Inside Fulk De Breaute's 13th-Century Castle

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with contributions by Paul Blinkhorn, Julie Franklin, Julie Lochrie, Abby Mynett and Laura Bailey, and illustrations by Anna Sztromwasser

SUMMARY

An excavation by Headland Archaeology in 2011, prior to redevelopment of the University of Bedfordshire's Park Square Campus in Luton, revealed evidence of the early 13th-century castle complex of Fulk de Breaute. It was the fifth in a series of investigations at the sites of both Fulk de Breaute and Robert de Waudari's castles in Luton. Whilst the previous investigations had uncovered the castles' defences, this excavation shed light on the day-to-day activity happening within de Breaute's castle complex. It revealed an industrial area consisting of large pits, along with a series of parallel ditches and fences which would have separated work areas from walkways, guiding people around the castle complex. This report draws the results of the five investigations together and compares the information which is now known about these two castles.

INTRODUCTION

As part of a wider redevelopment of the University of Bedfordshire's Park Square Campus, Luton Borough Council granted planning permission for the construction of a new Postgraduate and Continuing Professional Development (CPD) Centre. Given the site's location in an archaeologically sensitive area within the historic core of Luton (Fig. 1), Luton Borough Council (acting on advice from Central Bedfordshire Council's Archaeological Officer) required the University to commission a programme of archaeological work in order to gain information on any significant archaeological remains within the development area. A trial-trench evaluation was carried out in January 2011 (Albion Archaeology 2011), which recorded the presence of such remains dating to the early medieval period. These were considered to be part of the castle complex of Fulk de Breaute, remains of which had been found within previous investigations at neighbouring University development works (Albion Archaeology 2009; Archaeology South-East 2010).

The results of the evaluation led the Council to require an open-area archaeological excavation of the development area. The University of Bedfordshire commissioned Headland Archaeology (UK) Ltd to carry out this excavation (undertaken between 27th July and 2nd September 2011), the results of which are presented below.

SITE LOCATION AND DESCRIPTION

The site is located between Park Street and Vicarage Street, within the historic core of Luton. It lies at an average height of 105m AOD on the south side of the River Lea valley, and is centred on grid reference TL 09597 21115.

Parts of the north and north-west area of the site had been almost entirely truncated during the demolition of former university buildings, one of which had a basement. The remainder of the site was relatively well protected beneath a series of buried soils and more recent dumping layers, the latter generated by the earlier demolition of 19th-century buildings.

The underlying geology of the area comprises chalk, overlain by fluvioglacial deposits of clay with patches of sand and gravel.

ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

Luton is known to contain archaeological remains dating to all periods from the prehistoric onwards (Albion Archaeology 2003). Given the largely medieval date for significant remains investigated at this site, it is this period of the town's history on which the text below focuses.

Luton, meaning 'settlement or estate on the River Lea' (Watts 2010, 387), was the largest manor in Bedfordshire. It was exceptional as compared with most manors in the country, in that it had formed part of the private property of the Kings of England for 500 years before the Norman Conquest (Austin 1911, 5).

The Domesday Survey lists Luton as a royal manor (Domesday Book Online). It remained so until the 12th century, when King Stephen granted both the manor and the church at Luton to Robert de Waudari, a mercenary who fought for the King against Matilda. In 1139, de Waudari built an adulterine castle on the south-western approach to the town (Fig. 2), but it was demolished only fifteen years later when, following the 1153 Treaty of Winchester, it was agreed that all adulterine castles would be destroyed (Abrams and Shotliff 2010, 387–9).

In the early 13th century, Luton was held by William Marshall, the Earl of Pembroke and his wife, Alice. After Alice's death at a young age, her husband retained the Manor of Luton for just a few months before handing it over in 1216, perhaps as demanded by King John, to Fulk de Breaute, a Norman of illegitimate birth who was a great favourite and supporter of the King (Dyer and Dony 1975, 46). De Breaute completed work on his castle at Luton in 1221, making it a multi-functional castle that was the focus of political, financial and legal decision-making in the town. By 1224, however, de Breaute had fallen out of favour with the King and had gone into exile

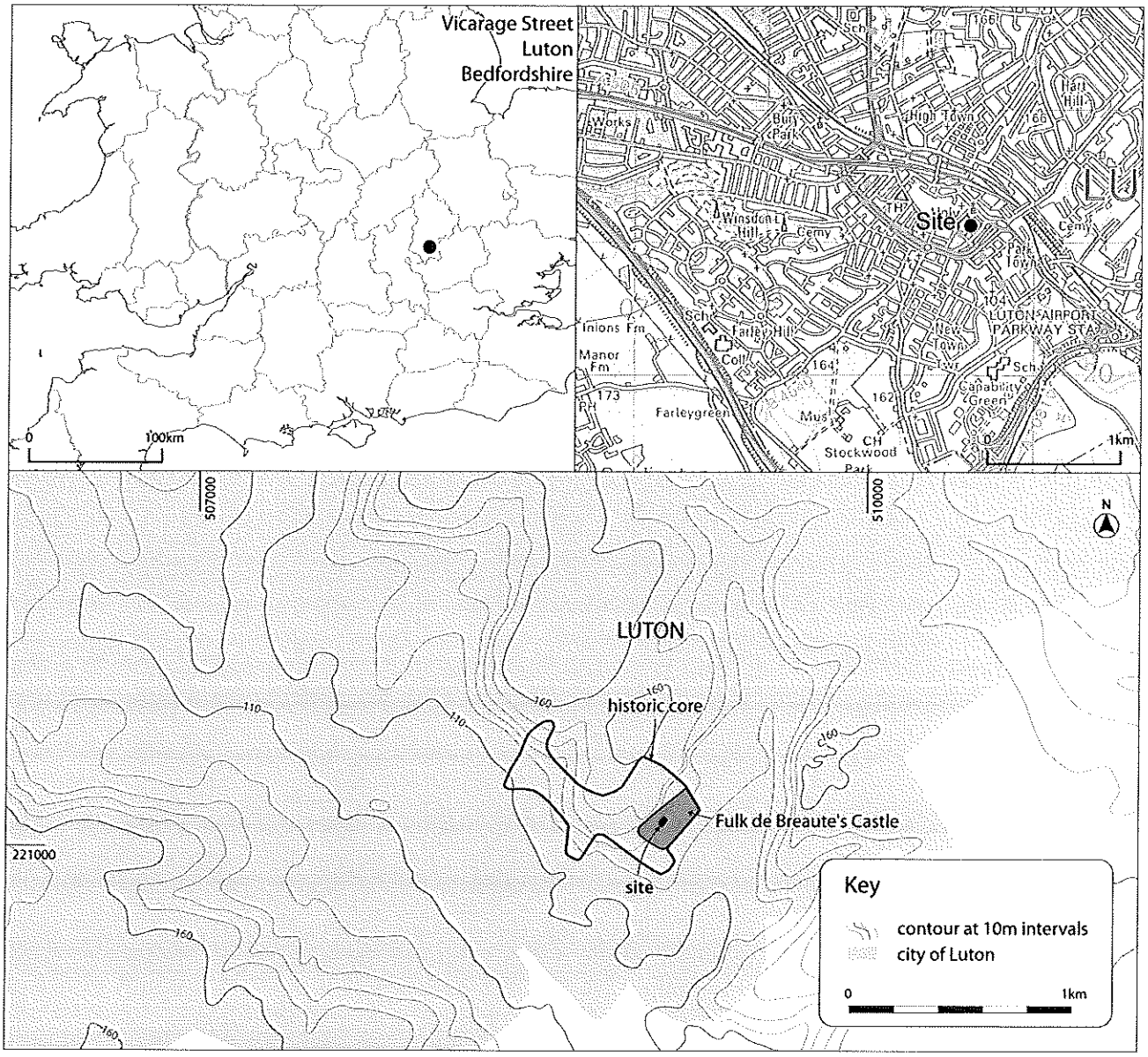

Figure 1: Site location and local topography

in France. The castle is thought to have been demolished as soon as his fate had been decided (David 1855, 7), but no direct physical evidence for this has been revealed, and the precise nature of land use after 1224 is still a matter for consideration.

Prior to modern archaeological investigation, de Breaute's castle was thought to have been situated on the south side of St Mary's Church (Fig. 2). Following his exile, and the apparent demolition of his castle, a house called the 'court house' was erected (Austin 1928, 102). It is possible that the 'court house' formed part of the 13th-century range of buildings, and was hinted at by Leland in 1540 when, referring to the 'court house', he states 'part of the old place standeth yet' (Austin 1928, 102). Excavations here in 2010 revealed ditches dated to 1250–1400 which may have been related to the moated 'court house' (Archaeology South-East 2010). The reference to a 'court house' suggests that certain legal functions were retained on the site, with it serving as an occasional residence for the King or great lords, as an agricultural centre and as the manorial court collecting rents and fines from its tenants (Keir, this volume).

