

# A MULTI-PERIOD SITE AT BROUGHTON NORTH, MILTON KEYNES

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with contributions by  
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*Following an initial evaluation, open-area excavation was undertaken of a site north of Broughton, Milton Keynes between March and May 2007, in advance of housing development. A small residual flint assemblage formed the earliest evidence of a human presence on the site, possibly in the Late Neolithic to early Bronze Age. Sherds of middle or late Bronze Age pottery attest continuing activity, though the earliest archaeological features, a pit and two gullies, may date to the Iron Age.*

*In the Roman period the site formed part of a wider field system, remodelled over time, comprising up to five enclosures and a possible droveway. Pottery and other finds suggest that the site was cultivated from a nearby settlement between at least the 2<sup>nd</sup> and 4<sup>th</sup> centuries AD. Environmental evidence indicates that rearing cattle, sheep/goat and horse, and cultivation of spelt wheat crops, was taking place in this period. An undated burial of a woman may be late Roman. Early Saxon activity was represented by two pits.*

*During the early medieval period a close was laid out. Its boundaries closely corresponded to those of one of the Roman enclosures, which must have survived as a landscape feature. The enclosure ditches were subsequently recut, reducing the size of the enclosed area. Within the reduced close was a small circular stone-built oven. A boundary ditch ran northwards from the enclosure separating two fields, of which the eastern contained remains of ridge and furrow ploughing. In the medieval period a mixed agricultural economy was practised on the site, wheat and barley being the principal crops, though pea/vetch and broad bean were also cultivated. Sheep/goat and cattle were the main animal species reared. Recent activity on the site has comprised gravel quarrying, and excavations for major foul and storm water sewers.*

## INTRODUCTION

### Background

Between March and May 2007 excavations were undertaken by Archaeological Services & Consultancy Ltd (ASC) on a site north of Broughton village, Milton Keynes. The site, then designated 'Broughton Northern Infill' (abbreviated to 'Broughton North' elsewhere in this report), was scheduled for housing development by McCann Homes, who commissioned and funded the excavation. The excavation site now (2012) forms part of the *Dean Forest Way* development. The work was undertaken in response to a planning condition, and was defined in a brief prepared by the Milton Keynes Council Archaeology Officer (Crank

2007), and a project design by ASC (Zeepvat 2007). The detailed results of the excavation were presented in a client report (Thompson 2008) and an updated project design (Zeepvat 2008), available in the project archive and through the Milton Keynes Historic Environment Record. These documents contain the complete specialist reports and tabulated data, which appear only in edited form in this report.

The project archive will be deposited with Buckinghamshire County Museum: the accession number is AYCBM 2007.54.

### Setting

The site comprised an open pasture field situated in the Broughton grid square on the east side of

Milton Keynes, near the junction of the A4146 and the A5130, centred on National Grid Reference (NGR) SP 8931 4024 (Fig. 1). The area identified for excavation covered c.0.75ha. Major storm and trunk foul sewers crossed the site on an east-west alignment: their course was clearly visible on site as a raised area, with projecting manholes at intervals.

The site is located on a terrace above the east side of Broughton Brook, at an elevation of c.60m OD. The soils belong to the Bishampton 2 Association, described as “Deep fine loamy and fine loamy over clayey soils with slowly permeable subsoils and slight seasonal waterlogging”, the underlying geology being river terrace drift (Soil Survey 1983, 572t).

### Previous Archaeological Work

A desk-based assessment of the Broughton and Atterbury grid squares, including Broughton North, was prepared in 1999 (Burgess *et al* 1999). This was followed by an evaluation of the site, comprising geophysical survey and trial trenching (Thorne & Masters 1999). The evaluation report concluded:

*Evidence for extensive quarrying work on the site in the post-medieval to recent periods was recovered, and this accounted for the majority of earthworks surveyed within the site. Despite this, archaeological features from the Romano-British, Saxon and medieval periods had survived in Field 2 [the excavation site] which corresponded to geophysical anomalies detected in the evaluation. These comprised part of a Roman field system, together with a series of medieval boundary ditches. No evidence for any associated village settlement was detected.*

### Archaeological & Historical Background

Until quite recently, little was known about either prehistoric or Roman activity in the immediate area of Broughton. The nearest excavated prehistoric site is at Cotton Valley, on the terrace gravels of the Ouzel, 1km to the north-west (Green 1974). This site (Fig. 2) also produced evidence of Roman activity. Seven early Bronze Age round barrows and a mid to late Bronze Age pit alignment were excavated at Gayhurst, also c.1.5km to the north-west, adjacent to the Great Ouse (Chapman 2007). Recent fieldwork at Brooklands, several hundred metres

west of Broughton, recovered a small assemblage of later Neolithic/early Bronze Age flintwork with a background scatter of earlier Neolithic/Mesolithic material and a single Palaeolithic flake (Webster 2005, 6). Excavations in advance of gravel extraction at Willen Quarry, 2.5km north of the site, revealed a Bronze Age ring ditch and an extensive landscape and settlement evidence of Iron Age and Roman date (Booth 2009).

Within Broughton parish, evidence for a Roman field system was recorded during quarrying at Broughton Grounds, east of the M1 (Green & Sofranoff 1985). An extensive site adjacent to Broughton Manor, c.0.8km south-east of the village, is thought to have been founded in the middle Iron Age as a farmstead with associated enclosures, cemetery and a round house. The site expanded in size and prosperity through the Late Iron Age and Roman periods to become a settlement with extensive enclosures, field systems, a cemetery with shrine and several large houses (Atkins & Rees 2008). Investigations at Brooklands demonstrated that Iron Age and Roman settlement activity continued, confined to the north-west corner of the site, but that field systems occupied the surrounding area (Dean & Bedford 2008). Middle Iron Age enclosures were also excavated at Gayhurst with an associated crouched inhumation, while one of the barrows formed a focus for a series of inhumation burials in the late Roman period (Chapman 2007).

Broughton village was probably founded in the late Saxon period. It is mentioned in the Domesday Survey (1086), when it formed a part of the extensive holdings of Walter Giffard, along with many neighbouring manors (Morris 1978). Mention is made of a secondary manor in Broughton, belonging to the Countess Judith. However, the only physical evidence of Saxon activity in the environs, prior to the Broughton North excavation, consisted of three sherds of early to middle Saxon pottery found during the 1999 evaluation. Further afield, just north of Brooklands Farm a focus of late Saxon/early medieval activity was identified (Dean & Bedford 2008). A cluster of 12 to 13<sup>th</sup>-century features was recorded in the Brooklands evaluation (*ibid.*).

The fields where the Broughton North excavation was located contain earthworks which had originally been identified as medieval house platforms, but these were disproved in the 1999 evalu-

