meet Watling Street about 30m north of the present crossing. Its date of origin is unclear, but it appears to have been re-metalled to a narrower width in the mid or later Roman period and is a good candidate for the Roman line of the Icknield Way. Its recorded orientation (48 degrees) is very similar to that of the enclosure at Queensway Hall lying 220m to the north and, unlike modern Church Street, it ran almost exactly at right-angles to Watling Street. On this evidence there is, therefore, some suggestion that the enclosure at Queensway Hall had an association with the Roman town in its initial founding and development during the 1st century.

Elsewhere in Dunstable evidence for 1st-century occupation has proved elusive although a ditch in Priory Meadow, in the SE quadrant would appear to have been backfilled in the early second century (Hagen 1972; Timby, this report) and may be associated with the initial settlement. It lay about 300m E of the crossing of the Icknield Way with Watling Street, in the same relative position in the SE quadrant as the Queensway Hall site did in the NE quadrant. From the published plan it would appear to have been aligned parallel to Watling Street. South of this, a shallow and stratigraphically early ditch in the Priory Middle School grounds yielded a sherd described as late Iron Age or early Roman (Warren and Hudspeth 1993, 7), and a few sherds of similar date were recorded elsewhere in the excavation.

The major excavations of the 3rd to 4th century cemetery in the SW quadrant of the town (Matthews 1981) showed that the burials (numbering 112), overlay enclosure ditches, wells and kilns, although the nature and dating of this earlier occupation is not clear. One deep pit, described as a cess-pit (Feature M18) was abandoned in the early 2nd century and infilled. The dating of the wells here, of which five were recorded, is less secure but generally they were probably abandoned later. This area of the town would seem to have been inhabited until the late Roman period after which settlement retracted and the land was used for burial. A Roman inhumation has been recorded from the top of an infilled well in the NE quadrant of the town (Matthews 1964). In the NW quadrant, a Roman burial in a lead coffin and three probable Roman inhumations in a ditch have also been reported. These may indicate settlement retraction in these areas also. An exception to this pattern of retraction is the record of a pit containing 3rd/4th century pottery from West Street, 500m or so from the junction with Watling Street. This may be associated with ribbon development along the Roman Icknield Way (Warren 1998).

Other find-spots of Roman material show a general clustering within about 300m of the Icknield Way and Watling Street crossroads with few sites further afield. It is evident that the Roman occupation did not purely take the form of ribbon development along the main roads, but spread for a considerable distance from both. As yet there is no indication that a pattern of side streets linked these areas. The Queensway Hall site therefore fits into this urban framework without any obvious signs that it had urban functions. The absence of evidence for archaeological features on the evaluated SE side of the Queensway Hall site is puzzling, since they would be expected to have been denser in this direction. It is possible that they simply did not survive here or that the evaluation trenches failed to locate them.

On the slender evidence available, the Queensway Hall site may be considered part of the initial layout of settlement which 'failed' at an early date. Its dating and alignment make it less likely that it was part of a pre-Roman settlement abandoned when *Durocbrivis* expanded. Only further work will determine whether this change in land use around the late 1st or 2nd century reflected a wider remodelling of the town, or was a more local phenomenon.

ACKNOWLEDGEMENTS

The excavation and post-excavation work was funded by ASDA through HBG Construction Ltd. The evaluation was supervised by Erlend Hindmarch, and the excavations by Tim Upson-Smith. Jane Timby is grateful to Barry Horne and Joan Schneider of the Manshead Archaeological Society for showing her their fabric series and discussing the local sites.

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The Bedfordshire Archaeological Council is grateful to ASDA for supporting the publication of this paper

Archaeological investigations at 24 Friary Fields, Dunstable, Bedfordshire

RHODRI GARDNER

With contributions from Ian Baxter, Nina Crummy, Andrew Fawcett, Berni Sudds and Tony Waldron

Illustrations by Donna Cameron and Amy Goldsmith

SUMMARY

Excavations by the Hertfordshire Archaeological Trust at 24 Friary Fields revealed stratified deposits, principally of Roman and medieval date. The earliest evidence comprised 2nd century pits, and some of this ephemeral activity may have had late 1st century origins. Fifteen graves belonging to the known, late Roman, cemetery were recorded and three could be dated to the latter half of the 4th century. Further evidence of the cemetery boundary ditch was recorded. Boundary features and eight of the previously known cross-shaped pits associated with the Dominican Friary were recorded. The most likely interpretation of the pits is that they comprise part of formal gardens established in the late medieval period.

INTRODUCTION

Between August 2001 and January 2002 the Hertfordshire Archaeological Trust (HAT) carried out a series of archaeological investigations on land at 24 Friary Field, Dunstable, Bedfordshire (TL 0183 2157) (Figs 1-2). These were commissioned by Moody Homes Ltd in advance of proposed redevelopment of the site. The potential of the site was known in advance (below), and was characterised by a trial trench evaluation (Gardner and Murray, 2001). Thereafter an excavation was undertaken in the southern part of the site, and detailed archaeological monitoring and recording was conducted in the area of building plots A and B (Fig 3). All phases of investigation were carried out in accordance with Briefs issued by Bedfordshire County Council's County Archaeological Officer and Specifications prepared in response by HAT.

SITE LOCATION, GEOLOGY AND TOPOGRAPHY

The site lies in the SW part of the historic core of Dunstable and comprises a rectangular parcel of land with a total area of c 750 m² (Figs 1-2). It lies on generally level ground at c.149 m above OD and is at the foot of the Chiltern Ridge. The solid geology is Middle Chalk. The site is bounded to the S, E and

W by modern residential properties and their gardens, and to the N by the thoroughfare of Friary Field.

ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

This area of Dunstable lies near to the course of the Icknield Way (which re-emerges from the town c. 400 m to the SW in the area of Downs Farm). However, despite this association and the discovery of Iron Age pottery occurring in residual contexts in an excavation at Pond Cottage, Bull Pond Lane (Hudspeth, 1991), no major prehistoric occupation sites are known in the vicinity of the site.

The first major settlement was established, perhaps initially as a *mansio* (one is mentioned in the Antonine Itinerary as being XII Roman miles north of *Verulamium* on Watling Street), during the Roman period around the junction of the Icknield Way and Watling Street. This grew into the Roman small town of *Durocobrivae*. Some evidence of the settlement has been recorded in previous excavations, though no substantial structural remains have been recovered. Wells, a length of metallised surface and three "primitive dwellings or huts", excavated in the 1960s and ascribed to the Roman period, are all that are known (Matthews, 1964). Consequently, the layout and chronological development of the town remains poorly understood. While this lack of evidence may be due in part to the circumstances of modern development it has also been suggested elsewhere that truncation due to medieval landscaping may have been widespread (Clark and Dawson, 1995). The most notable previous work comprises a series of excavations carried out between 1967 and 1981 which partially revealed a late Roman (3rd to 5th century) inhumation cemetery including 55 inhumations within a ditched enclosure (Fig 2). These excavations also revealed parts of the boundary ditches of the cemetery in which a further 50 human burials, four horses and a dog were recorded (Matthews, 1981). 'Casual' burials were also recorded in the upper fills of abandoned wells that had subsequently collapsed - in some cases before the bodies had completely

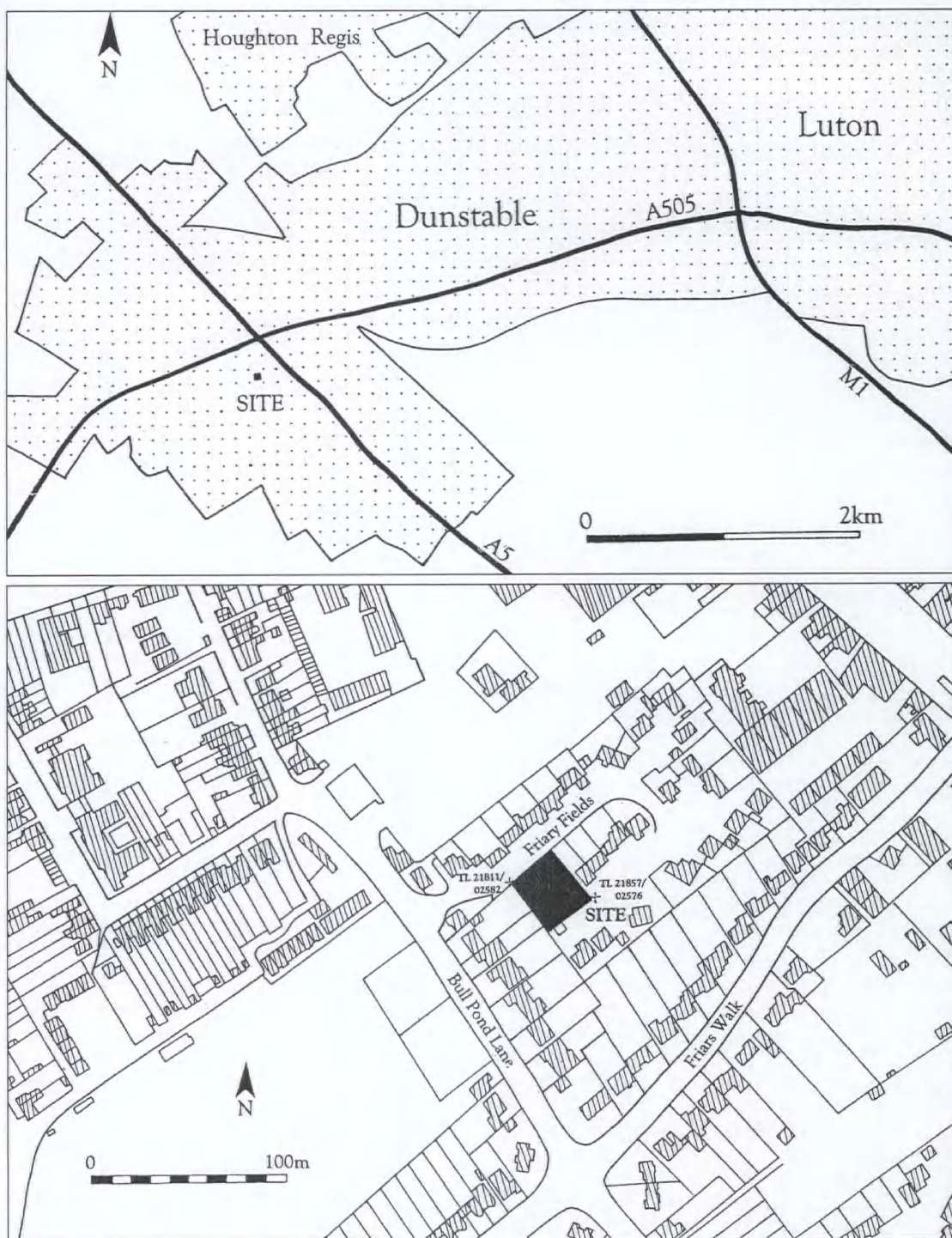


Figure 1 Site location plan

decomposed - leading to the discovery of fragmentary yet still articulated remains at depths in excess of 10 m in some of the wells (Matthews, 1981). The same excavations also produced some evidence for metalworking and pottery production in this quarter of the town. The fate of the town at the end of the Roman period is poorly understood, though abandonment seems likely as there is no direct evidence of settlement continuity into the Early Saxon period.

The junction of Watling Street and Icknield Way was again the focus for the next major period of settlement when, in 1119, Henry I founded a new town in the corner of his Houghton Regis Estate. Immediately to the NE of the site a Dominican

Friary was founded in 1259, with the first church built shortly after. The site of The Friary has also been subject to previous excavations, carried out from the 1920s to the 1980s (e.g. Clark and Maull 1989, Green and Horne 1991). The evidence of most direct relevance to this site concerns a large number of enigmatic cross-shaped pits. These features were dated to the medieval period and thought to be associated with the Friary. The extent of earlier excavation also indicated that they were likely to extend into the area of the Roman cemetery and the present site (Fig 2). Green and Horne also identified a series of substantial ditches thought to relate to the north-western boundary of the Friary's grounds.

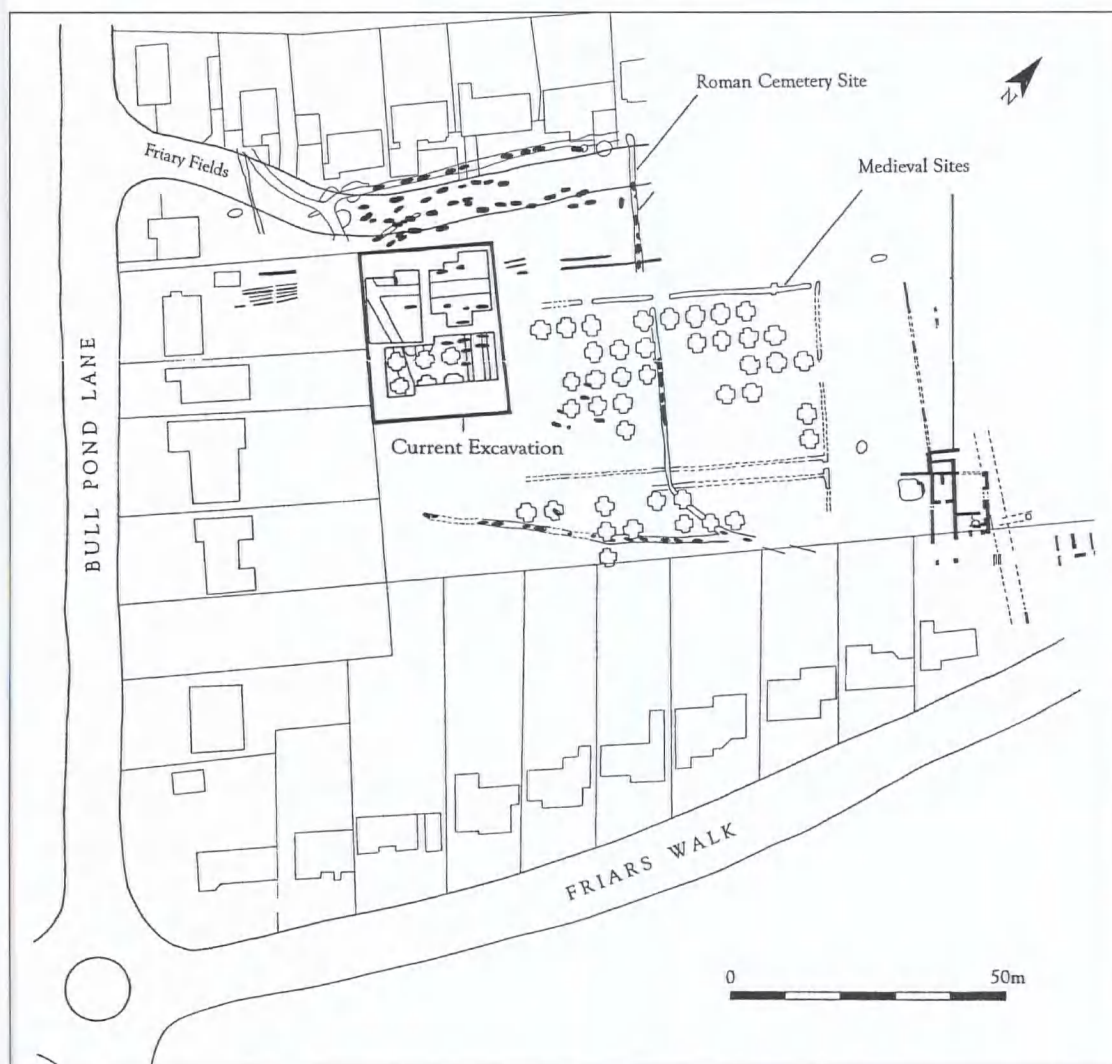


Figure 2 Detailed site location plan

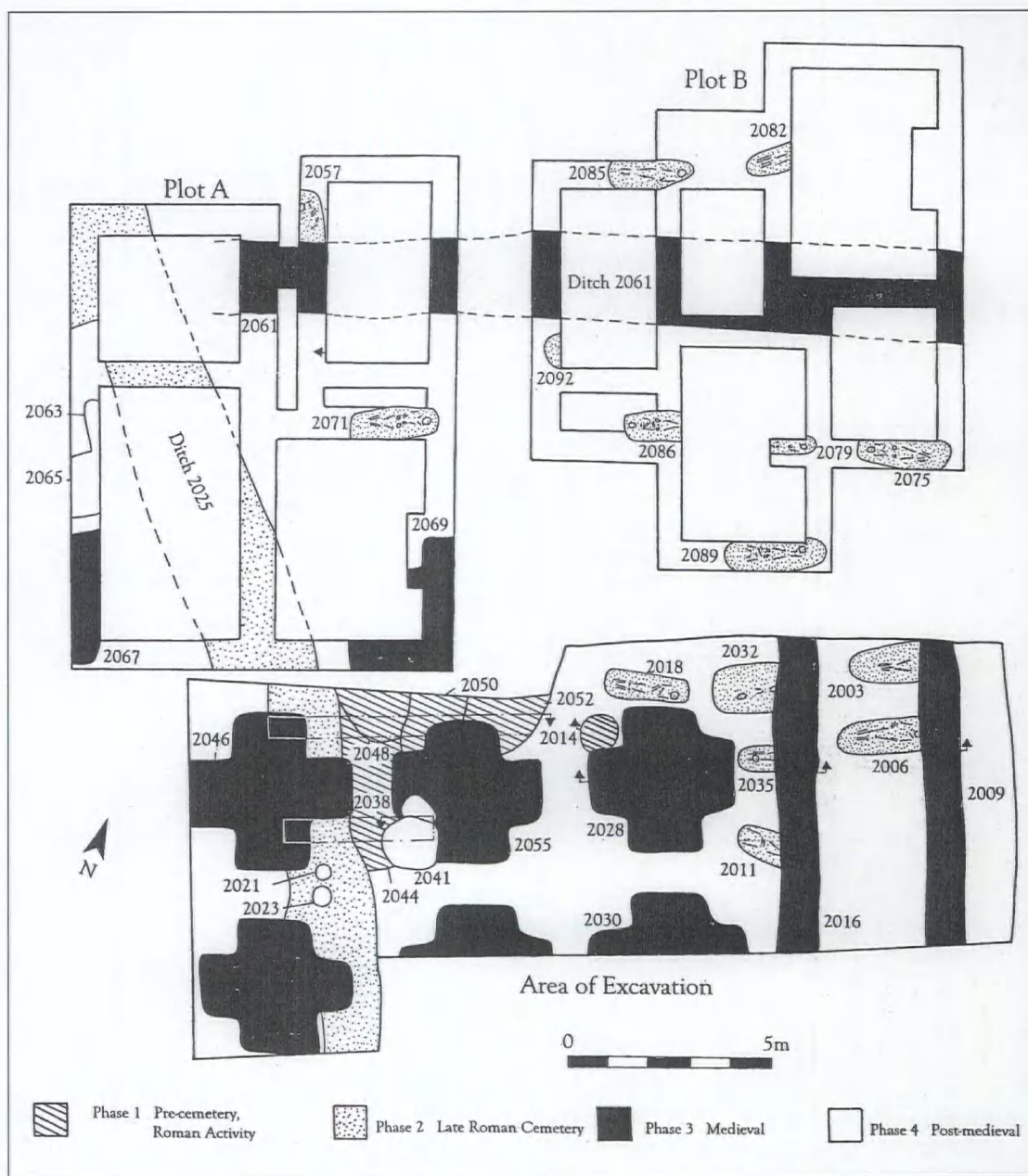


Figure 3 Phase plan

The site's high archaeological potential was confirmed following a trial trench evaluation. This revealed at least one Roman inhumation and an enclosure ditch. The latter was thought to represent a continuation of the southern boundary of the cemetery identified in the earlier excavations undertaken

by the Manshead Archaeological Society in the area of the modern Friary Field roadway (Fig 2). Medieval deposits were also recorded but within the confines of the evaluation trenches it was not possible to relate these to the cross shaped features or the 'buttress trench' known in the vicinity.

Feature	Depth (m)	Fill (s)	Finds
Pit 2014	0.21	2015	Pottery (19 g), tile (8 g), animal bone (<1 g)
Pit 2044	0.40	2045	Pottery (80 g), animal bone (30 g)
Pit 2048	0.75	2049	Pottery (62 g), animal bone (198 g)
Pit 2050	0.60	2051	Pottery (152 g), animal bone (111 g), shell (1 g)
Pit 2052	0.65	2053, 2054	Pottery (667 g), brick (74 g), Animal bone (384 g), shell (1 g)

Table 1 Pre-Cemetery Features

METHODOLOGY

The excavation of the proposed back garden areas of the new dwellings covered an area of some 160 m². Topsoil and subsoil were mechanically excavated using a flat bladed ditching bucket under close archaeological supervision. Archaeological features were then cleaned and excavated by hand.

The monitoring and recording comprised the supervised mechanical excavation of the foundation trenches of the two proposed dwellings, plots A and B (Fig 3). The trenches were excavated to the necessary foundation depth with work stopping as appropriate to enable the hand excavation of archaeological deposits. Nine inhumation graves were partially revealed during the watching brief stage of the investigations.

THE EXCAVATIONS

PHASE 1: PRE-CEMETERY ROMAN ACTIVITY (MID 1ST TO 2ND CENTURIES AD)

A small group of five pits pre-dated the cemetery (Table 1).

Pit 2014 was located in the centre of the excavation and was cut by a medieval feature 2028 (Figs 3-4). The pit contained a single fill that yielded a small quantity of mid 1st – early 2nd century pottery, tile and animal bone. The remaining four features of this phase also comprise intercutting pits. The earliest of these, 2044, was much truncated and was poorly defined (Figs 3-4). It also contained mid 1st to early 2nd century pottery, and a small quantity of animal bone. Northwards the primary fill of pit 2052 contained early to mid 2nd century pottery, fragments of animal bone, brick and shell (Figs 3-4). Pit 2048 contained 2nd century pottery and animal bone. Pits 2052 and 2048 were cut by pit 2050, which contained 2nd century pottery, animal bone and shell.

PHASE 2: ROMAN INHUMATION CEMETERY (3RD TO 5TH CENTURIES AD), ESTABLISHMENT OF SOUTH-WESTERN BOUNDARY DITCH

An area of the previously known Roman cemetery

was excavated (Figs 2-3). The evidence comprised 15 inhumation graves. Six were revealed in the area of the excavation and a further eight during the monitoring and recording. A substantial ditch (2025) was recorded along the southern limit of the site. All the inhumations were to the N of the ditch.

Table 2 presents a descriptive detail of the inhumations and is supported by illustrations (Figs 5-6). The description of orientation follows the convention of Viner and Leach (1982, 76) so that a grave described as W-E indicates that the head is to the W (the first cardinal point denotes the head position).

In all cases the orientation of the skeleton accorded with the alignment of the grave, so only grave orientations are described. A number of the graves were only partially revealed. Where discernible, the burial position was consistent: supine with legs extended and arms along the side with slight variations in hand position. All the grave pits were rectangular/sub-rectangular with vertical or near vertical sides and flat bases. An average grave depth of 0.53 m was recorded, with a range of 0.35 – 0.70 m. Medieval features truncated several graves (2003, 2006, 2011, 2032, 2035) but due to their depths the skeletons were undisturbed. All graves were of dimensions appropriate to the corpse they contained, with the exception of Grave 2032, which appeared somewhat larger than was necessary. Skeleton 2033 in Grave 2032 was poorly preserved, in contrast to the others, and may have been treated differently (Human Bone Report below). No ‘plaster’ burials were recorded. There was no evidence for above ground markers. No evidence for stone linings or cists was present. No clear evidence of coffins, either as preserved fragments of wood or as ‘coffin stains’ was recorded, though the presence of iron nails in Graves 2003, 2006 and 2086 suggests that they may have been present and that soil conditions precluded their survival. More substantial evidence of coffins was recorded in the excavations undertaken by the Manshead Society, indicating that they were employed in at least some of the graves at Friary Field (Matthews 1981, 5). Three graves contained

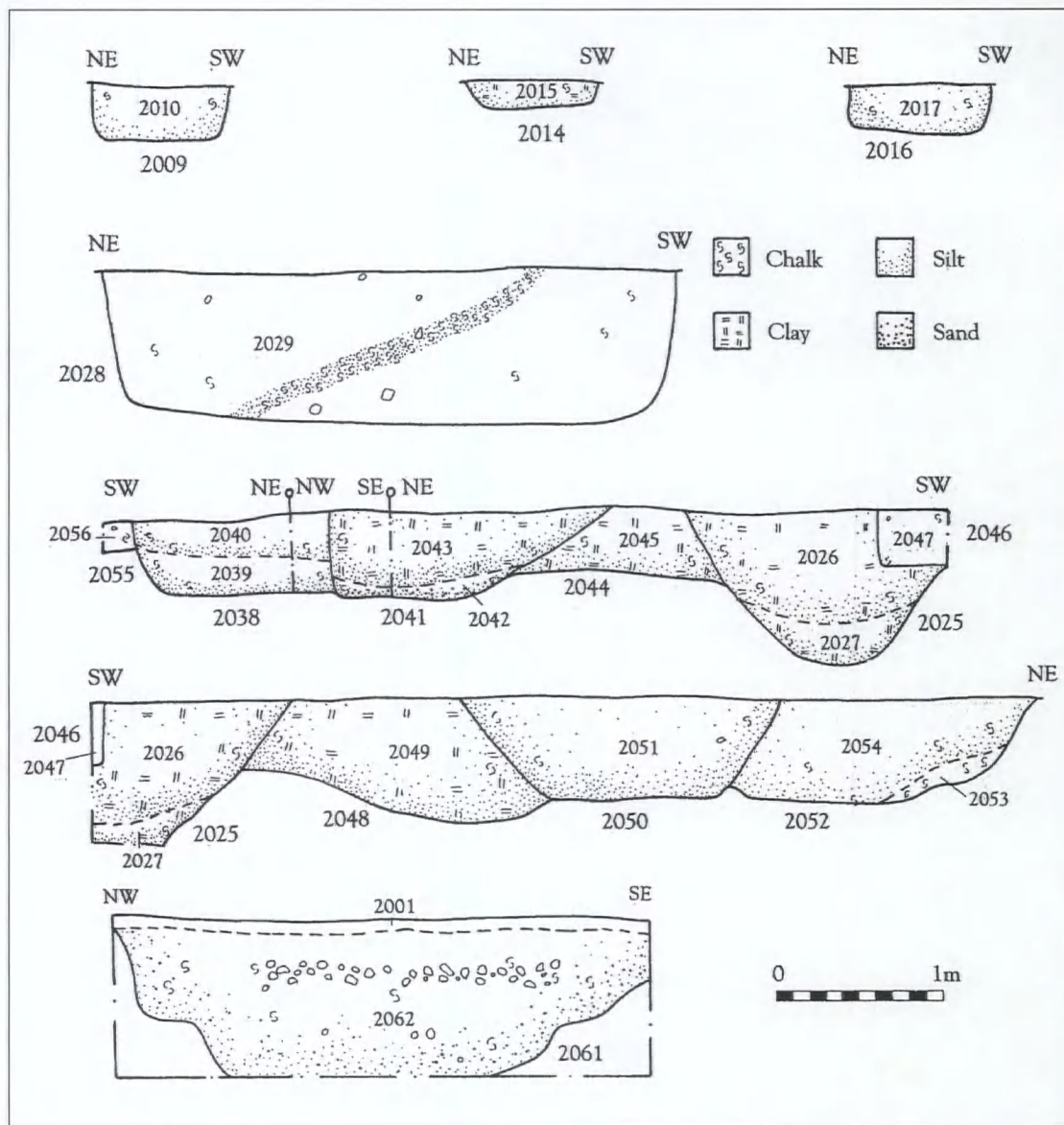


Figure 4 Sections

grave goods: a bone comb from G2006 (SF1 Fig 8.1), a glass bowl from G2085 (SF2 Fig 8.2), and a fragmentary Oxford orange slipped ware beaker recovered from G2057. These items comprise the dating evidence, which indicates a predominantly late 4th century date for the burials.