Around the end of the Middle Ages, the site became pasture on the edge of the somewhat 'shrunken' town of Luton. The 1842 Tithe map and town both show the former castle as an enclosed field. The boundaries of the enclosure were thought to be the remains of the bank and moat of de Breaute's castle, as Davis describes: '*Fulk de Breaute's castle was surrounded by a very high bank or mound of earth and a wide moat. There are still large portions of the mound remaining on the north and south-east sides*' (Davis 1874, 30–1). By the early 20th century, the site is shown on Ordnance Survey maps as being occupied by terraced housing fronting onto St Anne's Road.

Until recently, little archaeological investigation had been conducted in the historic core of Luton. Since 2005, however, redevelopment works at one or other of Luton's two castles have prompted a series of five investigations which have significantly advanced our understanding of these sites (Coles 2005; Abrams and Shotliff 2010; Archaeology South-East 2010; Keir, this volume). This series of investigations, the results of the fifth of which are described in this article, has helped to redress what has been described as a historical lack of appreciation

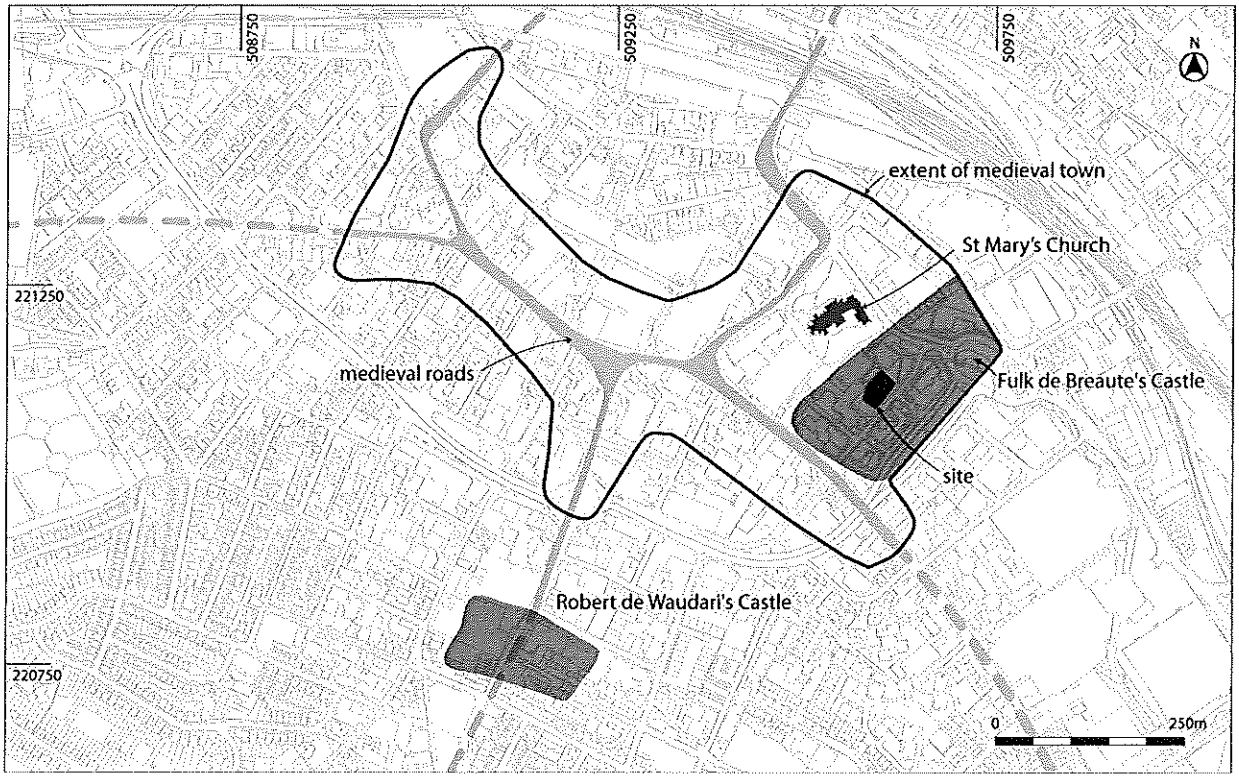

Figure 2: Position of castle within medieval Luton

of Luton's heritage, manifested through the wholesale demolition of later buildings and the meagre extent of documentary records (Bunker 1999, 14).

The previous four investigations mostly revealed large ditches, namely the defensive, perimeter ditches which marked out the edges of the castle complexes. The structural remains of actual castles have not been revealed, although a relatively large timber structure was discovered immediately north-west of the Postgraduate and CPD site (Keir, this volume). The investigation described by this article, however, was located well inside the castle complex, presenting the opportunity to examine how land was divided up within the castle precinct, what activities took place, and whether the interior was crowded with structures or contained large open spaces for holding animals or growing crops.

RESULTS OF THE INVESTIGATIONS

Phases 1 and 2: Enclosed industrial area within the medieval castle complex

Evidence was revealed of a series of land boundaries, with fences and ditches used to divide areas of activity. Phase 1 represents their construction and use, with their disuse in Phase 2. The features within these areas included relatively deep pits, suggesting that an industrial activity was taking place. Close study of the spatial arrangement of the boundaries allows for some recreation of how pedestrian traffic might have moved around this area, opening a window on life within the castle complex.

Pits (Fig. 3)

A cluster of four pits (G5) was identified, each of which was sub-rectangular in shape, with almost vertical sides and a flat base. The largest was 2.65m long, 2.10m wide and 0.55m deep. Three of the pits were arranged in a row on a NE–SW alignment, with a gully linking two of them. Two post-holes were situated on opposite sides of the southernmost pit and may have been associated with a temporary structure to cover the area.

A dark deposit of grey clay filled the base of three of the four pits in G5. This distinctive deposit is most likely to have been formed by activity broadly contemporary with the pits' period of use, although the precise activity remains enigmatic. The clay's stratigraphic position in the base of these features suggests that they were open at broadly the same time and became infilled by the same processes.

The material overlying this clay was very different and contained domestic material characteristic of hearth sweepings and kitchen waste, including pottery sherds, ceramic building material, metallic objects, animal/fish bone and marine shell. The pits produced a considerable quantity of 12th – early 13th-century pottery, dominated by Hertfordshire Grey-wares that may have been produced locally at manufacturing centres such as Hitchin and Toddington. The mixture of this material along with charred grain and wood charcoal is likely to have resulted from the deposition of household rubbish in the pits once they were no longer required for their original function. Along with that domestic rubbish were some pieces of what appeared to be a clay floor that had accidentally been fired, perhaps during the destruction of a building. It is unclear whether this resulted from the destruction of the castle, following de Breaute's departure, or from a less historic event.

Fence lines (Fig. 3)

Six post-holes (G2), averaging 0.3–0.4m in diameter and sharing a similar morphology, were positioned in two