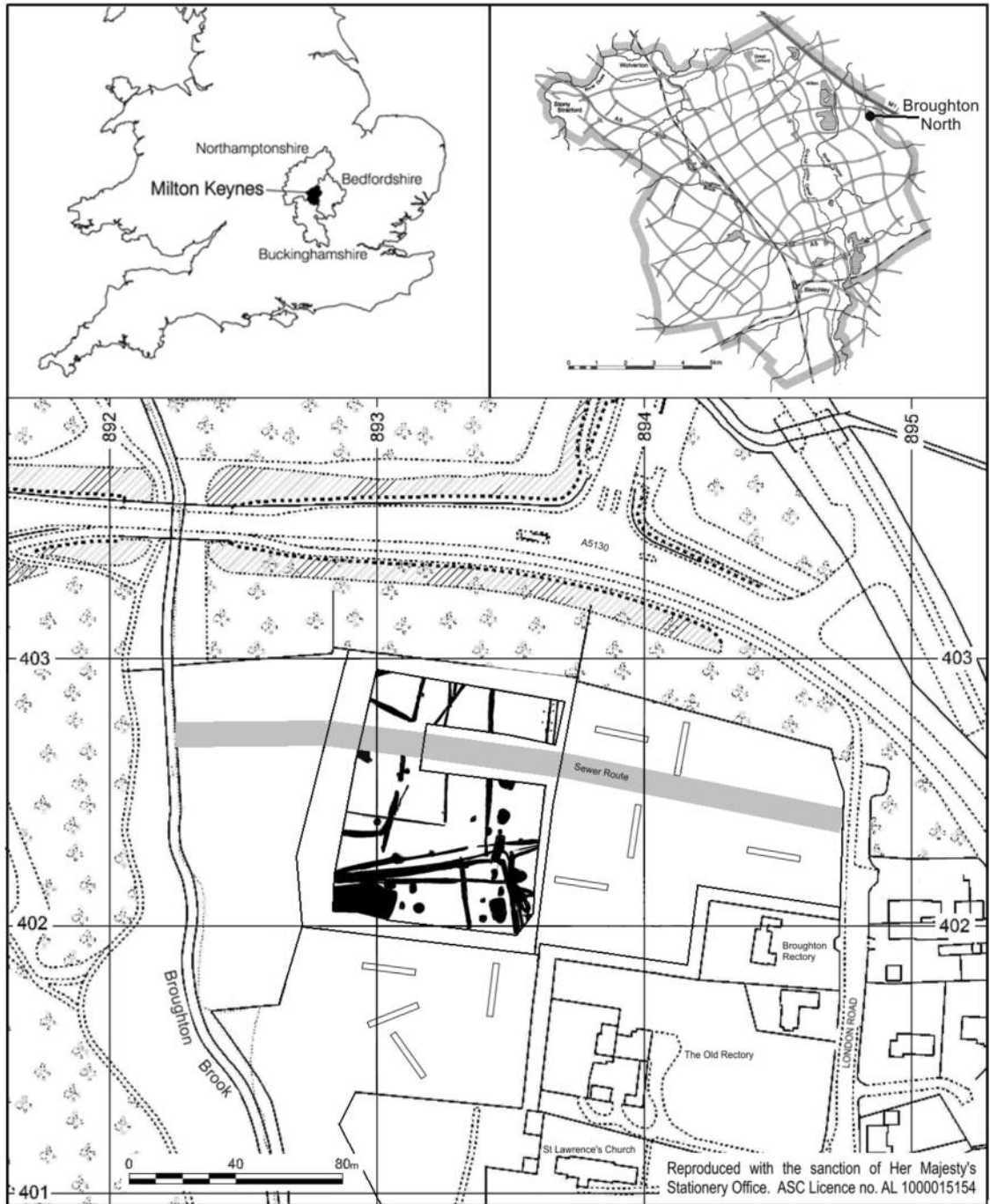


FIGURE 1 Broughton North, evaluation trench and excavation locations



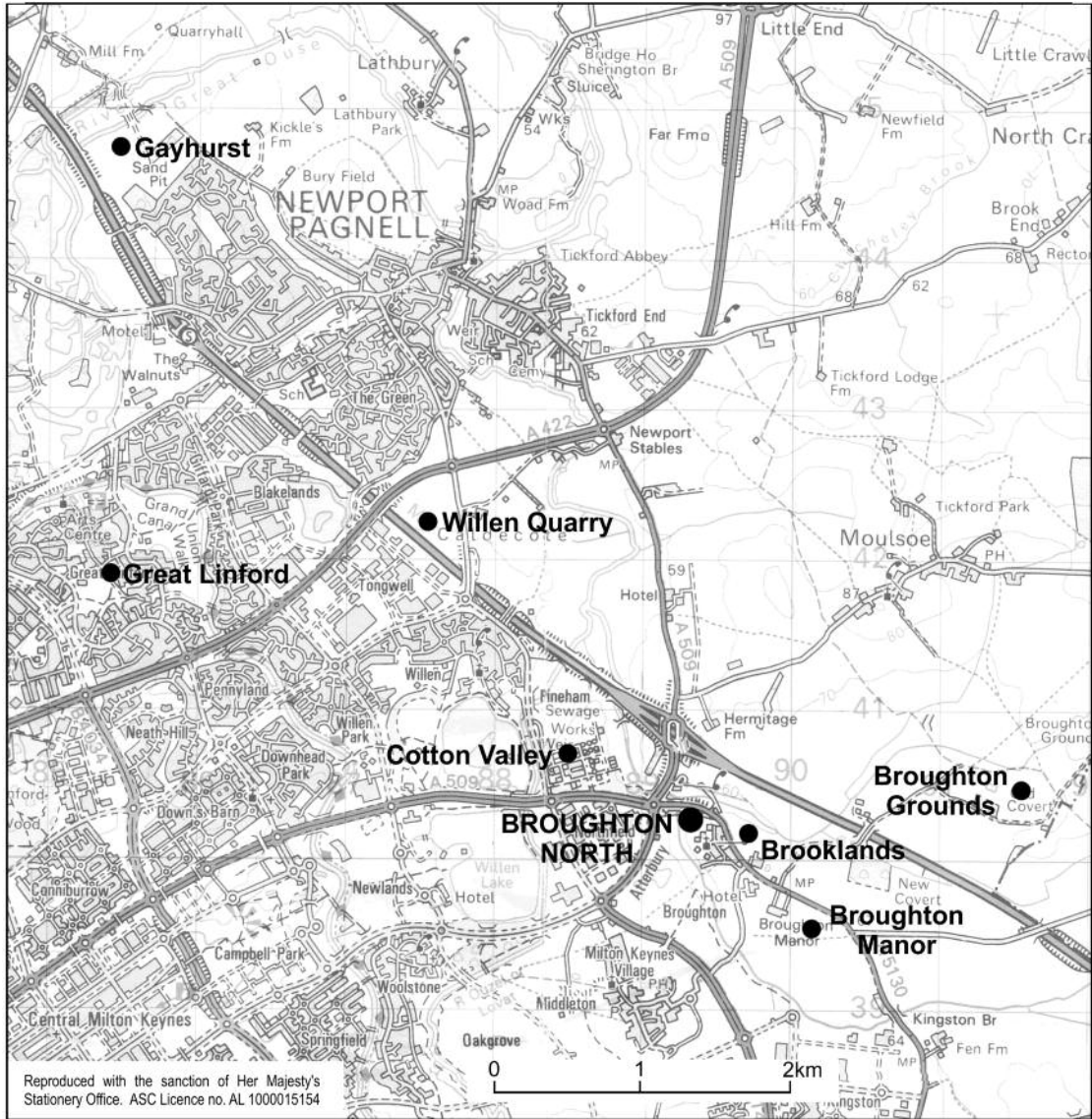


FIGURE 2 Broughton North in its context

ation. Surviving ridge-and-furrow earthworks were present in the field immediately to the west. No evidence for settlement was detected in the evaluation, but the pottery assemblage and small amounts of medieval structural debris, metalwork and stonework recovered appear typical of what might be expected from a site on the edge of a village in the Milton Keynes area (Zeepvat 2007, 6).

Broughton parish was enclosed in 1748 (Page

1927, 303): the field boundaries present on the site at the time of excavation correspond to the enclosure boundaries. Evidence for extensive quarrying in the post-medieval to recent periods was encountered during the evaluation. This accounted for most of the recorded earthworks on the site. A small post-medieval pottery assemblage was also recovered during this intervention.

## THE EXCAVATION

### Methodology

The excavation area was mechanically stripped of topsoil under close archaeological supervision. As the site was known to be bisected by parallel main and foul sewers, a test strip was opened across their alignment to determine the level of ground disturbance. This was found to be high, so the remainder of the area overlying the sewer alignment was not stripped. Subsequent excavation proceeded by hand.

In line with a requirement of the brief, arrangements were made with a local metal detectorist to examine the excavation spoil heaps regularly during and after stripping to recover finds, and to survey the stripped area under archaeological supervision and mark the likely locations of buried finds, to aid their subsequent recovery.

### Summary

Six periods of archaeological activity were identified, ranging from *c.*4000BC to the present day. These can be summarised as follows:

- Period 1:* Earlier Prehistoric (*c.*4000 – *c.*700BC)
- Period 2:* Late Bronze Age to Late Pre-Roman Iron Age (*c.*700BC – *c.*AD70)
- Period 3:* Roman (*c.*70 – *c.*450)
- Period 4:* Saxon (*c.*450–1066)
- Period 5:* Medieval (1066–1500)
- Period 6:* Post-medieval to modern (1500–present)

Periods 1 and 2 are characterised only by limited finds assemblages recovered from later features. The most intensive use of the site occurred during the later Roman period, when three successive phases of field systems were constructed, used and reconstructed. These were abandoned during the Saxon period, when again there was only a limited presence represented by a few pottery sherds and two pits. In the medieval period the southern part of the site was encroached upon by village settlement: subsequently, medieval fields further north were enclosed. These boundaries had fallen into disuse before the post-medieval period, when several new, more ephemeral boundaries were created. From the later post-medieval period onwards parts of the site were quarried for gravel, while the remainder was still in agricultural use.

### Report Conventions

Throughout this report, archaeological features and structures are referred to by their context number, *i.e.* 123. Numbers of individual fills or deposits are shown in square brackets, *i.e.* [456]. To avoid confusion, linear features represented by several ‘cuts’ have been given four-digit group context numbers, *i.e.* 1010. Measurements are metric: depths of features are measured from the stripped surface of the site, unless stated otherwise.

#### Period 1: Earlier Prehistoric (*c.*4000 – 700BC)

The earliest period of human activity on the site is represented by fifteen worked flints, probably of later Neolithic to early Bronze Age date, all occurring as residual finds in Roman or medieval features, mostly in the south-east corner of the site. There is no accompanying stratigraphic evidence of settlement for this phase.

#### Period 2: Late Bronze Age to Late Pre-Roman Iron Age (*c.*700BC – AD70)

A small assemblage of Bronze Age and Iron Age pottery, mostly residual, was recovered. Four sherds of late Bronze Age to early or middle Iron Age pottery were found in medieval Ditch 1019, and one in a post-medieval quarry pit. Four other features produced residual sherds datable to the Iron Age and/or the late pre-Roman Iron Age. It is not possible to suggest whether these sherds represent manuring of fields or very fragmentary evidence of settlement that has otherwise been removed by later features.

Three features, Pit 364 and Gullies 334 and 345, located at the south-east corner of the excavated area, appeared to date to this period (Fig. 3). Pit 364 measured *c.*15m north-south and 9.5m east-west and was 0.85m deep, with vertical sides and an almost flat base. It was truncated by both Roman and medieval features. Its primary fill comprised side collapse, showing that it had been left open for some time before being deliberately backfilled. Two sherds of Iron Age pottery were recovered from its secondary fill. Gullies 335 and 345, to its immediate south and north respectively, were also both cut by later features. Each contained a single sherd, possibly of middle Iron Age date.

#### Period 3: Roman (*c.*70 – 450)

Dating evidence for the Roman period comprised an extensive pottery assemblage, with a date range

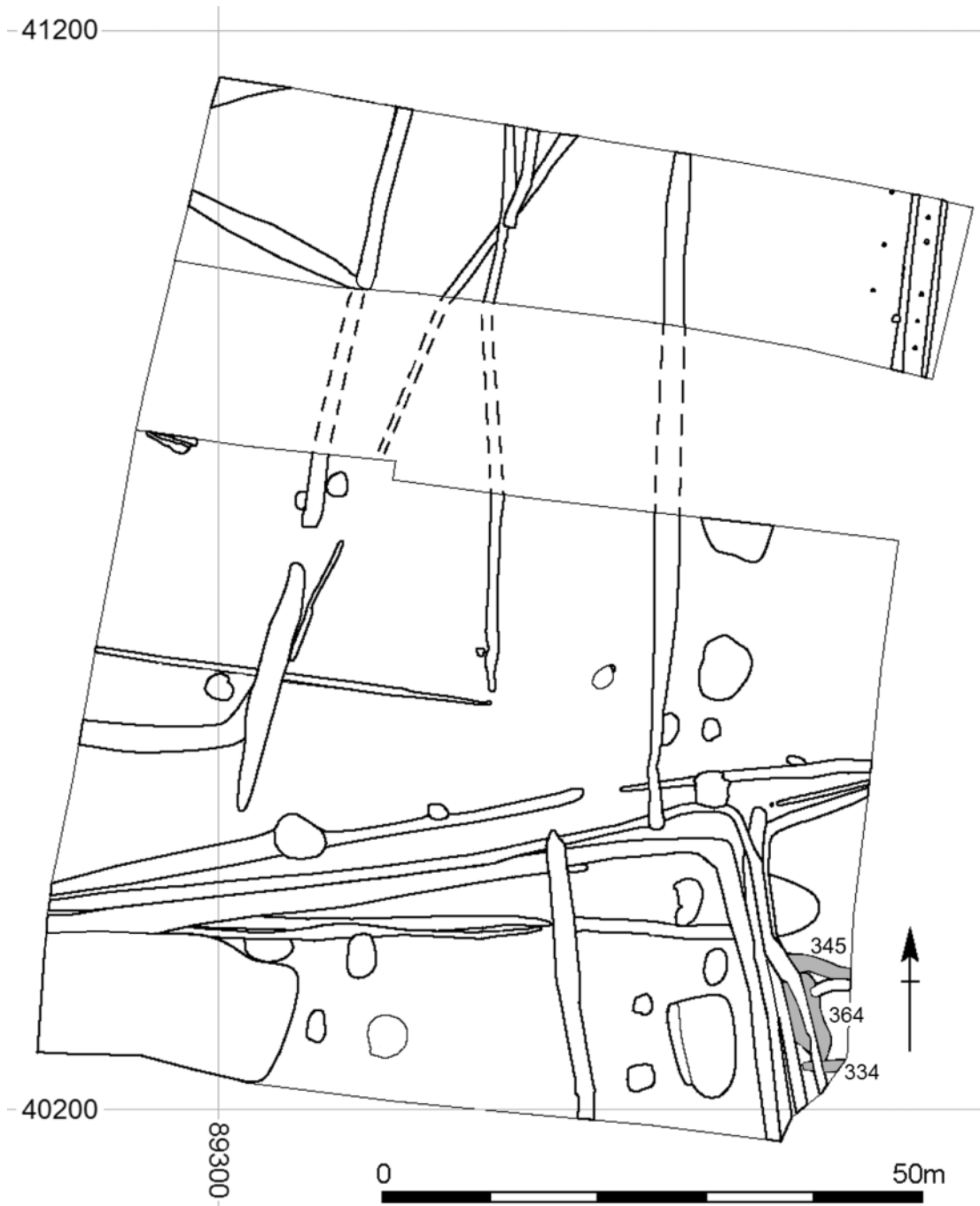


FIGURE 3 Pre-Roman features (shaded)

between the 2<sup>nd</sup> to 4<sup>th</sup> centuries AD. The coin assemblage also suggests a date range between AD 209 and 282, focused within the period 268–282.