Ditch 2025 was traced for c. 23 m from the south-western corner of Plot A to the south-eastern edge of the excavation (Figs 3-4). Though it was only par-

tially revealed and heavily truncated by medieval features, a broadly E-W alignment was evident. It was c 1.65 m wide and 0.70 m deep with steep sides and a flat base. It contained two fills, the first of which comprised a clayey silt, indicative of natural silting. This basal fill (2027) contained 2nd century pottery (448 g) and disarticulated human bone (105g), animal bone (<1 g) and oyster shell (44g). The upper fill (2026) was characterised by the pres-

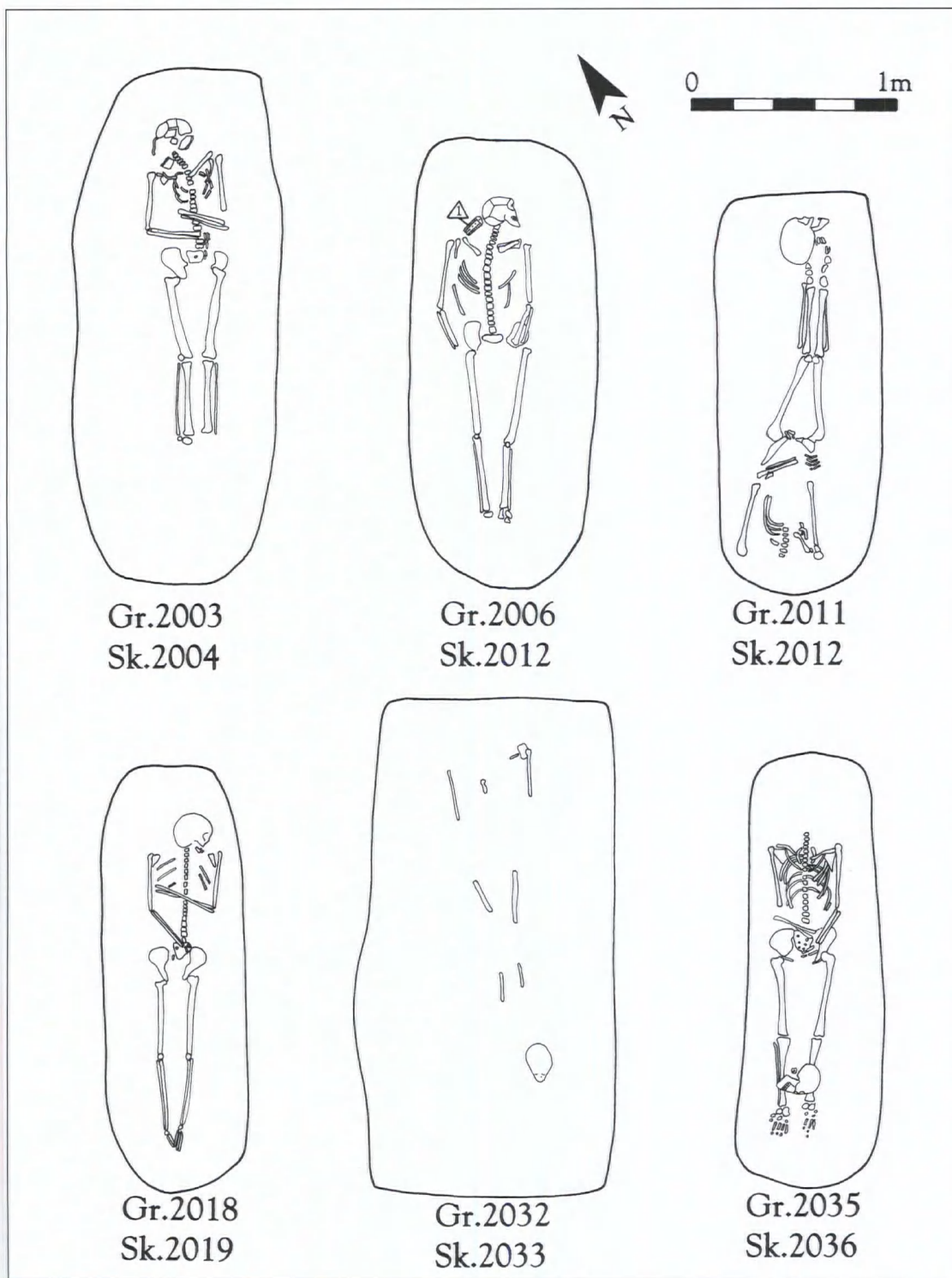


Figure 5 Skeletons

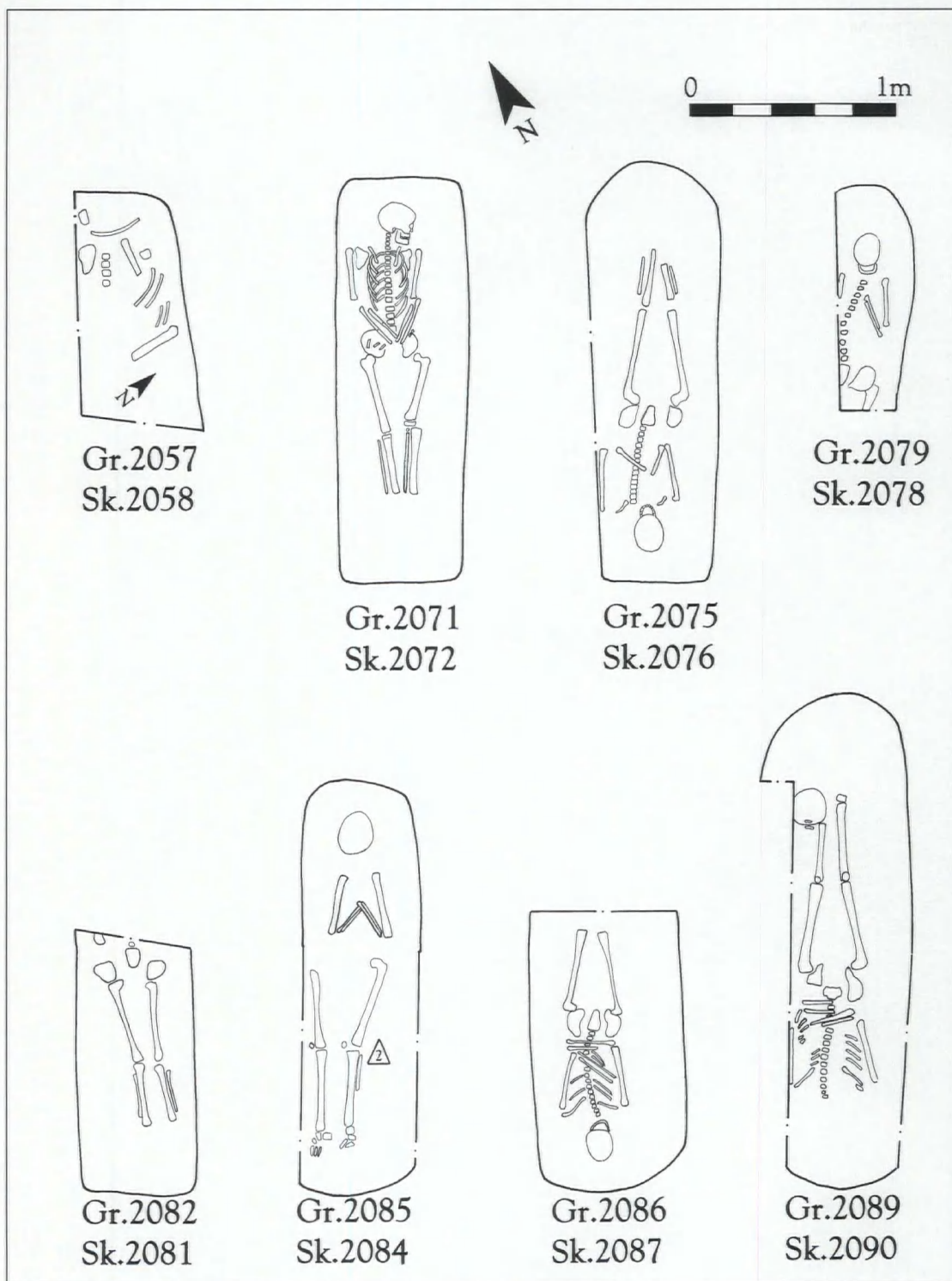


Figure 6 Skeletons

Feature No.	Skeleton	Orientation	Length/ breadth (m)	Depth (m)	Finds
2003	2004	NE-SW	2.40 x 0.70	0.70	Tile, stone, iron nail, animal bone
2006	2007	NE-SW	2.20 x 0.96	0.60	SF1 Bone comb, iron nail
2011	2012	SW-NE	1.95 x 0.80	0.60	Slag
2035	2036	NE-SW	2.12 x 0.65	0.66	Animal bone, residual pottery (138g – 2nd C)
2032	2033	NE-SW	2.40 x 1.27	0.65	Stone, animal bone, Roman pottery
2018	2019	NE-SW	2.00 x 0.70	0.56	Animal bone
2057	2058	NW-SE	1.20 x 0.48	0.35	Pottery (270-400)
2071	2072	NE-SW	1.95 x 0.65	0.35	None
2075	2076	SW-NE	2.10 x 0.60	0.50	Tile
2079	2078	NE-SW	1.10 x 0.36	0.40	None
2082	2081	NE-SW	1.30 x 0.54	0.45	None
2085	2084	NE-SW	1.25 x 0.63	0.45	SF2 Glass vessel
2086	2087	SW-NE	1.40 x 0.78	0.53	5 iron nails
2089	2090	SW-NE	2.44 x 0.71	0.50	None
2092	2093	NE-SW	0.73 x 0.40	0.58	None

Table 2 Late Roman Inhumations

ence of some chalk fragments indicative of more rapid filling and contained a similar finds assemblage including disarticulated human bone (52g). The pottery from Layer 2026 is predominantly of mid to late 2nd century date. The upper ditch fill also contained an almost complete Nene Valley miniature of late 3rd to 4th century date (Fig 7 No.1), a vessel which would normally accompany a burial.

Though both the basal and upper fills of Ditch 2025 contained 2nd century Roman pottery, this pottery is described as being of variable condition (Pottery Report below) suggesting that it is not a primary deposit. Significant residual finds have been identified, indeed, the largest quantity of Roman pottery was derived from medieval cross-shaped pit 2028 (Pottery Report below). The upper fill of Ditch 2025 also contained a late 3rd to 4th century funerary vessel, and Layers 2026 and 2027 each contained disarticulated human bone likely associated with the late Roman cemetery. The form and finds assemblage of Ditch 2025 suggests that it was a cemetery boundary ditch (below), and when the alignment of ditch is examined in the context of the previous cemetery excavations (Fig 2) it seems likely that it represents a south-western cemetery boundary ditch, part of which has been recorded by the Manshead Archaeological Society (Matthews 1981).

PHASE 3: MEDIEVAL

Eight of the cross-shaped pits, previously recorded to the NE, were recorded (Figs 2–3). A single NNE/SSW aligned ditch (2061) was partially

revealed during the monitoring and recording and is a probable continuation of the 'buttress trench', again previously recorded to the NE. Two parallel ditches (2009 and 2016) were revealed in the NE corner of the site.

Of the eight cross-shaped pits four were only partially revealed. They were evenly spaced, with their centres *c.* 4.30 m apart and were 3.50 m wide along their longest axes. Two examples were excavated, 2028 and 2030 (Figs 3-4). Both had flat bases and vertical sides and were 0.90 m deep. These dimensions accord well with the account given by Green and Horne (1991, 2). The excavated examples had similar fills with no indications of silting or evidence for them having stood open for any length of time. Both contained mixed finds assemblages, Pit 2028, in particular, contained much residual Roman pottery. Both pits contained 11th – 12th century pottery.

A substantial ditch, F2061, was traced for some 25 m running in a NNE/SSW direction through the area of the watching brief and therefore only limited segments could be excavated (Figs 3-4). It had a stepped profile, was 2.20 m wide and in excess of 1 m deep. The alignment of this ditch had coincided exactly with that of an evaluation trench in an earlier HAT investigation (Gardner and Murray, 2001) which had, as a result, erroneously interpreted its fill as an area of quarrying. The pottery assemblage recovered from this feature is dominated by 11th – 12th century pottery (Post Roman Pottery Report below). A small amount of residual Roman material was also recovered. Its alignment in relation to the previously

Feature	Depth (m)	Length x width (m)	Fill (s)	Finds
Pit 2021	0.12	0.50 x 0.46	2022	Brick, slag, animal bone, coal.
Pit 2023	0.12	0.58 x 0.35+	2024	Pottery, brick.
Pit 2038	0.47	0.90 x 0.70	2039, 2040	None.
Pit 2041	0.52	1.40 x 1.10	2042, 2043	Pottery, animal bone.
? 2063	unexcavated	-	-	-
? 2065	unexcavated	-	-	-

Table 3 Post-Medieval Features

excavated features to the NE suggests that it represents a continuation of the 'buttress trench' described by Green and Horne (1991, 4).

The NE corner of the excavated area revealed two parallel ditches, F2009 and 2016 (Figs 3-4). They did not extend into the area of the watching brief to the NW. Both had near vertical sides and flat bases and had similar fills. They were in excess of 5 m in length and varied between 0.80 – 1.06 m in width and 0.25 – 0.39 m in depth. They contained very mixed finds assemblages including residual Roman and early medieval pottery in addition to components indicative of a possible 15th to 16th century date.

PHASE 4: POST-MEDIEVAL

Four pits (2021, 2023, 2038, 2041) and two partially revealed features of uncertain type (2063, 2065) were recorded (Fig 3, Table 3). A post-medieval layer (2060) also sealed the earlier archaeological features.

Two small circular pits, 2021 and 2023, cut the fill of boundary ditch 2025. Both contained similar fills and small mixed finds assemblages. 2023 contained a sherd of late 18th/19th century pottery. Pits 2038 and 2041 cut medieval cross-shaped pit 2055. Both had steep sides and flat bases. They both contained two fills which yielded few finds, though the upper fill of 2041 contained some residual Roman pottery. Given that they cut Pit 2044 (Phase 1) this is not unexpected. Two further features, F2063 and F2065, were only exposed within the narrow confines of the foundations of Plot A and consequently neither was excavated further. Layer 2060 sealed all earlier cut features and contained a mixed pottery assemblage dating as late as the late 18th to 19th centuries along with a quantity of animal bone.

ROMAN POTTERY

Andrew Fawcett

INTRODUCTION

The excavation at Friary Field yielded 503 sherds,

weighing 6006g, with a total rim estimated vessel equivalent (r.eve) of 6.08. In addition 64 sherds (844g) with a r.eve of 0.86 were recovered during the evaluation. Generally the pottery is not well preserved. The average sherd weight (not including *amphorae*, *mortaria* and storage fabrics) is 8.36g. The majority of contexts which contained Roman pottery were pits or ditches, only a small number of sherds are from grave fills. A significant percentage of the Roman pottery was residual within medieval contexts, indeed, the largest quantity of Roman pottery was from medieval cross-shaped pit 2028.

METHODOLOGY

All of the pottery has been examined at x20 magnification. The fabric codes are based on the Bedfordshire Ceramic Type Series and national systems (Tomber and Dore 1998). Form matches are based on a variety of sites: Harrold (Brown 1994), Verulamium (Wilson 1972, 1983 and 1984), Baldock (Rigby 1986) and Chells (Waugh 1999).

Fabric Descriptions

LGF SA (R01B) La Graufesenque samian ware.

Description: Tomber and Dore 1998, 28-29.

Date: AD40 to c AD110/120.

Source: La Graufesenque in southern Gaul.

LMV SA (R01A) Les Martres-de-Veyre samian ware.

Description: Tomber and Dore 1998, 30-31.

Date: AD100 to 120/5.

Source: Les Martres-de-Veyre in central Gaul.

Comments/Form: two forms are noted, the transitional dish Drg18/31 and a possible Drg?37 bowl: r.eve 0.05.

LEZ SA 2 (R01A) Lezoux samian ware (category 2).

Description: Tomber and Dore 1998, 32-33.

Date: c AD120 to later 2nd C AD.

Source: Lezoux in central Gaul.

Comments/Form: this is the most common samian fabric. The form range is limited to two bowls (Drg37 and 38) and three dishes (two Drg18/31's and one 31): r.eve 0.23.

CHF SA (R01C) Chemery-Faulquemont samian ware.

Description: Tomber and Dore 1998, 36.

Date: c AD120 to mid 2nd C AD.

Source: eastern Gaul.

Comments/Form: a single sherd weighing just 1g represents this fabric.

RHZ SA (R01C) Rheinzabern samian ware.

Description: Tomber and Dore 1998, 39.

Date: AD138 to mid 3rd C AD.

Source: eastern Gaul.

Comments/Form: one unidentifiable form is present: r.eve 0.01.

TRI SA (R01C) Trier samian ware.

Description: Tomber and Dore 1998, 41.

Date: AD138 to mid 3rd C AD.

Source: eastern Gaul.

Comments/Form: a single unknown form is present: r.eve 0.02.

OXF RS (R11G) Oxford red/brown slipped ware.

Description: Young 1977; Tomber and Dore 1998, 176.

Date: AD240 to 410.

Source: Oxford.

Comments/Form: a dish, bowl and beaker are present: r.eve 0.21.

COL CC (R04E) Colchester colour coats.

Description: Tomber and Dore 1998, 132.

Date: AD120 to later 3rd C AD.

Source: Colchester.

Comments/Form: just two body sherds represent this fabric.

LVN CC (R12B) Lower Nene Valley colour coats.

Description: Perrin 1999; Tomber and Dore 1998, 117-119.

Date: AD150 to 410.

Source: Lower Nene Valley.

Comments/Form: a miniature ?bottle is from 2026 (Fig 7 No. 1).

UNS CC (R38) Unsourced colour coats.

Description: Bedford fabric archive.

Date: throughout the Roman period.

Source: local and regional.

Comments/Form: a single body sherd accounts for this fabric.

ROB MD (R02) Romano-British mica dusted ware.

Description: Bedford fabric archive.

Date: c Late 1st to c mid 2nd C AD.

Source: local or regional.

Comments/Form: just one body sherd is present.

OXF WH (R11E) Oxford white ware.

Description: Young 1977; Tyers 1996, 129-130.

Date: AD100 to 410.

Source: Oxford.

Comments/Form: four different *mortaria* are present, mostly too small for other than general identification: r.eve 0.33.

VER WH (R03A) Verulamium region white ware.

Description: Davies *et al* 1994, 41-59; Tomber and Dore 1998, 154.

Date: in Bedford mid/late 1st to mid/late 2nd C AD.

Source: kilns around north London and the Verulamium area.

Comments/Form: two reed rim bowls, a *mortaria* and two beaded jars are present: r.eve 0.66.

UNS WH (R03B, 3C) Unsourced white wares.

Description: Bedford fabric archive.

Date: mid 1st to 2nd C AD.

Source: local and regional.

Comments/Form: only body sherds comprise this fabric.

UNS BU (R10A) Unsourced buff wares.

Description: Going 1987, 7; Bedford fabric archive.

Date: mid 1st to 2nd C AD.

Source: local.

Comments/Form: a single dish form is present: r.eve 0.04.

HAD WS (-) Hadham white slipped ware.

Description: Fawcett forthcoming b.

Date: late 1st to 2nd C AD.

Source: the Hadhams, east Hertfordshire.

Comments: just one body sherd is present.

UNS WS (R06H) Unsourced white slipped grey ware.

Description: Bedford fabric archive.

Date: late 1st to late 2nd C AD.

Source: local, probably copying Highgate Wood style.

Comments/Form: two dish fragments and a poppy-head beaker account for this fabric: r.eve 0.29.

UNS FO (R05B) Unsourced fine oxidised ware.

Description: Bedford fabric archive.

Date: throughout the Roman period.

Source: local and regional.

Comments: one body sherd is present.

UNS OX (R05A, 5C) Unsourced oxidised ware.

Description: Bedford fabric archive.

Date: throughout the Roman period.

Source: local and regional.

Comments/Form: only one of the three jars is large enough for matching and this is a ledge rim type copying the Harrold style: r.eve 0.22.

BSW (R07B, 7E) Black surfaced Romanising ware.

Description: Fawcett forthcoming a; Bedford fabric archive.

Date: most common up to the 2nd C AD.

Source: mostly local.

Comments/Form: this fabric is the most common and is dominated by plain dish forms. Although mostly of the standard type an unusual form is noted from 2070 (Fig.7, No 8). The most striking beaker form is a globular type (Fig 7 No. 6). The single flagon present is in BSW. Virtually all of the jars are too small for matching: r.eve 1.22.

DOR BB 1 (R07A) Dorset black burnished ware (category 1).

Description: Tomber and Dore 1998, 127.

Date: in Bedford from c AD120 until AD410.

Source: Wareham/Poole.

Comments/Form: the single early dish form is in the mixed 2031 context, only seven sherds of BB1 occur on the site: r.eve 0.03.

UNS BB (R07C) Unsourced black burnished ware.

Description: Bedford fabric archive.

Date: as BB1.

Source: local copy of BB1.

Comments/Form: of the three dishes one has an incipient flange, noted in 2062, a mixed context. One flat rimmed bowl occurs in another mixed fill (2029): r.eve 0.28.

GRF (R06C) Unsourced fine grey ware.

Description: Bedford fabric archive.
 Date: throughout the Roman period.
 Source: local and regional.
 Comments/Form: only 20 sherds make up this fabric and most forms (two dishes and a beaker) are too small for an accurate form match: r.eve 0.08.

GRS (R06B, 5D, 5E, 5F) Unsourced grey wares.
 Description: Bedford fabric archive.
 Date: throughout the Roman period.
 Source: local and regional.
 Comments/Form: the second largest fabric group, however only one dish, three jar types and a beaker (copying the folded style) are recorded: r.eve 0.38.

HAD RE 1 (R22B) Hadham reduced ware (category 1).
 Description: Fawcett forthcoming a and b.
 Date: the entire Roman period.
 Source: the Hadhams, east Hertfordshire.
 Comments/Form: just five non-diagnostic sherds account for this fabric.

HW RE C (-) Highgate Wood reduced ware (category C).
 Description: Davies *et al* 1994, 82-88; Tomber and Dore 1998, 136.
 Date: c AD65 to c AD180.
 Source: Highgate Wood, north London.
 Comments/Form: a single body sherd, probably from a poppy-head beaker, is present.

VER RE (-) Verulamium region reduced ware.
 Description: as VER WH (*above*).
 Date: c AD55 to late 2nd century AD.
 Source: as VER WH (*above*).
 Comments/Form: one body sherd is present.

HAR SH (R13) Harrold shell tempered ware.
 Description: Brown 1994; Tomber and Dore 1998, 115.
 Date: throughout the Roman period.
 Source: Harrold in Bedfordshire, however a number of other sources are likely in adjoining regions.
 Comments/Form: this is the third largest category. The form assemblage, except one late bowl type, consists solely of jars, by far the most common being the ledge rim type. r.eve 1.38

PNK GT (R09A) Pink grog tempered ware.
 Description: Marney 1989, 174; Tomber and Dore 1998, 210.
 Date: c AD160 to 410.
 Source: local.
 Comments/Form: only six non-diagnostic sherds are present

SOB GT (F06B, 6C) Southern British grog tempered ware.
 Description: Thompson 1982; Tomber and Dore 1998, 115.
 Date: c 20BC to at least AD70.
 Source: local.
 Comments/Form: all of the diagnostic sherds belong to storage jars dated to around the middle of the 2nd C AD: r.eve 0.41.

UNS GS (F05) Unsourced grog and shell tempered ware.
 Description: Bedford fabric archive.
 Date: late Iron-Age to c AD70.
 Source: local.
 Comments/Form: only four non-diagnostic sherds are present.

UNS QF (F01C) Unsourced quartz and flint tempered ware.

Description: Bedford fabric archive.
 Date: Iron-Age.
 Source: local.
 Comments/Form: a single sherd from the evaluation is present.

BAT AM (R19A) Baetican amphorae fabric.
 Description: Tyers 1996, 87-88; Tomber and Dore 1998, 84.
 Date: 1st C AD to AD260.
 Source: Guadalquivir Valley, Spain.
 Comments/Form: the three sherds representing this fabric are from medieval cross shaped pit 2028 (2029).

DATING EVIDENCE

The earliest activity is represented by the assemblages from pits 2014 and 2044. However, the dating of mid 1st to early 2nd centuries AD is tentative because it is based on the presence of early grog-tempered fabrics occurring with genuine Roman wares. Much of the pottery is poorly preserved and the sherds are non-diagnostic.

A more securely dated assemblage, early – mid 2nd C, with an average sherd weight of 13.5 g, was recovered from pit 2052. The continental finewares comprise just two sherds of samian from Lezoux, central Gaul. Two forms are represented, a transitional dish Drg 18/31 and a bowl Drg 38. There are no *amphorae* or Romano-British fineware fabrics. The coarseware component is very localised. The furthest travelled are Verulamium white wares from Hertfordshire, represented by a single *mortaria* and a reed rim bowl (Fig 7 No.5). A number of shell tempered sherds from Harrold were recorded, including an early jar type (Fig 7 No.7). The remainder of this assemblage is unsourced, and consists of two main fabrics: black-surfaced and sandy grey wares. Three forms are noted in the black-surfaced category, including a globular beaker (Fig 7 No.6).

Mid to later 2nd century pottery comes from the upper fill of the cemetery boundary ditch (2025). However, it is in variable condition with an average sherd weight of just under 7 g. Lezoux is the only samian product and accounts for only 1% by weight with no diagnostic sherds. The only Romano-British finewares represented are Colchester colour coated and an unsourced colour coat, both occurring as single non-diagnostic sherds. An almost complete Nene Valley miniature (Fig 7 No.1) may be intrusive, or else the 2nd century pottery is residual. The form of the miniature has no direct parallel but it is likely to be of late 3rd to 4th century AD date. There is only slight diversification in the sourced coarsewares. Verulamium is still represented but Harrold makes up some 25% of the coarseware component. The form range is restricted to early everted rim jar types 70 and 79 (Brown 1994) and two examples of the

developed ledge rim jar. A small number of Oxford white ware *mortaria* sherds and a single beaker sherd from Highgate Wood are also noted. The unsourced coarsewares are slightly more varied, with the introduction of white slipped wares, a local copy of BB1 and other white ware types. Overall, black-surfaced and greywares dominate the unsourced material (12% and 13% respectively). The form range is largely restricted to plain dishes, except for a one basic globular beaker and one poppy-head type.

The pottery from the lower fill (2027) of boundary ditch 2025, and Pits 2048 and 2050 are less securely dateable and have been assigned a general 2nd-century date. The same general fabric trends as in the assemblages described above are evident. However, single sherds of Trier samian, Hadham reduced ware and Verulamian reduced ware are also present. The form range is also similar, with basic dish and jar types dominating. The only other vessel type is represented by a single Oxford *mortaria* sherd.

Evidence for late Roman activity is sparse. Where possible 3rd or 4th century dates occur they are at the upper end of very long date ranges associated with long-lived coarsewares. Some later Roman ceramics are noted in medieval contexts. Finewares consist mostly of Oxford red/brown slipped ware. There are few late coarseware forms: a Harrold 255 bowl (Brown 1994) from pit 2041; a BB1 incipient flanged dish copy from ditch 2061; an M18 Oxford white ware *mortaria* from cross-shaped pit 2028; and a late Harrold storage jar (Brown 1994, No 238) from the post-medieval overburden.

Only a single grave fill (Grave 2057 L2059) contained pottery that may be contemporary with the cemetery. This comprised 12 very fragmentary, conjoining sherds of Oxford red/brown slipped ware. They derive from a beaker in the C22-26 range (Young, 1977). Almost all of the neck and all of the rim and base are missing, though it may still be assigned a date range of AD 270-400. Based on the analysis of this ware's distribution (Tyers 1996, 178) its arrival in Dunstable is likely to be in the 4th century. It is notable that the dating of this vessel and the Nene Valley miniature from upper fill of ditch 2025 (Fig 7 No.1) (above) accords well with the comb

recovered from Grave 2006 (Small Finds Report below) and the glass bowl from Grave 2085 (Glass Report below).

Cross-shaped pit 2028, though medieval, yielded some noteworthy residual Roman pottery. This includes a Verulamian jar (Fig 7 No.2), a blackware dish (Fig 7 No.3) and an early Harrold jar type (Fig 7 No.4). A single Hadham storage jar body-herd is present, not previously recorded this far from the kilns by the author.

DISCUSSION

A small number of features contain uncontaminated Roman assemblages, and these are quite small. Nonetheless the ceramics recovered are entirely consistent in form and date with those recorded from previous excavations in the area (Matthews *et al* 1981, 49-59). The majority of the pottery is 2nd century; 3rd and 4th century pottery is sparse except for a few long lived fabrics and forms.

The low percentage of finewares may be an indicator of low status, and similarly only three *amphorae* sherds are present. Lezoux is the most common samian fabric (average overall sherd weight of 7.6 g). The average weight of the remaining samian fabrics is a only 3g, which typifies the condition of most of the pottery. The form types are also fairly limited. Jars and plain rimmed dishes dominate. The remainder of the diagnostic assemblage is divided between reed rim bowls, *mortaria*, a limited number of beakers and one a flagon.

The coarseware fabric range is correspondingly restricted. The majority were likely to have been locally produced or from the region. It is probable that some of the pottery originated from the nearby kilns excavated by the Manshead Archaeological Society (Matthews *et al* 1981, 49). The coarsewares which can be sourced are limited to sherds from Verulamium, a few from Hadham, Hertfordshire, a few BB1 from Dorset, white ware from Oxford and a single example from Highgate Wood. The principal sourced coarseware is the Bedfordshire 'Harrold' ware (some 42km away). However, even the percentages of this fabric are not substantial (15% by weight in comparison to 10% from Verulamium).