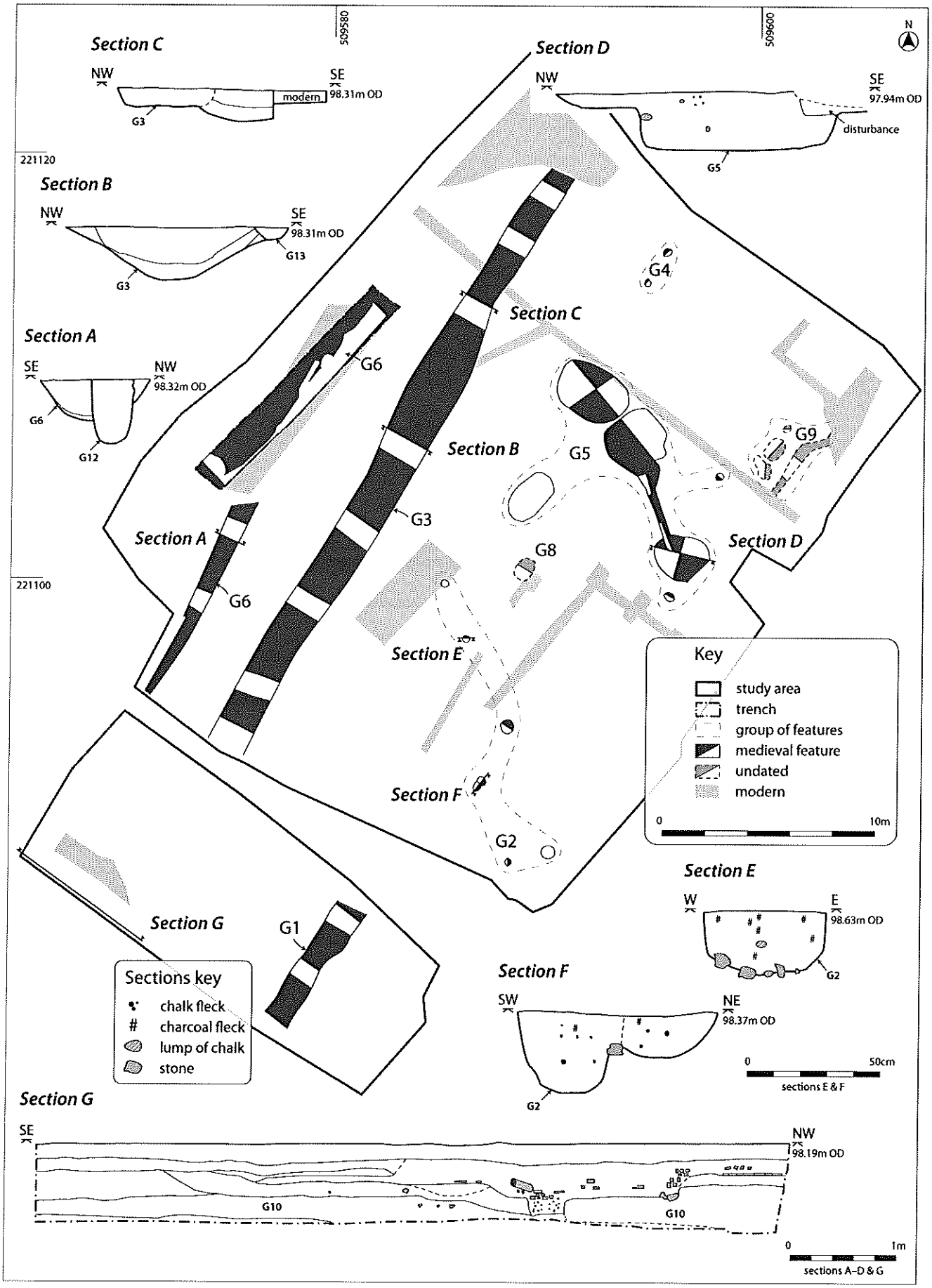

Figure 3: Phases 1 and 2: Enclosed industrial area within the medieval castle complex

rows on a NNW–SSE alignment. The distances between them varied; on average they were *c.* 4m apart. This series of post-holes is interpreted as a fence line. The uniformity of the deposits that formed in the post-holes once the posts had rotted, or been removed, suggests that they were infilled at broadly the same time. Two small sherds of residual 10th–11th century pottery were recovered from the post-holes' backfill; such small quantities of residual pottery were also found on the adjacent sites (Keir, this volume; Archaeology South-East 2010), indicating earlier activity of an ill-defined nature in the vicinity. The fence line is likely to have been used to separate distinct activities within the castle complex.

Two shallow, circular post-holes (G4) were situated on the north side of pits G5, 1.5m apart. They contained similar deposits to those in G2 but produced no dating evidence. The post-holes may represent a further fence line which, along with G2, was part of a sequence of fences that enclosed the industrial activity area.

Boundary ditches (Fig. 3)

Three parallel ditches were recorded on a NNE–SSW alignment. G3 was the largest, measuring up to 2.2m wide and 0.35–0.45m deep; G1 and G6 were similar in depth but only *c.* 1–1.4m wide (Fig. 3: Sections A–C). Ditches G1 and G3 are both presumed to have terminated between the two excavation areas, since no trace of either was found in the other area.

The infill of the ditches contained two deposits that were quite distinct from each other. The pale yellow silty clay in G1, G6 and the south-west half of G3 was similar in character to that of the geological deposits into which the ditches were cut, suggesting that they became gradually infilled as a result of natural erosion. In contrast, the dark grey clay in the north-west half of G3 was of similar character to the deposit found at the base of pits G5, perhaps indicating that the waste from the pits was being tipped into these ditches.

The parallel alignment of the three ditches is typical of a system of contemporary, interconnected land boundaries. Along with the fence lines, the ditches may have been used to segregate the industrial area from the more domestic castle buildings, with the linear spaces between these ditches acting as passageways to and from this area without having to enter the work space where pits G5 were located.

Phase 3: Later additions to the castle complex and abandonment

Replacement of the ditched boundary with a fence line (Fig. 3)

A series of post-holes (G12) were cut into backfilled ditch G6. Their infill was very similar to that of the surrounding ditch fill, and the post-holes were only clearly visible in section. They varied in size, but mostly had a diameter of *c.* 0.35m and were up to 0.6m deep (Fig. 3: Section A). Two shallow post-holes G13 were also identified in ditch G3 (Fig. 3: Section B). The presence of post-holes in the backfilled ditches suggests the replacement of ditched boundaries with fences, which perhaps took place after the industrial area went out of use. Medieval pottery and building material was recovered from the post-holes, which were sealed by layer G10, suggesting that the change in type of boundary occurred within the medieval period.

Abandonment (Fig. 3: Section G)

The final fills of industrial pits G5 were very similar in character to the underlying geological deposits. This suggests that they were deliberately infilled at the end of their use, which is likely to have happened while the area was being levelled, perhaps after the castle complex was abandoned.

A uniform, 0.25m-thick layer of mid-brown silty clay (G10), *c.* 0.5–0.6m below the modern surface, sealed the medieval remains. This deposit would have formed once this part of the castle complex was converted to agricultural uses, and is characteristic of a rich agricultural soil, possibly enhanced by manuring either deliberately or as a result of its being used as pastureland.

Phase 4: Post-medieval to modern

A large pit on the western limit of excavation contained fragments of tile and modern brick, and is likely to have been associated with terraced houses fronting onto St Anne's Road which are shown on the 1842 town map. Foundation 'scars' were also observed across the site, along with an L-shaped red brick foundation in the north-east corner; these are also likely to have been associated with the terraced houses.

THE FINDS

Medieval pottery

Paul Blinkhorn

Methodology

Pottery from each context was recorded on a database by number and weight of sherds per fabric type, with featureless body sherds of the same fabric counted, weighed and recorded as one database entry. Feature sherds such as rims, bases and lugs were individually recorded, with individual codes used for the various types. Decorated sherds were similarly treated. In the case of the rim sherds, the form, diameter (in mm) and the percentage remaining of the original complete circumference were all recorded. This figure was summed for each fabric type to obtain the estimated vessel equivalent (EVE).

The terminology used is that defined by the Medieval Pottery Research Group (MPRG 1998). Statistical analyses were carried out to the minimum standards suggested by Orton (1998–9, 135–7). Fabric codes and chronology follow the Bedfordshire Ceramic Type Series, as follows:

Fabric Code	Fabric Name	Dating	Sherds	Weight (g)	EVE
BA	Flint	Bronze Age	2	4	0
B01	T1 (1) type St Neots Ware	*c.* AD900–1100	2	9	0.03
C67	Mixed inclusions	12th–13th century	9	190	0.05
C03A	Fine sand and flint	12th–13th century	2	9	0
C59A	Coarse sandy ware	12th–13th century	5	28	0
C60	Hertfordshire Grey Ware	late 12th–mid-14th century	86	1,614	0.56
C58	Hertfordshire Glazed Ware	mid-14th–15th century	1	1	0

Table 1: Codes and chronology of the Bedfordshire Ceramic Type Series

Results

The pottery assemblage comprises 107 sherds with a total weight of 1.855kg. The estimated vessel equivalent (EVE), by summation of surviving rim sherd circumference, is 0.64.

The pottery occurrence by number and weight of sherds per phase and fabric is shown in Table 2. Each date should be regarded as a *terminus post quem*.

Phase 1

The entire assemblage from this site-phase comprises plain body-sherds, and includes the two sherds (4g) of probable Bronze Age pottery from G3.

Phase 2

The bulk of the pottery from the site comes from this phase, in particular from G5, which produced an assemblage of fifty-five sherds weighing 1,093g (EVE = 0.56). Most of the sherds came from two vessels, a jug and a jar; these are both in Hertfordshire Grey Ware (Figs 4 and 5), which also accounts for most of the remaining pottery from this phase-assemblage.

The Hertfordshire Grey Ware jug provides crucial typological information in the form of its handle, which has three lines of thumb impressions running along its length — a style known as 'overall thumbing', and typical of the period AD1200–1230 (Blackmore and Pearce 2010, 209). Given the paucity of pottery from the site other than in G5, it suggests that the main period of activity here dates to around that time.