Activity on the site in the Roman period was characterised by a series of rectilinear enclosures and a possible droveway, together with several associated pits (Fig. 4). None of these field systems lay completely within the site, so their maximum extents could not be determined. All the constituent ditches were on roughly north-south or east-west alignments.

#### *Enclosure 1*

Enclosure 1 was the earliest of a series of enclosures on the west side of the site. The area enclosed was at least 60 × 30m, bounded to its south and east by ditches with dished or U-shaped profiles. All sections showed heavy and uneven erosion of the ditch sides, which had asymmetrical profiles. There was no evidence of any associated banks, and few finds were recovered from the enclosure ditch fills.

Ditch 1001, forming the south side of the enclosure, was up to 2.26m wide with a pronounced curve towards the north at its east end. The east side of the enclosure, Ditch 1002, was discontinuous, but had been truncated by later features, and so may have been continuous originally. It was 0.52–0.95m wide and 0.10–0.25m deep, with homogeneous single fills resulting from natural secondary silting (Fig. 5, S1). It is possible that there was an entrance in the middle of the eastern side. A hobnail (Fig 14.4) was found in its fill.

Within the area enclosed by Enclosure 1 was Pit 165. This was cut by the later ditch of Enclosure 5, and may have been contemporary with Enclosure 1. It was sub-rectangular, measuring 1.65 × 0.77m across and 0.78m deep, with very steep sides and a flat base. It contained no finds, and its function was not determined.

#### *Enclosure 2*

Enclosure 2, in the south-eastern corner of the site, was contemporary with Enclosure 1. It measured at least 25 × 10m. In its earliest phase, its west and north sides were formed by Ditches 1003 and 1004 respectively. These were up to 1m wide and 0.40m deep with U-shaped profiles, filled with a single deposit formed by secondary weathering, incorporating occasional finds (Fig. 5, S2).

Enclosure 2 was possibly recut at the same time

as Enclosures 3 & 4 were created. In this later phase the west and north ditches (1005, 1006) were discontinuous, with a gap at the north-west corner. Within this gap was Posthole 314, which could have contained a post for a gate or similar structure. Ditches 1005 and 1006 varied between 0.35–1.36m wide and 0.16–0.50m deep. Profiles were mostly dish-shaped, but part of 1005 had an ‘ankle-breaker’ type profile with a central flat slot, a type that is normally associated with military defensive ditches. All fills resulted from natural silting, and few finds were present within them.

Pit 428 was tentatively assigned to the first phase of Enclosure 2, since it was cut by the later Ditch 1005. It was at least 3m across and 0.58m deep, with a single fill. It may have been a quarry pit for the extraction of gravel.

#### *Enclosure 3*

The area south of Enclosure 1 and west of Enclosure 2 was traversed by a discontinuous east-west ditch (1007, 1008), forming the north side of Enclosure 3, to its south, Enclosure 3 measured at least 15 × 75m. Ditch 1007, the earliest phase of the enclosure ditch, was 0.76–1.50m wide and 0.28–0.55m deep with U-shaped profiles showing varying degrees of weathering (Fig. 5, S3). A number of finds were recovered from its fill, which appeared to have resulted from natural silting. The ditch was subsequently recut, probably at the same time as Enclosure 4 was created. The recut, 1008, varied in width from 0.38–1.10m and in depth from 0.18–0.40m, with similar profiles to the earliest cut.

Within the enclosed area, Pit 323 predated the recut enclosure ditch and therefore probably belongs to an earlier phase. This sub-circular pit was at least 1.60m wide and 0.75m deep, with an uneven profile (Fig. 5, S3).

#### *Droveway*

The area between Enclosures 1 and 3 was interpreted as a possible droveway, c.11m in width, running east-west.

#### *Enclosure 4*

After the ditches forming Enclosure 1 had silted up, a new enclosure (Enclosure 4) was established on a different alignment. This enclosure measured at least 50 × 30m. Ditch 1009, forming its east side, was 0.65–1.00m wide and had deep and dished to U-shaped profiles (Fig. 5, S1). Two excavated



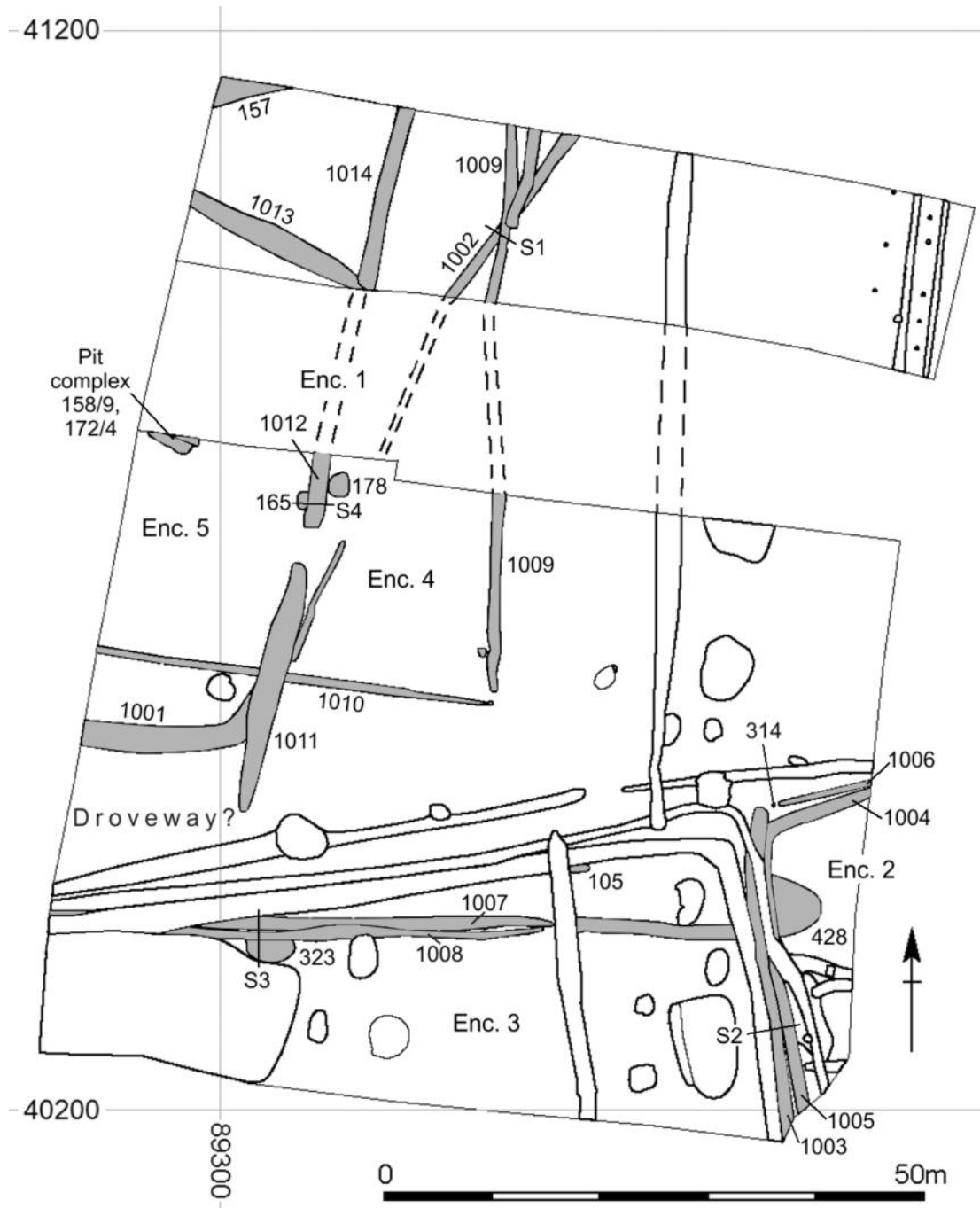


FIGURE 4 Roman features (shaded)