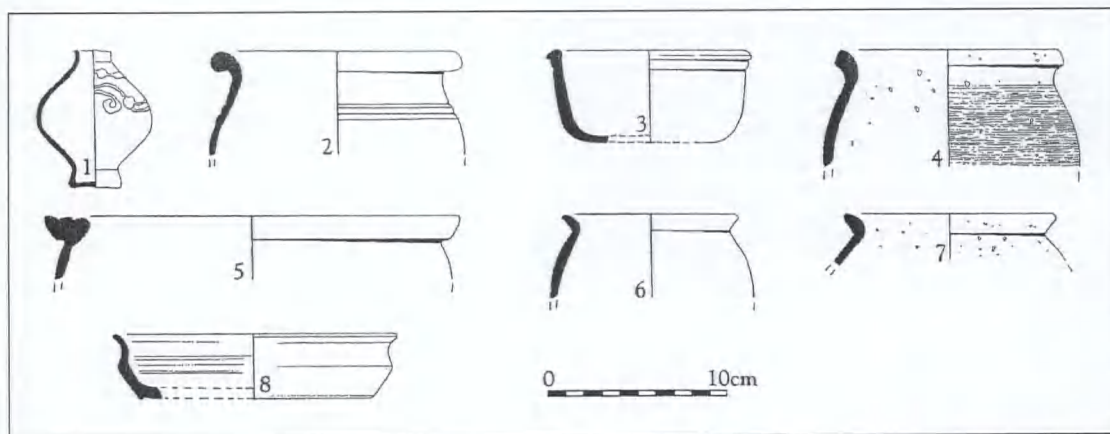


Figure 7 Roman pottery

ILLUSTRATED POTTERY

- 1) 2026 Miniature from the Nene Valley with no direct parallel. Probably dated between the c late 3rd and 4th C AD. Displays white barbotine decoration on a dark grey colour coat.
- 2) 2029 Verulamium region white ware jar. The sherd is buff coloured and displays some sooting. Its nearest parallel from Verulamium, 2248, dated AD120 to 145: r.eve 0.37.
- 3) 2029 Dish in a Romanising fabric with a cordon and groove just below the rim. The surface is patchy dark grey to black with brown margins and grey core. The nearest match is 2549 from Verulamium, dated AD140-155: r.eve 0.15.
- 4) 2029 This Harrold jar type is dated from the second half of the 2nd C AD to at least the early 3rd C. The inner surface is buff, the core orange with a reduced outer surface. Brown 79 is the nearest match: r.eve 0.14.
- 5) 2054 A Verulamium white ware reed rim bowl, similar to 669 from Verulamium, dated AD130 to 170. The vessel is peach to buff on the surfaces with an orange core: r.eve 0.15.
- 6) 2054 In a Romanising fabric, the beaker's nearest comparison is Verulamium, 2078. The fabric is fairly sandy with a burnished patchy black outer surface dated from around AD130 to 150: r.eve 0.15.
- 7) 2054 Another Harrold style shell tempered jar. However, its nearest equal is at Verulamium, 2182. This is dated AD138 to 192. The core is dark grey with light brown outer and inner surfaces: r.eve 0.14.
- 8) 2070 This is a fairly unusual form in a Romanising fabric. Although is fairly coarse the outer surface is highly burnished. There is no direct match for this dish, however its style may indicate a date range from the mid 1st to early 2nd C AD.

POST-ROMAN POTTERY

Berni Sudds

The small medieval and later assemblage from the investigations at Friary Field amounts to 60 sherds, weighing 475g. The Estimated Vessel Equivalent (eve) by rim sherd measurement (percentage present) is 0.54.

The pottery was identified following a visit to the Bedfordshire Ceramic Type Series (CTS) and is listed below in date order by fabric code and common name (Table 4). All ware types and fabric sub-divisions are listed and described in the archive version of this report with the exception of a couple of unsourced coarseware and glazed ware fabrics that are included below. The assemblage was recorded and analysed to the minimum standards set out by the Medieval Pottery Research Group (Slowikowski *et al*, 2001). A full quantification of the assemblage by feature, context and fabric is included in a Ceramic Catalogue, which, with the Fabric Description Records forms part of the site archive.

ADDITIONAL FABRIC DESCRIPTIONS

Medieval

Parallels for the following fabrics were not found within the Bedfordshire Ceramic Type Series. All are unsourced and can only be broadly dated.

Fabric C: Non-specific medieval: Fine sandy fabric with mid-grey core and margins and buff surfaces. Abundant well-sorted fine to medium well-rounded to sub-angular clear, white and iron stained quartz (up to 0.5mm). Occasional fine to medium, rounded to angular calcareous inclusions and rare very fine to medium, rounded to angular ferrous oxide.

Fabric C: Unsourced fine sandy glazed ware: Fine sandy fabric with a light buff core, light grey-buff to mid orange margins and light orange surfaces. Abundant fine angular to rounded and occasional coarse sub-rounded to rounded white and clear quartz. Occasional fine to coarse, angular to rounded red and brown ferrous oxide. Rare fine to coarse, angular to well-rounded calcareous inclusions and medium to very coarse dark grey organic inclusions (the latter often burnt out).

Ware	CTS code	Date range	No	Wg. (g)	% Wg.	REVE
Harrold/ Olney Hyde 'A' ware / Medieval Shelly (source unknown)	B05/B07	c. AD 1100-1250 (?1300)	4	30	6%	-
Coarse Sandy ware	C59A	c. AD 1000-1200	37	269	57%	0.23
Sandy ware	C59B	c. AD 1000-1200	5	24	5%	0.06
London-type ware	C57	c. AD 1125/50-1350	1	5	1%	-
Non-specific medieval	C	Medieval	1	5	1%	-
Unsources glazed wares	C	c. AD 1100-1400/1500	3	17	4%	0.10
Hertfordshire-type Greyware (South Bedfordshire tradition)	C60	c. AD 1150-1325/50	1	10	2%	-
Gritty Red ware	C65	c. AD 1200-1400	1	50	10%	-
Non-specific late medieval	E	c. AD 1400-1600	1	3	1%	-
Glazed red earthenware (fine)	P01	c. AD 1500-1900	2	22	5%	-
Unglazed red earthenware	P	c. AD 1700-1900 (+)	2	37	8%	0.15
Refined white earthenware	P55	c. AD 1750-1900 (+)	1	1	Present	-
Transfer-printed ware	P45	c. AD 1780-1900 (+)	1	2	Present	-
Total			60	475g		0.54

Table 4 Ware types. CTS No. = Bedfordshire Ceramic Type Series fabric code.

Fabric C: *Unsources sandy glazed ware*: Hard sandy fabric with a fairly harsh texture. Light grey to buff core, light grey, buff to dark grey-buff margins and light grey to buff surfaces. Abundant well sorted fine to medium, angular to rounded clear, white and iron-stained quartz. Occasional to moderate poorly sorted angular to well-rounded red to dark brown ferrous oxide.

DISCUSSION

The assemblage is dominated by local coarseware fabrics primarily of early medieval date although a small quantity of medieval sandy glazed wares and some post-medieval wares have also been recorded. With an average sherd weight of 8g the Friary Field material is in fair condition but many of the context assemblages are small, secondary and relatively mixed in terms of date. Post-Roman pottery was recovered from eight features and layers but the majority can only be tentatively dated.

The groups from cross-shaped pit 2030 and the 'buttress trench' 2061 are dominated by early medieval sandy products (C, C59A, C59B) dating from the 11th to 12th centuries. These wares occur in isolation in ditch 2061 but in association with Harrold/ Olney Hyde 'A' /Medieval Shelly products and sandy glazed jug sherds within pit 2030 dating from the 12th century. The pottery from parallel ditches 2009 and 2016 contained a range of broadly dated material including early medieval sandy wares (C59A), glazed products (C, C65) and a single Hertfordshire-type glazed ware. The presence of a late medieval oxidised product, however, may suggest a group date as late as late as the 15th to 16th century.

Cross-shaped pit 2030 and the parallel ditches 2009 and 2016 represent further examples features already investigated at Friary Field by the Manshead Archaeological Society (Green and Horne 1991). Although the function and date of these features remain in question it has been suggested that they may represent the remnants of a planned horticultural garden associated with the Friary (*ibid*, 4). The presence of sandy greywares from Flitwick suggests a date for these features from the 15th century although a date into the early 16th century, right up to the dissolution is also thought possible (*ibid*, 30). Unfortunately, the assemblages from both investigations are small, mixed and predominantly early but the late medieval oxidised sherd from ditch 2016 would tentatively verify a 15th or 16th century date. The early material is thought to have been derived from soil stripped from the surrounding fields used to fill the pits (*ibid*, 30). If so, much of the early medieval material is likely to be secondary.

An indication of a post-medieval presence on site is provided by a small group of sherds from pit 2023 and general layer 2060. A substantial quantity of Roman pottery was recovered from layer 2060, dating predominantly to the 2nd century, but the presence of localised red earthenware products (P01) along with transfer-printed ware (P45) may be suggestive of a late 18th to 19th century date. Pit 2023 produced a single non-diagnostic refined white earthenware dating from the mid 18th to 19th century.

Given the size of the Friary Field assemblage relative fabric quantities may not necessarily be repre-

sentative but the range and combination of material demonstrated is fairly typical of the region. It compares well with earlier excavations on this site and to others of a similar date in the vicinity (Slowikowski 1995, 156; Green and Horne 1991; Slowikowski, forthcoming; Brine 1988). As at Chalgrave and Grove Priory the early medieval groups are dominated by localised sandy wares of the south Bedfordshire C59 tradition (Brine 1988, 43; Slowikowski, *pers. comm.*) A single sherd of Hertfordshire-type greyware was also identified. Although similar to products of the South Hertfordshire greyware industry this sherd is thought to be of a more localised south Bedfordshire tradition. A similar mid 12th to early to mid 14th century date range is still tentatively suggested (Slowikowski, *pers. comm.*). The small group of shelly wares recovered are all non-diagnostic but may potentially be sourced to the Harrold or Olney Hyde traditions.

Similarly to Chalgrave, glazed wares also represent a small element of the Friary Field assemblage although some remain unsourced (Brine 1988). A single Gritty Red ware jug handle was recovered from ditch 2009. This fabric has been identified at Grove Priory, Stratton and other sites in south Bedfordshire in small quantity but remains unsourced (Slowikowski, *pers. comm.*). A single London-type sherd, despite being intrusive in grave 2003, may suggest the area, if not the site itself, was involved in some form of regional trade during the medieval period. London-type ware is thought to have been in circulation in London from late 11th century but is not likely to have reached Dunstable much before the early to mid 12th century (Vince and Jenner 1991, 83-85).

Few forms were identified and are represented by early medieval sandy jar sherds and glazed jug forms. Jar forms with everted, squared rims occur in fabric C59A and can be paralleled both within previously excavated groups from the site and at Grove Priory (Green and Horne 1991, Fig 23 - Nos 71, 80, 82, 88; Slowikowski, forthcoming, Nos 103 and 105). A single everted, thumb decorated C59B jar rim, similar to a C59B vessel found at Chalgrave, was also identified (Brine 1988, Fig 8, No.19). Decoration on coarseware forms is limited to a single C59A body sherd with an applied thumbed strip and a rouletted B05/ B07 sherd. The glazed sherds derive from jug forms and are decorated with applied clay strips, painted slip decoration and green glaze. A single unsourced fine sandy glazed upright, internally bevelled jug rim represents the

only diagnostic sherd. Evidence of sooting on some of the sandy coarsewares may be suggestive of a domestic function but as much of the pottery is evidently residual little can be concluded with regard to on-site activity.

SMALL FINDS

Nina Crummy

COMB

Fig 8.1. SF 1. Grave 2006 (2008). Small double-sided composite comb made of red deer antler, held together by five iron rivets. Length 89 mm, width c 52 mm. One of the connecting plates, presumably that placed on the coffin floor, is much more decayed than the other, and the comb is now also slightly concave longitudinally, with the decayed connecting-plate on the underside. The connecting plates are plain, with a chamfer on all four sides, but are scarred with tooth-cutting marks on the long sides. As is usual, the teeth are wider on one side than the other. The end-plates are also quite decayed, but retain sufficient form to show that three zones were defined, with each side sweeping outwards with a concave profile and the centre worked into a series of low projections, which appear to conform to the standard design of two low triangular or rounded humps flanking a long rounded centre. At the more decayed end a small perforation is placed just below the junction of the central zone and one of the sides.

Three stages can be defined in the decorative working of comb end-plates, Stage 1: simple; Stage 2: developed/potentially zoomorphic; and Stage 3: fully zoomorphic, with only three animals represented in this final stage, horse, owl, or dolphin (Crummy 2001, Fig 4). The Dunstable comb belongs to Stage 2. It has been argued that these stages are evidence that a comb-maker prepared a number of combs for sale at either Stage 1 or Stage 2, then at point of sale might personalise them into full zoomorphs for extra cost (Crummy 2001, 103). The connecting-plates might also be further embellished at this point; though there is evidence from an unfinished comb from Richborough that they were decorated before the sections of the comb were assembled (Henderson 1949, plate 56).

The small perforation at one end of the Dunstable comb may have served a functional purpose, perhaps for attaching a thong which could be used to hang the comb when not in use. Other Stage 2 combs have similar holes (eg Greep 1993, Fig 78, 1), while most Stage 3 combs include round holes or more complex cut-outs in the overall design (Crummy 2001, Fig 3).

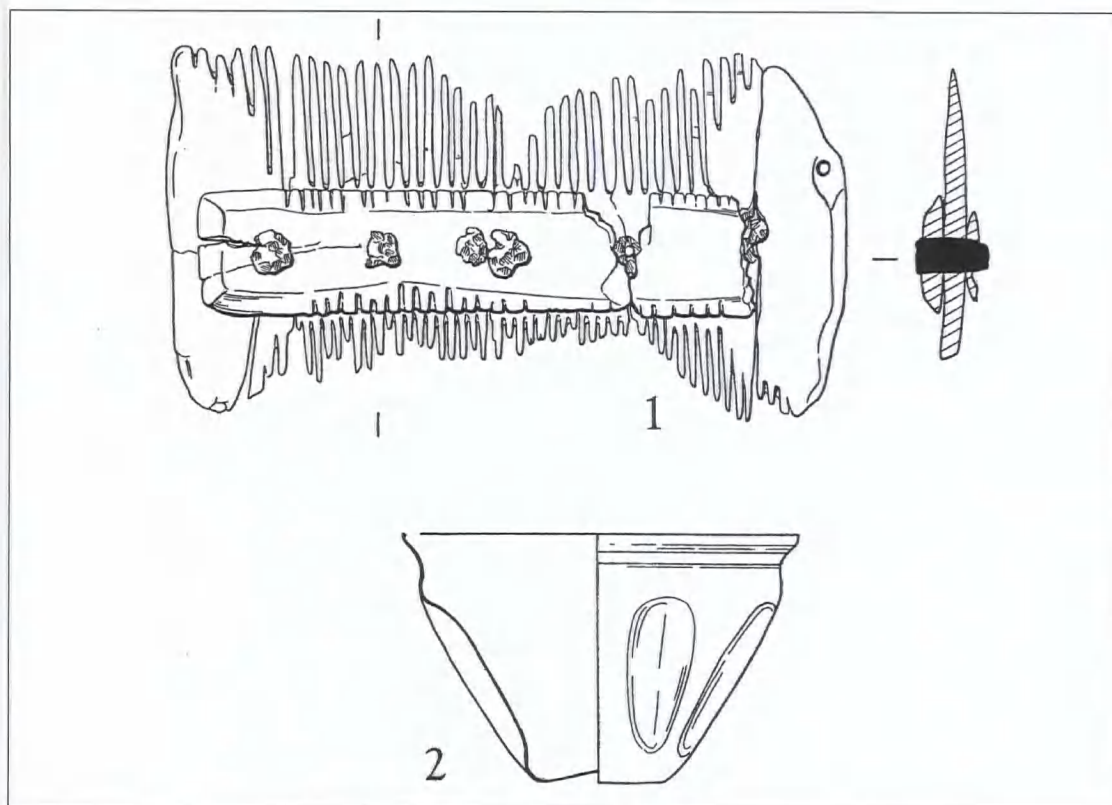


Figure 8 Small finds:

Double-sided composite comb from Grave 2006 (SF1) (1:1)

Glass conical bowl from Grave 2085 (SF2) (1:2)

Composite double-sided antler combs appear in Britain towards the end of the 4th century, and those from occupation sites rather than graves suggest an earliest date of *c.* AD 360. A fragment from Colchester came from the cellar of Building 154 in Insula 19, backfilled in the last half of the 4th century and containing a probable dispersed hoard with a closing date of *c.* 350-60 (Crummy, P 1981, Fig 8, 2; Crummy, P 1992, 333). Four fragments from London came from the deliberate infilling, *c.* 370, of a drain from a small bath in Building 6 at Pudding Lane (Milne 1985, 141, Fig 81, d-e). In addition a remarkable collection from York was found in rubbish deposits in a disused stone building on the Wellington Row site, dated to later than *c.* 380 (Ottaway 1993, 113-14, Fig 71).

Combs of this type have been found as grave goods in the late Roman cemeteries of Winchester, (Galloway 1979; Crummy *et al.* forthcoming), Poundbury, Dorset (Greep 1993), Colchester (Crummy 1983; Crummy *et al.* 1993), Cirencester (McWhirr *et al.* 1982, Fig 80,

175), and Chichester (Down and Magilton 1993, Fig 28.6, 2). Though generally in adult female graves they can occur in male graves: e.g. Grave 413 at Lankhills, Winchester (Galloway 1979, Fig 31, 521) and Grave 258 at Butt Road, Colchester (Crummy *et al.* 1993, Table 2.58), and also in children's burials: e.g. Graves 333 and 381 at Lankhills (Galloway 1979, Fig 31, 316, 479) and Grave 519 at Colchester (Crummy *et al.* 1993, Table 2.58).

BULK IRONWORK

[123] (121). Trench 3 (evaluation). Ditch fill. Triangular fragment of thin sheet, slightly crumpled. Probably from a decorative strap fitting, though no perforations for attachment are present. Maximum dimensions 33 mm long by 12 mm wide.

Grave 2003 (2005). Intrusive modern machine-made nail.

Grave 2006 (2008). Iron nail of Manning (1985), Type 1b, the tip of the shank missing and the more or less flat round head damaged. Length 43 mm.

Grave 2011 (2013). Tapering fragment, probably the tip of a nail shank. Length 17 mm.

Grave 2086 (2088). Three iron nails of Manning's Type 1b, one nail shank, and an unusual ?nail.:

Type 1b, with large rectangular head, length 38 mm (incomplete).

Type 1b, with sub-rectangular head, clenched to give a maximum wood thickness of 20 mm, complete, length (straight) about 70 mm.

Type 1b, with damaged square head, complete, length 80 mm
Nail shank, length 50 mm

Nail-like fitting with square section shank and flat spatulate head, length 52 mm; the head appears slightly rolled at the end, and may have been hammered over the corner of a plank.

STONE

Cross-shaped pit 2028 (2029). Small brick-shaped building block of iron-rich sandstone with traces of mortar on some of the faces. Damaged at one end. Length 120 mm, section 46 mm by 42 mm.

Grave 2003 (2005). Grave 1. Waterworn pebble with traces of mortar, used as building stone. Maximum dimensions 83 mm by 55 by 35 mm.

GLASS

Hilary Cool

The vessel found in Grave 2085 is a small example of an indented truncated conical bowl (Isings Form 117) (Fig 8.2). Normally in Britain these have been found with larger rim diameters, and Price and Cottam (1998, 128) note a range of 110-140 mm for them. This example has proportions more reminiscent of a cup. Occasionally, conical beakers with similar indentations are found (e.g. Vanpeene 1993, 50 no. 081, plate XVIII), examples of which have only rarely been found on Romano-British sites such as at The Brooks, Winchester (unpublished). It seems clear that the bowl form was the commonest but various other proportions, of which this is one, were possible but less common. Such bowls, and the allied forms, appear to have come into use in the middle of the 4th century, were common in the second half of it (Cool 1995, 13), and clearly continued into the 5th century (Harry and Morris 1997, 74). To my knowledge, this is the first time that one has been found as a grave good within a Romano-British cemetery, though several have been noted as survivals in Anglo-Saxon cemeteries (Harden 1956, 158 Group A.d.i.).

Though the cup now lacks some fragments, it is probable that it was placed in the grave entire. This cemetery has now produced two graves with glass vessels. During the earlier excavations a tall beaker with trailed decoration was found with an adult

female (Matthews 1981, 45 no 54, Fig 35). This does not appear to have been the subject of specialist examination but from the drawing seems most likely to be another late 4th to 5th century variety (Isings Form 109c; Pirling 1974, 101 form 193). This too is a rare find in Roman Britain. The discovery of these two vessels in the cemetery is of some interest as glass vessels were used as grave goods occasionally rather than commonly in the 4th century Roman Britain (Philpott 1991, 118). Whether they should be seen generally as an indicator of status is open to question as glass drinking vessels were still a common find in late 4th century habitation sites. In the case of the Dunstable vessels, however, it might be possible to suggest that they were marking some form of special status for the individuals buried with them. One of the vessels is definitely unusual within a wider Romano-British *milieu*, and the example found in these excavations also has unusual features. Neither fall centrally within the commonly available range of the later 4th century.

Catalogue

Grave 2085 (2083) SF2

Cup in numerous joining fragments, small parts of rim and body missing. Pale greenish colourless; many small bubbles, thick black flaking iridescence. Curved rim, edge cracked off but not ground; upper body slightly convex-curved, then sloping into shallow concave base. Eleven narrow, deep indentations around body; abraded band below rim edge and at junction with rim and side. Rim diameter 103 mm, base diameter 37 mm, height 67 mm, wall thickness 1 mm.

BUILDING MATERIAL

Andrew Fawcett

Just over 7 kg of building material was recovered. Two contexts contained some 71% of this material: build-up deposit (101) recorded during the evaluation and general layer (2060). The remaining contexts contained only one or two fragments of building material.

The condition of the material from layers 101 and 2060 is good. The 'form' range consists entirely of flat tile. The fabric range is similarly limited to almost a single type. This is a highly fired sandy fabric whose main characteristic is the presence of sparse, large, mainly red and white flint. This fabric is post-medieval. Although one or two of the smaller fragments may be medieval, only a single abraded fragment of glazed tile can be firmly dated to this period. This second fabric is hard, sandy and tempered with lime. A small number of flat tile pieces

are of Roman date.

The remaining fragments are sparse and variously abraded. The forms that can be recognised comprise flat tile with occasional examples of brick.

In summary the assemblage does not indicate the presence of a building (especially of Roman or medieval date). The Roman material, for example,

contains no examples of *imbrex*, *tegulae* or box flue tile. Similarly there are no instances of mortar, daub or plaster. An examination of the fabric range indicates that flint is frequent and was used during many periods. Interestingly there are no examples of the shell-tempered tiles that were produced at Harrold in the NW of the county.

Grave	Skeleton	Sex	Age	Stature (m)	Position	Pathology/comments
2003	2004	♀	25-35	1.65 ± 0.04	Supine, extended	Virtually complete. Well preserved. Bilateral cribra orbitalia.
2006	2007	♂	45+	1.61 ± 0.04	Supine, extended	Virtually complete. Well preserved. Intrusive sheep phalanx. Spiral fracture of right tibia and fibula. Osteoarthritis of distal inter-phalangeal joints, dental disease, osteophyte on odontoid peg, transitional vertebra.
2011	2012	♂	45+	1.73 ± 0.04	Supine, extended*	Much post mortem damage, lacking lower thoracic and lumbar vertebrae. Dental disease, ectopic upper left canine, osteoarthritis of cervical spine and acromio-clavicular joints.
2018	2019	♀	45+	1.64 ± 0.04	Supine, extended	Substantially complete. Well preserved. Dental disease, osteoarthritis of acromio-clavicular joints, inter-vertebral disc disease of L5/S1, Schmorl's nodes T9-11, metopic suture.
2032	2033	♂	45+	-	Supine, extended*	Very fragmentary, poor surface condition. Evidence of decapitation cut through C3. Dental disease, osteoarthritis of spine, left temporo-mandibular joint and left acromio-clavicular joint.
2035	2036	♀	25-35	-	- Supine, extended*	Virtually complete. Well preserved. Green staining on left maxilla and zygoma, left mandible and right distal tibia. Evidence of decapitation cut through C3. Dental disease and transitional vertebra.
2057	2058	♀	Adult	-	Supine, extended	Partial skeleton. Intrusive cattle bones. Dental disease, fractures of left clavicle and three right ribs, Paget's disease of left tibia, Schmorl's nodes on T8-12.
2071	2072	♂	17-25	-	Supine, extended	Virtually complete. Well preserved. Intrusive cow bone.
2075	2076	♂	45+	1.75 ± 0.04	Supine, extended	Substantially complete but much post mortem damage. Dental disease, osteoarthritis of cervical spine, right elbow and left acromio-clavicular joint. Disc disease of cervical spine.
2079	2078	♂	Adult	-	Supine, extended	Fragmentary with much post mortem damage. Osteoarthritis of cervical and upper thoracic spine and left acromio-clavicular joints. Disc disease of L5/S1
2082	2081	♂	35-45	1.81 ± 0.04	Supine, extended	Partial with much post mortem damage.
2085	2084	♂	Adult	1.73 ± 0.04	Lying on right side, extended	Partial with much post mortem damage. Osteoarthritis of right acromio-clavicular and distal inter-phalangeal joints, Schmorl's nodes of lower thoracic spine.
2086	2087	♀	45+	1.61 ± 0.04	Supine, extended	Substantially complete. Intrusive cattle bone. Dental disease, fusion of laminae of T4/5.
2089	2090	♂	35-45	1.75 ± 0.04	Supine, extended*	Virtually complete. Well preserved. Intrusive cow bone. Dental disease, Schmorl's nodes on thoracic and lumbar spine. Evidence of decapitation cut on C4.
2092	2093	?	Adult	-	Supine, extended	Fragments of feet only.

Table 5 Catalogue of Human Remains (* = head displaced).

HUMAN REMAINS

Tony Waldron

Fifteen discrete inhumations and a small quantity of disarticulated material were recovered from this site. The skeletons are generally substantial in quantity and the bones were well preserved, although a number had suffered considerable post-mortem damage. One skeleton, 2033 (Grave 2032), was very fragmentary and the surface condition of the bones was extremely poor. It was thought that the body may have been quick-limed (Matthews 1981, 7), and the state of the bones is consistent with this supposition. Each of the skeletons was examined in order to determine the age and sex of the individual and to see whether any pathological changes were present. Since four of the individuals appeared to have been decapitated, particular attention was given to the examination of the cervical vertebrae for signs of damage caused by the decapitation. One of the skeletons, 2036 (Grave 2035), had green staining on the left maxilla, zygoma and mandible and also on the distal right tibia, presumably where some copper-containing objects had been in contact with the bone during burial. Summary details of all the skeletons are given in Table 5.

Age and sex

Age and sex were determined using standard anthropological techniques (Jurmain, 1998). All but one of the skeletons were of mature adults, the last being of an immature male aged between 17 and 25 (Sk 2072), judging from the state of his epiphyseal fusion. There were seven males and seven females, the final skeleton being too fragmentary to sex (Sk 2093). The ages at death are shown – by sex – below where it can be seen that there was a preponderance of deaths in the oldest age group. Although this is what one might expect, the small numbers preclude any firm conclusions from being drawn.

Age	Male	Female	Unknown
15 -	1	-	-
25 -	-	2	-
35 -	1	1	-
45+	3	3	-
Unknown	2	1	1

Table 6 Age and Sex of Skeletons

Height

The height of ten of the skeletons could be estimated using the maximum length of the femur which is

the preferred method since this gives the most consistent results and enables valid comparisons to be made between assemblages from different sites (Waldron, 1998). The results of the estimation are shown below.

Female	Male	Skeleton number
1.59		2036
	1.61	2007
1.61		2087
1.64		2019
1.65		2004
	1.73	2012
	1.73	2084
	1.75	2076
	1.75	2090
	1.81	2081

Table 7 Estimated Height (m) of Skeletons

It is interesting that there is little overlap between the male and female heights, but this is almost certainly an artefact of small numbers. For comparison, the average height of modern British females is 1.61 m and of British males, 1.74 m. On this basis, the individuals from the present site would be indistinguishable in height from their modern counterparts.

Teeth

Fourteen of the skeletons had teeth present, although because of post-mortem damages to the jaws, the number that could be accounted for in each case varied somewhat. Eight of the fourteen had dental disease of some kind, either dental caries, ante-mortem tooth loss, or dental abscesses, or any combination of the three. The findings are summarised in Table 8.

In addition to the dental disease noted above, one skeleton (Sk 2012) had an ectopic upper left canine. The tooth was approximately 45° to its normal orientation and had pushed the upper incisors forward. Both incisor sockets were empty but it appeared that the second incisor was much smaller than normal, its growth having been impeded by the pressure from the aberrant canine.

Pathology

For such a small assemblage there was a good deal of pathology present, no doubt reflecting the relatively old age at death of many of the individuals. The most common condition present was osteoarthritis, with eight individuals affected. As is usually the case, the acromio-clavicular joints were most frequently involved (in six cases). In three

Sex	Number			
	Teeth present	Missing ante-mortem	With caries	Dental abscesses
F	31+1S			
F	26	2	1	
F	22+1U	8	1	1
F	31+1S			
F	9+7S	1		
F	1			
F	17+2S	6	3	2
M	9+1S	21	1	
M	13+4S	15		
M	24+8S			
M	18+8S	6	3	
M	11+6S			
M	8+6S			
M	27+2S	3	1	

Table 8 Dental Disease (S = empty sockets, teeth lost post-mortem. U = unerupted tooth)

cases the facet joints of the spine were affected. There were two cases with OA of the distal interphalangeal joints and single cases in which the elbow and the temporo-mandibular joints were the seat of disease.

There were two individuals with fractured bones. The first (Sk 2007) had a spiral fracture of the right tibia and fibula which had healed well although somewhat out of alignment and with some shortening, suggesting that any treatment that might have been attempted had not been entirely satisfactory. The distal fragment of the tibia was angled forward by about 15° and there was approximately 25 mm of shortening. The limb would have been perfectly serviceable, however, although the individual might have walked with a slight limp. There was no arthritic change in either the ankle or the knee joints suggesting that the mechanics of neither joint had been substantially altered by the fracture.

The second case (Sk 2058) presented with a fractured left clavicle and three fractured right ribs. The clavicle was fractured in its mid-point which is the most common site and may have been sustained either by a fall or by a direct blow. Presuming that the fractures to the clavicle and the ribs occurred at the same time, then a fall is the most likely to have been the cause.