Phase 3

Most of the pottery from this phase is very fragmented, and has the lowest mean sherd weight (7.2g), indicating that most is likely to be residual — certainly the two sherds of St. Neots Ware fall into this category, and only one small sherd of Hertfordshire Glazed Ware is likely to be contemporaneous. The pottery from this phase, which mainly came from the tops of features, therefore probably relates to clearance of the site, and is made up of material which was gathered up in soils used to backfill or level earlier features. The date for this phase therefore must be regarded as a *terminus post quem*.

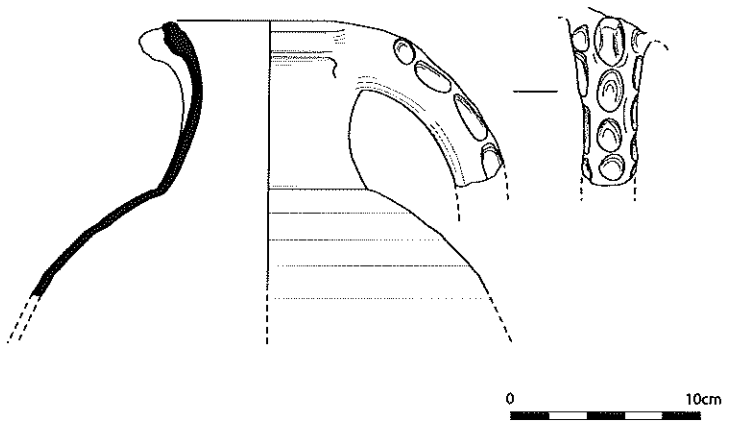

Figure 4: Fabric C60. Rim, neck and handle of jug. Grey fabric with darker surface

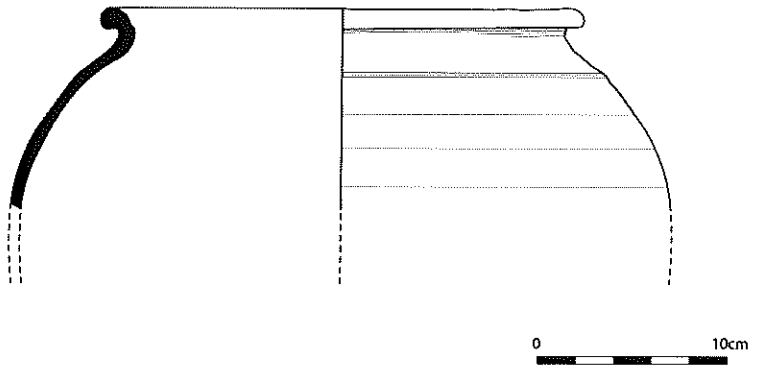

Figure 5: Fabric C60. Jar rim. Light grey fabric with darker core and surfaces. Some sooting on the shoulders

Phase	BA	B01	C60	C67	C58	C03A	C59A	Total	EVE	Date (tpq)
1	2 (4g)	-	2 (30g)	3 (31g)	-	-	-	7 (65g)	0	late 12th century
2	-	-	66 (1,268g)	3 (71g)	-	-	2 (9g)	71 (1,348g)	0.61	early 13th century
3	-	2 (9g)	14 (125g)	1 (3g)	1 (1g)	2 (9g)	3 (19g)	23 (166g)	0.03	mid–late 14th century?
4	-	-	-	-	-	-	-	-	-	-
unphased	-	-	4 (191g)	2 (85g)	-	-	-	6 (276g)	0	late 12th century
Total	**2 (4g)**	**2 (9g)**	**86 (1,614g)**	**9 (190g)**	**1 (1g)**	**2 (9g)**	**5 (28g)**	**107 (1,855g)**	**0.64**	

Table 2: Pottery occurrence by fabric type and phase, quantified by sherd count (and weight)

Unphased
The large size of the sherds, all four of which are medieval, suggests that they were not residual, but that the fill of this pit in G9 is in fact contemporary with the Phase 2 deposits.

Discussion
The pottery from this site is fairly typical of assemblages in the region, and the fabric types are all well-known. The assemblage is dominated by Hertfordshire Grey Wares, as would perhaps be expected given that there were two manufacturing centres of such pottery near to Luton: at Bancroft, Hitchin (Blinkhorn 2005); and to the east of Toddington, at what is now Junction 12 of the M1 motorway (Blinkhorn forthcoming). It is a pottery type found throughout Bedfordshire and Hertfordshire, and also at sites in Middlesex and the City of London (Turner-Rugg 1995, 48). It is worthy of note that none of the handles from the kiln at Bancroft, Hitchin had thumbed decoration, but such handles were noted amongst the Toddington waste, indicating that the latter is a more likely source of at least some of the Hertfordshire Grey Ware at this site.

The assemblage is generally fragmented and scattered, other than the pottery from G5, which appears to be a primary deposit. The overall impression is that this was either a very short-lived site or, more likely given the presence of the church and castle, was somewhat peripheral to the main areas of activity, with the nature of the Phase 3 pottery indicating a period of clearance and consolidation at some time around the mid-14th century.

Metalwork
Julie Franklin

All the metalwork came from features dated to Phases 1 and 2: seven items from pits G5, which are ceramically dated to the early 13th century; and an iron nail from ditch G6, the pottery from which suggests a late 12th-century date. None of the metalwork can provide tight typological dating, but all of it is consistent with the medieval dates suggested by the associated pottery.

The most striking of the objects is a copper alloy brooch pin from one of the pits in G5 (Fig. 6). It is a particularly large, ornate pin, 70mm long and cast in one piece, with an integral offset loop that has raised ridges and a flange at the back. This shaping may have been to allow easier manipulation of the pin during fastening and unfastening, or it may have been designed to copy decoration on the brooch ring itself to create overall symmetry. Its exceptionally good condition implies that it may not have been in use for long before being lost.

The brooch pin is the most unusual find from the whole finds assemblage. Medieval brooch pins are most commonly looped around the ring of the brooch after its construction, whereas pins such as this, cast with integral loops, would require the brooch frame to be fitted through the pin. Some such cast pins are known (*e.g.* Biddle and Hinton 1990, fig. 172:2029, 2030 and fig. 173:2033, 2038; Margeson 1993, fig. 7:55; Egan and Pritchard 1991, fig. 160:1310 and fig. 161, 1314; Cherry 1987, 485, nos 650–651), though generally fixed to 14th-century brooches (Biddle and Hinton 1990, 640). However, these are of a different form, with a loop set centrally to the pin and often with a collar between the shaft and loop. No parallels for pins of the particular design of the Luton example could be found.

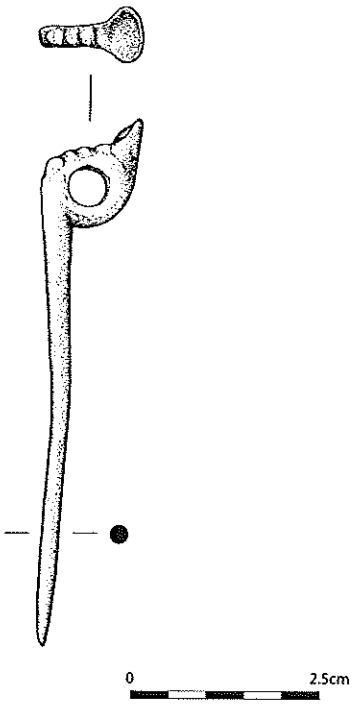

Figure 6: Copper-alloy brooch pin

Also exceptional is the size of the pin. Medieval brooches came in a range of sizes but the largest are generally 40–50mm across (*e.g.* Margeson 1993, fig. 7:61; Egan and Pritchard 1991, fig. 162:1318; Goodall 1984, fig. 190:56), with the pin typically a little shorter or longer than the width or diameter of the brooch. That said, a particularly large brooch pin of comparable size to the Luton one was discovered in Norwich (Margeson 1993, fig. 7:62). This was a much plainer example with no integral loop, but interestingly was also found in a late 12th- or 13th-century deposit.

The pin is clearly part of a large and ornate object, though conversely made of copper alloy, rather than silver or gold. Until any similar examples come to light, the pin remains a somewhat enigmatic item.

The only other metal finds are six small, iron woodworking nails and an iron rove plate. The nails presumably relate to the construction of, and repairs to, nearby structures. Rove plates were used in conjunction with nails to form clench bolts, to secure two or more thicknesses of wood together. The rove plate is a small rectangular or lozenge-shaped plate with a central hole, which fitted over the protruding tip of the nail on the reverse of the wood. The tip was then clenched over, securing it in place. They are particularly associated with the construction of boats and doors, the latter being more likely in this context.