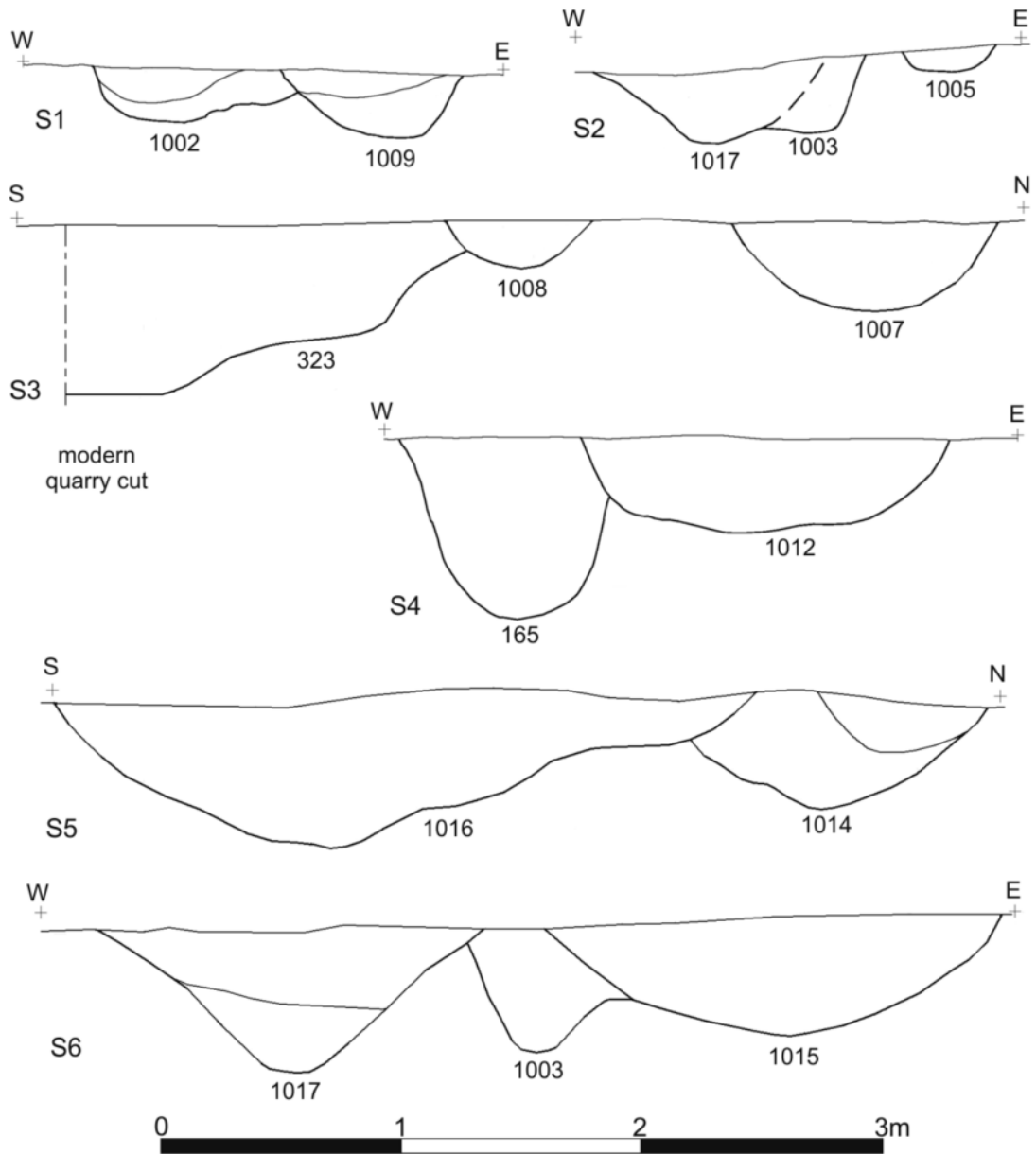


FIGURE 5 Sections S1-S6

sections contained both primary and secondary fills: others had only homogenous secondary fills. Its south side was bounded by Ditch 1010, which measured 0.40-0.60m wide and 0.18-0.30 deep, and contained both primary and secondary fills.

*Enclosure 5*

Enclosure 5, on the north-west side of the site, represented the final phase of enclosures in Period 3. The enclosed area, measured at least 60 × 18m, and extended over much of the former Enclosure 1 and at least part of the droveway. It was defined to

the west by two discontinuous sections of ditch (1011, 1012), with a possible entrance, 3m wide, between them. The ditches were 1.1-2.2m wide and 0.27-0.60m deep, with profiles ranging from flat based to wide and dished (Fig. 5, S4). Four late 3<sup>rd</sup>-century coins (Table 3, 2-5) were found in the ditch terminals flanking the possible entrance. Both ditches had been backfilled: the fills included large amounts of animal bone and pottery. The north side of the enclosure was defined by Ditch 1013, which had a similar profile and dimensions to the other ditches.

Enclosure 5 may have been later extended northwards, as a further section of ditch 1014 on a north-south alignment commenced at, and cut, the junction of Ditches 1012 and 1013. Ditch 1014 was of a similar character to the latter ditches but was deeper, with an asymmetrical profile.

Within Enclosure 5 four intercut pits (158, 159, 172, 174) were also dated to the later Roman period. Two coins dated c.270-300 (Table 3, 29 & 30) were recovered from their fills. In the north-west corner of the excavated area, Feature 157 may have been associated with the extension to Enclosure 5.

#### *Inhumation Burial*

A discrete human burial (105) was located towards the south end of the excavated area, west of Enclosure 2 and north of Enclosure 3. It comprised a non-coffined, extended inhumation of a young adult female, orientated east-west (Fig. 6), with its left arm resting in the pelvic area. The foot end and right side of the burial had been truncated by medieval Ditch 1016, and the skull appears to have been disturbed during the cutting of Ditch 1019, west of the grave, also in the medieval period.

Despite careful excavation and subsequent metal detection, no finds were retrieved to suggest a date for the burial. The stratigraphic relationships described above, together with the orientation and position of the body and the absence of grave goods, suggest that the most likely date for Burial 105 falls within the later Roman period.

#### **Period 4: Saxon (c.450 – 1066)**

Transition into the earlier Saxon period is marked by the apparent disuse of the Roman field systems on the site. There is evidence for some early Saxon activity in the form of two isolated pits, 188 & 204 (Fig. 7), both containing sherds of early Saxon urns

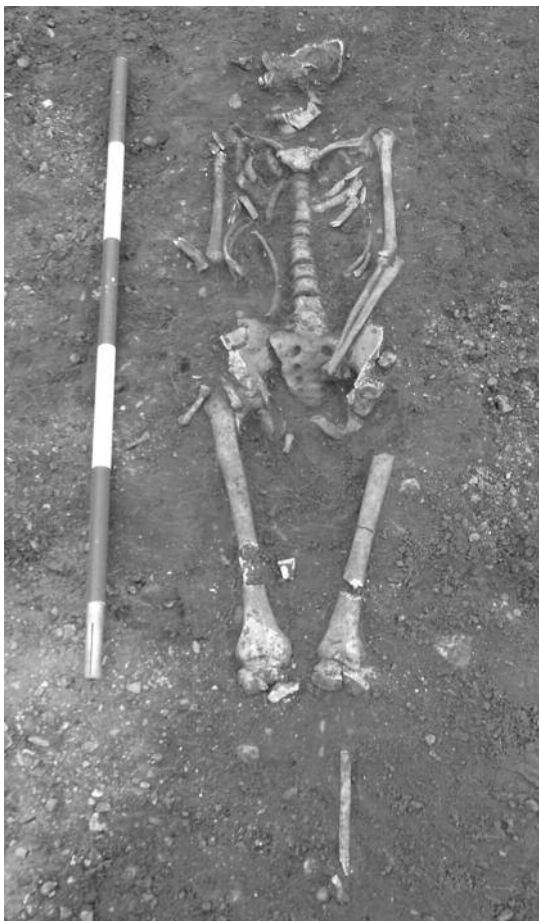


FIGURE 6 Inhumation burial (105) of a young adult female, looking west (*scale 1m*)

(Fig. 13.1, 2). The pits were similar in form, measuring 2.4 and 2.24m across and 0.16 and 0.10m deep respectively, with uneven bases. The fill of Pit 188 was almost sterile and had probably accumulated naturally, but Pit 204 contained much animal bone, suggesting deposition of food waste.

#### **Period 5: Medieval (c.1066 – 1500)**

Features assigned to this period (Fig. 7) relate mainly to an enclosure and associated features located at the south end of the site. The enclosure was redefined at least once before apparently going out of use. To the north, the rest of the site was divided by a north-south boundary ditch. The pottery found in the fills of the features assigned to

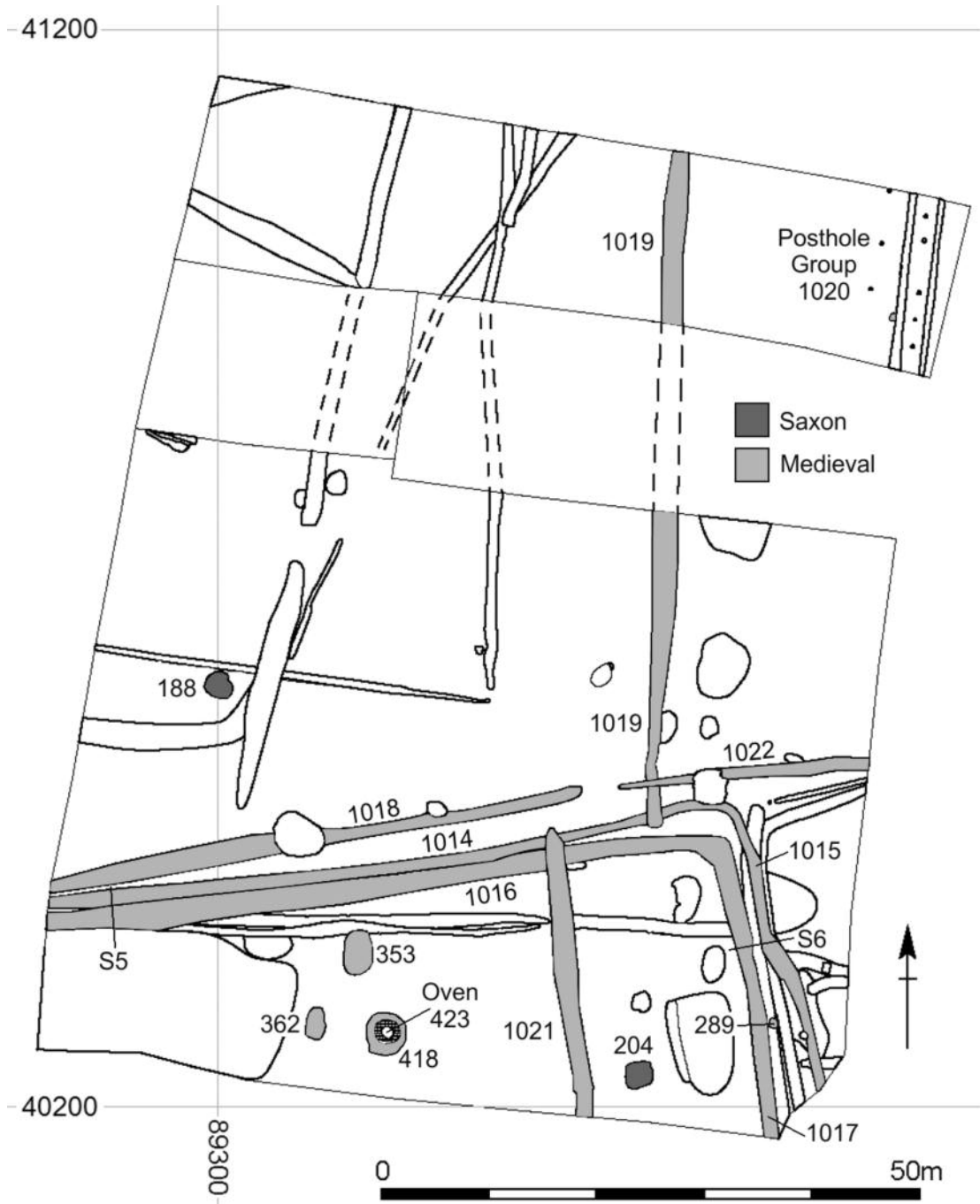


FIGURE 7 Saxon and medieval features

this period is mostly abraded, and therefore likely to have been deposited mostly through manuring, though a small element appears to represent deliberate dumping.