A third case of probable trauma was that in which the proximal and distal phalanges of one finger were fused together at an angle of approximately 40°. This might have been the result of an infection in the inter-phalangeal joint, but it is more likely that the

joint was traumatically dislocated and not reduced. The resultant bleed then probably ossified fusing the phalanges together. It was not possible to say which finger was involved and it is doubtful that the individual suffered much disability as a result.

There were three cases with inter-vertebral disc disease, two affecting the lower cervical spine and one affecting the disc between the fifth lumbar vertebra and the first sacral segment. Inter-vertebral disc disease is the result of degenerative changes in the disc and there is concomitant inflammatory change in the fibres that secure the fibrous part of the disc to the end plate of the vertebrae. It is usually accompanied by marginal osteophyte around the affected vertebrae and is recognised in the skeleton by pitting on the end plates of the vertebrae. In some cases the osteophyte that is formed encroaches onto the inter-vertebral foramen of the cervical vertebrae through which the nerve roots leave the spine to innervate the arm and hand and this can sometimes be observed in the skeleton. It was not noted in either of the cases in this assemblage, however, but it is probable that all three individuals were subject to some pain in either the neck or the back.

The conditions noted above are all commonly observed in skeletal populations, but one individual had a relatively uncommon condition, Paget's disease of the tibia. The distal part of the left tibia was swollen and, as the result of a post-mortem break, the architecture of the bone was seen to be abnormal. In addition the lower part of the shaft of the tibia was slightly bent. Bending or fracturing of bone in

Paget's disease is common because the abnormal bone is weaker than normal, cortical bone. There have not been many reports of Paget's disease in the palaeopathological literature (e.g. Wells and Woodhouse, 1975; Aaron *et al.*, 1992; Spalding *et al.*, 1996) and this had led to the notion that it may be a 'new' disease. My late colleague Juliet Rogers, however, carried out a detailed radiological survey of bones from the site of Barton-on-Humber and found that the prevalence of the disease was approximately equal to that found nowadays although it seemed to have been more frequent in the medieval than the post-medieval period (Rogers, *pers comm.*).

Among the other conditions noted was a single case of bilateral cribra orbitalia (2004) which is still sometimes considered to be an indication of iron deficiency anaemia, but since there is no clinical evidence to support this supposition, there seem no grounds for supporting this view any longer. There was a single case in which the laminae of the fourth and fifth thoracic vertebrae were fused. There was no pathology elsewhere in the skeleton and nothing to suggest what the cause of the fusion might have been.

Three cases were found with Schmorl's nodes in the lower thoracic spine and a fourth in which both the lower thoracic and lumbar vertebrae were involved. These present themselves as indentations in the end plates of the vertebrae and are caused by herniation of the nucleus pulposus of the inter-vertebral disc through the surrounding fibrous part of the disc. The herniated part of the disc causes a pressure defect in the bone, which may take varying shapes. Schmorl's nodes are common and easily recognised in the skeleton. They generally cause no symptoms unless they are placed very anteriorly when some degree of kyphosis may result. This was the case in which the lumbar vertebrae were affected. Both the first and the fourth lumbar vertebrae had anteriorly placed nodes which caused a very slight degree of angulation. This condition is sometimes referred to as Scheuermann's disease and can be a cause of back pain, particularly in adolescents. Whether this individual also had back pain during life is impossible to say with certainty, but given that the angulation of the spine was very slight, it is unlikely.

In a further two cases, transitional vertebrae were noted. So-called transitional vertebrae and fifth lumbar vertebrae in which the transverse process has developed to resemble the lateral mass of the sacrum (they are thus, transitional between a lumbar vertebra and a sacral segment). The prevalence of transitional vertebrae in the normal population is about 6

– 8% so that finding two of only eight extant fifth lumbar vertebrae affected seems to be very unusual (Waldron, 1993). The small sample, however, means that the 95% confidence interval is extremely wide (7–59%) and this result is most likely to be another artefact of small numbers.

Decapitations

Four of the skeletons (2012, 2033, 2036, 2090) were found with the skull detached from the body and in each of these the cervical vertebrae were examined particularly carefully to note any evidence of decapitation. In fact, strong evidence was only found in one case (2033) a male of at least 45 years of age at the time of his sudden death. In this individual a slice had been taken on the left hand side of the body the third cervical vertebra. The cut had extended upwards through the left hand facet joints of the second and third cervical vertebrae and the lower part of the spinous process of the axis.

In two other cases there was much less impressive evidence. The inferior surface of the third cervical vertebra of (2036), a woman of between 25 and 35 years of age, had a small cut on the inferior surface of the third cervical vertebra, on the right hand side. There were no other cut marks and this might easily have passed for post-mortem damage if the history of this individual had not been known. The third cervical vertebra had not survived in the case of (2090), a male of 35–45 years of age at death, perhaps because it had been badly damaged during the execution. There was a small cut on the left hand side of the superior surface of the fourth cervical vertebra, which, again, might have passed for post-mortem damage without foreknowledge of the mode of death. In the final case, (2012) a male of at least 45 years of age at death, all the cervical vertebrae were extant and there was no evidence at all of any damage that might have resulted from execution. Presumably the cut must have passed through an inter-vertebral disc without damaging the bone at all, an extremely unlikely event but the only one that accords with the evidence.

ANIMAL BONE

Ian Baxter

Introduction

A total of 10 kg of animal bone fragments were recovered, amounting to 90 'countable' fragments identifiable to species or a broader taxonomic category (Table 9). This is a multi-period site with over half of the identified fragments recovered from

Taxon	Romano-British	Medieval	Post-Medieval	Total
Cattle (<i>Bos f. domestic</i>)	26	2	13	41
Sheep/Goat (<i>Ovis/Capra f. domestic</i>)	4	8	4	16
Sheep (<i>Ovis f. domestic</i>)	(-)	(-)	(2)	(2)
Pig (<i>Sus f. domestic</i>)	1	1	-	2
Horse (<i>Equus caballus</i>)	21	1	6	28
Dog (<i>Canis familiaris</i>)	1	1	1	3
Cat (<i>Felis catus</i>)	-	-	+	+
Total	53	13	24	90

Table 9 Number of hand-collected mammal bones (NISP). "Sheep/Goat" also includes the specimens identified to species. Numbers in parentheses are not included in the total of the period. "+" means that the taxon is present but no specimens could be "counted" (see text).

deposits dating to the Romano-British period. As a consequence, the assemblage from any particular period is tiny and very little reliable information can be obtained regarding animal husbandry or kill-off patterns.

The animal bones were, in general, well preserved but affected by leaching from the alkaline soil. Canid gnawing was limited but many bones of the larger domestic species (principally cattle) had been extensively butchered, rendering taxonomic identification and/or inclusion amongst the 'countable' fragments difficult or impossible.

Methods

All of the animal bones were hand-collected. Consequently an under-representation of bones from the smaller species is to be expected. The mammal bones were recorded following a modified version of the method described in Davis (1992) and Alberella and Davis (1994). In brief, all teeth (lower and upper) and a restricted suite of parts of the postcranial skeleton was recorded and used in counts. These are: horncores with a complete transverse section, skull (zygomaticus), atlas, axis, scapula (glenoid articulation), distal humerus, distal radius, proximal ulna, carpal 2+3, distal metacarpal, pelvis (ischial part of acetabulum), distal femur, distal tibia, calcaneum (sustenaculum), astragalus (lateral side), centrotarsale, distal metatarsal, proximal parts of the 1st, 2nd and 3rd phalanges. At least 50% of a given part had to be present for it to be counted. The presence of large (cattle/horse size) and medium (sheep/pig size) vertebrae and ribs was recorded for each context, although these were not counted. "Non-countable" elements of particular interest were recorded but not included in the counts.

The separation of sheep and goat was attempted

on the following elements: dP₃, dP₄, humerus, distal metapodials (both fused and unfused), and distal tibia using the criteria described in Boessneck (1969), Kratochvil (1969), and Payne (1969 and 1985). The shape of the enamel folds (Davis 1980; Eisenmann 1980, 1981) was used for identifying equid teeth to species. All equid lower premolars and molars were measured following Payne (1991). These measurements are retained in archive. All measurable equid upper premolars and molars were measured for their crown heights in order to estimate age at death (following Levine 1982), and incisors were aged following Barone (1980). Equid postcrania were identified to species based on criteria described in Baxter (1998). Wear stages were recorded for all P₄s and dP₄s as well as for the lower molars of sheep/goat, both isolated and in mandibles. Tooth wear stages follow Grant (1982).

Measurements follow von den Driesch (1976). Humerus HTC and BT and tibia Bd measurements were taken for all species as suggested by Payne and Bull (1988) for pigs. Cattle metapodia follow Davis (1992). The state of the epiphyseal ends of bones was also recorded and is retained in the archive.

Romano-British

The Romano-British assemblage comprises 59% of "countable" animal bones. The quantities of animal bones recovered are too small to attempt to describe them in any sub-division smaller than the general 'Romano-British'. Only domestic mammals are represented.

Cattle are the main taxon represented during this period, accounting for 49% of the total. A (probable) adult shorthorned cow horncore was found in Pit 2052 (2054). No cattle bones suitable for calculating withers heights were recovered

Butchered cattle-sized long bone, vertebra and rib fragments were widespread in the Romano-British deposits suggesting that complete carcasses were being processed. They include split long bones resulting from the retrieval of bone marrow.

Horse remains are also frequent in the Romano-British deposits, coming a close second to cattle at nearly 40% of countable fragments. Ages at death range between six to over eighteen years with a mean of around nine years based on Barone (1980) and Levine (1982). No suitable equid bones were sufficiently preserved to calculate withers heights, but based on other sites of similar period and the size of the teeth, the majority will have been pony sized animals. The upper canine of a stallion was found in Ditch 2025 (2026). Most of the equid remains are mandibles and teeth.

Uncounted equid postcranial fragments were also frequent in the Romano-British deposits.

One notable pathology was seen amongst the equid remains: a P₄ with a series of five small pits running the height of the posterior lingual surface of the tooth and culminating in a larger irregular pit with adjacent swelling just above the root. The tooth also has a swelling just above the root on the buccal side. The indications suggest a long-standing abscess and subsequent infection, which may have eventually resulted in the death of the animal.

Sheep/goat and pig are relatively infrequent in the Romano-British deposits, accounting for only 9% of domestic species, which suggests that the site is peripheral to the main occupation site (Wilson, 1996).

A small dog mandible was found in Ditch 2025 (2026). From its size this could easily belong to a fox (*Vulpes vulpes*). However, based on the morphology of the P₃ and the length of the M₁ alveolus, the mandible most probably belongs to a small domestic dog.

Medieval

The medieval assemblage is small. Little can be said, except that sheep/goat comprise the most abundant taxon. The wool of sheep is known from contemporary documentary sources to be particularly important during this period. Cattle, horse and pig remains are infrequent and domestic dog is restricted to a single phalanx.

Perinatal and very young calf bones were found in Pit 2028 (2029), suggesting that cattle were being bred and raised in the immediate vicinity. An (uncounted) proximal metacarpus III with fused Mc.V and proximal exostoses stage 2-3 probably came from a draught animal as this condition has only been documented in recent oxen (Bartosiewicz

et al, 1997, 44).

A noteworthy postcrania include three left astragali (which must derive from three separate horses) were found in Pit 2028 (2029).

Post-Medieval

Most of the post-medieval material derives from Layer 2060. While this layer has been dated to the post-medieval period, it contained residual finds. Any conclusions to be drawn from the animal bone assemblage are therefore problematic.

Cattle are the most frequent taxon by number of identifiable fragments (NISP), amounting to 54% of domestic species (Table 9). Two bones were recovered suitable for providing withers height estimates, which range between 117-121 cm based on the multiplication factors of Matolesi (1970). These withers heights are not remarkable for the period and could equally well belong to Romano-British or medieval cattle. A cattle metacarpus from (2060) has the distal epiphysis broadened stage 3 with stage 3 palmar depressions (Bartosiewicz *et al*, 1997), most probably deriving from a draught animal. The uncounted fragments from this context include butchered cattle sized long bone and rib fragments.

The remains of horses and ponies are also very frequent in the deposits of this period, accounting for 25% of fragments. Teeth derive from animals aged between twelve to thirteen years and include bones from animals 142 cm (*c.* 14 hands) and 158 cm (*c.* 16 hands) high at the withers, based on the multiplication factors of Kiesewalter (1888).

Sheep bones include a metacarpal and a calcaneum from (2060) belonging to animals 55cm and 62cm high at the withers based on the multiplication factors of Teichert (1975).

An (uncounted) domestic cat (*Felis catus*) proximal femur was found in (2060).

Discussion

It seems probable, on the basis of the animal bones recovered, that this site was peripheral to the main areas of occupation during both the Romano-British and post-medieval periods. Otherwise a higher frequency of sheep/goat and pig remains might be expected (Wilson, 1996). Horse remains are prominent in both periods, perhaps suggesting proximity to lines of communication (*i.e.* roads) existing between this and other centres of occupation.

DISCUSSION

Five pits pre-dating the cemetery were encountered (Phase 1). The earliest of these, 2044 could have

been backfilled as early as the middle of the 1st century and was subsequently much truncated. The other pits indicate a quite narrow period of activity concentrated in the early to mid 2nd century. The function of these features is unclear. The animal bone assemblages, for example, do not suggest that any notable patterns of disposal had taken place. Whatever the activity, the evidence revealed here suggests it is peripheral to the main settlement.

CEMETERY LAYOUT, DEVELOPMENT AND CHRONOLOGY

It is well known that Roman law prohibited burial inside towns: "*Hominem mortuum in urbe ne sepelito neve urito*" – "you shall not bury or burn a dead man within a city". This was a regulation of the Twelve Tables, compiled in 451–450 BC and regarded as the foundation of Roman law. It was re-enacted by Antonius Pius (138–161). Little is known of the layout of the urban area of *Durocobrivae* and the limited evidence available suggests that the inhumations from Friary Field are part of an extra-mural cemetery to the S or SW of the core of the Roman town. Such cemeteries are common throughout Roman Britain. The Roman cemetery at Friary Field covers an area of c.0.3 ha enclosed by four ditches. Whether the cemetery in its entirety was fully planned from the outset, or made use of an existing enclosed area, is unknown but there is some evidence of managed layout of the graves themselves. Both those on the present site and some of the previously excavated examples show evidence of being laid out in rows (Fig 2). Such rows are common in other late Roman inhumation cemeteries such as Lankhills in Winchester (Clarke 1979) and Poundbury in Dorset (Farwell and Molleson 1993). A small group of burials inside the enclosure to the NE of the present site were laid out in a more haphazard fashion. Matthews (1981) notes that there were differences between these two groups in terms of the number with graves goods and the number of 'decapitations' (both were more prevalent in the larger group).

Though no examples of articulated burials within the boundary ditch were recorded during the current investigations, the Friary Field cemetery is unusual in its use of the boundary ditches for burial. This is not frequently seen in other Roman cemeteries. At *Londinium*, for example, the many boundaries excavated in the eastern cemetery were seldom disturbed by graves (Barber and Bowsher 2000). The ditch had clearly become filled by the time of the cemetery activity and some graves were cut only into the ditch

fill, rather than through the chalk of the ditch base. No particular trend is noticeable in relation to ditch burial and other unusual treatment. For example, a total of 16 burials with displaced heads have now been recorded in the cemetery – ten occurring in the enclosed area and six in the ditches. Perhaps an explanation for this use of the ditches is one of practicality, the prevailing chalk would represent much more difficult digging than the ditch fill. Whether the practice reflects chronological, social or religious differences cannot be judged on the available evidence.

The dating and chronology of individual graves is often difficult to establish in late Roman cemeteries due to the frequent stratigraphical isolation of the graves and lack of grave goods. Matthews (1981) puts forward a broad date range of the 3rd to 5th centuries for the previously excavated graves. However, of the 15 graves excavated on the present site three can be securely dated. Both the glass bowl found in Grave 2085 and the comb found in Grave 2006 date from the second half of the 4th century, with possible continuation into the beginning of the 5th century. Similarly, the beaker found in Grave 2057 is dated to the late 3rd/4th century (AD 270–400), and the miniature funerary vessel from the upper fill of the boundary ditch 2025 is late 3rd to 4th century.

The organisation of the graves into rows is suggestive of some degree of control. The unusual treatment of burials within the ditches and wells may also indicate conscious decisions to exclude individuals from the planned area of the cemetery or to expedite their rapid disposal under pressure from external circumstances such as an epidemic of disease. The available evidence sheds little light on the circumstances of these unusual burials. The cemetery organisation may have been along municipal lines, following the continental model, and would have been very complex, involving the municipal senate, families, patronage and burial clubs (Barber and Bowsher 2000, 330). The possible implications of such Romano-British municipal management should be borne in mind: 'initial choice of sites, allocation of plots and a degree of small-minded fussiness about order, arrangement and alignment', as Thomas (1981, 232) suggests.

BURIAL PRACTICES

The orientation of the 15 graves was variable with the majority (66.66%) with their head to the NE, 26.66% to the SW and one (6.66%) to the NW (Table 2). True W-E alignment is often very common in late Roman cemeteries in Britain, and this has often been

associated with Christianity (though there is much debate over this association – see below). It is also well documented that there is a tendency for W-E burial to become more prevalent over time, with many cemeteries exhibiting burials almost exclusively of this alignment by the end of the 4th century (Philpott 1991, 222-228). However, when the previously excavated graves from within the cemetery enclosure are also considered we see a total of 54 with heads to the NE, 11 to the SW and 2 to the NW. This is clearly at variance with any prevailing view of a province-wide burial rite incorporating W-E burial by the end of the 4th century. The alignment of the ditch burials is not included due to their alignment being limited by the confines of the ditch. Other sites have produced similar evidence that is at variance with the prevailing picture of 'dominant' W-E burial. For example, at Haymarket Towers, Leicester, a wide variety of grave orientations and head positions were noted in a small sample of 4th century graves (Cooper 1998). Mixed alignments were also observed at the eastern cemetery of Roman London (as were graves that respected topographical or other obstructions), and in this case only a slight correlation of orientation with chronology could be observed (Barber and Bowsher 2000). It is clear that at Friary Field grave alignment and head position appear to have been chosen for some graves within the ditched enclosure. However, it is also apparent that other unknown factors were involved in a large number of burials that took place in the abandoned wells and ditches in the remainder of the cemetery. For example, the supine burial position, which dominated within the enclosure, was often not observed in the case of the ditch burials (Matthews 1981).

Burial goods were found in three of the 15 (20%) graves. This gives a total of 16 out of 120 (13%) graves in the whole cemetery. No significant correlation between stature and the presence of burial goods was noted, which has been used to contribute to the consideration of burial goods and status by some authors (e.g. Barber and Bowsher 2000, 325). Two of the three accompanied skeletons were male. This is at odds with the overall evidence from the cemetery, which shows that only three (19%) of the 16 examples were male, four (25%) were immature, and nine (56%) were female. When the sex of the previously excavated skeletons (Matthews 1981, 37) is added to the data (Human Bone Report above) it can be seen that 42% of the total burials were male, 36% were female and 22% were indeterminate/juvenile. This observation could indicate that deposition of burial goods at Friary Field was biased toward

female graves but the low sample size means that the evidence is too weak to assert this with certainty. In addition, the challenges presented by correlating the sex of an individual as assessed by burial goods and skeletal characteristics are well known (Henderson 1989, 77-83). It must therefore be remembered that the reasons for the inclusion of what might be regarded as characteristically 'male' or 'female' burial goods may not relate to the actual biological sex of the individual. The presence of the comb with the male burial in Grave 2006 at this site illustrates these difficulties. In addition to their being considered in terms of status indicators (below) burial goods have also been interpreted by some as offering comfort to the spirit of the dead in the afterlife (e.g. Black 1986, 220) or special treatment for those who died young (Crummy *et al* 1993, 130).

Burial goods have often been considered as indicators of status, along with osteological evidence (e.g. for poor nutrition), containers for the dead (coffins and cremation urns), and burial in relation to structures such as mausolea. Deducing status from the treatment of the dead in this way has often not proved straightforward. One example is that of Lankhills in which Clarke (1979, 191) reminds us: 'even if social status can be defined in archaeological terms, its social meaning is far from clear.' It must also be remembered that status could be more visibly demonstrated in funerary rites (e.g. processions or feasting) rather than burial rites, and evidence for these is absent from the Friary Field site. The Friary Field cemetery is unusual in its treatment of individuals buried in the ditches and wells. It could be conjectured that the casual manner of these burials indicates less respectful treatment of the dead in these cases and that this, in turn, could indicate that they were perhaps lower status. It has been suggested that the wealthy might have been buried nearer to major roads (e.g. Barber and Bowsher 2000, 328). The current site is close to the major thoroughfares on which the town was founded yet there is little firm evidence to suggest that either poor or rich are interred in (or excluded from) the cemetery. Ultimately, inferring much about social organisation from cemetery evidence is fraught with difficulties as many aspects of a burial rite observed during excavation could be seen as 'anonymous' in terms of the living person or their relatives. As Hodder concisely puts it: 'In death people often become what they have not been in life' (1980, 168).

A notable feature of the Friary Field burials is the occurrence of burials with displaced heads. There is evidence (particularly strong in one case) for delib-

erate removal of the head by decapitation in three examples (Human Bone Report above). A further 12 examples were recovered in the previous excavations, and seven of these are described as showing clear evidence (in the form of cut marks) for decapitation (Matthews 1981, 38). All these burials, with one exception, have the head placed on or near the legs. The only exception had the head buried in the top of the grave fill (Matthews 1981, 28). Ten occur in the northern cemetery area and six in ditch burials. There is no notable correlation with grave alignment. They do not occur in the southern group of burials within the ditched enclosure and, though the sample is small, it might be suggested that these were treated differently (they also have a lower incidence of burial goods). The practice of skull displacement has been often been connected with Celtic religious practices, manifest as unusual reverence/treatment of the human head (e.g. Cotton 1996, Marsh and West 1981). This has sometimes been used to suggest the continuity of indigenous British elements in the population where it occurs in Roman cemeteries (Barber and Bowsher 2000, 317). However, the type of skull displacement more likely to be associated with Celtic practices (as observed at the La Tène I cemetery at Monte Trôté in the Ardennes) involves removal after decomposition, often with the mandible left *in situ* (Marsh and West 1981). There is no clear evidence for this at Friary Field and, in fact, true decapitation at or shortly after death seems likely in many cases. The late date of the burials also makes a native or Romano-Celtic explanation unlikely. Also, it cannot be assumed that execution took place in any or all of these cases – we cannot know if the decapitation was the cause of death or if it took place shortly after death. It is certainly a possible explanation for some, but it is difficult to consider the ‘beheaded’ infant burial recorded in previous excavations (Matthews 1981, 32) in the context of a criminal punishment.

Watts (1991) has made a valuable assessment of the difficulties posed by the attribution of religion to excavated Romano-British evidence. In this study 29 cemeteries were analysed and the various strands of evidence ‘traditionally’ associated with Christianity were evaluated. These included ‘external evidence’ which relates to the locality in which the cemetery is found and ‘internal evidence’ which relates to the circumstances of the burials themselves. The internal characteristics include: west-east orientation, undisturbed burials, supine extended position, the absence of decapitated burials, the presence of ‘plaster’ burials, young infants being accorded equal respect, con-

temporaneous pagan burials, the presence of focal graves and mausolea and an absence of grave goods (Watts 1991, 80-81). These characteristics are then given relative values and a ‘score’ produced for a particular cemetery. The previous excavations at Dunstable were included in this analysis and a score of 13 was produced (Watts 1991, 85). This remains unchanged following the recent excavations. This score is one of the five lowest for any of the Romano-British cemeteries studied by Watts and is considered to be very poor evidence for the presence of a Christian influence on the burial practices observed. However in the absence of any clear *in situ* evidence the arguments put forward in Watts’ study, using a largely subjective list of characteristics, are difficult to sustain. For example, W-E burial is one of the most commonly assumed characteristics of Christian burial in field archaeology, yet when examined in isolation it is less convincing. Its specific link with Christian practice is unclear as it has yet to be demonstrated when (or why) it was adopted as part of the Christian tradition – it is certainly not based on the prescriptions of any canon law. Indeed, Philpott’s (1991) review of Romano-British burial practices argues that there is little that is distinctive about the burial of Christians in the province of *Brittania*. There is, as yet, a dearth of clear evidence for Christianity in Roman Dunstable. This situation is paralleled in other towns such as *Londinium* where the mixed burial practices observed in the eastern cemetery have been interpreted as having more of a social, rather than religious or chronological, explanation (Barber and Bowsher 2000, 333).

It has been suggested that a consistent burial tradition involving W-E oriented supine burial can be seen developing throughout the Roman Empire around the middle of the 2nd century AD (Hope 1999, 55-57). The recent evidence is at odds with this hypothesis. Although inhumation is dominant, its practice is far from consistent. However, the site is not unique, as the consistency of this proposed change in burial practice is not clear-cut. For example, at Butt Road, Colchester, inhumation does not dominate until c 320-340 (Crummy and Crossan 1993). At Trentholme Drive, York, inhumation co-exists with cremation up to the end of the 3rd century (Wenham 1968). And at *Londinium* cremation and inhumation co-exist into the 4th century (Barber and Bowsher 2000). In the face of such variation it is perhaps unwise to view the Friary Field cemetery in terms of chronological development or simple divisions between Christian and pagan or rich and poor. Such an approach ignores a multitude of factors (e.g.

regional, civic or even professional identity) that may be, at least for the present, invisible in the archaeological record.

MEDIEVAL AND LATER FEATURES

Eight medieval cross-shaped pits were either wholly or partially revealed and the excavated examples were identical to those described by Green and Horne (1991, 2-4). Similarly, a continuation of the previously identified 'buttress trench' was recorded (2061). The most likely interpretation of these features put forward so far is one in which they form parts of a planned formal garden (Green and Horne 1991, 4). The current excavations have revealed no evidence to either prove or disprove this hypothesis. The dating evidence comprised a mixed ceramic assemblage primarily residual Roman, and 11th to 12th century medieval material. Given the Priory's foundation date (1259) the early medieval material is unlikely to be in its primary context of deposition. Analysis of previously excavated examples suggested that the abraded early material was likely to have been derived from soil stripped from surrounding fields and used to fill the cross-shaped pits and buttress trench (Green and Horne 1991, 30). The two parallel ditches revealed in the NE corner of current excavation yielded similar assemblages but one feature contained a component of 15th to 16th century date (Post Roman Pottery Report above). Ultimately the function and date of the medieval features remains unclear but perhaps the most likely interpretation follows Green and Horne's (1991, 30) theory that they represent garden features and were most likely constructed in the second half of the Priory's life during the 15th/early 16th centuries.

Scant evidence of post-medieval activity was recorded. Two pits were cut a cross-shaped pit and Roman features, though they produced little evidence of their date and function. A further two small 18th/19th century pits cut the cemetery ditch. A layer sealing the earlier archaeological deposits is indicative of agricultural activity in the late post-medieval period.

ACKNOWLEDGEMENTS

Rhodri Gardner conducted the evaluation and Jon Murray contributed to the evaluation report. Nicholas Crank conducted the excavation and watching brief, and prepared the interim site narrative. Tom McDonald managed the project.

HAT are grateful to Moody Homes for their co-operation and funding the investigations, in particular HAT thanks Mr Geoff Ball for his assistance.

HAT is pleased to acknowledge Mr Martin Oake, County Archaeological Officer, Heritage and Environment Section, Bedfordshire County Council.

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*The Bedfordshire Archaeological Council is grateful to Moody Homes
for supporting the publication of this paper.*

Recent archaeological investigations in Bedford town centre: evidence for an early northern boundary?

MATT EDGEWORTH

with illustrations by Cecily Marshall

SUMMARY

The location of the boundaries of the Anglo-Saxon burh of Bedford, and the origin of the street grid, are matters of great historical interest. Evidence from an archaeological watching brief sheds new light on these issues. While the narrow trenches of the recent town centre enhancement scheme inevitably produced evidence of a fragmentary nature, a broad picture, nevertheless, did emerge. Besides expected traces of urban occupation from late Saxon to post-medieval times, by far the most significant discovery was a large ditch of probable 9th century date running E-W along the present course of Midland Road. This feature is interpreted as the northern boundary of the early burh. Some wider implications of this interpretation are explored in this paper.