Flint strike-a-light
Julie Lochrie and Julie Franklin

Over 500 flint artefacts were recovered, many of which show signs of reduction and some secondary modification, including cores (bipolar and platform), edge-retouched and notched pieces. A number are likely to be of prehistoric origin and are possibly contemporary with the Bronze Age pottery; however, none of the flints bear any

diagnostic features which could identify the nature, date or location of any prehistoric activity in the area, and most are clearly residual. Only one find was examined in more detail, as there is some evidence to suggest that it was used during the medieval period for fire-lighting.

The find, part of a possible strike-a-light from one of the pits in G5, is an inner, hard-hammer flake of a dull green-brown to red-brown, lightly patinated flint (Fig. 7). There is a single break along the entire left lateral and multiple breaks to the right lateral. The retouch occurs in three locations: the right and left laterals at the proximal, with some nibbled retouch to the thin proximal end; and a short area to the left distal corner. All are gently concave. The retouch to the left, proximal lateral is unusually positioned, beginning semi-abruptly at the proximal but changing to slightly larger acute removals from the edge of the dorsal surface only. These have been carried out after the break to the lateral edge. There are some other very small, acute flakes similarly struck from the same edge at the medial. The breaks to the right lateral edge have broken through the retouch and are thus later; they take the form of several steep, direct and inverse removals of varying size, some of which have fresher patination.

The use of flint and steel for starting fires has long been known. Flints were used to strike off a small spark from the steel onto a piece of tinder, which was then fanned and fed to create a fire. Before the invention of matches in the 19th century, this was the most common and convenient method in use, and the tools required were often stored or carried within a tinder box (Cave-Brown 1987). Firesteels (sometimes also called strike-a-lights) have been identified at a number of medieval and post-medieval sites (*e.g.* Egan 1998, 121–2; Egan 2005, 79–80; Goodall 1990, 981–3; Goodall 1993, 86), but any iron object could have served the purpose and it is likely that the backs of knife blades were commonly used in this way.

The stone component of this toolkit is little understood by comparison, with very few identified in medieval assemblages. Two categories can be identified: pebbles (typically of quartz or quartzite), with a score mark on one side where they appear to have been struck with a steel point to create the spark (*e.g.* Manning 2009, 87; Smith 1994, 202–3); and chipped flint tools where the sharp edge has been used against a steel edge (*e.g.* McCartan 2004, 535–6; Wickham-Jones 2004, 74). The problem with these edged stone tools is that there is no specific typology by which to identify them. Any sharp-edged stone of convenient hand-size would serve the purpose, whether it be a freshly struck flake or re-used prehistoric tool, and it is therefore likely that many have gone unrecognised.

The Luton flint cannot be definitively identified as a strike-a-light, but there is some evidence which points towards it as a strong possibility. It was a prehistoric tool: the retouch around the proximal end and distal corner implies a Neolithic to Bronze Age date, though being incomplete, its original function is unclear. Its deposition can be securely dated by associated pottery, however, to the early 13th century. Residual prehistoric lithics were clearly easy to acquire at the site during the medieval period, and others were found deposited in the same context. It is the alternating, steep flake scars to the right lateral edge which suggest its use as a strike-a-light — the varying patination indicates that they were struck at a much later date than the piece was retouched. They bear no pattern and are very unlikely to represent a deliberately manufactured working edge. The edge has been struck hard with a glancing blow, removing thin flakes which are consistent with being struck against a firesteel (Cave-Browne 1987, 2). It seems likely that at some point it was so used.

Ceramic and stone building materials

Julie Franklin

The assemblage

A small collection of ceramic and stone materials was recovered, but for the most part these appear to be residual, relating to earlier and later construction and conceivably to contemporary nearby structures.

Totternhoe Stone

Nearly 4kg of this greyish-white chalky limestone was recovered from Phase 2 ditches G3 and G6, with a particular concentration in the former. Some sherds have dressed faces with clearly visible chisel marks, indicating that these were used, or intended for use, in some kind of structure. The clarity of some of these marks suggests that the material is construction waste — if the stones had been used on the outside of a structure, the surface of the soft stone would have quickly weathered.

The stone is of a type quarried extensively at Totternhoe, about 7 miles to the west of Luton. It is particularly well suited to fine carving for intricate architectural detail, yet is also strong enough to be used for construction, though prone to weathering badly in an external setting. It can often be found used in a chequer pattern interspaced with harder flint, to give strength and a decorative aspect to church walls, such as those of the Church of St Mary, Luton, about 100m north-west of the site. This particular stone is unlikely to be connected with the timber-built castle, and may well be waste material from building works at St Mary's.

Burnt Clay Floor

The only building material likely to be connected to the castle itself is a large collection (3.7kg) of pieces of what appeared to be a clay floor, burnt *in situ* and then redeposited within one of the Phase 2 pits in G5. The fabric is coarse and yellow, containing large pieces of limestone and other stone inclusions. The sherds are of variable thickness with unfinished undersides and no edge sherds

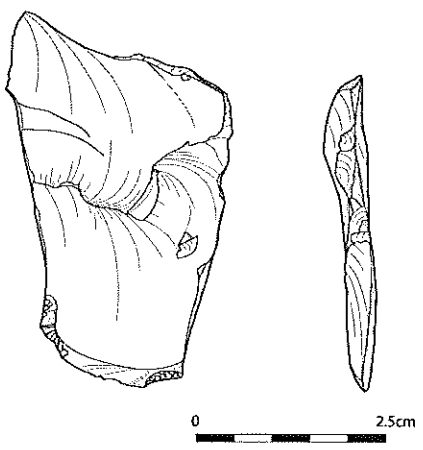

Figure 7: Flint strike-a-light

and hence do not appear to be deliberately made tiles. However, the top surface is always smoothed flat and fired red to a thickness of about 8mm, making it likely that this was a simple beaten clay floor which was accidentally fired, implying an episode of destruction by fire shortly before its late 12th- or 13th-century deposition in this pit.

Other Ceramic Building Materials

Other examples of ceramic building material include a brick sherd and a fragment of combed box flue tile, both clearly Roman; residual Roman finds including bricks and box flue tiles have also been recovered from neighbouring excavations (Wells 2013; Porteus 2010). A large sherd of peg tile was also found, in a coarse orange fabric with large flint and calcareous inclusions, similar to the most common fabric type found at Vicarage St (Porteus 2010, 20: Fabric T1) where the tiles were dated to the 12th–16th century. This flat roof tile is 13mm thick, at least 184mm wide and has the remains of two round peg holes towards one edge.

Two large fragments of daub (total weight 571g), well fired to a brick-orange in a coarse sand and flint-tempered fabric, both show wattle impressions. The largest piece is about 50mm thick with a flattened surface, with three roughly parallel round wattle impressions in the back, *c.* 10–15mm in diameter. Like the fragments of clay floor, the high temperatures to which these daub fragments have been subjected suggests destruction by fire.

Discussion

The general lack of ceramic and stone building material from the site supports the idea that the castle was of timber construction. Most of the building materials recovered can be linked to other structures and periods. The burnt clay floor and perhaps the burnt daub are the only possible exceptions; neither appears to have been deliberately fired, resulting instead from an episode of destruction and rebuilding.

Charred plant remains

Abby Mynett

Methodology

Samples were processed in laboratory conditions using a standard floatation method (cf. Kenward *et al.* 1980). All plant macrofossil samples were analysed using a stereo-microscope at magnifications of x10, and up to x100 where necessary, to aid identification. Identifications were confirmed using modern reference material and seed atlases including Cappers *et al.* (2006).

Results

The charred plant assemblage is relatively rich and diverse (Table 3). The condition of preservation varied from poor to good, with a relatively large number of cereal grains found to be broken and abraded and thus classified as indeterminate grain (*Cerealia indet.*). Several species were identified across the nine samples, with bread/club wheat (*Triticum aestivo-compactum*) appearing to dominate. Wild *taxa* were also identified across the samples.

Discussion

Most of the charred grain came from Phase 2 ditch G3, although nearly half of this was indeterminate cereal that was too poorly preserved to be identified to species level. Bread/club wheat was the dominant cereal, with fewer numbers of barley and oat grains and a small amount of possible spelt wheat identified. Pits G5 produced a similar cereal assemblage, though with much smaller overall quantities of grain. The abundance of cereal and the species identified in these samples indicate that cereal cultivation and production were being carried out on site, perhaps on a relatively large scale. The cereal assemblage identified is similar to other medieval assemblages from Bedfordshire sites such as Stratton and Tempsford Moat (Robinson 1996, 120–1).

Wild *taxa* from Phase 2 included docks, peas, daisies, mayweed, sedges, fat hen seeds and a few fragments of hazelnut shells. The range of wild *taxa* is indicative of wet and waste lands, with many of them known as common cultivation weeds (fat hen, docks and daisies). Peas were common throughout the medieval period (Murphy 2007, 109), though field legumes would also have grown as wild species alongside cereals and may have been gathered with the crop. The two blackthorn stones and blackthorn charcoal from pits G5 could have become mixed into the fuel wood that was gathered. These, along with rush remains, grow in wooded and scrub landscapes.