### The Enclosure

Early in the medieval period a rectangular enclosure was established on the site, its boundaries roughly following the same alignments as those of the Roman Enclosure 3, suggesting that some evidence of the latter must have remained visible. In the absence of cultivation furrows, it is assumed that it was a stock enclosure or a close. It measured at least  $60 \times 27\text{m}$ , and was bounded by one continuous ditch (1014, 1015). The northern arm (1014) was 1.26-2.10m wide and 0.38-0.40m deep, (Fig. 5, S5). Its eastern arm (1015) varied from 0.32-1.90m in width and 0.16-0.48m in depth. Profiles ranged from dished or flat based to U-shaped (Fig. 5, S6). Excavated sections of Ditch 1014 almost all contained both primary weathering and secondary silting, while Ditch 1015 sections had only secondary fills. It is not certain whether differential use or weathering was responsible for this difference, or whether only the north side of the enclosure was embanked.

After the earlier medieval enclosure ditch had completely silted up it was recut along its inner edge, effectively reducing the enclosed area by 2-5m in each direction. The recut northern (1016) and eastern (1017) ditches varied from 0.75-2.96m wide and 0.58-0.70m deep, with mainly symmetrical V-shaped or wide flat-based profiles. The recut ditches contained both primary and secondary silting, with a considerable amount of pottery and bone, possibly from episodes of deliberate tipping or backfilling of rubbish.

To the immediate north of the enclosure, Ditch 1018 was dug almost parallel to Ditch 1016, leaving a gap of 2-4m between the two. Ditch 1018 was slightly narrower than 1016, being 0.96-1.80m wide and 0.4-0.6m deep, and contained predominantly secondary fills with more occasional finds. As Ditches 1016 and 1018 were broadly contemporary, the space between them could have defined a possible trackway, which would have provided access from the west to the area to the north, without having to pass through the southern enclosure.

### Internal Features

Within the enclosure were three discrete pits, probably belonging to this period. Pits 353 and 362 were both substantial in area ( $2.4 \times 3.6\text{m}$  and  $2.34 \times 1.50\text{m}$  respectively) but shallow (0.45m and 0.20m respectively), with irregular root-disturbed bases. It is possible that these tree-root holes resulted from the initial clearance of trees within the enclosed area. Each contained a single sherd of early medieval shelly ware.

Pit 418 may have been contemporary with these. It was sub-circular, 3.80m across and 0.88m deep. It had been open long enough to have become partly infilled with weathered natural from the sides, prior to being deliberately infilled. No finds were recovered its fill.

Constructed within Pit 418 was the base of 423, a stone-built circular oven or malting kiln (Figs 8 & 9). This was *c.*2.30m across by 0.23m deep, and was built of roughly faced limestone, three courses of which survived, set in a foundation pit (421). A large slab of limestone at the north side marked the

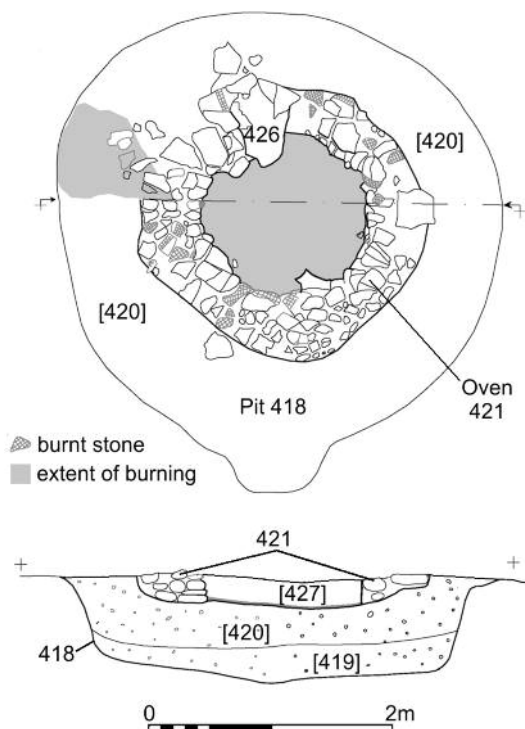


FIGURE 8 Oven 423, plan & section





FIGURE 9 Oven 423, looking east (scale 1m)

position of the flue (426). The oven interior was one metre in diameter and unpaved. The external face of the structure was built directly against the cut face below ground level. Most of the stonework had been heat affected and had turned from a cream colour to pink. The stones were surrounded by a sandy matrix, possibly the decayed remains of lime-mortar bonding. Within the oven the soil floor, which was level with the lowest course of stonework, had been baked and discoloured by repeated heating. Several sherds of residual Roman pottery were recovered from between the stones in the wall and from the interior of the structure above the burnt layer. Samples of the oven fill [427] contained charred grains of threshing wheat and barley, which may represent drying or baking of cereals/bread as well as malting of barley for brewing. Evidence of peas and broad beans was also recorded.

#### *External Features*

Boundary Ditch 1019 was U-shaped and varied from 2.2-0.7m in width, and 0.20-0.54m deep, and ran northwards across the site from the north-east corner of the medieval enclosure. Its fills were variously primary and/or secondary silts. At least part of the ditch appeared to have been recut. Finds from it included a small amount of medieval sherds, and residual Roman pottery.

Just outside the enclosed area, Pit 289, 0.70 × 0.36m and 0.98m deep, contained the deliberate deposit of a smashed cistern together with the skull of a sheep and oyster shells (Fig. 10). The pit was cut through infilled Roman Ditch 1003 and into the underlying natural gravel. The purpose of this deposit remains uncertain: presumably it formed part of some folk ritual.

Nine postholes (1020) in two regularly spaced north-south rows were present in the north-eastern corner of the excavated area. None contained finds,



FIGURE 10 Pit 289: deposit of a medieval cistern with a sheep's skull (scale 20cm)

though as one was cut by a post-medieval gully, they have been tentatively assigned a medieval date. The area within the two rows of postholes measured about  $15 \times 4\text{m}$ , and the postholes in each row were about 2m apart. Most cuts were 0.30m across and either 0.10 or 0.30m deep with flat or rounded bases. These postholes could represent the location of a fenced stock enclosure, or a field barn.

#### *Later Medieval Boundaries and Associated Features*

It is likely that the medieval enclosure fell out of use within the medieval period, as a substantial north-south ditch (1021: Fig. 7) was later cut, bisecting the former enclosed area. Its upper fills contained residual pottery, presumed to have derived from adjacent Roman and early medieval features. The ditch was 0.90–2.35m wide, and between 0.10m deep at the northern terminal and 0.87m at the south end. Most sections contained weathered primary fills, suggesting that they suffered rapid wear during winter or severe storm damage and were not subsequently cleaned out. Medieval finds from this ditch included a knife (Fig. 14.10) and an iron nail.

Gully 1022 cut the terminal of Ditch 1019. It was aligned with Ditch 1018, although it was narrower and shallower (0.34–0.58m wide, 0.20–0.34m deep) with a dished/ U-shaped profile. The fills contained animal bone but no dateable finds.

#### **Period 6: Post Medieval to Modern (1500–present)**

After the medieval period the site appears to have remained largely in agricultural use. The field boundaries present on site at the time of the excavation were probably established at enclosure in the mid 18<sup>th</sup> century. Evidence of continued activity within the fields during the post-medieval period was provided by the small, unstratified assemblage of metalwork, including a buckle dated to c.1500–1650 (Fig. 14.11), and a quantity of post-medieval lead musket balls.

Two parallel ditches in the north-east corner of the site (Fig. 11) were visible in section, cut from a high level down into the subsoil. Although post-medieval ceramic building materials were retrieved from their fills, no precise dating evidence was obtained. The other post-medieval activity recorded was small-scale gravel quarrying. A large area of disturbed ground in the south-west corner of the site contained modern bottles, cans and other refuse. It is likely to have been a large quarry pit for gravel extraction, which was carried on until at least the mid 20<sup>th</sup> century. It was not excavated. In addition, a number of the pits found across the site were probably also related to quarrying. All were amorphous in shape and of varying size, and bore little relation to the earlier enclosures. A small amount of Roman and medieval pottery, mostly abraded and likely residual, was recovered from their fills.

#### THE FLINT

by Alex Thompson

#### **Introduction**

Fifteen worked flints were recovered as residual finds from eleven stratified contexts. The detailed flint catalogue is retained in the project archive. The composition of the assemblage is summarised in Table 1.

#### **Discussion**

The flints seem to represent a single assemblage in terms of character and date. However, with so few pieces one cannot rule out the possibility that there is a palimpsest of earlier and later material of broadly similar character.

Within the assemblage, eleven items (73%) are tools while the remainder (27%) comprise unmod-