INTRODUCTION

Between 1995 and 1997 a programme of town centre improvements was undertaken by Bedford Borough Council. These consisted of road widening/narrowing, re-paving and the excavation of planting pits and service trenches on the W side of the town centre. Areas affected by the works were parts of St Paul's Square, Horne Lane, River Street, Midland Road East and Harpur Street, including the large open space adjacent to the eastern facade of the Harpur Centre (Fig 1). Bedfordshire County Archaeology Service (BCAS), now Albion Archaeology, was commissioned by Bedford Borough Council to carry out an archaeological watching brief alongside the development. In this report, the part of town covered by the watching

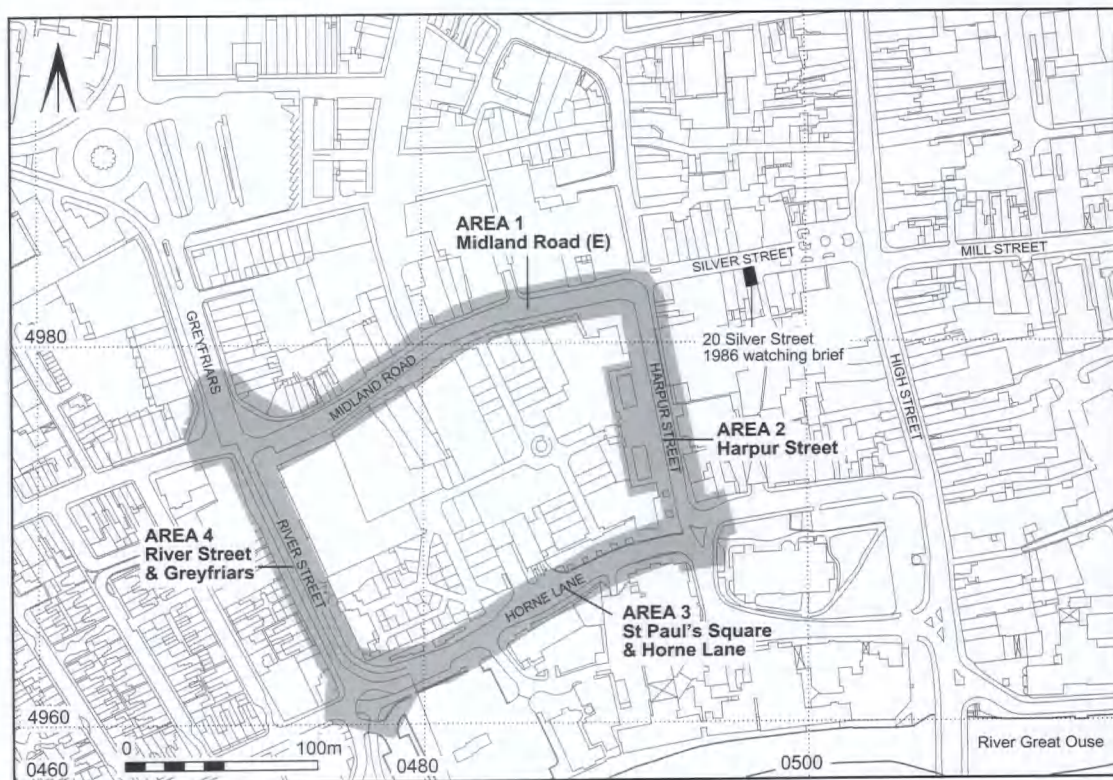


Figure 1 Location map, showing area covered by Town Centre Watching Brief

brief is divided into 4 areas, each representing a more or less distinct grouping of archaeological evidence. These are described, as far as possible, in clockwise order.

This report combines and summarises the results from all the various stages of the project, with a particular focus on the large Saxon boundary ditch and related features in Area 1. Evidence from other areas is presented in summary form only. For a fuller account refer to the excavation archive held in Bedford Museum (accession no. 1995/99).

ARCHAEOLOGICAL BACKGROUND

The improvement area is situated on a slight gravel terrace in the floodplain of the River Great Ouse, which flows 100-200m to the S. There is a gentle, almost imperceptible slope down from N to S, with an average height of 26.5m OD. The underlying solid geology is Cornbrash limestone, overlaid by river gravels and alluvium.

The Great Ouse valley around Bedford has been densely occupied from the early prehistoric period. A ford across the river may have existed in Roman times, and a limited number of Roman potsherds have been found in the vicinity (Hassall and Baker 1974, 77). The origins of the town, however, lie within the middle Saxon period. Entries in the Anglo-Saxon Chronicle indicate that a settlement or burh already existed on the N side of the river in the late 9th century, when it was occupied by the Danes. At this time Bedford was a frontier town on the border of Wessex and the Danelaw. In 915 King Edward the Elder repossessed the town and constructed the burh to the S of the river. The enclosing earthwork still survives as the King's Ditch. The precise location and date of construction of the boundaries of the earlier northern burh, however, remain unknown. These issues have been the subject of much historical speculation and debate (Hill 1970, Haslam 1983, Crawley and Freeman 1988, 2001). Existing theories, however, tend to be based primarily on historical and topographical evidence, together with comparison with other Saxon towns, rather than on archaeological evidence from Bedford itself.

Over 50 excavations or watching briefs have been carried out in Bedford over the last four decades. Of particular relevance to this paper are excavations at Bedford Castle in 1967-73 and Bedford Midland Road in 1973 and 1974 (Baker *et al* 1979), the Empire Cinema in 1978 (Hassall 1983), the Liberal Club in 1979 (Baker 1986), 20 Silver Street in 1986 and 14-15a St Paul's Square in 1996 (BCAS project 451).

RESULTS

AREA 1: MIDLAND ROAD (EAST)

From the passageway near British Home Stores to the junction with Harpur Street and Silver Street a series of trenches were excavated along Midland Road as part of a ground reduction and general improvement scheme. It is these that provided the most archaeologically significant evidence to emerge from the watching brief (Fig 2).

Boundary Ditch L3 (fills L4)

Ditch G3 (fills G4)

A large ditch was found running along and beneath the present course of Midland Road for a distance of nearly 70m in an E-W direction. Only the S edge of the ditch was located in plan. The estimated width of the ditch is 3.5 - 4m, assuming that there has been no significant truncation. The projected course of the ditch continues to both the E and the W. At one point the two upper fills were excavated down to a depth of 0.8m (section a, Fig 2), but neither the base nor the lower fills of the ditch were reached. The upper fills were grey-black silty clays, containing grey ash and charcoal flecks, and a large quantity of animal bone. Pottery found in these fills was a mixture of hand-made Maxey ware or proto-St Neots ware (thought in this case to be 9th century in date), early St Neots ware proper (10th-11th century), and developed St Neots ware (12th-13th century). Also found was an iron key of a type characteristic of the Anglo-Saxon period up to the 9th century. These fills were partially sealed by road surfaces G5 (see description of L12 below).

Ditch segment G67 (fills G68)

A small segment of ditch fill was later excavated within the projected course of ditch G3, 4m to the W. No side or base of the ditch was located within the segment but a similar dark grey-black silty clay fill with charcoal flecks was encountered. In this case the fill was waterlogged and contained some preserved organic material (twigs, chips of wood, etc), which included the remains of a shoe. The shoe was dated stylistically to the 12th-13th century and was found directly *below* sherds of proto- St Neots ware. Also found in the fill were sherds of wheel-thrown St Neots and Lyveden pottery, thus giving roughly the same mix of finds of different date as G3/4 (see Table 1). The fill of the ditch was sealed by the medieval road surface G69.

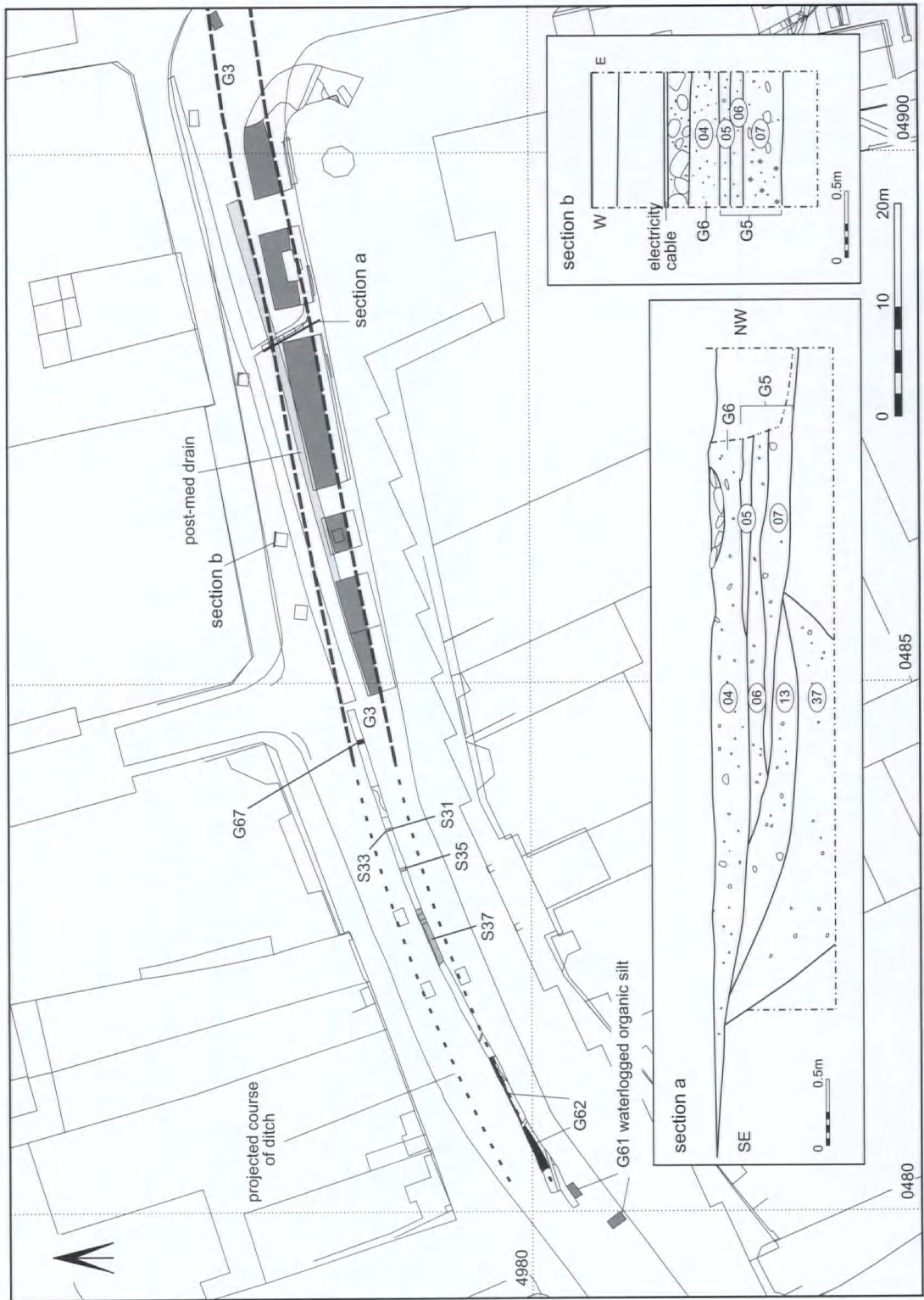


Figure 2 Plan of Area 1, showing ditch L3 with projected continuation to the west

Landscape	L4			L12
Group	G4		G68	G69
Context	13	37	369	370
Pottery				
Proto-St Neots (A11) 9th-10th C	23:23:295	2:3:56	1:5:159	
St Neots (B01) 10th-11th C	2:2:33			
St Neots (B01B) 10th-11th C	7:7:66			
St Neots (B01C) 10th-11th C			1:1:3	
Developed St Neots (B05) 12th-13th C		1:1:8		
Lyveden (B09) 12th-13th C			1:1:11	
Brill-Boarstall (C11) 13th-14th C				1:4:13
Non-ceramic artefacts				
Key, 9th century or earlier	One			
Shoe, 12th-13th century			4 frags	

Table 1 Artefact assemblage from ditch L3/L4 and sealing road surface L12
(pottery is quantified by vessel:sherds:weight g.)

Medieval Road Surfaces L12

Gravel metalling G5

A series of road surfaces of early medieval date were found within test pits and trenches at the E end of Midland Road. The earliest layer was a metallised surface of small flint gravel and limestone fragments within a matrix of black clay silt which had probably been rammed to form a consolidated surface. This was overlaid by two thin stony layers associated with the use of the road, which in turn were overlaid by the post-medieval layers/surfaces G6. Section a in Fig 2 shows these layers sealing and partly truncating the N part of ditch G3. Indeed, each successive layer can be seen to encroach further over the upper fills of the ditch, indicating that the road was moving or being widened over time towards the S. Section b in Fig 2 shows the series of road surfaces overlying undisturbed clay 'natural' to the N of the ditch. The gravel metalling G5 at the eastern end of Midland Road is probably continuous with the limestone metalling G69 which seals ditch G67 further to the W (see below).

Limestone metalling G69

This metallised surface was comprised of compacted limestone and gravel within a matrix of a mid-grey clay silt. The stones were medium sized, densely packed, unshaped and randomly arranged, forming a flat surface. This lay above and was partly rammed into the upper fill G68 of ditch L3/G67, the finds from which can be used to provide a rough *terminus post quem* for the construction of the road. It also

formed a consolidated surface sealing the waterlogged deposit G61. Clearly it is an extensive deposit as it was observed in several trenches along much of the length of Midland Road East. In all cases it was overlaid by post-medieval gravel surfaces G6. Together with G5, with which it is probably continuous, G69 is interpreted as the early medieval precursor to Midland Road. Sherds of 13th -14th century Brill-Boarstall pottery were found on the surface, providing a *terminus ante quem* for its construction.

A similar limestone surface was noted during roadworks on the former corner of Gravel Street and Midland Road, now QS plc, at TL 04754974, 1m below the modern road surface (Bedfordshire Historic Environment Record (HER) 7681).

Finds and stratigraphy indicate a 12th-13th century date for the construction of the road. One possibility worth considering is that this took place at roughly the time that Bedford Castle was demolished in 1224, when large quantities of limestone would have become available for local construction work.

Projected Course of Ditch L3 Westwards:

Ambiguous Evidence

Narrow trenches for services were excavated down the centre of the road westwards as far as Allhallows. Evidence from this stretch, however, was fragmentary and ambiguous, due to extensive flooding and the small window of visibility afforded.

Linear feature G62

A length of 11.5m of this linear feature was located,

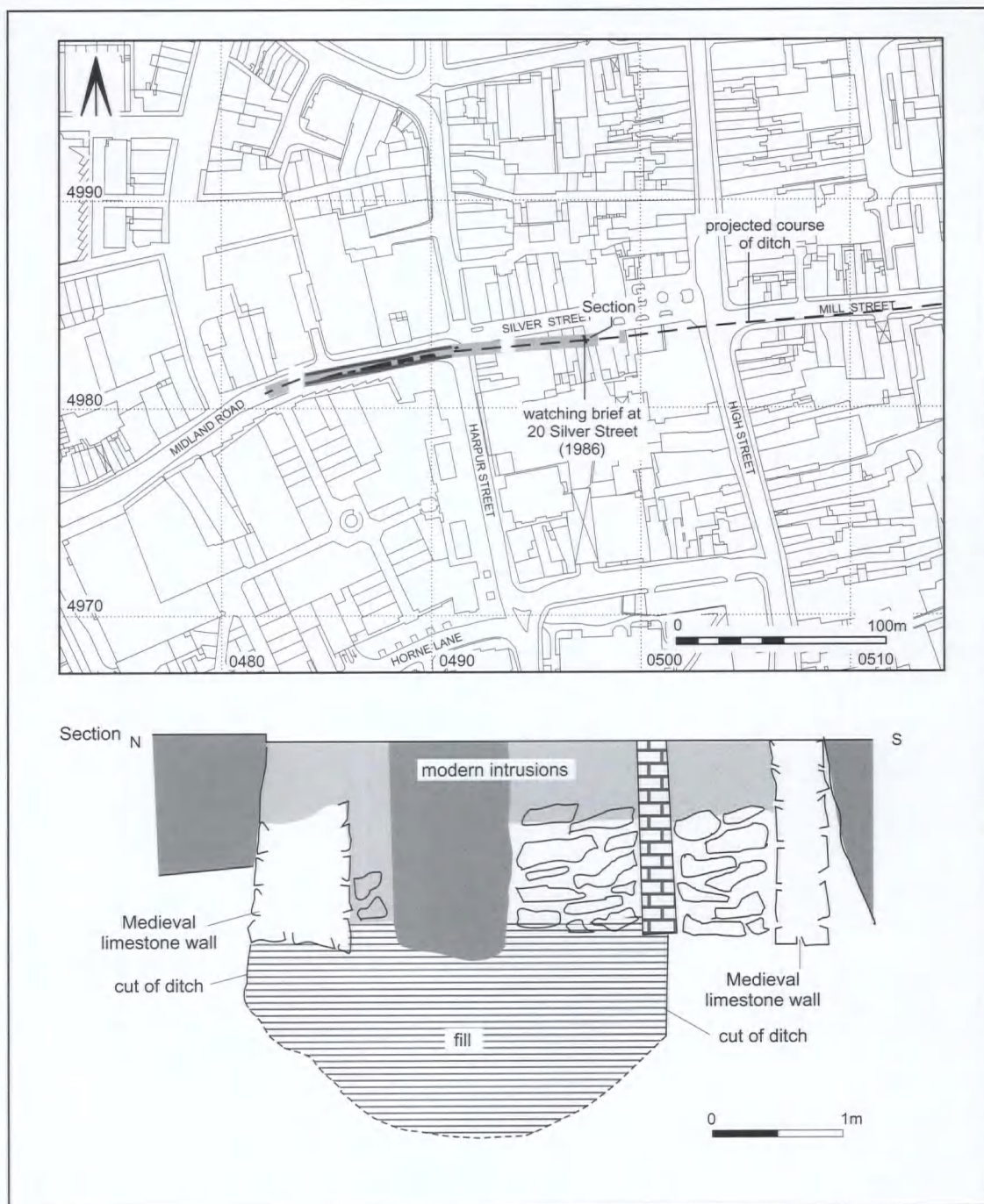


Figure 3 Projected continuation of ditch L3 to the east, with section through linear feature at 20 Silver Street (1986)

orientated approximately ENE to WSW and running under the centre of the present course of Midland Road, apparently continuing on in both directions (Fig 2). It represents a possible continuation of the boundary ditch L3, or alternately a continuation of medieval drain S37 (see below). A width of 0.8m was visible in the trench, with only the S side of the feature found. The fill, as visible on the surface, was a greenish grey clay loam. The feature was not excavated and there were no finds.

Medieval drain S37

In the one area where visibility was not constrained the N edge of a linear feature of early medieval date, running ENE to WSW, was observed. This extended for a distance of 5m and apparently continued to the W, terminating with a square cut end to the E (Fig 2). Partial excavation revealed vertical sides with a slight overhang at the top. The S edge and base of the feature were not located. The fill was a mid-grey sandy silt with numerous large fragments of limestone in the upper part and against the northern edge. Voids in the fill suggest a sudden in-filling or maybe collapse of the northern side. Two sherds of 12th - 14th century pottery were found in the fill. Its relation with the road surface L12 is unclear, though it could have been constructed at the same time as L12 and as an integral part of it. The feature may represent a medieval 'kennel' or drain, either open or covered and probably stone-lined, running down the middle of the street.

Post-medieval drains S31, S33, S35

In other cases the cuts of linear features, running approximately ENE to WSW were found. Such features are dated by post-medieval pottery and are likely to represent drainage work undertaken in the last 500 years. The apparent presence of undisturbed natural clays on the side of some of these features may indicate that the ditch is absent in this area. The possibility that the ditch is discontinuous, or that it turns towards the S at a point roughly opposite British Home Stores, should not be discounted.

Waterlogged deposit G61

A layer of black organic silt was observed at the base of two small test pits, 4m apart, excavated in the centre of Midland Road near the junction with Allhallows. Of unknown extent and depth, it contained some preserved plant material. The material was quite different from the fill of the linear feature G62 nearby, but similar to the waterlogged fill of ditch segment G67/68. Like G68, it was sealed by

the medieval road surface G69. It could represent the fill of a continuation of ditch L3 possibly turning to the S. Another possibility is that it is the fill of the large N-S ditch found under Allhallows during the Empire Cinema excavations (Hassall 1983), or even a former course of the Saffron Ditch. Similar waterlogged material was encountered during the Bedford Liberal Club excavations nearby (Baker 1986).

Projected course of ditch L3 eastwards: 20 Silver Street (1986)

The apparent continuation of ditch L3 under buildings on the S side of Silver Street raises the question of whether it could possibly have been observed in previous excavations (Fig 3, plan). Fortunately, two 15m long trenches aligned N-S were excavated during a small watching brief at 20 Silver Street in 1986 and provided convenient sections across the projected course of the ditch (Fig 3, section). Remarkably, a large E-W linear feature was noted. It was at least 3.5m wide and 2m deep (the base of the feature was not reached). It was sealed by the limestone walls of a building, the destruction of which was dated to the 12th -13th century by a few sherds of developed St Neots ware in demolition deposits. The upper fills of the feature comprised a black silty loam containing some animal bones, but trench sides were too dangerous to allow a search for finds (BCAS project 62).

The evidence is clearly ambiguous, for the feature looks more like a pit with vertical sides in the section shown here, but the fact that a continuation of it was apparently picked up in a second trench 5m away argues against this view. Vertical edges could be more to do with later cuts for stabilising ground prior to construction of walls in the medieval period. It is important to remember that because of the conditions recording was done at speed from above, and cannot be taken as completely accurate. Perhaps all that can be said is that a large feature, apparently linear and running approximately E-W, was noted here.

If this is a continuation of the ditch L3, then the possibility arises of a very long feature indeed, perhaps even extending along Mill Street (Fig 3). This hypothesis could be tested quite simply by excavating a trench across Mill Street, should the opportunity ever arise.

AREA 2: HARPUR STREET

Archaeological observation was constrained in this area by the narrowness of the trenches, excavated mainly for services, and tree planting pits. The fragmentary nature of the evidence means that any inter-



Figure 4 Saxo-Norman pits and ditches and late medieval road surfaces in Harpur Street (Area 2)

pretation is limited. For example, several short segments of limestone walls, probably components of houses or other buildings, were observed in the sides of trench sections. However, these are difficult to date and hard to make sense of within such narrow trenches; no further account of them is given here.

A considerable number of rubbish pits of variable size were recorded, mostly dating from the 10th-13th century (Fig 4). These were probably related to the buildings mentioned above. Some contained amounts of ash and slag indicating metalworking activity nearby. Of particular interest was a 13th century rubbish pit with a quantity of Potterspury tile and roof furniture, including a flanged tile and fragments of a roof finial. Tiled roofs of any kind would have been reserved for buildings of the highest status. A rich town house may well have existed in this part of Bedford.

There is evidence for a change in use of the area during the 15th century, when ground was extensively levelled and external surfaces of limestone and tile fragments were laid.

A series of ditches, recut several times, was found on a N-S alignment below the southern end of the

present Harpur Street. These were up to 1.1m wide and 8m long, continuing to the S but terminating to the N (Fig 4). Dating from Saxo-Norman and early medieval times (10th-13th century), this series of ditches may have marked a property boundary within the early town. The first indication of a metalled surface being laid, in some cases sealing earlier pits, was in the late medieval period. A smaller lane of similar date ran E-W at right angles to Harpur Street on the W side. But while Harpur Street continued in use to become a major thoroughfare in recent years, this other lane fell out of use and was built over in post-medieval times.

The reinforced concrete foundations of a WWII tank trap were found at the southern end of Harpur Street.

AREA 3: ST PAUL'S SQUARE AND HORNE LANE

Trenching undertaken in the NW corner of St Paul's Square, at the junction with Horne Lane and Harpur Street, revealed a sequence of post-medieval metalled surfaces underlying the present road tarmac. These overlaid a cobbled surface formed of closely

set river pebbles at a depth of 0.64m. This surface is undated but is thought to represent a late medieval or early post-medieval precursor to the present road. Excavations did not extend below this level. Likewise road widening works along the N side of Horne Lane were too shallow for any significant archaeological observations to be made.

AREA 4: RIVER STREET AND GREYFRIARS

Construction work on the roundabout at the junction of Horne Lane and River Street revealed mostly modern gravel make-up layers. However, along River Street to the N of the roundabout a considerable stretch of reddish brown silty clay of periglacial origin was exposed. These deposits were important in the sense that they provided potentially good archaeological visibility. The absence of early features here was itself a significant archaeological finding, perhaps confirming that this area lay outside the W boundary of the Saxon town. The first indication of settlement was provided by the presence of two large medieval pits up to 3m in width, one of which was paved with limestone slabs and gave access to a stone well. Both were situated in the centre of what is now River Street. A smaller pit was uncovered at the southern end of Greyfriars. Pottery in the fills of all these features was dated to the 12th-14th centuries. Post-medieval pits and dumps of occupation debris, including clay pipes and bottles dated to the 17th-18th centuries, were found at the junction with Midland Road. These are thought to represent refuse from an inn. A 19th century brick well was observed on the site of the present Pilgrim's Progress public house.

DISCUSSION

DATING OF DITCH L3

The existence of ditch L3 beneath Midland Road East challenges conventional theories of the development of Bedford. Both Hill (1970) and Haslam (1983) place the northern boundary of the early burh further to the N. Their models are based upon the assumption that the E-W route (comprised of Mill Street, Silver Street and Midland Road East) was an integral part of the planned street grid of the first town. As other authors have put it, "the essential feature was a central crossroads formed by the intersection of a north to south road with an east to west road" (Crawley and Freeman 1988, 101). However, evidence from the watching brief clearly indicates that the substantial ditch L3 predates the E-W road, the first construction of which (at least in Midland Road East) seals the upper fills of the already silted up ditch. The implica-

tion is that the road is not an original feature of the early burh; rather it follows the course of an earlier ditch which may be an original feature.

The dating of the upper ditch fills L4 has to take account of the presence of a key dated to the 9th century or earlier, a range of pottery dated from the 9th-13th century, as well as a 12th-13th century shoe fragment. See Table 1 for a summary of the dating evidence for the backfilling of this feature. Moreover, in some cases artefacts of later date are found stratigraphically below earlier material, indicating that some inversion of stratigraphy may have taken place. How do we explain this mixing of finds? A likely explanation is that the ditch was originally associated with a parallel bank formed of upcast material. The ditch would have needed clearing out of accumulated rubbish from time to time, and this material was probably thrown onto the adjacent bank. It is well known that features periodically maintained in this way can be very long-lasting indeed. The King's Ditch is an example of a channel cut over a thousand years ago still carrying water today (see Hassall and Baker 1974, for a section through the bank, showing tip layers).

Ditch L3 was probably a feature of town life for a period of three to four hundred years, originally as a town boundary but later as a ditch within the expanding town – see discussion below. However, in order that a road could be constructed through the centre of the expanded town in the 12th-13th century, however, the ditch was back-filled. The obvious place to obtain the material to do this was the bank: the general sloping down from S to N of layers within the ditch may indicate that the bank was on the southern side – see section a, Fig 2. The bank was removed and thrown into the ditch at the same time as the road was constructed. This would have led to a mixing of both early and late material in the upper fills.

A provisional date of the 9th century is therefore accorded to the construction of the ditch even though there are artefacts of much later date in the upper fill. For verification of the original date of construction, a segment would need to be cut right down to the base of the ditch in search of dateable finds from primary fills.

INTERPRETATION OF L3 AS THE EARLY BURH'S NORTHERN BOUNDARY

The length and size of the ditch make it difficult to interpret as an internal property division within a larger burh. The total known length of ditch L3 is 70m, continuing on in both directions. If the projections of its course to the E and W are accepted, that length is

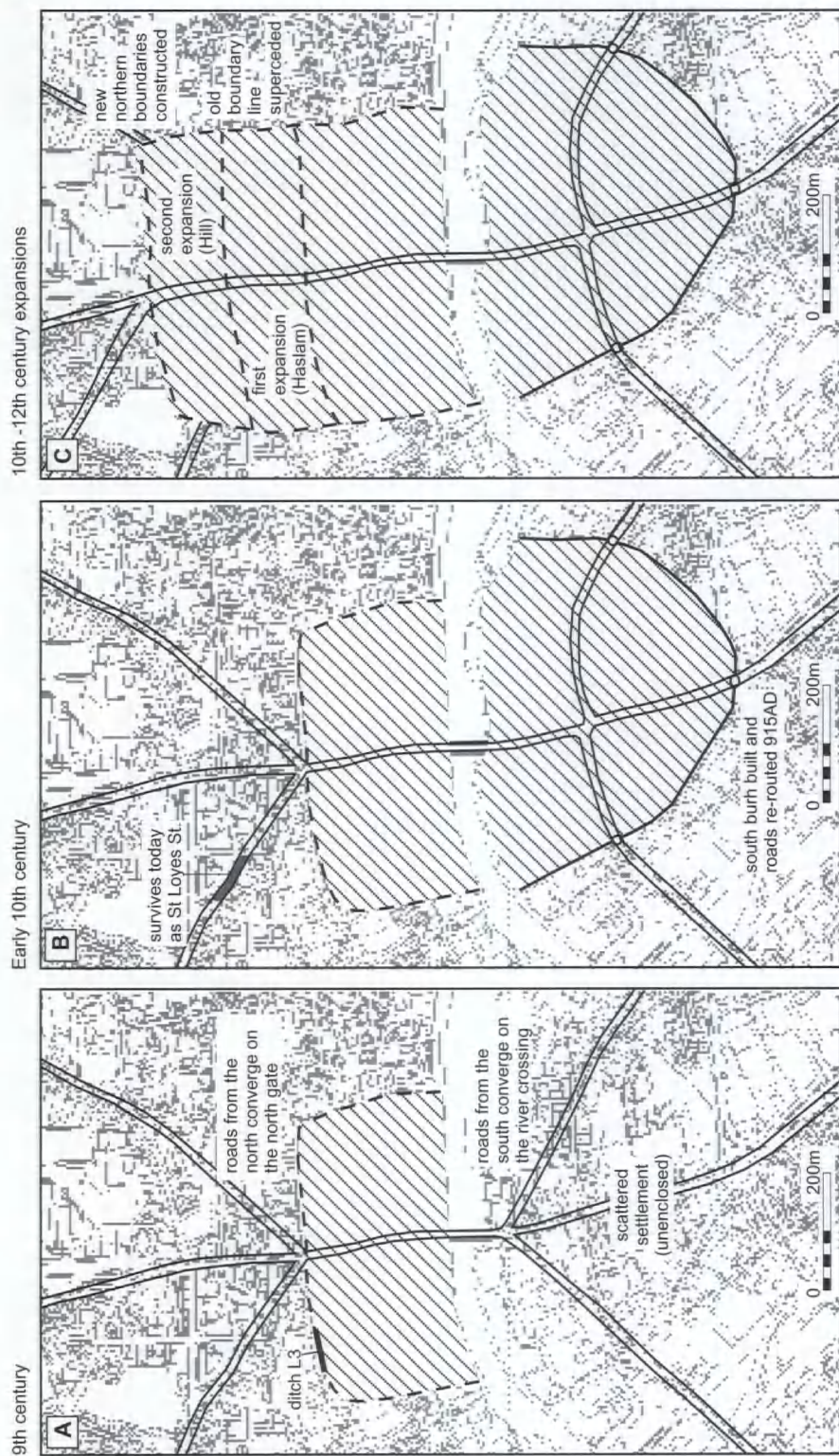


Figure 5 A new model for the origin and development of Bedford

increased to 175m, and the corrected alignment of the ditch indicates that it may be extending along Mill Street. Thus it is likely that the ditch was originally constructed as the northern boundary of the burh. (Following other authors, the eastern boundary is taken to run roughly along the course of Newnham Street or slightly further to the W. The western boundary was probably an equal distance away from the central axis of the N-S road, perhaps making use of the Saffron Ditch – see Hill 1970 and Haslam 1983).