Noticeably fewer charred cereal remains were recovered from Phase 3 features, though a moderate assemblage from one of the G2 pits (Sample 4) showed a similar dominance in bread/club wheat to the cereal assemblages in Phase 2. The small amounts of charred plant material from ditch G1 and the other features in G2 are likely to be from household rubbish, given the amount of waste material recovered from these deposits. This reduction in charred cereals could indicate a change in diet and agricultural practices over time, but the overall assemblage is too small to draw firm conclusions.

Pits G2 also contained the largest number of wild *taxa* on site, including sixty sedge nutlets — a common wetland plant —and small numbers of scentless mayweed, peas, violets, docks and buttercup remains.

Charcoal

Laura Bailey

Methodology

Eighty charcoal fragments were analysed from four samples in order to provide an overview of the arboreal *taxa* they contained, and to look for any evidence of woodland management. Forty fragments were selected from Samples 5 and 6 from pits G5 in the Phase 2 activity area, and forty from Samples 3 and 4 (G2) in the Phase 3 abandonment of the activity area. The samples were chosen from those observed during assessment which had the greatest potential to contain fragments of a size suitable for identification. The charcoal was broken or fractured to view three sectional surfaces (transverse (TS), tangential (TLS) and radial (RLS)) necessary for microscopic wood identification. The charcoal fragments were then mounted on a slide and examined using an incident light microscope at magnifications of 100x, 200x and 400x, where applicable. Identifications were made using wood keys by Schweingruber (1978; 1990) and Wheeler *et al.* (1989).

As part of the identification process, the morphology of the charcoal fragments was also noted as to whether

		Phase	2					3			
		Group	3	3	5	5	5	1	2	2	2
		Sample	8	9	5	6	7	1	3	2	4
		Sample vol. (l)	40	30	40	50	40	30	10	10	20
		% analysed	25	100	100	100	100	100	100	100	100
Cereals											
Avena sp.	caryopsis	oat	6	42	3	1	7	-	-	-	4
cf. *Avena* sp.	caryopsis	oat	3	29	8	4	6	-	-	-	3
Hordeum vulgare (hulled)	caryopsis	hulled barley	2	50	4	4	4	1	1	-	2
cf. *H. vulgare*	caryopsis	hulled barley	7	49	4	2	1		-	-	-
H. vulgare indet.	rachis internodes	barley indet.	-								
Triticum sp.	caryopsis	wheat	62	60	1	8	-	1	-	-	-
T. aestivo-compactum	caryopsis	bread/club wheat	71	118	9	10	12	1	-	-	19
T. cf. aestivo-compactum	caryopsis	bread/club wheat	31	44	3	-	2	-	-	-	5
T. cf. *spelta*	caryopsis	spelt wheat	-	7	-	-	-	-	-	-	-
Triticum sp.	chaff fragments	wheat	-	-	2	-	-	1	-	-	-
Cerealia indet.	caryopsis	cereal indet.	147	397	28	36	30	14	1	-	15
		Total	329	796	62	65	62	18	2		48
Wild Taxa											
Corylus avellana	nutshell	hazel nutshell	-	-	-	-	1	-	11	2	-
Ranunculus sp.	achene	buttercup/crowfoot	-	-	-	-	-	-	-	-	3
Chenopodiaceae indet.	seed	fat hen family	-	-	4	-	3	-	-	-	
Rumex acetosa	achene	dock	2	5	4	-	-	-	-	-	2
Viola sp.	fruit	violets	-	-	-	-	-	-	-	-	1
Pisum sativum	fruit	pea	2	3	-	1	1	-	-	-	2
Prunus spinosa	fruit	blackthorn	-	-	-	-	2	-	-	-	-
Asteraceae sp.	achene	daisies	-	-	-	-	-	1	-	-	-
Matricaria	achene	mayweed	-	6	-	-	-	1	-	-	-
Tripleurospermum	achene	scentless mayweed	-	-	-	2	-	-	-	-	4
Carex sp. indet.	nutlet	sedge	-	7	-	-	-	-	-	-	-
Carex sp. cf. *C. flacca*	nutlet	glaucous sedge	-	2	1	1	2	-	-	-	2
Carex sp. Tri	nutlet		-	-	3	-	-	-	-	-	25
Carex sp. Bioconverse	nutlet		-	-	-	5	3	-	-	-	33
Poaceae indet. (large)	caryopsis	large-grained grass	-	-	-	-	-	-	-	-	3
Juncaceae sp.	caryopsis	rush	-	-	-	-	-	-	-	-	1
Fungal sclerotia			-	-	-	-	-	1	-	-	-
		Cereals (%)	99	97	84	88	84	86	15	0	39
		Wild *taxa* (%)	1	3	16	12	16	14	85	100	61
		Wheat (%)	49.8	28.8	24.2	27.7	22.6	16.7	-	-	50.0
		Barley (%)	2.7	12.4	12.9	9.2	8.1	5.6	50.0	-	4.2
		Oat (%)	2.7	8.9	17.7	7.7	21.0	-	-	-	14.6
		Indet (%)	44.7	49.9	45.2	55.4	48.4	77.8	50.0	-	31.3
		Total cereals per litre	**8.2**	**26.5**	**1.6**	**1.3**	**1.6**	**0.6**	**0.2**	**-**	**2.4**

Table 3: Composition of charred plant remains

they could be identified as roundwoods. The number of rings was counted for each fragment and the presence of very narrow or extremely wide rings was noted. Due to the fragmentary nature of charcoal and the shrinkage it undergoes during the burning process, it is unlikely that all fragments can be associated exactly with the type of wood being used for fuel (*e.g.* branch wood as opposed to large timbers). However, it was hoped that examination of the rings and their curvature would give an estimate of the size of timbers used. Ring curvature has been measured using the key by Marguerie and Hunot (2007, 1421), where weak curvature is thought to denote large timbers; medium curvature, medium sized timbers; and strong curvature, small timbers. Where curvature could not be viewed they are noted as indeterminate.

The charcoal was also examined for evidence of biological degradation in the form of fungal hyphae. The presence of fungal hyphae in wood is revealed by colour changes, of physical-mechanical characteristics and of the hyphae themselves (Schweingruber 1978, 194).

Results

The charcoal is summarised in Table 4.

Phase	Sample	Species Identified
G2	3	Beech, apple-type (*Maloideae* sp.) and hazel
G2	4	Beech and hazel
G5	5	Ash (*Fraxinus excelsior*), beech (*Fagus Silvatica*) and blackthorn (*Prunus spinosa*)
G5	7	Beech, oak (*Quercus* sp) and hazel (*Corylus avellana*)

Table 4: Results of charcoal analysis

Charcoal analysis of Samples 5 and 7 from Phase 2 pits G5 showed that ash (*Fraxinus excelsior*) was the dominant *taxon*, although it should be noted that it was only present in one of the two samples (Table 5). Beech (*Fagus silvatica*) was also well represented. Growth-ring curvature showed that most fragments of ash and beech derived from medium-sized branches, although some of the ash fragments came from larger branch wood. Thyllae were observed on ten of the ash fragments, indicating the burning of heartwood (Wheeler *et al.* 1989, 259; Marguerie and Hunot 2007, 1419). Fungal hyphae were present in many of the fragments, suggesting that dead or decaying wood was used for fuel, or perhaps that the wood was