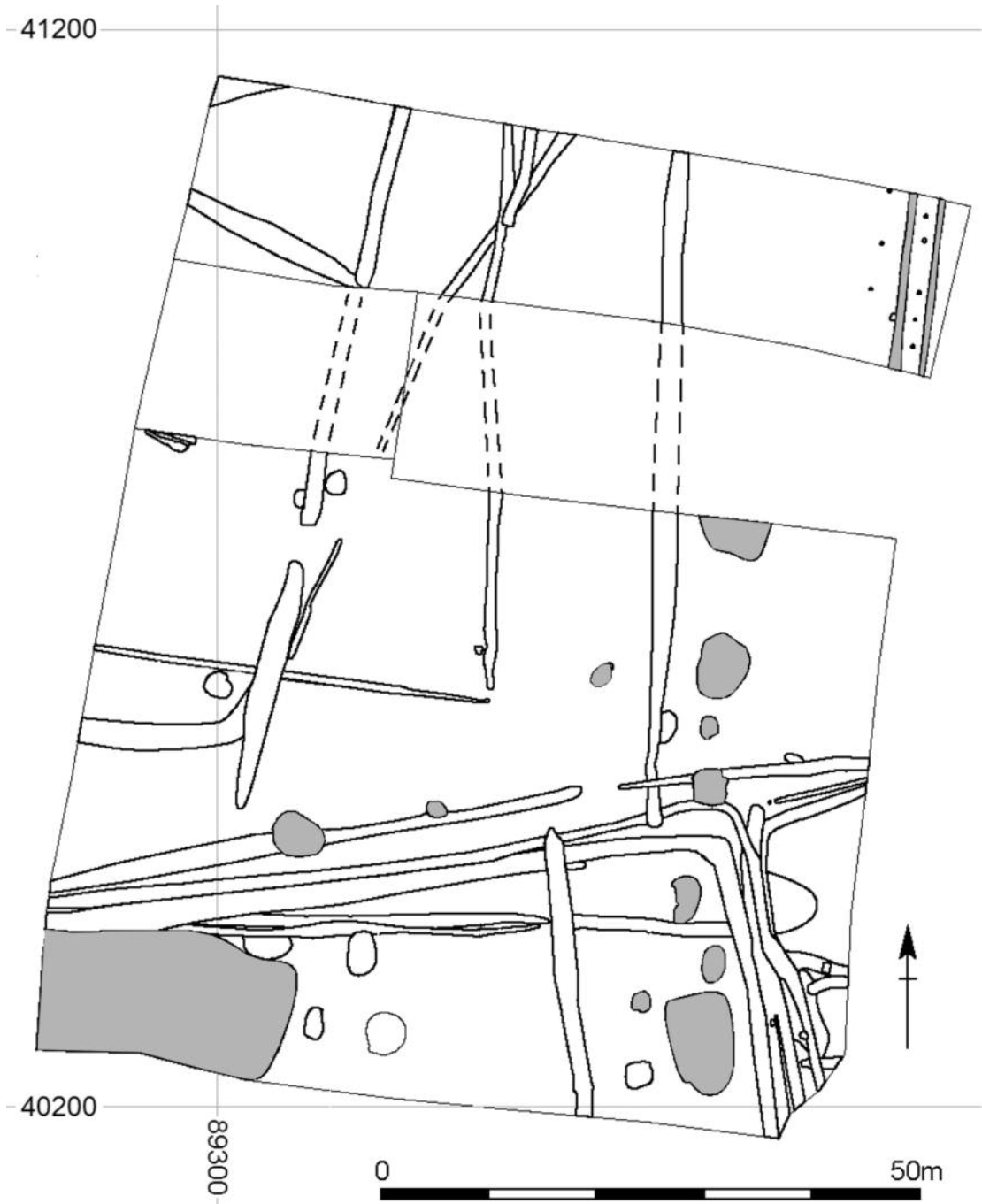


FIGURE 11 Post-medieval and undated features (shaded)

TABLE 1 Worked flint

Category	No.
Core	1
Knife	1
Scraper/notched/utilised flake	1
Scraper/notched flake	1
Notched/retouched/utilised flake	1
Retouched/utilised blade	1
Retouched/utilised flake	3
Utilised flake	1
Utilised blade	1
Waste flake	1
Waste blade	3
<b>Total</b>	<b>15</b>

ified debitage. The definition of tool category reflects the use of seven items as multi-tools, *i.e.* having more than one use. Notched, utilised and retouched tools predominate, and there is a relative paucity of scrapers. These types of *ad hoc* tools, combined with the general lack of single tool types, suggest the most probable date of this assemblage to be later Neolithic/ Early Bronze Age. The knife is a tool type that is also usually found in assemblages of this date, though its form is quite irregular and unusual (Fig. 12.1). There is a noticeable absence of the classic ‘thumb-nail’ and discoidal types of scraper that might be anticipated, even in such a small assemblage as this. In line with flint work dating to this period there is a predominance of flakes with slightly fewer blades, although this may partly be a reflection of the raw material used. The flakes were mainly detached using a hard hammer, but there are also several struck with a soft hammer, consistent with the date range of the material. Secondary and tertiary flakes are retouched, while the only primary flake in the assemblage was discarded as waste.

The primary activities that might be expected to be carried out with this range of tools would have been the cutting of animal/vegetable materials, trimming and/or peeling of wood/bone items, with some limited skinning and dressing of animal hides/furs. These activities form the basis of subsistence, and suggest that settlement was taking place on or near the site. There were no finds of burnt flint, or other contemporary artefacts. There does seem to be a distinct cluster from the south-east corner of the site, but this may be due to the

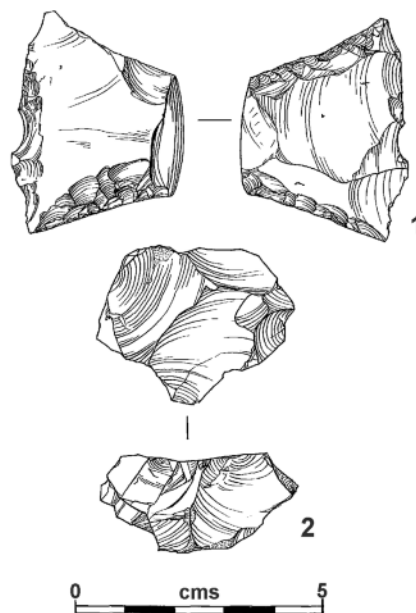


FIGURE 12 Worked Flints (scale 1:2)

concentration of excavated features in that area. It is therefore not possible to quantify the extent of the settlement within the site, or its permanence (*i.e.* seasonal or otherwise). There are no arrowheads in the assemblage, suggesting that hunting was taking place further afield. Axes and fragments of axes are also absent, and it may be that the site was open ground at that time.

The flint core (Fig 12.2) and waste flakes, including primary (core removal), suggests that flint knapping was taking place on the site. The raw material used falls into five groups. Four of these are very similar in character and are likely to be local glacial gravel, which could have been retrieved readily from the ground surface. All are from very small nodules, evident from both the size of the flakes and the core. Three flakes/blades are 49, 44 and 39mm long respectively, but most fall in the 27-34mm range. The core itself is only capable of producing flakes with a length of 25mm. The fifth category of flint is different, being dark grey rather than brown, and larger in one example at least (min. 45mm length, the flake being perhaps two-thirds complete). Its character of this flint is similar to that found within chalk, and therefore may be an import.



## THE POTTERY

by Andy Fawcett &amp; Bob Zeepvat

**Introduction**

A total of 579 sherds with a combined weight of 14.86kg were recovered from the excavation: the evaluation trenches within the excavated area (Trenches 5-9) produced 191 sherds weighing 2.79kg (Thorne & Masters 1999, table 1). In both cases, the material was given a brief examination and subjected to basic quantification (sherd count and weight per context). The two assemblages are summarised in Table 2.

The overall condition of both assemblages may be described as abraded to slightly abraded. Detailed fabric description and comparison with material of a similar nature was not undertaken. Date ranges were provided for each context containing pottery and, where appropriate, comments were made as to the condition of the pottery. Other data, such as obvious fabric and form types, were also included for each context: these have been subsequently related, as far as is possible, to the Milton Keynes type series for Roman (Marney 1989) and medieval (Mynard & Zeepvat 1992) pottery. The detailed pottery catalogue is retained in the site archive.

**Iron Age & Roman**

The excavation produced a small assemblage (21 sherds, 188g) of possible Iron Age and late pre-Roman Iron Age date, all apparently from securely stratified contexts. The assemblage includes a range of grit-tempered, shelly and sandy fabrics. Sherds are all small and abraded. The similarity of the sandy material to fabrics of Saxon date meant

that some contexts could not be dated with confidence, especially if stratigraphic relationships were uncertain or absent.

The date range of the Roman pottery extends mainly through the 2<sup>nd</sup> to 4<sup>th</sup> centuries, with only scant evidence of earlier Roman material. The assemblage has a below-average diagnostic element and the form range is limited. Jars are the most frequent form represented, amongst a range of local and non-local kitchen, table and storage wares. Another feature of the assemblage is the number of contexts with a low sherd count. The largest assemblages from the excavation were found in the fills of Pit 158 (Fill [160]: 82 sherds, 1.8kg) and Ditch 1010 (Fill [197]: 67 sherds, 2.4kg), both associated with the late Roman Enclosure 5. From the evaluation, the largest pottery assemblage (Fill [3]: 178 sherds, 2.5kg) was recovered from a feature equating to Ditch 1014 of the excavation, in the same general area and of a similar date to the above features (Thorne & Masters 1999, table 1).

In terms of local fabrics, greywares predominate (e.g. MK3, 9a: dog bowls, necked and neckless jars), together with smaller quantities of shell-gritted ware (MK1a, 1b: jars) and soft pink grogged ware (MK2: jars, including a very large storage jar). Regional wares are represented in the excavation assemblage by colour-coated ware from the Lower Nene valley (MK6), a white-ware mortarium (MK4c) from Mancetter-Hartshill (Warks), Dorset black-burnished (MK8) and Hadham (Herts) oxidised ware (MK36). In addition, the evaluation assemblage contains a rouletted Oxford ware (MK24) bowl similar to Young's type C45.3 (Young 1977, fig. 85), and a sherd of Verulamium region white ware (MK18g). Imported

TABLE 2 Pottery assemblage statistics

<i>Period</i>	<i>EVALUATION</i>		<i>EXCAVATION</i>	
	<i>Sherd count</i>	<i>Weight (g)</i>	<i>Sherd count</i>	<i>Weight (g)</i>
Pre-Roman	—	—	21	188
Roman	182	2763	399	10959
Saxon	—	13	40	606
Medieval	6	15	109	2882
Uncertain*	—	—	10	225

\* either IA or Saxon – similar fabrics

wares comprise a residual sherd of Central Gaulish Samian Dr18 dish from Oven 423, and amphora fragments, most probably Dressel 20 (Tyers 1996, 87), from the evaluation.

### Saxon

Early Saxon activity on the site is evidenced by small pottery assemblages from the evaluation (3 sherds, 13g) and excavation (40 sherds, 606g). The excavation assemblage consists mostly of sherds from two urns, both in a coarse sandy fabric containing organics, found in the two pits (188 and 204) assigned to this period. One vessel is deco-

rated with incised-line decoration, and impressed cruciform stamps. Both vessels are illustrated (Fig. 13.1, 2). The fabric that characterises this phase is similar to Iron Age ceramic fabrics: the difficulty in identification is compounded by the similarity between the decorative techniques and rim types that may also be found in both periods.