The interpretation of ditch L3 as a northern boundary fits in well with information from previous excavations in the town centre. Nearly all discoveries of middle Saxon pottery in Bedford have been on or to the south of the line of ditch L3. Substantial remains of early-middle Saxon timber buildings, possibly halls, were found within the area of the later Norman castle; these were sealed by black occupation layers containing large quantities of St Neots ware pottery (Baker *et al* 1979, 20-26). Other structural features dated to this period were found at the nearby Bennett's Works (Baker 1986, 59-66). A cemetery of probable middle Saxon date was recently discovered on the N side of St Paul's Square (BCAS project 451). It is generally thought that the present St Paul's Church may be on or near the site of an earlier Saxon church, which was probably associated with this cemetery. A large sherd of an Ipswich ware pitcher was found in Horne Lane, although the exact findspot is not known (Kennett 1966). All these sites and find-spots are somewhat earlier in date than ditch L3, indicating that it was constructed to enclose a settlement that was already well established. Earlier boundaries, perhaps to the S of the line of L3, may remain to be discovered.

The discovery of the boundary ditch L3 running along Midland Road East, with the possibility that it extends down Silver Street and Mill Street, implies a gateway at the point where it crosses the High Street. This gate would then have provided the focal point for roads coming from the NE and the NW as well as from the N. One of the problems with previous models of town origins was St Loyes Street, which "cannot be fitted neatly into the burh pattern because it seems to breach the defence line in an awkward way at the NW corner" (Crawley and Freeman 1988, 101). However, St Loyes can now be seen to be heading straight towards the N gate of the earlier burh.

AN EXPANDING TOWN: A NEW MODEL OF TOWN DEVELOPMENT

The existence of ditch L3 does not mean that the Haslam and Hill models are wrong – rather that they

are more relevant to later phases of town development. Expansions of the town northwards in the 10th-12th centuries may be partially attested by the 30m stretch of ditch running N-S beneath the present course of Allhallows, as excavated on the Empire Cinema site. This ditch measured at least 4m across and 1.8m deep, with vestiges of a stone-lined bank on the E side. It was provisionally dated to the 12th-14th centuries (Hassall 1983, 61). Although not interpreted at the time as an urban boundary or defence, it lines up well with the generally accepted western boundary of the early burh, and may well be a later extension of it. A large ditch running E-W just to the N of Lurke Street may have been encountered in several places during the 1920s and 1930s (Kuhlicke 1937, Kennett 1992).

Conventional theories tend to trace the origin of the internal street grid and the encompassing boundary to a single plan and a particular moment in time. But the archaeological evidence is much easier to incorporate into models of a developing and expanding town. Extra-mural development may effectively create the need for new boundaries. Outward expansion of a town tends to leave former boundaries as strips of land running through built-up areas, with buildings on either side but with the strips themselves unsuitable for the construction of buildings. Almost inevitably these are eventually utilised as spaces for movement through the town, and thus take on the function of roads or thoroughfares. One of the main conclusions of this report must be that there was no single moment when the entire surviving street grid of the northern burh was conceived and laid out in one go. *Contra* Biddle and Hill (1971), organic and planned growth went hand in hand, with successive expansions of the town taking place in modular fashion on the basis of what was already there.

A new model for the origin and development of early Bedford, based on both the work reported here and previous excavations in the town, and drawing heavily from previous interpretations, is shown in Fig 5. It is suggested that ditch L3 was the northern boundary of the burh (**A**) just before and during the Danish occupation (though earlier boundaries enclosing a smaller middle Saxon settlement may exist to the south). The burh at this time consisted of two roughly equal areas of land either side of the main N-S road. Other roads converged on the bridge/ford to the S and on the gateway to the N.

The next stage of development (**B**) was the construction of the burh to the south of the river, creating a double-burh. This stage is documented by the Anglo-Saxon Chronicle as being the work of King

Edward the Elder in the year 915, shortly after the northern burh was re-taken from the Danes. Roads coming into Bedford from the SE and SW were deliberately re-aligned onto a central crossroads (Crawley and Freeman 1988). The efficacy of the changes made by King Edward was proven when Bedford was attacked again by the Danes in 917, but this time successfully defended.

The subsequent stage of development (C) comprised a series of expansions of the town in late Saxon times. Bedford was now a flourishing economic centre with its own market and mint. Along with many other towns it underwent considerable growth during the 10th and 11th centuries - see, for example, the detailed account of Oxford during this period (Blair 1994, 159-167). The northern boundary was moved progressively further northwards (see the models of Haslam and Hill), and roads realigned accordingly. The ditch L3 which marked the former boundary may have been kept open to serve as a drain within the town. It was eventually back-filled in order to facilitate the construction of the E-W road - the precursor of the current Mill Street/ Silver Street/Midland Road - through the centre of the expanded town in the 12th-13th century.

NOTES FOR FUTURE EXCAVATION STRATEGY

A significant pattern emerging from excavations in Bedford is that of former urban boundaries being replaced by later roads, which follow, more or less precisely, the course of the underlying ditch. Two outstanding examples are the middle Saxon ditch L3 under Midland Road East, and the late Saxon ditch under Allhallows. A lesser example is the series of smaller ditches, recut several times, at the southern end of Harpur Street, probably representing an internal boundary. The implication for further research in Bedford, and perhaps other Saxon towns, is that further undiscovered urban boundaries may also be hidden by roads. Roads near likely boundaries tend to be seen as intra-mural or extra-mural, rather than actually being on former boundary lines. This perception may now change. The watching brief excavations reported here have demonstrated the great potential of excavations along or across roads for providing crucial information about urban origins.

ACKNOWLEDGEMENTS

Albion Archaeology (formerly BCAS) would like to thank Bedford Borough Council for funding the project. Anthony Maull and Mark Phillips supervised the fieldwork and carried out much of the post-excavation analysis under the overall management of Mike Dawson. Drew Shotliff made valuable comments on drafts of this paper. Information on finds was provided by Holly Duncan, Anna Slowikowski, Jackie Wells and Quita Mould.

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The Bedfordshire Archaeological Council is grateful to Bedford Borough Council for supporting the publication of this paper.

Excavation at Castle Street, Luton: The site of Robert de Waudari's Castle?

SARAH COLES

SUMMARY

A small excavation in advance of development at the former Luton Bus Depot in Castle Street, Luton, produced evidence of a ditch of defensive proportions. Previous observations and documentary sources suggest that this is likely to be a part of Robert de Waudari's castle which was built in 1139 and pulled down in 1154.

INTRODUCTION

The former Luton Bus Depot was located between Chapel Street and Castle Street to the S of Luton town centre (TL 090 207, Fig 1). As part of the planning process prior to redevelopment of the site for residential use, an archaeological evaluation (Coles 2002) followed by the excavation described below were carried out during the summer and autumn of 2002 by Thames Valley Archaeological Services Ltd.

The site lies at approximately 120m above OD, and is located on an area of glacial sands and gravels with an underlying geology of Middle Chalk (BGS 1992). The original ground surface sloped downwards moderately steeply from E to W towards the river Lea in the north. Ground to the east is relatively level.

The evaluation revealed that most of the site had been severely truncated during construction of the bus depot but trenches in a small portion of the eastern side of the site contained archaeological features. At the time it was thought that a recut ditch (1 and 2) and a gully (3) were located. Ditch (1) contained a single sherd of medieval pottery of 12–13th century date whereas ditch (2) contained two sherds of possible Bronze Age pottery. Gully (3) produced one sherd of possible Roman pottery. It was thought that some if not all of these deposits related to the site of a castle recorded in the Borough Sites and Monuments Record.

Following the advice of Bedfordshire County Council's County Archaeological Officer, Luton Borough Council requested a further phase of archaeological excavations to excavate and record the deposits revealed prior to their damage or destruction by new groundworks. The site code is CSL 02/73, and the finds and archive will be

deposited with Luton Museum with accession number 2002.313.

ARCHAEOLOGICAL BACKGROUND

Luton's recorded history begins as early as AD792 when it is referred to as *Lygetun*. Domesday Book (1086) calls it *Loitoin* (Mills 1991, 228) and it was a royal demesne (Williams and Martin, 1992, 562). The place-name itself means 'farmstead on the (River) Lea' and combines the Celtic river name with the Old English (Anglo-Saxon) *tun*. There are documentary references to a castle on or near the site excavated and whose presence is remembered in the name of *Castle Street*. Robert de Waudari came to Luton as a mercenary for King Stephen and had land granted to him. In AD 1139 he built a wooden castle for the war against Matilda but this was pulled down fifteen years later in 1154 under the terms of a truce. A second castle was built by Fulk de Breauté in 1221 close to the modern centre of Luton, to the north of this site. Deeds for properties on Castle Street refer to the mound on which Holly Lodge stood as being the 'castle mound'. A mound was present in this vicinity prior to construction of the bus depot earlier in the last century and was traversed by steps (J Dyer, pers. comm.). One of the boundaries of the property was believed to include the castle ditch (Austin 1927).

In 1963 during the construction of *The Luton News* printing works on the eastern side of Castle Street a ditch was observed surrounding a raised area thought to be a bailey. The bailey was raised '3 or 4 feet' (c. 1 m) above the surrounding land and the ditch was 10 feet (c. 3m) wide and of an unknown depth. The inner and outer edge had been lined by post holes which supported wooden posts of a double stockade (Dyer *et al.* 1964, 55). No pottery or other dating evidence was found. These observations were carried out on the eastern side of Castle Street, between Holly Street and Kelvin Close, and appear to have located two sides of a ditched enclosure which returned in the direction of the former bus depot (Fig 1). It was assumed that these features belonged to Robert de Waudari's Castle and that the motte was located where Holly Lodge once stood.

Castle Street, Luton, Bedfordshire, 2002



Figure 1 Plan of site in relation to previous observations

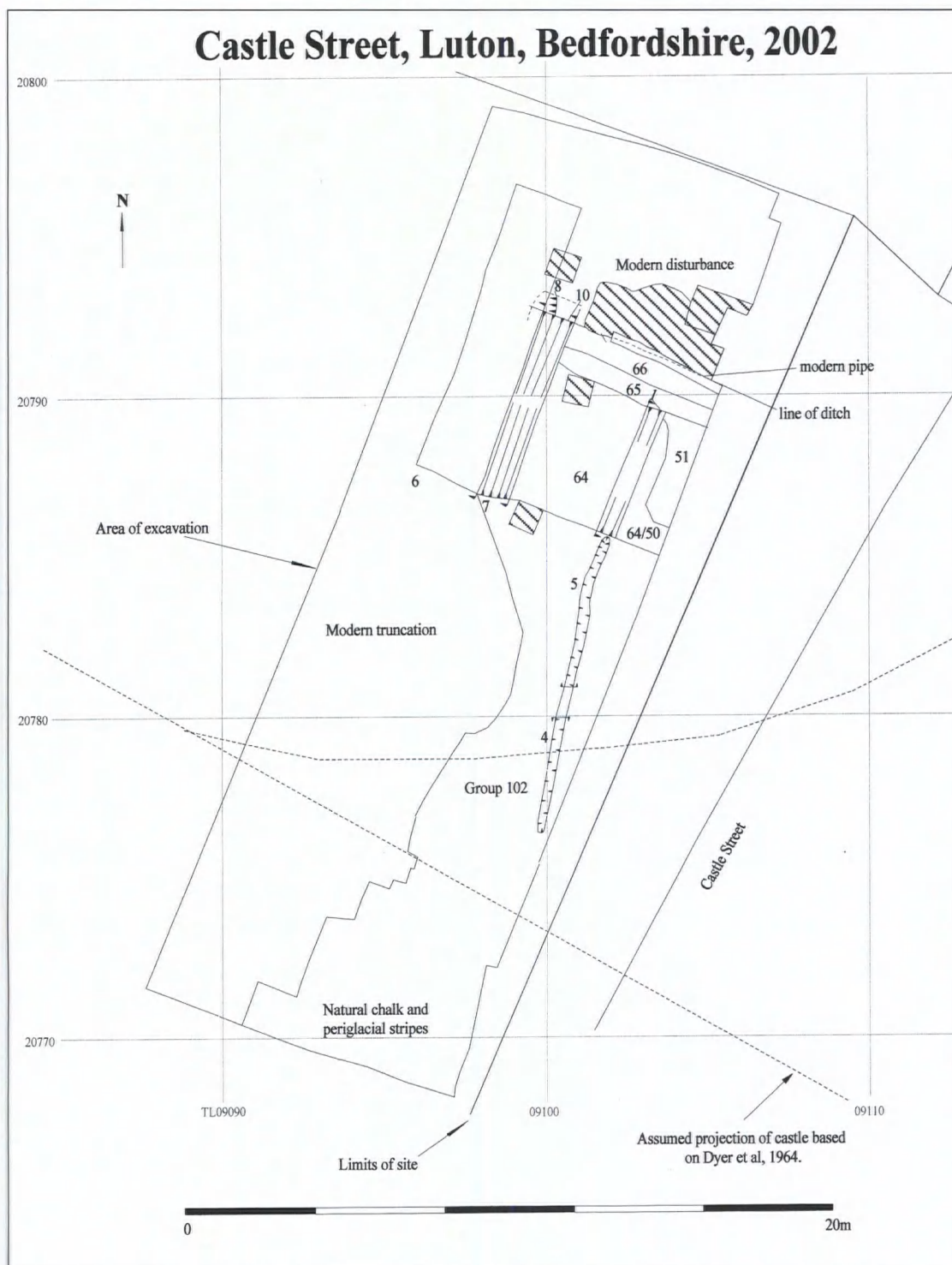


Figure 2 Plan of excavated features

THE EXCAVATION

An area of 300 sq m was stripped of 0.8m of overburden by machine under archaeological supervision to expose archaeological deposits located during the evaluation (Fig 2). The machined surface was cleaned by hand but no further archaeological features were found within the area. This relocated the deposits revealed in the evaluation trenches and located an additional pit (8).

THE ORIGINAL CASTLE DITCH (101)

The two ditches comprised a recut (100, excavated as slots 6 and 7) of the original ditch (101, excavated as slots 9 and 10). Neither ditch terminated within the excavated area. They were aligned NW-SE, and had been truncated by modern disturbance to the W, but continued beneath Castle Street to the E. Two slots were excavated and showed that ditch 101 was 6.10m wide and 2.90m deep and cut the natural chalk (Fig 3).

The infill comprised seven layers (60-63, 68, 70-75). The primary fill was a brownish white clayey chalk (75), which slumped from the NE edge. Fill 71/63, a yellowish-brown clay, is the only deposit that slumped from the SW side and is sealed by 74 a pale brownish-white chalk layer. Layer 72/61 comprised a mottled brown clayey chalk layer whereas subsequent layers (73, 70/62, 68) were all whitish-brown silty clay deposits. Fill 73 contained two pieces of 12th-13th century sandy ware and deposit 68/60 produced one piece of 12th-13th century pottery.

PIT 8

One of the upper layers (61) of ditch 101 was cut by pit (8). This in turn was cut by the later ditch recut (100). The oval pit contained a brownish cream clayey chalk (69) and was 1.70m x 0.40m wide and 0.45m deep. It contained three sherds of pottery dating to the 12th-13th century.

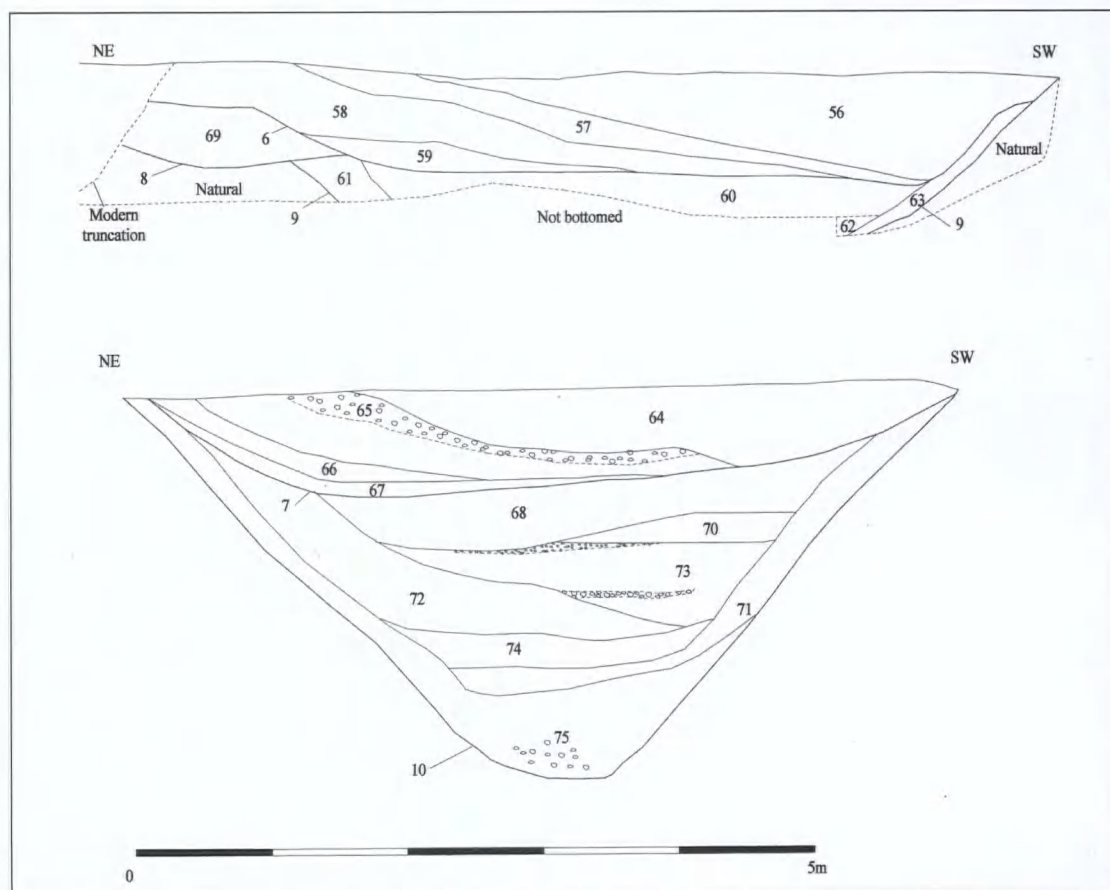


Figure 3 Ditch Sections

DITCH RECUT 100

This ditch was slightly narrower in width than the original ditch and was 6.00m wide but only 0.80m deep. It contained four fills 56/64, 57/65, 58/66, and 59/67. The primary layer 59/67 was a mottled light brown and white silty clay chalk layer and contained one piece of possible Bronze Age pottery, which was residual. This was sealed by a light brown clay (58/66) and which also contained one piece of probable Bronze Age pottery. A white brown clayey chalk layer (57/65) lay above 58/66 and below 56/64, which was a brown clay (Fig 3). As for the original ditch, the infilling had largely originated from the north eastern side

GULLY 102

This feature was aligned N-S and terminated just short of the lip of ditch 101. It was 9.40m in length, 0.30m wide and 0.15m deep. Despite its near full excavation (90%) and sieving of soil samples, no further finds were recovered to add to the single sherd of Roman pottery found during the evaluation. It is possible that this feature is of Roman date but its association with, and apparent respect for, the large ditch (101) suggests that it might be of medieval date but containing residual material

FINDS

POTTERY

Paul Blinkhorn

The pottery assemblage comprised 18 sherds with a total weight of 213g. The majority of the pottery was early medieval, although a single sherd of St. Neots-type ware, of late Saxon or Saxo-Norman was also noted, as were four small sherds of a crude, flint-tem-

pered ware which appears most likely to be prehistoric.

Where appropriate, the codings and chronology of the Bedfordshire Ceramic Type Series were used, as follows:

B01: *St. Neots ware*, 9th – 12th C. 1 sherd, 6g.

C01: *Sandy ware*, 12th – 13th C. 3 sherds, 147g.

C03: *Fine sandy ware*, 12th – 13th C. 2 sherds, 22g.

C03A: *Fine sand and flint*, 12th – 13th C. 5 sherds, 7g.

A fine dark grey fabric with few visible inclusions. Highly abraded, with surfaces missing, is of possible Roman date (1 sherd, 1g).

A fabric tempered with moderate to dense angular white flint up to 2mm probably of Bronze Age date (6 sherds, 30g) was also noted.

The pottery occurrence by number and weight of sherds per context by fabric type is shown in Table 1.

All the pottery was plain bodysherds, with the exception of a single sherd from the rim of a jar in feature 10, context 73. The form and fabric are typical of the early medieval traditions of the region. The presence of the St. Neot's ware sherd may be evidence of pre-Norman occupation, but the material had a use-life which extended into the post-conquest period, and thus may be contemporary with the medieval wares.

STRUCK FLINT

Steve Ford

A small collection of 15 struck flints were recovered. It is possible that one or two pieces are accidental by-products of the ditch digging in Medieval times but the majority are clearly of prehistoric date. The collection comprises 12 flakes, a scraper, a possible scraper and a spall. Two of the flakes may have been retouched and one, with a heavily crushed striking

Group	Cut	Fill	Roman		Flint		B01		C01		C03		C03A	
			No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt
	8	69											3	2
100	1	50											1	1
100	2	51			2	13								
100	6	58			1	1								
100	6	59			1	5								
100	7	64			2	11	1	6			1	10	1	4
101	10	U/S							1	44				
101	10	68									1	12		
101	10	73							2	103				
102	3	52	1	1										
		Total	1	1	6	30	1	6	3	147	2	22	5	7

Table 1 Pottery occurrence by number and weight (in g) of sherds per context by fabric type

platform is from a broken hammerstone. None of the pieces are closely diagnostic and only a broad date range of Neolithic through to the end of the Bronze Age can be suggested.

ANIMAL BONE

Sian Anthony

A single piece of well preserved cow mandible (8g) with no teeth *in situ* was the only bone recovered. It came from ditch recut 100 (7, 66).

METALWORK

Sarah Coles

A single iron object (80g), probably part of a horse-shoe, was found during the evaluation in ditch recut 100.

CARBONIZED PLANT REMAINS

Seven 40-litre samples were sieved for the recovery of small artefacts and charred plant remains. These samples contained a very little wood charcoal but no other charred plant remains, nor artifacts

CONCLUSION

The fieldwork described above has confirmed the extension of deposits to the western side of Castle Street following the observations made during the building of the Luton News printworks on the eastern side of the Street in 1964. Despite the severe truncation of the ground during construction of the bus depot, the project has allowed the investigation of the remaining archaeological deposits, their characterisation and dating.

The earliest material from the site is of prehistoric date with six sherds of possible Bronze Age pottery and 15 struck flints, all of which were residual in later features. Other than pointing to prehistoric occupation somewhere in the vicinity little else can be said about this material.

The single Roman sherd of pottery would also be dismissed as of minimal interest were it not that it is the only datable find from gully 102. Although this gully respects the line of the main (medieval) ditch and the sherd could easily be residual, it is possible that it is of Roman and not medieval date as believed.

The main feature on the site, is a V-shaped ditch over 6m across and nearly 3m deep, clearly of defensive proportions. That the feature is unambiguously of medieval or later date rules out the possibility that

it is a prehistoric ceremonial monument such as a Neolithic henge or a defensive feature of some other, earlier period. The convergence of various strands of evidence, including the size of the ditch, its date, the historic documentary references and the more recent references to the presence of a mound, can be taken to confirm that this feature is indeed a part of an Anglo-Norman castle, most probably the ditch surrounding the bailey. That the line of the ditch observed in this excavation does not match the projection on Figure 1 (based on Dyer *et al.*, 1964) need not cause undue concern given the conditions under which the previous observations were made, and the uncertainties over projecting the precise line in any case. There can be little real doubt that the ditches recorded in 1963 and 2002 were parts of the same plan.

The typical form for early Norman defensive works is known as a 'motte and bailey'. This consisted of a steep, artificial mound (motte) surrounded by a ditch, and with an adjoining larger flat area (bailey), also usually ditched. Both would also be provided with a palisade and often a rampart would flank the ditch. The motte was a defensive strong-point, usually more-or-less circular, whilst the bailey was usually more rectangular and housed stables, smithies, and stores. Many mottes were intended only as temporary fortifications (for example, several shown on the Bayeux Tapestry were clearly not permanent) but many were also originally, or were quickly replaced by, stone keeps. In these cases the bailey might become a focal point for the surrounding settlement and a town's development could be profoundly influenced by the lines of the bailey. In other instances the castle was sited purely for defence and had little influence over the development of the settlement under its protection (Laing and Laing 1996).

The infill of the original ditch (101) and the subsequent recut (100) are mostly derived from the north-eastern side and suggest slumping from a mound or rampart located there. The infill is not uniform and comprises thick alternating bands of silt followed by chalk. This could represent different origins of the mound/bank material with the silty deposits reflecting the slump of turves which formed a core, with the chalk reflecting slump from the upcast from the construction of the ditch.

It is tempting to assign the infill of the ditch to the documentary reference to the castle being pulled down in 1154. The meagre dating evidence from the fills is insufficient to provide firm support for this date, but certainly does not contradict it. The discrete

nature of the banded fills suggests that this is a product of periods of natural slumping rather than deliberate slighting and backfilling in a single episode, when a more homogenous fill might be expected. That such a large ditch had become infilled so quickly such that it was subsequently cut by a pit also of medieval date perhaps points to a catastrophic and rapid collapse of a bank or mound following the removal of a retaining structure. Unfortunately no evidence was recovered for a retaining structure such as a revetment or palisade, as the relevant adjacent areas of the ditch had been disturbed by modern development.

The subsequent recut (100) also of medieval date, ceramically indistinguishable from the original, is puzzling. Despite a width almost as great as the original ditch it was much too shallow to be considered a replacement defensive structure. Its function therefore is unclear. It is possible that this feature is a property or field boundary and that by this time the remnants of the castle had become a convenient setting-out point in the landscape. Assuming the motte survived, perhaps the bailey had already become a conspicuous element in the local topography, worth-redefining, even if it had lost the necessity for defence.

Despite the short life recorded for Robert de Waudari's castle, and the lack of evidence recovered here beyond the ditch, it should not be assumed that a timber castle (assuming that this is what it was) was necessarily *intended* to be short-lived or was in any sense inferior to a stone one, at least originally (Higham and Barker 1992). However, in this instance, it may well have been intended primarily as a campaign fort rather than a lasting visual symbol of lordship, or the lord's residence: the location seems inconvenient (as tacitly attested by the relocation when a new castle was built) and the context of building suggests it was a stop-gap measure. Recent archaeological attention has been increasingly directed at the elements of castle-building and the functions of castles *beyond* defence, but it is worth recalling that defence was their *primary* purpose

(Thompson, 1995). Sites such as this, abandoned very quickly after construction, emphasize this point, and a recent call (Coad, 1994, 221) to study such abandoned sites as closely as the more obviously 'successful' castles is welcome. Although the evidence here is meagre, it is a start.

ACKNOWLEDGEMENTS

The author is grateful to: the site team – Pamela Jenkins, Simon Cass, Clare Challis and Andy Munding; Mr Ismail Mohammed of Luton Borough Council who approved the Specification for the work; and Ms Lesley-Ann Mather of Bedfordshire County Council's Heritage and Environment Section who monitored the work on site. Andy Munding produced the illustrations, Euan Affleck prepared the archive and Steve Preston edited the report for publication.

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The Bedfordshire Archaeological Council is grateful to Bride Hall Developments Ltd. for supporting the publication of this paper.

Medieval occupation at 'Danish Camp', Willington

GARY EDMONDSON and ANDY MUDD

With contributions by Paul Blinkhorn, Tora Hylton, Eden Hutchins and Stephen Coleman

SUMMARY

A small scale excavation of the footings for a new visitor centre was undertaken at the Scheduled moated site called 'Danish Camp', Willington. The trenches revealed structural evidence in the form of post-holes, possible beam slots and stone wall-footings suggesting a fairly complex sequence of build-

ing. Pits and other features were also present. The pottery indicated that this occupation was quite tightly defined between the early 12th century and mid 13th century. The results confirm that the site was a medieval moated settlement which may have been an early manor.