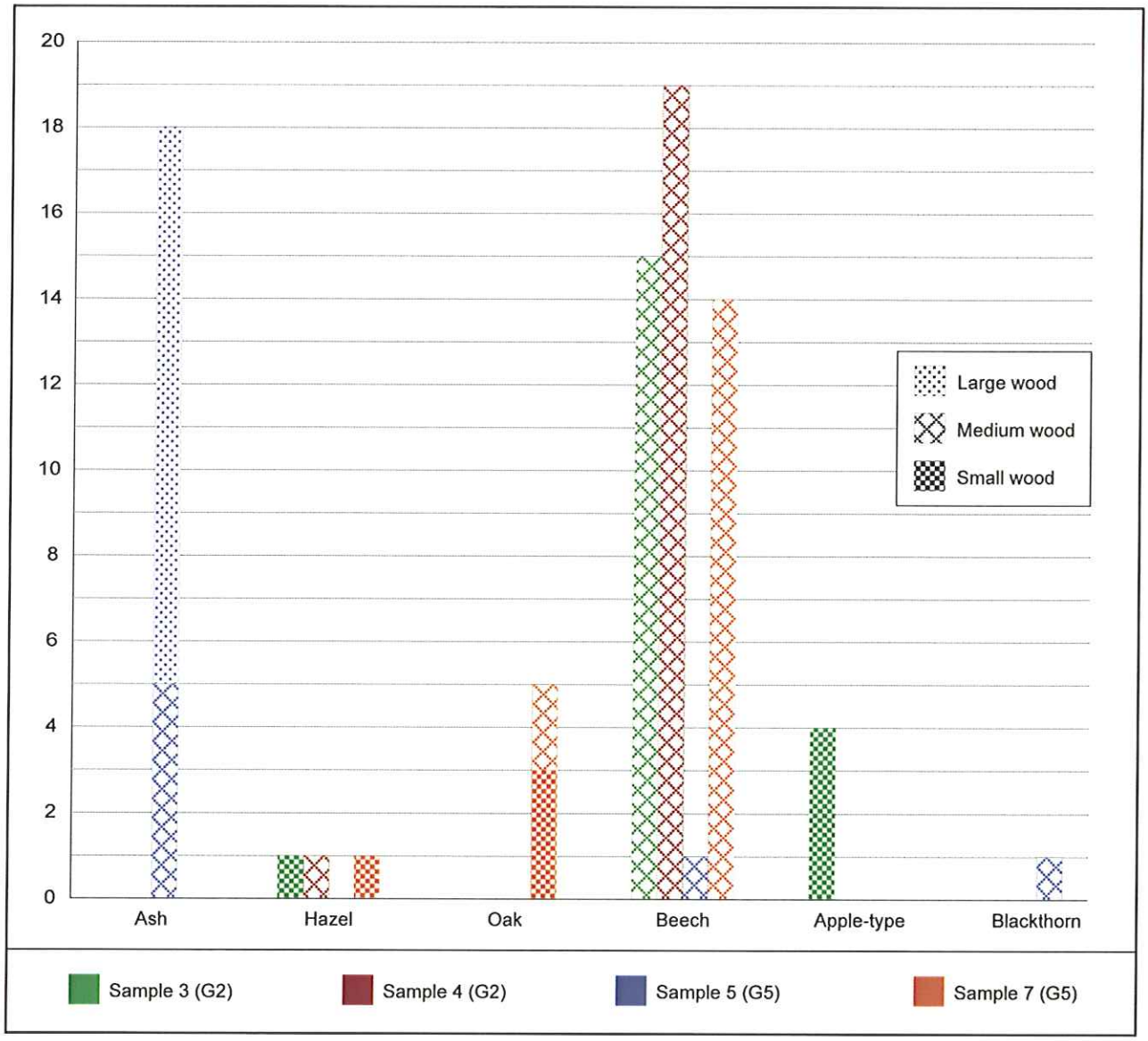

Table 5: Number and species of charcoal fragments per sample

stockpiled (Schweingruber, 1990; Marguerie and Hunot, 2007). Most of the beech and oak fragments displayed normal (1–2mm) growth rings, with a few showing narrow-banded (<1mm) rings; this suggests that growth conditions were generally good for these trees, whereas the wide growth rings observed on fragments of ash — some up to 5.39 mm apart — indicate that environmental conditions were optimal for its growth.

Ash is a light-demanding *taxon* and therefore probably formed part of the fairly open canopy in deciduous woodland, although it is sometimes found growing on damp soils, in marginal forests and on stream banks (Stuijts 2005, 140–1). Ash responds well to coppicing and makes excellent fire wood (Grogan 2007, 30); its dominance suggests that it was readily available nearby and was possibly preferred due to its excellent burning qualities. Beech prefers drier soils, such as chalk, but is found on a wide variety of free draining soils.

Beech was the dominant *taxon* in Samples 3 and 4 from Phase 3 features G2, with ash no longer represented (Table 5). All of the beech fragments represented former medium-sized timbers such as medium-sized branches, while small apple-type (*Maloideae* sp.) and hazel (*Corylus avellana*) branches were also used for fuel. Growth-ring patterns on the beech fragments contained evidence of narrow growth sequences (<1 mm) either following or preceding normal growth rings, which indicates that environmental stresses were placed on some of the trees during growth, and perhaps also provides tentative evidence for activities such as pollarding or coppicing (*e.g.* Wheeler 2011, 19). Fungal hyphae were present in six of the beech fragments.

Discussion

Analysis of the charcoal present in the four samples from Phases 2 and 3 indicates that dryland deciduous woodland was exploited for fuel wood in the medieval period, while the presence of species such as ash and blackthorn suggests that the canopy was fairly light and open. The presence of fungal hyphae in most fragments suggests that the charcoal represents the collection of deadwood for fuel.

Beech was dominant in three of the four analysed samples, suggesting that it was deliberately selected for use on site, either for fuel or construction purposes. Beech seems to have been a timber tree in some wood pasture,

but in many places it was pollarded (Rackham 2003, 323); pollarding or coppicing may have been undertaken in order to manage the trees' growth for supplying wood suitable for construction (*e.g.* straight timbers with few branches) or to ensure a constant supply of fuel wood on site. The presence here of wide growth rings sandwiched between narrow rings in the beech charcoal from Phase 3 suggests that woodland management was taking place. It is probable that other *taxa* such as oak and hazel were also being managed, but the fragmentary nature of the charcoal made identification of such management impossible.

DISCUSSION

There are no detailed historical references describing the design and layout of either Fulk de Breaute's castle or its ancillary buildings. This lack of information makes it difficult to envisage the exact layout of the complex, making the results of archaeological work particularly useful in painting a fuller picture of the activities which may have taken place. Whilst previous investigations and historical mapping (Fig. 8) have revealed the castle's defences, giving limited information on how the area may have reverted to open land after the castle was demolished, these investigations have thrown light on everyday activities within the complex. They support historical sources which indicate that the castle was more than just military in function, with evidence for other activities such as industry and agriculture.

Fulk De Breaute's castle

By combining the results of this investigation and the other two recent ones at de Breaute's castle (Archaeology South-East 2010; Keir, this volume), it is possible for us to visualise a castle complex defined by a large moat which measured up to 12m wide and 3m deep, enclosing an area of *c.* 2.5ha (Fig. 8). A reconstructive depiction (see cover illustration) combines the results of these investigations with knowledge from similar castles, as an aid in visualising how de Breaute's castle complex may have looked in the early medieval period.

Excavations in the south-western half of the castle complex have shown that this area did not contain the castle itself or stables, but a large, rectangular building instead (Keir, this volume). This impressive structure would have been notable within early medieval Luton, and may have functioned as a dwelling. An industrial area was located in the central part of the complex; this contained several large pits, which were delimited, and kept separate from other parts of the complex, by a series of fences and parallel ditches.

The finds that were recovered from this excavation suggest that the castle was in use during the early medieval