### Medieval

After the Roman, the medieval assemblage was the largest from the excavation (109 sherds, 2882g). Most of this (69 sherds, 2.38g) is accounted for by a single vessel, a cistern in grey sandy ware (MK

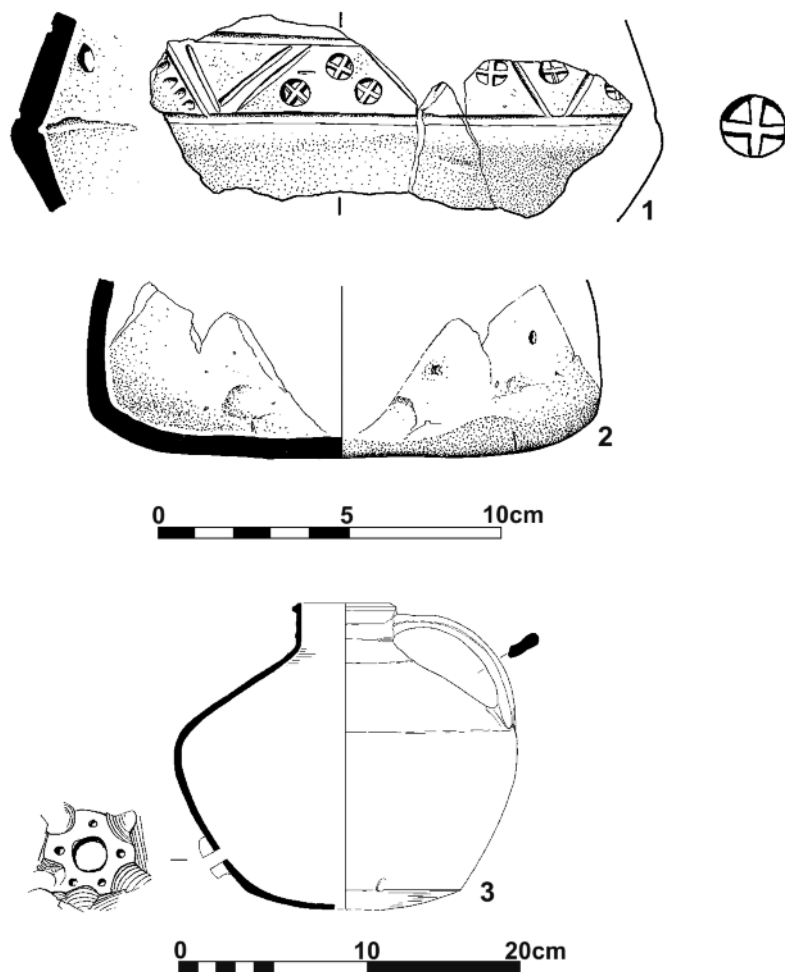


FIGURE 13 Saxon pottery, 1, 2 (scale 1:2: stamp detail 1:1): medieval pottery, 3 (scale 1:4: spout detail 1:2)

MS3), found in Pit 289 (Fig. 13.3). The remaining medieval assemblages from the excavation and the evaluation (6 sherds, 15g) have a below-average diagnostic element, and the form and fabric ranges are limited. Fabrics are mostly grey sandy ware (MK MS3) and medieval shelly wares (MK MC1, MC3).

### Conclusions

All the periods represented at Broughton indicate low-status rural activity, the pottery probably finding its way out to the enclosure ditches as a result of manuring. Only in the late-Roman Enclosure 5 do the quantities of material suggest rubbish disposal, and therefore the proximity of settlement, in this case most likely to the west of the excavated area, on the bank of the stream. Most of the Saxon and medieval assemblages derive from only three vessels, two Saxon and one medieval, all buried in discrete pits. In the case of the medieval cistern in Pit 289, this appears to have been deliberately buried, in association with a sheep's skull, as some form of ritual deposit.

### ROMAN COINS

by Martin Grahn

Fifteen Roman coins were recovered from the site. The soil conditions were reasonably favourable for their survival, so that only a few were too corroded for identification, using Mattingly & Sydenham (1930, 1933 and 1938). No attempt has been made to grade the coins according to their wear/condition. As recovery was both by excavation and the use of metal detectors, a greater representation of coins, especially the later period smaller units, will have been recovered from the site.

The assemblage (Table 3) comprises one silver *denarius*, two copper-alloy *sestertii* (one unidentifiable) and nine copper-alloy *antoniniani*, along with one copper-alloy barbarous radiate copy and two other unidentified coins which are most likely to be copper-alloy *antoniniani* or barbarous radiates. The earliest dateable coin is from c.AD 196, and one of the unidentifiable *sestertii* could date from the 1<sup>st</sup> century, but is more likely to fall within the time period given by the other coins, most of which date from the late 3<sup>rd</sup>-century Gallic Empire period. No 4<sup>th</sup>-century coins (House of Constantine or later) are present.

The coins show that the site was active from the

late 2<sup>nd</sup> century until the late 3<sup>rd</sup> century, with possible evidence for 1<sup>st</sup>-century activity. Of the coins recovered, three date from before 260, while all the others fall into the period 268–282. The earliest positively-identified coin (Table 3.13) is a *sestertius* of Commodus, which dates from c.177 to 192. However, from the very small area of inscription readable it appears that the legend is from his time as sole emperor and probably post-dates his gaining the title of *Britannicus* in 184. The next dateable coin (Table 3.34) is the *denarius* of Septimius Severus, a contemporary plated forgery which can be dated to 207. Such forgeries are fairly common site finds for this period, several moulds for this purpose having been found in Britain. It is possible that the unidentifiable *sestertius* (Table 3.9) is earlier in date. Coins of the Gallic Empire form the bulk of the assemblage, with one or possibly two barbarous radiates of the later 3<sup>rd</sup> century, these being the latest coin finds from this site.

Only two Roman contexts, Ditch 1011 [197] and Pit 174 [176], contained any coin finds. From the ditch three closely dated coins (270–282) and in the pit was a single coin dating to 270–273. Three residual coins were also found in medieval contexts [284] and [286], although their date range of 260–270 fits in with the other coin evidence for the Roman use of the site. All other coins were unstratified.

This chronology accords well with the coin assemblage from Broughton Manor (Popescu 2008, 3–6), where the earliest coins date from the 1<sup>st</sup> century, with an increase in number from the second half of the 3<sup>rd</sup> century. The principal difference here is the absence of coins from the 4<sup>th</sup> century onwards, whereas at Broughton Manor they are well represented, suggesting that this site had gone out of use during the late 3<sup>rd</sup>/early 4<sup>th</sup> century.

The *sestertius* of Commodus (Table 3.13) has been converted into a possible gaming token by filing into a regular hexagonal shape. As this was from an unstratified context it is not known when this was done. Re-worked Roman coins are often found in early Saxon graves. A range of denominations, including some reshaped like this example, were found in association with a set of balance scales from Grave C at Buckland cemetery (Evison 1987, 273). This could suggest that they were sometimes used as weights.

TABLE 3 Roman coin list

<i>No/feature</i>	<i>Date</i>	<i>Description</i>	<i>Ref.</i>
2/1011	273–282	Irreg Issue Ae (Barb. Radiate), imitation of Tetricus I (270-3) REV: Blundered legend with radiate bust right OBV: Pax Avg type	
3/1011	270–273 or 273–282	Tetricus I Ae Antoninianus but irregular in design REV:[IMP C TETR]ICVS P[F AVG] OBV: Poss: [SALV]S [AVGG]. Salus standing to left feeding serpent arising from altar	As RIC 126
4/1011	270–273	Tetricus I Ae Antoninianus REV: [IMP C T]ETRICVS PF AVG Radiate draped bust to right OBV: Poss Pax Avg Type. Pax standing to left holding wreath and sceptre	RIC 100
6/unstrat	Und.	Illegible prob. Ae Antoninianus	
9/1016	Und.	Illegible prob. Ae Sestertius	
10/1016	268–270	Victorinus Ae Antoninianus Cologne Mint REV: [IMP C VICTOR]NVS[ PF AVG] Radiate, draped, cuirassed bust to right OBV: [INVICTVS] Sol advancing left with whip	RIC 114
12/1014	268–270	Claudius II Gothicus Ae Antoninianus Rome Mint REV: [IMP C CLA]VDIVS AVG Radiate, cuirassed bust to right OBV: LIBE[RALITAS AVG] Liberalitas standing to left holding a coin counter and Cornucopia	RIC 56
13/unstrat	177–192 Probably post 181	Commodus Ae Sestertius REV: Bare headed bust to right Converted to possible gaming token by filing to regular hexagon	
18/unstrat		Illegible prob. Ae Antoninianus	
19/unstrat	268–270	Victorinus Ae Antoninianus Cologne Mint REV: [IMP C V]ICTORINVS PF AVG Radiate, draped, cuirassed bust to right OBV: [INVICTVS] Sol advancing left with whip	RIC 114
30/174	270–273	Tetricus I Ae Antoninianus REV: IMP C TETR[ICVS PF AVG] Radiate, draped bust right OBV: [PAX] AVG Pax standing left holding wreath and sceptre	RIC 100
34/unstrat	209	Septimius Severus AR Denarius Plated contemporary forgery REV: SEVERVS PIVS AVG Laureate bust to right OBV: PM TRP XVII COS III PP Neptune standing left holding a Trident with foot on globe	RIC 228
35/unstrat	268–270	Claudius II Gothicus Ae Antoninianus REV: IMP C CLAVDI[VS AVG] Radiate head to right OBV: prob. [AEQVITA]S AVG Aequitas standing left holding scales and cornucopia	RIC 14
40/unstrat	270–273	Tetricus I Ae Antoninianus REV: [IMP C TETR]ICVS PF AVG Radiate draped bust to right OBV: [PAX AVG] Pax standing to left holding wreath and sceptre	RIC 100
41/unstrat	268–270	Victorinus Ae Antoninianus REV: poss. [IMP C PIA V VICTOR]INVS[ PF AVG] OBV: poss. [FIDES MILLIVM] Fides standing to left with two standards 109	poss. RIC



## ROMAN &amp; LATER FINDS

by Alex Thompson

**Introduction**

Forty-two metal small finds were recovered from the excavation, of which twenty-eight are unstratified metal-detector finds. Most of the finds are of Roman date, but there are several medieval and post-medieval metal objects. The evaluation produced eight finds, of Roman and post-medieval date. A selection of finds is illustrated (Fig. 14): a full list with detailed descriptions of all finds is retained in the site archive.

**Roman**

Most of the Roman assemblage is unstratified, comprising mainly metal-detector finds, and also objects found as residual material in medieval contexts.

There is a small amount of evidence for the dress of the people that lived and worked at Broughton. Fragments of two copper-alloy bracelets were found, (1) from late Roman pit 158: (2) was unstratified. In addition, an early Roman Nauheim derivative brooch was recovered from the evaluation. Two iron hobnails (3, 4) were found in the excavation, the latter from the fill of enclosure Ditch 1010.

Two small copper-alloy discs, possibly weights, are of particular interest (5, 6). A quern fragment of Niedermendig lava, possibly Roman, was found in medieval ditch 1019: a further fragment of lava quern, together with an iron blade, was recovered during the evaluation. Lava querns were originally introduced to Britain in the early Roman period with the Roman army, being light to transport (Watts 2002, 33).