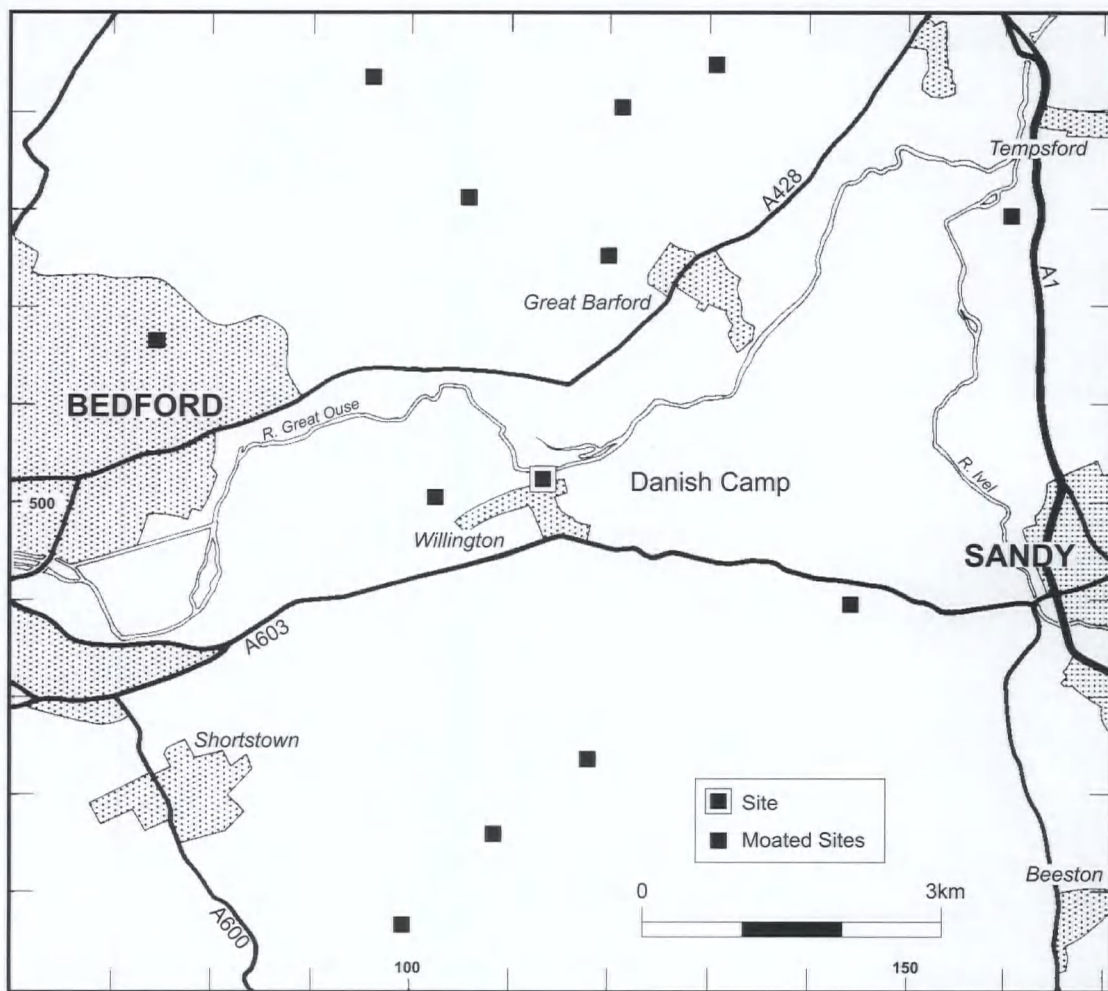


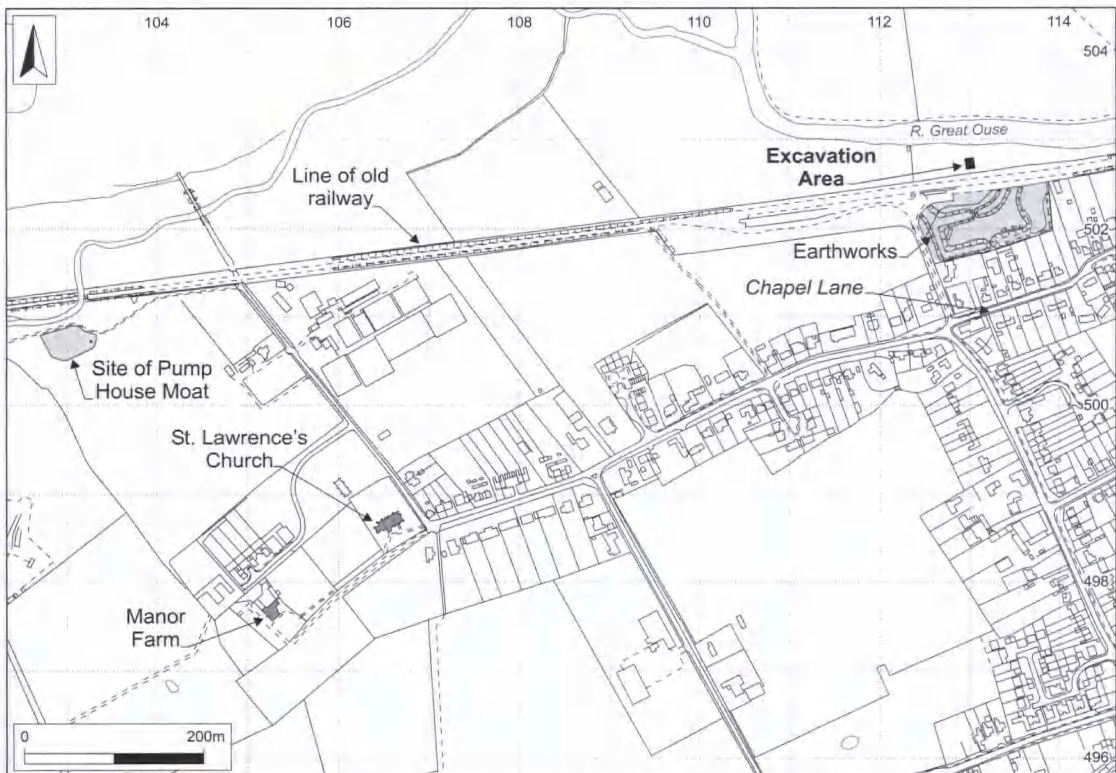
Figure 1 Site location in relation to surrounding moated sites (information from Bedfordshire Historic Environment Record, 2000)

INTRODUCTION

The earthworks known as 'Danish Camp' or 'Danish Dock' lie on the southern bank of the River Great Ouse at Willington, some 5 miles downstream from Bedford (Fig 1; TL 11285027). The site is a Scheduled Ancient Monument (Monument No. 11535) and in its original form appears to have comprised a pair of moated enclosures with outlying earthworks, now seriously disfigured by a former railway line which bisects the site (Fig 2). Small scale excavations were carried out by Northamptonshire Archaeology in May 2000 in advance of the construction of a visitor centre by the landowners, Mr and Mrs Lee. The work was conducted to a Specification submitted to Bedfordshire County Council's Heritage and Environment Section and English Heritage's Eastern Region (Northamptonshire Archaeology *Project Design: Archaeological Investigation, Recording, Analysis and Publication at Danish Camp, Willington, Bedfordshire*, April 2000).

ARCHAEOLOGICAL BACKGROUND

The name 'Danish Camp' derives from its identification as a possible base for Danish raiders during their 10th-century incursions into the Ouse Valley (Dyer 1972). The site was investigated in 1973 in response to fears of erosion caused by market gardening and a poplar plantation. Medieval occupation was discovered and the site was confirmed to be a medieval moated homestead (Hassall 1975). The main part of the site consists of a raised rectangular area, about 70 m long and 20 m wide, surrounded by a ditch (Fig 3). To the N of this lies a roughly D-shaped enclosure, measuring c.70 m E-W by 50 m, formed by two linear banks which run towards the river and meet a now barely perceptible bank along the river edge. The former Cambridge to Bedford Railway line (now a cycle track) bisects this enclosure. Two roughly rectangular enclosures are reported to have lain to the S, but are now difficult to discern due to the housing built along Chapel Lane. The depression to the E of the site, originally the 'Danish Dock' and



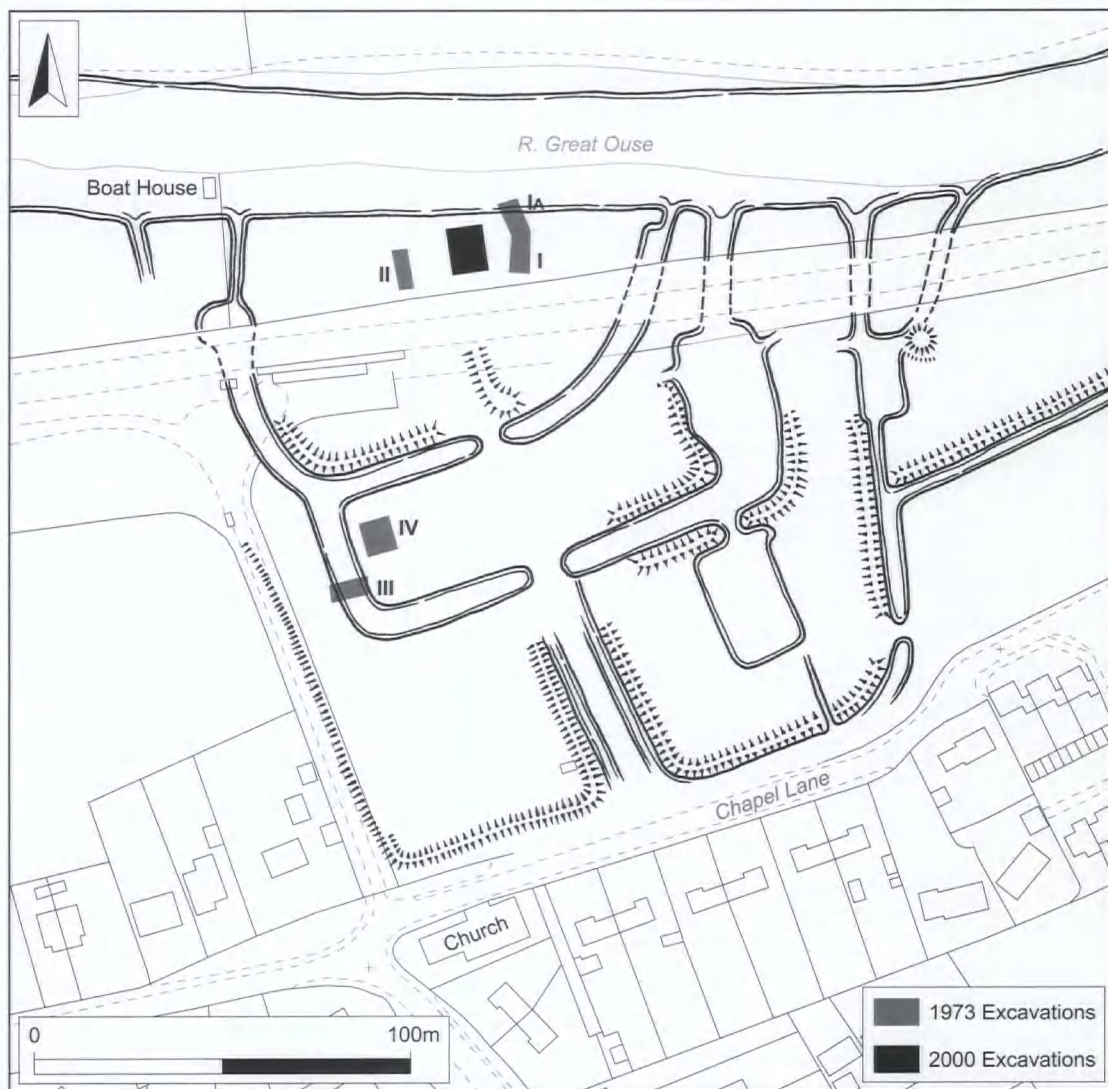
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Figure 2 Excavation area and adjacent sites.

later interpreted as possible fishponds (*ibid.*) is now thought to result from 19th-century gravel quarrying (Stephen Coleman, pers. comm.).

The 1973 excavations were limited in extent. Four trenches were opened up, two in the central rectangular enclosure and two in the D-shaped enclosure to the N of the railway line (Fig 3, Trenches I-IV; Hassall, *op. cit.*). Medieval pottery, predominantly of the 12th to 13th centuries, was found in all the trenches and some evidence for structures was also

discovered. Trenches I and II were located N of the railway line. Trench I, which was dug across the slight riverside bank and down towards the river, yielded preserved timbers associated with medieval pottery which were interpreted as coming from a riverside jetty (*ibid.*). It appears likely that the moats would have been flooded naturally by the river. The results from Trench II are of particular relevance to the present investigation as the western footing of the visitor centre was deliberately sited on the trench



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Figure 3 Plan of former extent of earthworks, after Beauchamp Wadmore (1920), with locations of 1973 (Hassall 1975) and 2000 excavations.

in order to prevent further disturbance to archaeological deposits. (Note that there are inconsistencies in the mapping sources and Trench II appears well to the west of the 2000 excavations in Fig 3. The earthwork survey also depicts the river too far S). Here, in a trench about 13 m long and up to 3.5 m wide, were a series of masonry wall-footings and isolated pits and post-holes. The evidence appeared to indicate at least one substantial early medieval structure on the site (*ibid.*, 28 & Fig 4). The present report incorporates the results from this earlier trench.

THE EXCAVATIONS

METHODS

The excavation was located on the edge of the river terrace at 22.6 m OD. The river gravels here are overlain by alluvial clay. The excavation was limited to the wall foundations for the development comprising some 52 m of 0.45 m-wide trenching defining the perimeter of the rectangular structure, with an additional central longitudinal trench (Fig 4). The footings were 1.5 m deep.

The trenches were excavated using a mini mechanical excavator as far as the uppermost archaeologically significant deposits. These were generally encountered just below the turf line. Thereafter excavation continued by hand. Recording was undertaken using the standard Northamptonshire Archaeology single context recording system.

On completion of the excavation the site archive was compiled and an assessment report produced in accordance with the Project Design (Northamptonshire Archaeology *Willington Danish Camp, Bedfordshire: Post-excavation Assessment and Updated Project Design*, July 2000). The assessment identified little further work to be undertaken on the finds and environmental remains. This report therefore comprises a summary of the excavated evidence and abstractions from the finds assessment reports. The site archive and finds are deposited with Bedford Museum (Accession No. BEDFM: 2000/133), with a selection of artefacts being displayed in the site visitor centre.

ARCHAEOLOGICAL SEQUENCE

General

Although the trenches were narrow and an overall plan of activity on the site could not be ascertained, it was possible to identify at least three structural

phases on the basis of stratigraphy. Phases of timber construction comprising post-holes and possible beam slots were replaced by masonry wall footings of at least two phases. It was possible to correlate the features in Trench II of the 1973 excavations with those identified in the current work, amplifying the picture on the western side of the site (Fig 4). The great density of features suggests a more complex sequence of activity than is outlined below.

A total of 33 features were identified, including five lengths of walling. Two of these (Walls 44 and 43) correspond to walls in the 1973 excavations (F1 and F2 respectively). Others followed the same E-W and N-S alignments. Linear features were also found, at least two of them with sharply rectangular profiles suggesting beam-slots. One of these (F62) was sealed beneath Wall 43. Another possible beam-slot (F77), on a slightly different alignment, was sealed by Wall 44. There were at least eight post-holes and nine pits of varying size and uncertain function. The edge of a possible ditch (which may alternatively have been the natural break of slope to the lower river terrace) was found in the NW corner of the site (Ditch 10).

The ceramic dating indicates a relatively short-lived occupation spanning the early 12th to mid 13th centuries (Blinkhorn, this report). It has not been possible to phase the site on the basis of the pottery which is too long-lived to help refine, or indeed confirm, the stratigraphic sequence.

Early phases of post-hole and ?beam slot construction (Phases I and II)

The longest sequence of stratigraphy was found sealed by Wall 43 (Fig 4; Fig 5a; Fig 6 Section 5). Here the earliest feature was a substantial post-hole, about 0.5 m deep (F58). This was succeeded by a later, shallower, possible post-hole (F64) in approximately the same position, and a possible beam slot (F62) lying a short distance to the N. There were no finds from any of these features. This sequence suggests that the earliest phase of building comprised earth-fast posts of fairly substantial size.

Similar post-holes include F69 to the N (sealed by Wall 44); F37, in the eastern trench, cut by F35; and F21, in the SE corner, (which may have been later than the adjacent pit F23). There were also other shallower post-holes. These, and the density of post-holes discovered in the wider Trench 2 of the 1973 excavations, indicate that there are likely to have been several phases of construction in which earth-fast posts were used. There is no obvious pattern to the distribution of these features, other than the fact

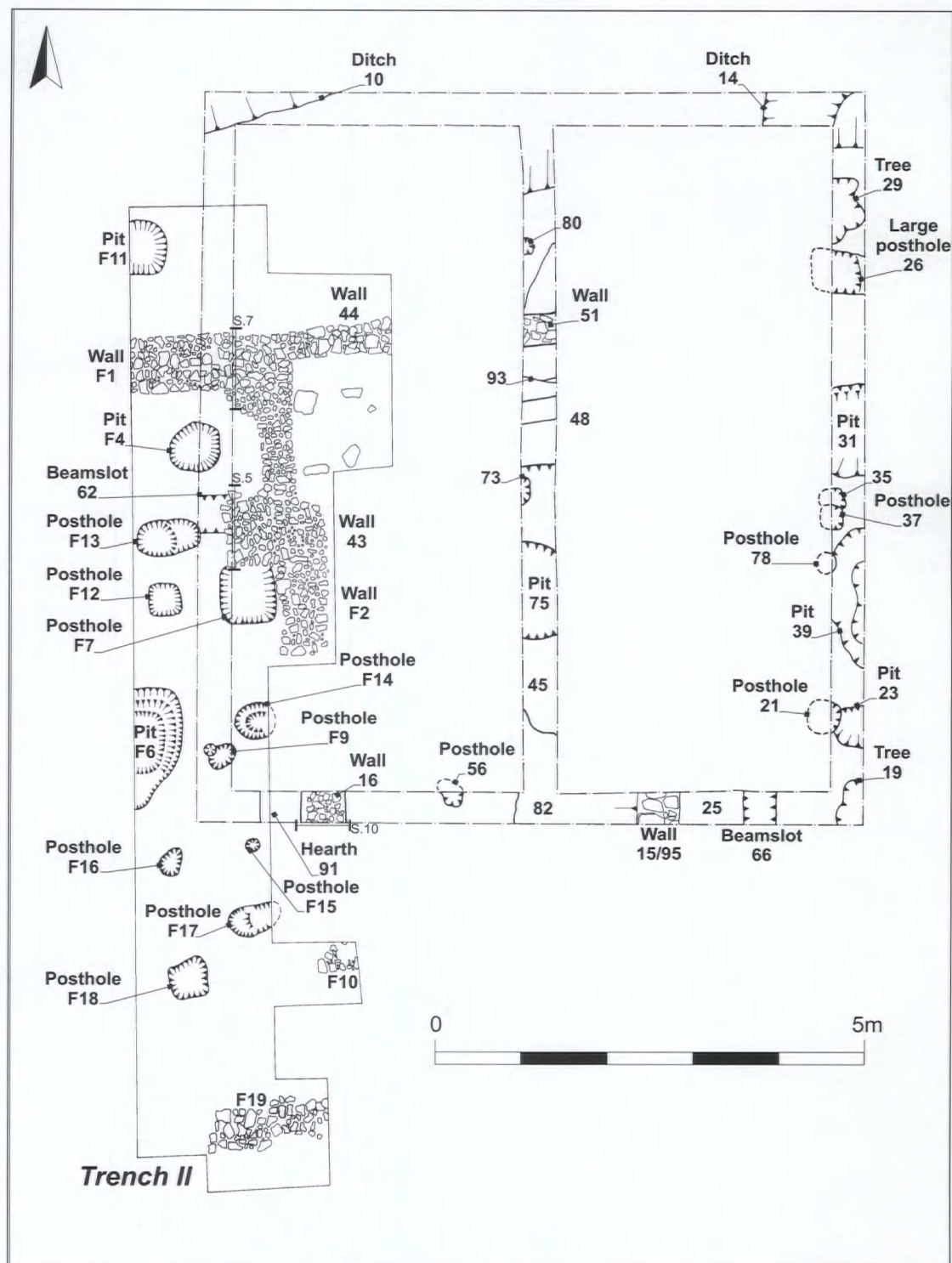


Figure 4 Plan of footings trench with Trench II taken from Hassall 1973. All features except concealed ones

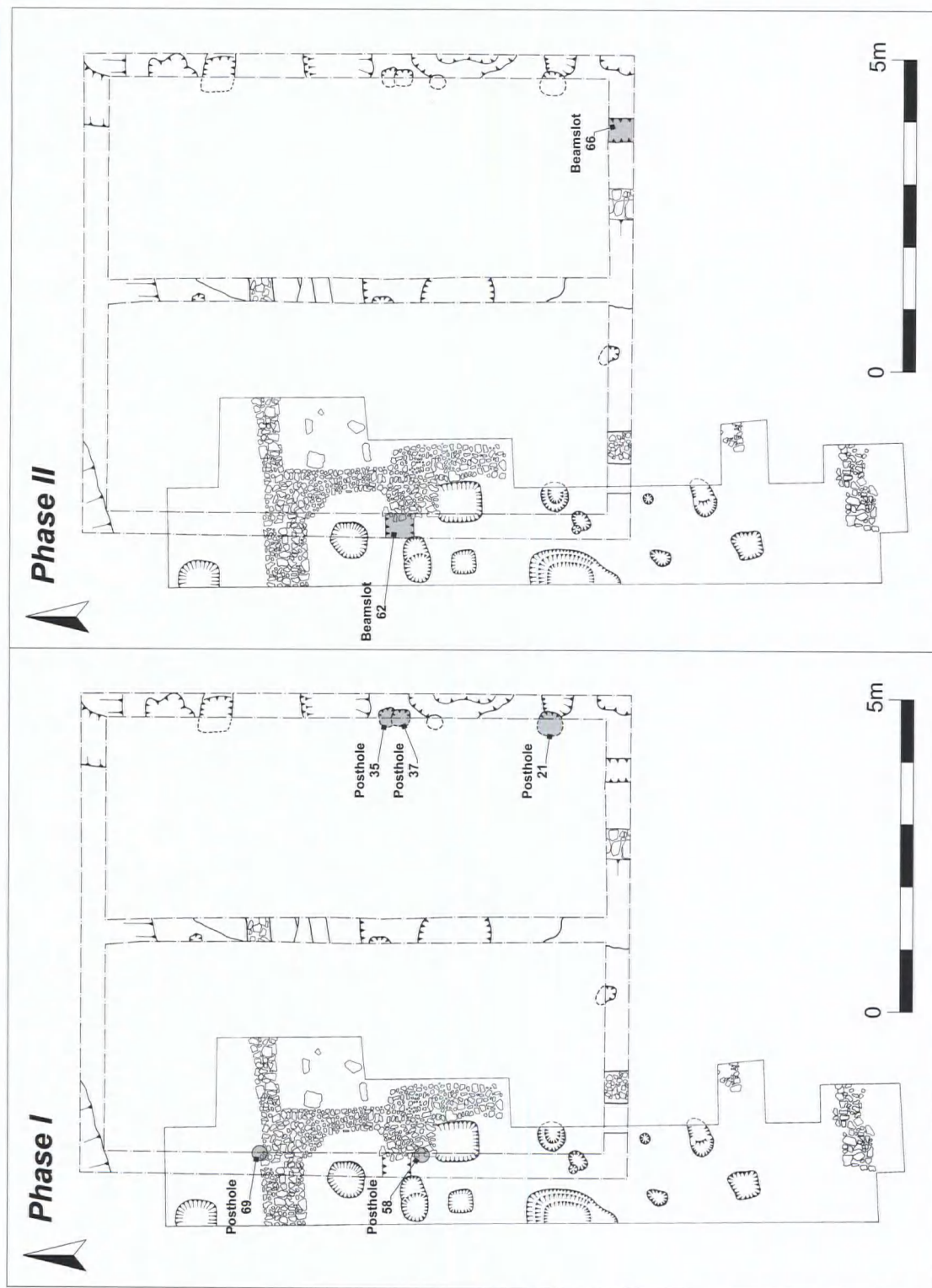


Figure 5a Trench plan: Phases I (post-hole structures) and II (beam slot structures)

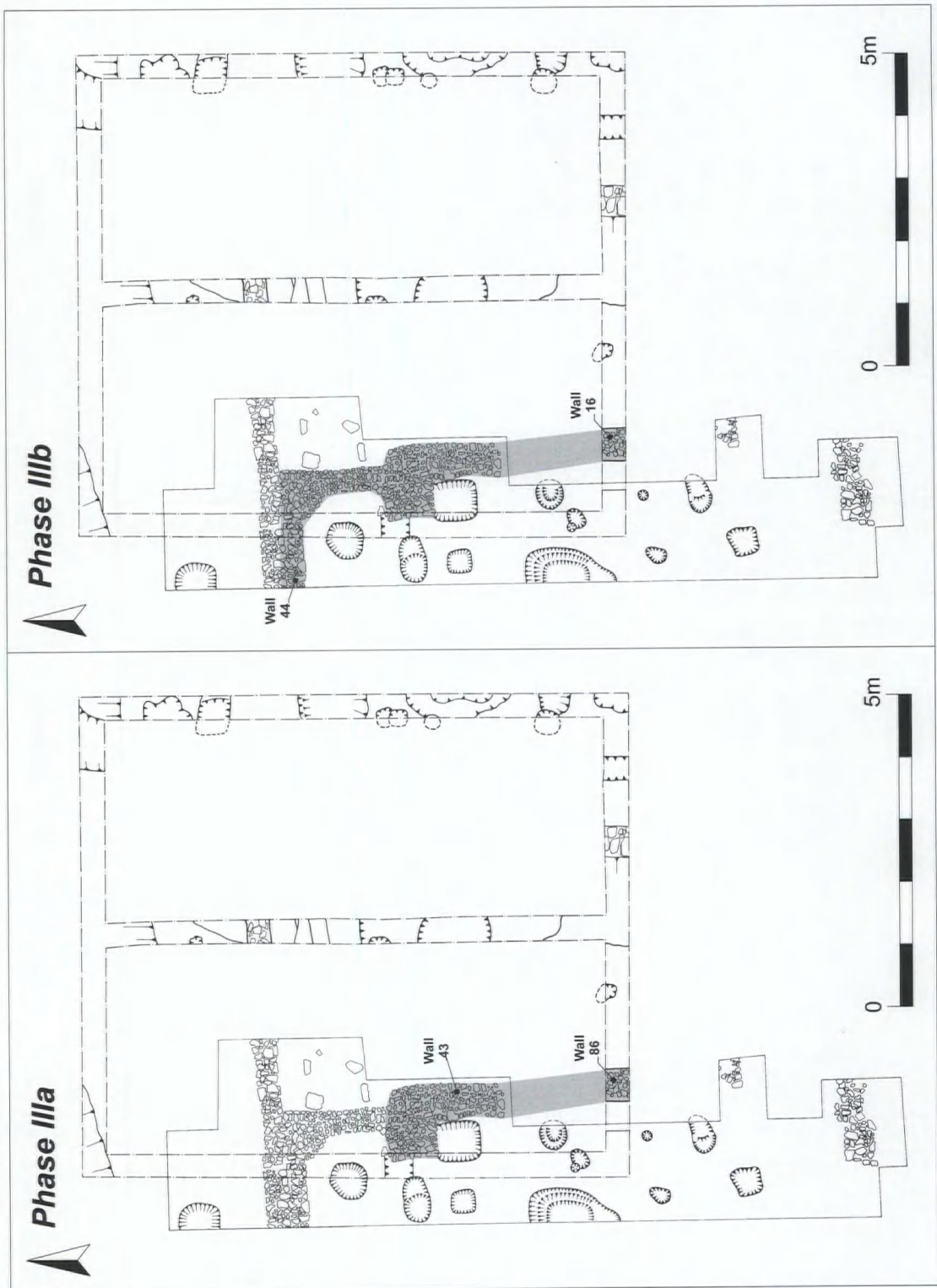


Figure 5b Trench plan: Phases IIIa and IIIb (stone founded structures)

that they tend to be found in the southern part of the site, where most other features are located.

The earliest post-built structures may have been succeeded by a timber frame technique using uprights tenoned to a base-plate, or perhaps posts in a trench. Two possible beam-slots were identified, F62 running E-W and F66 running N-S (Fig 5a). Both these features were a little under 0.5 m wide with sharply rectangular profiles. While F66 was the deeper its base was shown to be at a nearly identical level to that of F62 (c.21.75 m). This feature was not found in the central trench where it would have been truncated by a large pit or ditch F73 which had been cut to a deeper level.

Another possible beam slot (F77) was identified under Wall 44 (Fig 6, Section 7). This had more gradual sides and may rather have been a drainage gully. It ran on a south-easterly alignment and could represent a phase of building on a different alignment. A smaller linear feature (F93), also relatively early and on approximately this alignment, was discovered in the central trench, although again this is doubtful as a beam-slot.