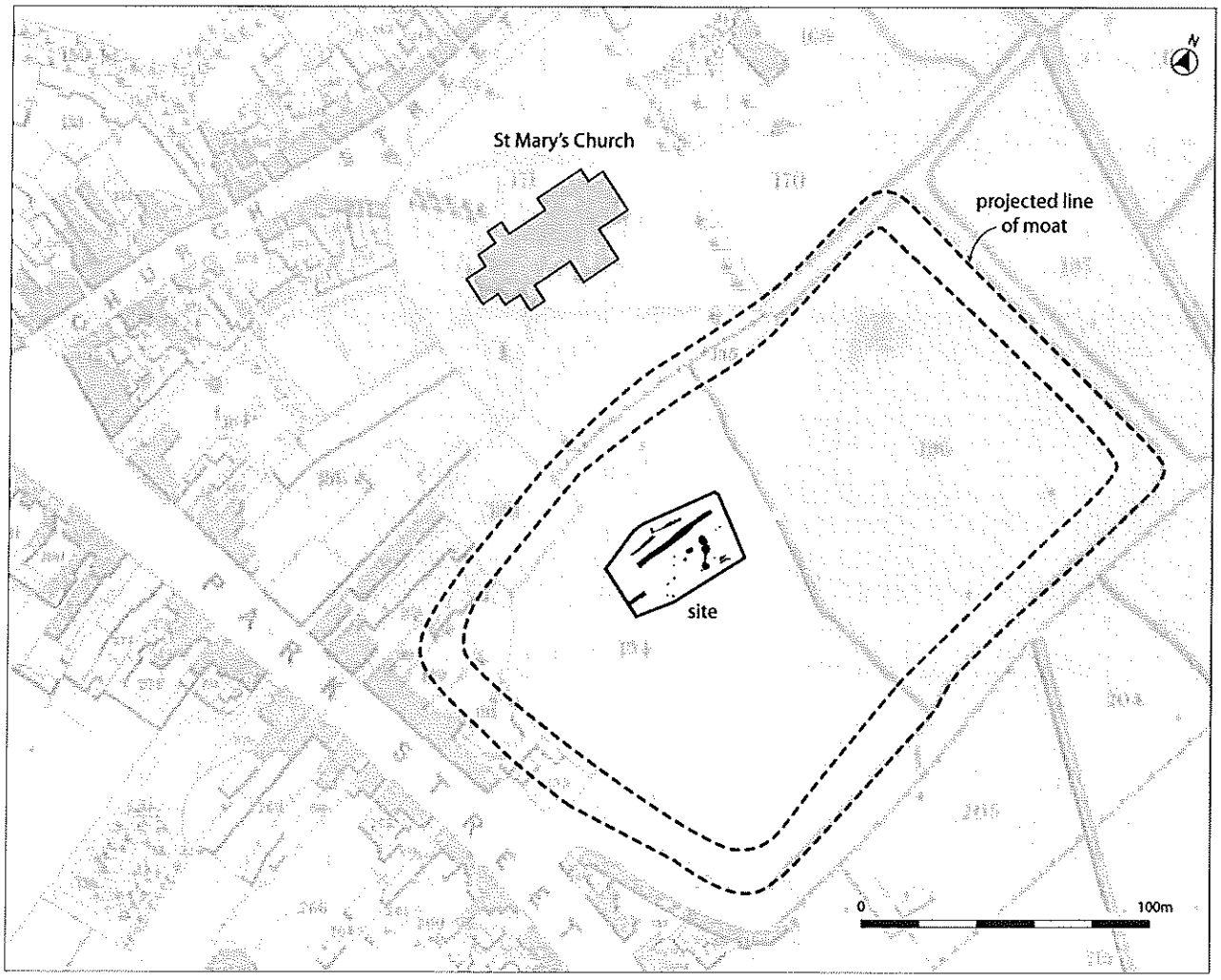

Figure 8: Site location within projected line of moat around the castle complex

period, with a complete clearance and consolidation of the complex happening around the mid-14th century, around a century after the demise of Fulk de Breaute. A small quantity of Anglo-Saxon material suggests earlier activity in this area which predates the castle, although on a much smaller scale. It seems feasible that these artefacts are contemporary with the foundations of the nearby Church of St Mary, with similarly dated material recovered from the previous investigations.

Artefacts recovered from the land surrounding the industrial pits — principally sherds from a Hertfordshire Grey-ware jug and jar, a possible flint strike-a-light, and sherds from a burnt clay floor — are indicative of nearby domestic activity. This is supported by faunal remains recovered from the same pits which are representative of a general waste assemblage originating from domestic activities, along with small amounts of charred plant material, charcoal, shells and nutshells. A brooch pin that was found in one of the pits is a relatively high-status object, and is likely to have been dropped in there accidentally.

Crop-processing was also being carried out at the castle — the limited evidence available tentatively suggests that this was happening on a relatively large scale, in view of the abundance and species identified across the site. Initial processing of the crops would have taken place at a nearby production site, before the crops were brought to the town as loose grain, perhaps only requiring a final clean before food processing related to baking and brewing took place.

Analysis of charcoal fragments that were recovered from the excavations has shown that the residents in the castle and surrounding area were exploiting dryland deciduous woodland for fuel wood. The right to take timber from mature trees belonged to the local lord, or in forests, to the king; in areas of wood pasture, the local community was allowed to take wood for repairing houses, fences and ploughs, deadwood for fuel, and to lop young branches for winter fodder (Given-Wilson 1996). The authority Fulk de Breaute held in Luton would have allowed the castle to consume and utilise the surrounding woodlands for the timber that was needed for construction and firewood; the abundance of beech charcoal suggests that this species was deliberately selected for use in this case.

Now that much of the south-western half of the castle complex has been investigated, it appears that the castle's elusive domestic buildings lay in the north-eastern half, which has not yet been examined. The town map of 1842 (Fig. 8) shows a boundary separating the north-eastern field from the south-western one; this could have been a boundary that originated at the time of the early medieval castle, perhaps segregating the residential, manorial area in the north from the southern area of industrial activity. Only investigation of the north-western area can test this hypothesis.

Similarities and differences between Luton's medieval castles

Situated south of the River Lea on a geology of clay, sands and gravels, only 500m apart, the two castles of Fulk de Breaute and Robert de Waudari shared a similar geographical location. Their function appears to have been different, however: de Waudari's 1139 castle was purely short-term and military in nature, whereas de Breaute's 1221 castle represented a defensive residence and manorial centre with close access to the surrounding medieval roads. De Breaute's castle was also significantly larger, enclosing 2.5ha of land within the core of medieval Luton; de Waudari's castle enclosed only 1ha on the outskirts of Luton.

As well as being smaller, de Waudari's castle also had a much shorter lifespan, lasting for only fifteen years. The castle was designed to overlook the landscape, with clear defensible vistas, while its strategic position on the London to Bedford road enabled it to control the southern approaches to Luton. Once the castle had served its purpose, the site slipped back into relative obscurity and was probably re-incorporated into the extensive tracts of pasture in that part of the town (Abrams and Shotliff 2010, 401–2). In contrast, even though Fulk de Breaute himself only occupied his castle for a short time (1221 to 1224), the site remained in use as an important political centre for a much longer period after his exile.

The lack of archaeological investigation into the domestic areas of either castle — indeed, the precise location of these areas is still uncertain — precludes any comparison between their structural design or organisational layout. The sites of the two castles do seem to have shared a common end, however: just as the land on which de Waudari's castle was built probably returned to pasture, the site of de Breaute's castle also seems to have been used for agriculture by the late 14th century. A 0.25m-deep abandonment layer of buried soil was observed at both castle sites; this is likely to have been formed by livestock grazing in the area, which consequently would have 'enriched' the soil, helping this layer to form. Since the soil was fairly homogenous and lacking any sign of human activity, its presence helps to confirm that the site of Fulk de Breaute's castle eventually fell into obscurity in the pasture lands of Luton, just as de Waudari's castle did.

After the castle

It is presumed that after King Henry ordered the surrender of all royal castles in 1223 (Austin 1928, 98) and Fulk de Breaute subsequently went into exile, his castle at Luton was destroyed. The precise nature of this 'destruction' is unclear, as the site of the castle building itself has not yet been revealed. Pieces of burnt clay floor recovered from pits G5 are broadly contemporary with the castle, and their presence in these pits suggests that the event in which they became burnt coincided with the levelling of pits G5. It is possible that this relates to the destruction of de Breaute's castle, but there are also many more mundane scenarios which could explain the presence of the burnt clay.

The remainder of the castle complex was retained and utilised. Davis (1855) and Austin (1928) suggest that after the castle was 'destroyed', a 'court house' was built on the site; this presumably is what Leland was referring to in 1540 when he states 'parts of the old place standeth yet' (Austin 1928). The two ditches and pit identified during the excavations to the south-east of the site (Archaeology South-East 2010) were thought to be related to the 'court house' as they dated to the late 13th–14th century. It was perhaps the case that this area of the castle complex was expanded during the later occupation

of the site, with the ditches situated on the same alignment as the other boundaries and the moat, though the ditches could alternatively have been long-lived boundaries within the castle complex that were utilized into the 14th century.

The exact nature of the transitional period between the end of de Breaute's castle and the erection of the 'court house' is not known, but changes presumably took place as the industrial area (G5) went out of use in the late 13th–early 14th century, and boundary ditch G6 seems to have been replaced by a fence line with post-holes cut into the backfilled ditch. It seems that these non-domestic areas of the complex were utilised for a longer period of time, only going out of use gradually after de Breaute's exile.

CONCLUSIONS

Despite widespread disturbance due to development from the 18th century onwards, significant remains of Fulk de Breaute's castle were still discovered at the University of Bedfordshire site. Previous archaeological investigations had revealed defensive ditches demarcating the limits of the castle complex and a timber structure in the south-west corner; in contrast, this investigation has revealed something of the everyday functions taking place in the south-west half of the complex. The land was not densely covered in buildings; instead, there were areas of open land and occasional timber buildings, with ditches and fences dividing up the land and industrial activity taking place. Crops were stored, processed, consumed and discarded within the complex, while livestock may also have been kept there to provide the meat that was being consumed and discarded. The main buildings of the castle itself were probably located to the north; a ditch depicted on a 19th-century map (Fig. 8) is undated, but perhaps divided the 'high status' from the 'everyday' within the medieval complex. The relevance of this ditch and the location of the 'castle' structure remain enigmatic for now.

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Nuala C. Woodley and Joe Abrams were Project Officer and Project Manager respectively for Headland Archaeology throughout the duration of the works, and were co-authors of this article.

The project archive will be deposited at Luton Museum under accession number 2011:64.

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