Other early features include a probable hearth (F91) of uncertain form, and a possible rubbish midden (Layer 25) in the SE part of the trench. Layer 25 was cut by both Wall 15 and Beam-slot 66. As well as containing quantities of 12th century pottery and bones of deer, goose and chicken, the deposit contained a number of roof tiles, indicating that the earliest structures in this area were probably so roofed.

Later stone-founded structures (Phases IIIa – IIIc)

The phases of timber building appear to have been replaced by buildings with solid stone foundations. The evidence for this comes from Wall 86, directly underlying Wall 16 (Fig 5b; Fig 6, Section 10). This ran N-S and was constructed of pitched stone and tile within a trench 0.6 m wide and over 0.5 m deep. Wall 43 was of similar construction which suggests that it is of this phase, even though the foundations were substantially shallower. Wall 43 corresponded to F2 of the 1973 excavations and the plan supports this suggestion by indicating that it formed a broad L-shaped wall running S on alignment with Wall 86. It may have served as the eastern wall of a building with an entrance to the N.

Later, Wall 86 was replaced by a wall with a much shallower foundation (Wall 16), with a single surviving course of horizontally laid stone slabs on a cobble foundation. This construction technique was similar to that used in Walls 44, 51 and 15. It may be sig-

nificant that heat-reddened stone was used in these walls indicating a re-use of material previously affected by fire. The amplified picture from the 1973 excavations indicates that this building was constructed in two episodes, wall F1 clearly being of two builds. It is impossible to tell from the evidence presented whether the eastward extension of F1 was in contemporary use with the N-S wall (which continued as Wall 16), or whether it was earlier or later. However, the fact that Wall 15 in the SE corner was the only feature probably built no earlier than the 13th century (on pottery evidence) may suggest a building sequence in which the addition of Walls 51 and 15 and the expansion of F1 represented the final phase of activity in this area, extending the building northwards and eastwards. Wall 16 and an earlier phase of F1 would then have formed the eastern side of a structure lying mostly to the W of the excavations (Fig 5b). Contemporaneous features almost certainly include a compact surface of fine gravel (45) in the central trench. This was about 60 mm thick sealing all the other features here. An underlying pit (75) contained pottery dated to the later 12th century. It is not clear that the surface need have been inside the building, and it may have been a yard. It was probably bounded by Walls 15, 16 and 51.

The southern edge of a possible ditch (Feature 10) was found in the NW corner of the excavation. It reached a depth of about 1m but its overall dimensions were not visible within the confines of the trench. It had a dark grey-brown main fill (9) containing a pottery assemblage datable to the later 12th century. A silver penny of Henry II (AD 1158-1180) and an iron arrowhead were also recovered.

THE FINDS

POTTERY

Paul Blinkhorn

Introduction

The pottery assemblage comprised 183 sherds with a total weight of 2,049g. The minimum number of vessels, by measurement of the combined rimsherd length, was 1.50. One sherd (10g) was Romano-British, the rest medieval. The range of pottery types present are all well-known, and indicate activity at the site from the earlier 12th through to the earlier 13th century.

Fabrics

Where appropriate, the codings and chronology of the Bedfordshire Ceramic Type Series (BCTS) were

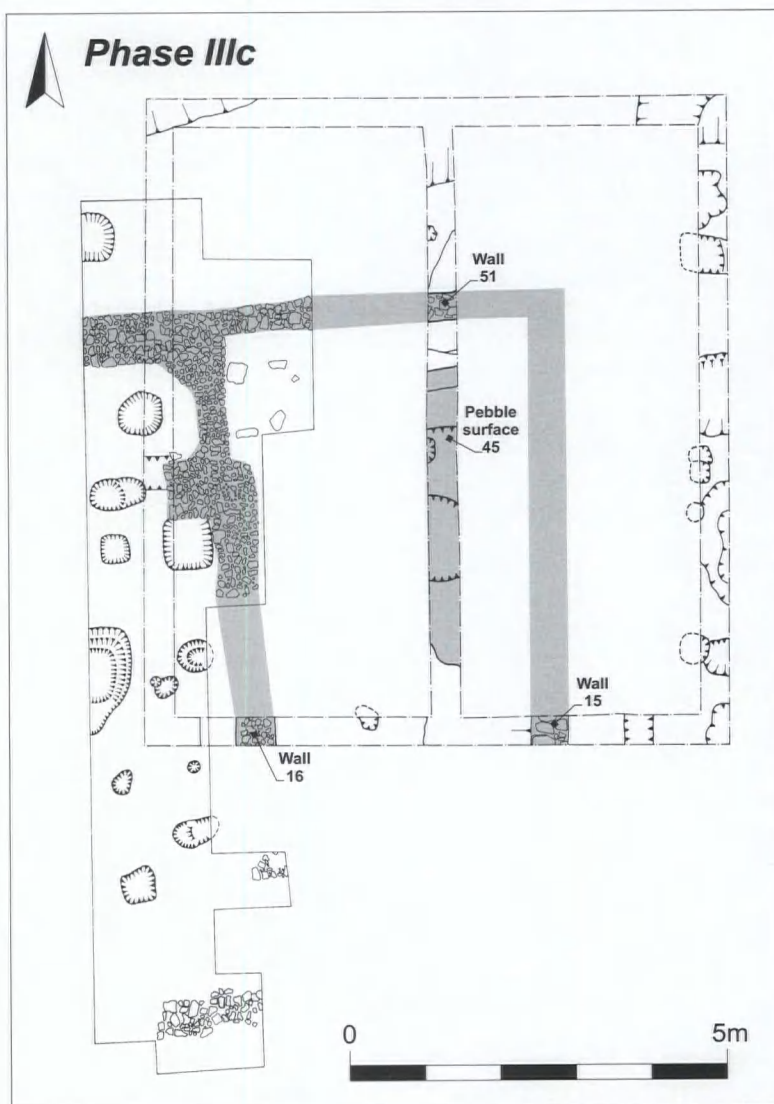


Figure 5c Trench plan: Phase IIIc (stone founded structure)

used. The following ware is not covered by this:

Lyveden/Stanion 'A' Ware (McCarthy 1979). c. AD1150-?1400. Handmade/Wheel finished. Moderate to dense, ill-sorted shelly limestone platelets up to 3mm, sparse to moderate red ironstone up to 10mm, occasional quartz, oolites, black ironstone. Produced at numerous kilns in the villages of Lyveden and Stanion in north-east Northants. Fabric usually grey with blue-grey or brown surfaces, although other surface colours, such as buff, red, purple or orange are not uncommon. 15 sherds, 134g, MNV = 0.23.

The following are coded according to the BCTS system:

BO7: Medieval shelly ware, c. 1100-1400. 66 sherds, 924g, MNV = 0.95.

B09: Lyveden/Stanion 'B' Ware. c. AD1225-?mid14th C. 1 sherd, 16g, MNV = 0.

C03: Fine sandy reduced ware, 12-13th C. 29 sherds, 172g, MNV = 0.

C59a: Coarse sandy ware, 12-13th C. 14 sherds, 158g, MNV = 0.

C59b: Sandy ware, 12-13th C. 56 sherds, 633g, MNV = 0.32

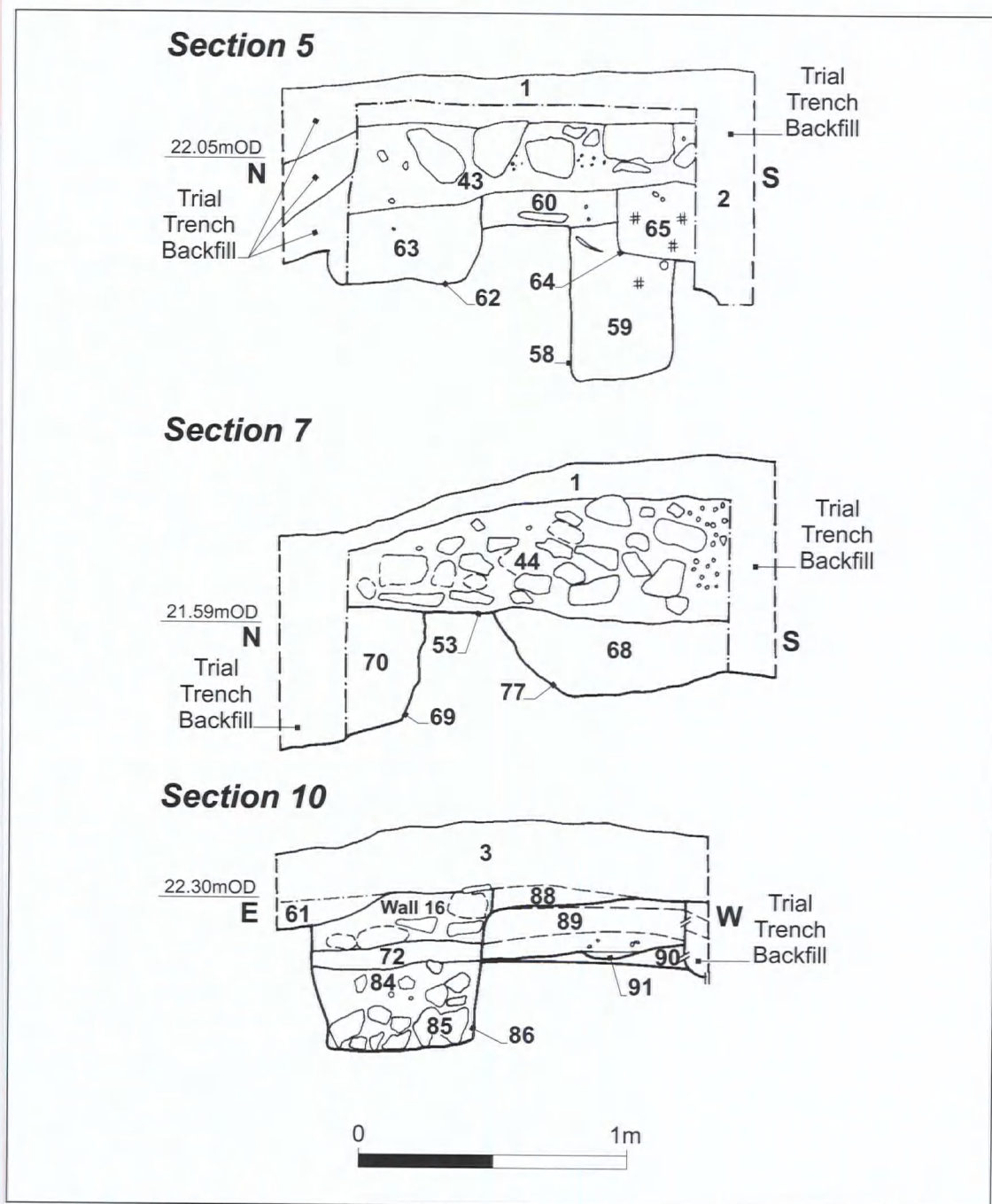


Figure 6 Sections 5, 7 and 10. (See Figure 4 for section locations)

A single sherd of Romano-British pottery (10g) was also noted. The pottery occurrence by number and weight (in grammes) of sherds per context by fabric type is shown in Table 1.

All the wares are well-known in the region, and can be paralleled at numerous sites in Bedfordshire and beyond (e.g. Baker et al. 1979; McCarthy 1979; Denham 1985). Similarly, all the vessels are well-

Context	RB		B07		Lyveden 'A'		B09		C03		C59a		C59b		DATE
	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	
1												1	26		12thC?
3			1	3									1	14	12thC?
8													1	5	12thC?
9			5	88	9	93			5	79			4	128	L12thC
12			5	93					2	3			2	21	12thC?
13			8	84					1	15	1	10	13	121	12thC?
15	1	10	2	8	3	23	1	16	5	19	1	6	7	61	13thC
17			2	56											12thC
18			1	16	1	7					1	8			L12thC
20			1	2					1	1			1	2	12thC?
22			3	17											12thC?
25			15	214					15	55	6	53	10	103	12thC?
28			3	13											12thC?
30			2	12											12thC?
32			1	8											12thC?
33			8	262							2	37	5	71	12thC?
36			1	9											12thC?
41													4	27	12thC?
45			3	12							2	18			12thC?
74			3	16									2	6	12thC?
76			2	11	2	11							6	74	L12thC
	16	224	66	924	15	134	1	16	29	172	14	158	56	633	

Table 1 Pottery occurrence by number and weight (in g) of sherds per context by fabric type

known forms, and generally fragmentary, with no decorated sherds or cross-fits noted. Consequently, none of the material is illustrated.

Chronology

Other than the single Romano-British sherd, the range of pottery types present indicate that the activity at the site was relatively short-lived, and spanned the period from the early 12th to the early-mid 13th century. The chronology of the known wares has allowed the pottery to be seriated into a series of phase-groups, as shown in Table 2. The significant drop in the mean sherd weight of the pottery during the 13th century suggests that at least some of the material from that phase is residual.

Date	No	Wt	MNV	Mean wt
12thC	127	1391	0.97	11.0
L12thC	36	515	0.49	14.3
13thC	20	143	0.04	7.2
Total	183	2049	1.50	

Table 2 Pottery occurrence by number and weight of sherds per ceramic phase, all fabrics

Vessel Use

The range of vessel types present, despite the small assemblage size, appear typical of medieval sites of the period in the region, with jars dominating the assemblage. Usually, jugs begin to be used in quantity during the 13th and 14th century. The data in Table 3 demonstrate this fairly well, although that for the thirteenth century material is distorted by the small size of the group. However, two bodysherds from jugs (one sherd of B07, the other a glazed sherd of B09) were noted amongst that assemblage. A single rim from a cylindrical jar was noted in a 12th-century context. Such vessels appear to be largely confined to the SE midlands, and were a product of the shelly ware industries of the region during the Saxo-Norman and early medieval periods, although their exact source is still unknown. They appear to have been specialist cooking vessels (Blinkhorn forthcoming).

OTHER ARTEFACTS

Tora Hylton

A small collection of medieval and post-medieval artefacts were recovered. The assemblage comprised

Phase	Jars	Bowls	Jugs	Cylindrical Jars	Total MNV
12thC	94.8%	0	0	5.2%	0.97
L12thC	100%	0	0	0	0.49
13thC	0	100%	0	0	0.04
Total	1.41	0.04	0	0.05	1.50

Table 3 Vessel Occurrence per phase, expressed as a percentage of each phase assemblage

mainly structural debris, together with a small collection of individually recorded small finds. The majority of material was retrieved from stratified deposits dating to the 12th century.

In total there were seven small finds, represented by objects of silver, copper alloy and iron:

	QUANTITY
SMALL FINDS	
Silver	1
Copper alloy	1
Iron	5
BULK FINDS	
Tile – ceramic	6.13kg
Tile – stone	5.30kg
Fired clay	0.35kg
Bone – animal	1.33kg
Shell – oyster	0.67kg
Glass	3 sherds

Table 4 Quantity of finds (except pottery)

Of particular interest is the presence of a silver coin and an iron arrowhead retrieved from Ditch 10 (context 9). The coin is heavily clipped and worn, and has been identified by Mark Curteis (Northampton Borough Museum) as a silver penny of Henry II, minted in Bury St Edmunds 1158-1180. (Cross-and-crosslet [Tealby] type, moneyer: Raul).

The arrowhead has a short circular socket which tapers into a long, thin, point with a diamond cross-section. It displays similarities to Jessops Type M6 (1996, 198) which dates from the 11th to 14th centuries. Arrowheads of this type were generally for military use; they were designed to pierce armour.

Other small finds include a fragment copper alloy rod and four nails. A catalogue of finds is retained within the archive.

The bulk finds are of little intrinsic value. The assemblage is represented by fragments of ceramic and limestone roof tile, undiagnostic fragments of fired clay, three sherds of post-medieval bottle glass and a small assemblage of oyster shell.

Most of the ceramic roof tile was retrieved from deposits dating to the 12th/13th centuries. The fabric is coarse sandy and fired to an orange/ buff-pink colour, sometimes with a grey core. The entire assemblage is unglazed and there are three fragments furnished with peg holes. In addition there are fragments of perforated limestone roofing slates.

ECONOMIC AND ENVIRONMENTAL INDICATORS

Eden Hutchins

Nine soil samples were taken for the recovery of economic and environmental indicators. Charred plant remains and mollusca were present in low quantities in most of the samples. The assemblages were assessed and it was concluded that there would be little value in undertaking detailed analyses of the material. The full assessment reports are retained in archive.

Animal bone

The animal bone was largely hand retrieved during excavation; 1.328 kg came from 19 contexts. Species represented included cattle, sheep/goat, pig and goose. There were also two bones from a small chicken and a deer bone. The assemblage is unremarkable apart from the presence of chicken. Chickens have been present in Britain since Roman times and gradually increased in importance through time. They became increasingly common during the medieval period, as did geese. Geese increased in popularity during Anglo-Saxon times. From the start of the 16th century chickens became the predominant poultry in Britain.

Mollusca

The molluscan fauna are not particularly diagnostic of the local environment. They include *Cochlicopa lubrica*, *Trichia* sp., and *Vallonia* sp. All are catholic species, preferring a home that is not too hot or cold, wet or dry. A moist garden, meadow or pasture would be ideal. The one example of *Bithynia* (the Common Pond Snail) indicates that some permanent

body of water was present in the base of Ditch 10. The examples of *Ceciloidea*, from six samples, are common in this area. This is a burrowing species whose presence can often indicate that some bioturbation has taken place.

Charred Plant Remains

Some charcoal and a few wheat seeds were recovered. The few seeds were of a very degraded quality, making them difficult to identify with any certainty.

DISCUSSION

The excavations, although limited, confirm the early medieval dating of the site demonstrated by the 1973 investigations. The date of occupation, at least within the relatively small area examined, is quite tightly defined from the early 12th to mid 13th centuries. Despite this, the present excavations suggest some complexity to the site.

The phasing of activity (summarised in Fig 5a-c) is to some extent conjectural, but there is evidence of timber construction of both post and beam-slot construction in two or more phases, which was succeeded by stone-founded buildings of two or three phases. The building alignments would appear to have been N-S and E-W throughout (although this cannot be shown for the post-hole phase(s) of construction), and the buildings generally occupied the southern and western part of the trenches (although some post-holes were found in the eastern trench). There is thus the suggestion of a shifting pattern of building in the south-western part of the site extending for an unknown distance outside the excavated area. There were few features in the northern part of the site and it appears that activity towards the river edge was limited. The density of pits would seem to have increased eastward so it is possible that this reflects a general zoning of activity. There was no particular indication of what any of the pits were used for. It can be noted that Trench I of the 1973 excavation, which lay about 15 m further E, revealed no structural evidence of any kind.

The superstructures of the buildings here were probably in timber in all phases. Roof tile came from some of the earliest contexts and it is therefore likely that roofs of all periods were tiled. Wattle-and-daub would appear to have been the method of wall construction. A moderately large quantity of daub (1.85 kg), some bearing wattle impressions, was found in Trench II of the 1973 excavations. To this may be added the smaller quantity of more amorphous fired clay from the current work.

The sequence as well as the methods of construc-

tion would appear to be typical of settlements of this period where a number of sites have shown a move away from buildings with earth-fast posts towards walls built of stone, or of timber on stone sills, in the 13th century (Dyer 1986, 40; Beresford 1977, 211).

The evidence would indicate that the site can be regarded as an example of a settlement which is quite common in Bedfordshire, a county which has the densest distribution of medieval moated sites in the country (Brown and Taylor, 1991, 2; Coleman 1990, 3-5). Its situation on the bank of a major river is unusual but explicable given the requirement for the moats to be filled with water. It need not imply that the site had importance as a node of river communication. If the presence of a dock can now be discounted, as seems likely, the site falls within a more normal category of moated homesteads.

The site has been much disturbed by 20th-century development and the best indication of its original form comes from the plan of the earthworks reproduced by Beauchamp Wadmore (Fig 3, after Beauchamp Wadmore 1920). This shows the D-shaped enclosure and smaller rectangular enclosure with slight internal banks. Both entrance causeways are aligned to the south with a banked and ditched pathway leading to them through outer earthworks (now destroyed by building and gardening along Chapel Lane). The internal area of the D-shaped enclosure is about 0.35 ha and that of the rectangular enclosure about 0.14 ha. Assuming both moats to have been in contemporaneous use, the area enclosed would appear to be on the large side for this type of site.

The presence of two linked moats is slightly unusual but a form well-attested nationally (Taylor 1978, 10-12), and there is an example at Mogerhanger 3 km to the SE. It may be assumed that one moat enclosed the principal dwelling of a manor or lesser homestead (typically with a house and domestic offices grouped around a courtyard) and the other was for various other buildings and perhaps gardens (Taylor, op. cit.). It is worth mentioning that since the 19th century the D-shaped enclosure on the river side has been labelled the 'outer ward' and the rectangular enclosure the 'inner ward', with the implication that the site was approached from the river. It is, however, more plausible to see the site orientated towards the land. If that were the case the D-shaped enclosure may well have been the 'inner ward' containing the principal dwelling. To date the archaeological evidence indicates buildings of unknown function in both enclosures and there is little basis for further speculation on this matter.

The excavations have suggested that the occupation within the D-shaped enclosure may have been relatively short-lived and also relatively early. Moat construction is thought to have expanded in the 13th century (Le Patourel and Roberts 1978, 48), at a time when occupation at Willington appears to have been drawing to a close. It is, of course, not known whether the moats were original features and there is excavated evidence from sites such as Wintringham (Beresford, op. cit.) and Tempsford Park (Mauil and Chapman, forthcoming) that the moats were constructed in the mid 13th century, enclosing earlier buildings. This may also have been the case at Willington.

The historical context of the site is unclear although it has been linked to the medieval manor of the Mowbrays and the predecessor of the later Gostwick manor site adjacent to St Lawrence's Church. Willington Manor passed by marriage from the Beauchamp to the Mowbray family in 1265 (VCH 1912, 262). Surveys of the Mowbray holding in 1366 and 1376 indicate a general state of disrepair. In particular, the Inquisition of 1376 describes a large number of decaying buildings including, interestingly, three gates, a drawbridge, a hall and bakehouse, both of 'ancient fashion', and a mill (VCH 1912, 263; De Banco Rolls 425, m.114; Calendar of Inquisitions Miscellaneous, iii, 392-3; Godber, 1969, 81).

However, while the size and complexity of the enclosures at 'Danish Camp', as well as their location close to the village, suggest the site may have been of manorial status, the late 13th century date for the Mowbray's tenure appears to be too late to be linked to it. Unless archaeological evidence for later occupation is to be found in any future investigations, it is more probable that this and the 14th-century documentary references to Willington Manor concern the Gostwick site.

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The Bedfordshire Archaeological Council is grateful to the landowners, Mr and Mrs Lee, for supporting the publication of this paper.

NOTE FROM MANSHEAD ARCHAEOLOGICAL SOCIETY

Excavations at Priory Middle School, Dunstable, 1992 – 2002

REN HUDSPITH

The Manshead Archaeological Society carried out a series of trial excavations at Priory Middle School (TL 018 217) between 1991 and 2002 with the kind permission of the Headmaster, Mr. R. Pepworth (Hudspith forthcoming, Warren 1997).

In the NE corner of the school field excavations identified Roman and medieval features outside the precinct boundary of the Augustinian Priory of which only the Priory Church now remains standing (Fig 1). The earliest feature was a Roman ditch, aligned N-S, which contained a female burial of probable late Roman date cut into the fill. Overlying the ditch were a succession of medieval tracks, aligned NE-SW. These were initially indicated by cart ruts cut into the natural chalk and later sealed by a metallated surface of split flints, cobbles and tile fragments. The metallated track appeared to be heading towards an assumed gateway in the precinct wall. It may date to the 12th century (in un-metallated form) and appears to have gone out of use in the 16th century following the demolition of many of the Priory buildings. The track was bounded to the south

by a flattened chalk bank which overlay earlier cart ruts and may have served as a walkway. The bank was formed from the up-cast of a 1.5m wide and 1m deep 'V' cut ditch of medieval date. Within the medieval ditch fill were residual finds of potsherds, animal bones, iron knives, an arrowhead, a rowel spur (c. 15th century), a 12th century relief tile and large quantities of peg tile. These probably indicate post Dissolution dumping. The medieval ditch and bank were apparently contemporary with the metallated track and probably served both for drainage and as a physical boundary. A right of way dispute, between the Prior and the townsfolk of Dunstable, regarding the enclosure of 'Gruteslane' is recorded in the Annals of Dunstable Priory for 1282.

In the SE corner of the school field, formerly an area of orchards, excavations revealed a broad, partially metallated, track of 17th – 18th century date besides residual Roman and medieval potsherds.

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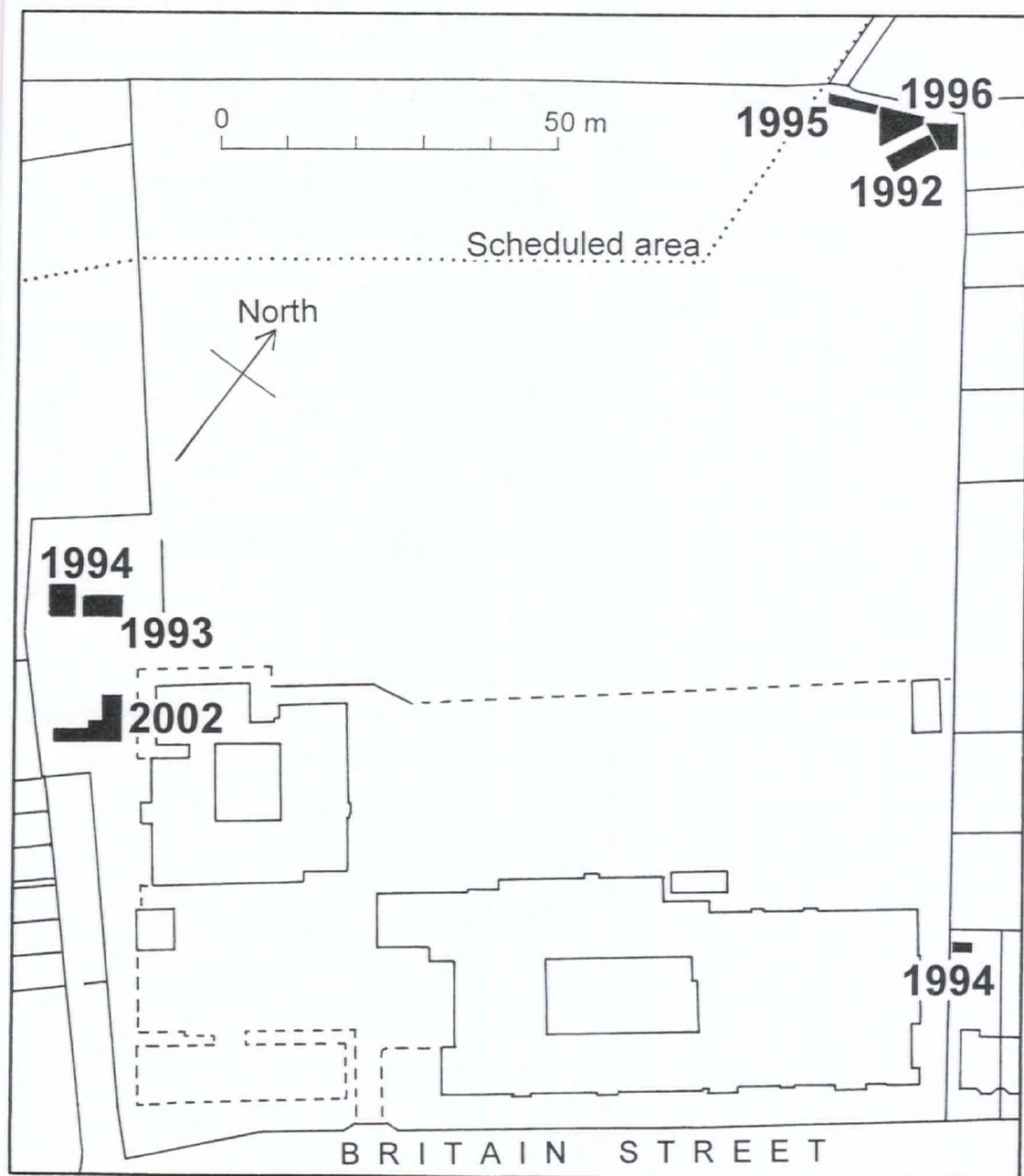


Figure 1 Locations of trial excavations at Priory Middle School, 1991 - 2002

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Contents

Obituary: Ron Fowler, 1915 - 2001	1
Evidence for prehistoric settlement and medieval activity at Yarl's Wood, Clapham By Mike Luke	3
The investigation of an early-middle Iron Age settlement and field system at Topler's Hill By Mike Luke	23
Evidence for Iron Age, Roman and early medieval occupation on the Greensand Ridge at Haynes Park, Bedfordshire By Mike Luke and Drew Shotliff	55
Excavations at New House Farm, Billington, 1997-1999 By Ren Hudspith	136
Early Roman occupation on the site of the former Queensway Hall, Dunstable By Andrew Mudd	141
Archaeological investigations at 24 Friary Fields, Dunstable, Bedfordshire By Rhodri Gardner	159
Recent archaeological investigations in Bedford town centre: evidence for an early northern boundary? By Matt Edgeworth	190
Excavation at Castle Street, Luton: the site of Robert de Waudari's Castle? By Sarah Coles	201
Medieval occupation at 'Danish Camp', Willington By Gary Edmondson and Andrew Mudd	208
Excavations at Priory Middle School, Dunstable, 1992 - 2002 By Ren Hudspith	222