Other finds of Roman date were relatively sparse. A few fragments of Roman tile, all too small and abraded for positive identification, were recovered. Roman tile commonly occurs on rural sites, where it was probably used as hardcore (Zeevat in Mynard 1987, 118). Seven small lead and two copper-alloy droplets, all unstratified, are also typical finds on Roman rural sites.

**Medieval**

Finds from stratified medieval deposits include a nail (not illustrated), a horseshoe nail (9), and a whittle-tang knife (10). Unstratified finds include a strap loop (7) and a belt fitting (8). No medieval

finds, other than pottery, were recorded from the evaluation. While all could represent losses during work in the enclosure, it is also possible that they were deposited through manuring.

**Post-Medieval**

The two illustrated post-medieval finds, a buckle (11) and tapered strip (12) were both metal detector finds. Other contemporary finds, all unstratified (none illustrated), include a copper-alloy thimble, three lead musket/pistol balls and two post-WW2 shotgun-cartridge end plates. In general terms musket balls are ½" (12mm) calibre or larger: anything smaller represents pistol shot. At approximately ½" calibre these items are on the cusp of the division, and are most likely to be from muskets. In addition, the excavation recovered several undiagnostic fragments of ceramic building material, and a fragment of clay pipe stem.

*Catalogue (Fig 14)*

- 1 Bracelet fragment, copper alloy. Cable decoration but uncertain whether it is cast as one or constructed of three pieces of twisted wire. Small diameter suggests a child's bracelet. Dia 2mm. Roman. SF29 [160] *Fill of Pit 158*
- 2 Bracelet fragment, copper alloy. Strip with a rounded D-shaped profile, larger at one end. Slight rounded lobes at regular intervals are just visible on the rounded, inner surface suggesting a crenellated design. Both ends broken and it has been bent inside out and round into a tight oval, probably intended for melting down. Small diameter suggests a child's bracelet. Overall length 23mm. Roman. SF16 *Unstratified*
- 3 Hobnail, iron. Overall length 16mm. Roman? SF14 *Unstratified*
- 4 Hobnail, iron. Overall length 15mm. Roman? SF28 [166] *Fill of Ditch 1010*
- 5 Disc, sub-circular copper alloy, dia c.11mm, th c.5mm, wt 4g. Possible weight. Roman? SF1 *Unstratified*
- 6 Disc, sub-circular copper alloy, dia c.11mm, th c.4mm, wt 3g. Possible weight. Roman. SF5 [162] *Fill of Ditch 1012*
- 7 Strap loop, copper alloy. Trapezoidal form with pair of internal projections. Similar in form to 'earlier form' cat. no.1265 (Egan & Pritchard 1991, 234). 27 × 14mm; internal width 20mm. Medieval? SF7 *Unstratified*.
- 8 Circular copper-alloy belt fitting with integral stud. Central domed area bisected by embossed line. Dia 17mm, ht 8mm. Medieval? SF8 *Unstratified*.
- 9 Horse-shoe nail, iron. Rectangular head and rectan-

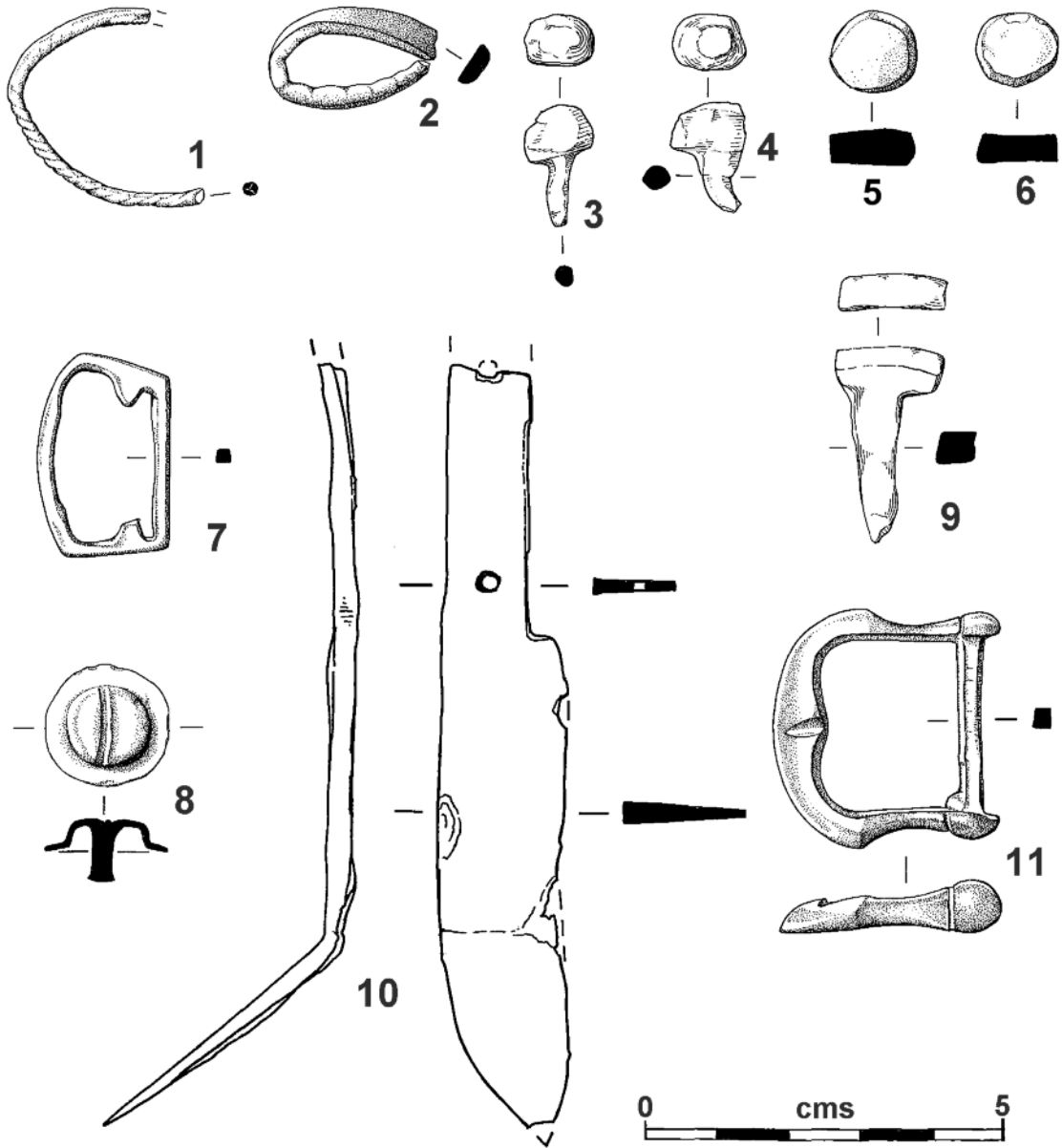


FIGURE 14 Finds: Roman (1-6), medieval (7-12) (scale 1:1)

- gular section shank, comparable with London Catalogue nos 123–6 (Clark 1995, 116). Length overall 26mm. *c.*1150–1250. SF42 [329] *Fill of Ditch 1007*
- 10 Knife, iron, scale tang. Similar form to two examples from London (Cowgill, de Neergard & Griffiths 1987, 92–94, cat. nos 120 & 132). Triangular section blade and sloping end. Tang in line with the back of the blade, broken. Two rivet holes present. Length overall 122mm. Late 14<sup>th</sup> century? SF31 [209] *Fill of Ditch 1021*
- 11 Buckle, copper alloy. Single frame, single loop, rounded notched front. Pin missing. Rear of front shows deep striations caused by filing the rear to finish the piece after casting. 32 × 29mm. (*cf* Whitefield 1996, 29, form 158), *c.*1500–1650. SF36 *Unstratified*
- 12 Strip, copper alloy, square section, tapered. Wide end is flattened, with off-centre punched hole. Wider end wrapped around with 0.75mm diameter copper-alloy wire. Length overall 82mm. Function unknown. Post-medieval? SF39 *Unstratified*

## HUMAN REMAINS

by Harriet Anne Jacklin

### Introduction

This report details the results of the skeletal analysis of inhumation SK106, found in grave cut 105. The age, sex, dentition, dental health, post cranial metrics, non-metric traits and stature have been assessed and recorded where possible, using a standardised recording form created by the author, in line with Brickley and McKinley (2004). Pathological analysis has also been undertaken. All data is retained in the site archive, and has been entered in the University of Leicester Archaeological Service's skeletal database. Due to the fragmentary nature of the cranial material, it has not been possible to record cranial metrics and cranial morphology.

### The Burial

The individual was orientated west (head) to east, and was buried in a supine position, left hand resting on pelvis (Fig. 6). The right hand was possibly resting in the same position but had been disturbed in antiquity. The lower legs were absent, with the exception of a fragmented left fibula. Only part of the cranium survived. No coffin nails or furnishings were recovered during the excavation. The shape of the grave cut, an elongated oval with rounded edges, curved sides and a concave base, indicates a possible shrouded burial. The grave cut

was partially truncated and obscured to the south and east. No finds were associated with the inhumation. Bone preservation was good. It was 75–100%, having been truncated in antiquity.

### Skeletal Analysis

For a reliable estimate of age a number of different age indicators have been assessed. These are: dental eruption, dental attrition, epiphyseal fusion, long bone length, auricular surface and rib end morphology. Age-related pathology and skeletal completeness has also been considered, and the varying reliability of these different methods has been taken into account.

For a reliable estimate of sex a number of different age indicators have been assessed. These are: pelvis (*sciatic notch, ventral arc, ischiopubic ramus, subpubic concavity, preauricular sulcus*), cranium (*supra-orbital ridge, nuchal crest, mastoid process, mental eminence*), femoral and humeral head measurements, size of clavicle and of sacrum. Overall size and morphology has also been considered and the varying reliability of these different methods has been taken into account.

### Age

The age at death was 30 to 35 years (young adult). The age estimation of SK106 has been based on dental eruption, dental attrition, epiphyseal fusion, rib end morphology and assessment of the auricular surface. No age-related changes were found.

### Sex & Stature

The skeleton is female. Sex estimation has been based on assessment of the pelvis (*sciatic notch and pre-auricular sulcus*), cranium (*nuchal crest, mastoid process and mental eminence*), measurements of the left femoral and humeral head, and the length of the left and right clavicle. The size of the sacrum has also been considered. The individual would have been 1.52–1.59 metres tall.

### Dental Health

No caries (cavities) or abscesses are present on the surviving dentition. No calculus has been found on the surviving upper dentition, although the lower dentition is mildly affected with the canines and incisors being severely affected. Periodontal disease (an infection of the alveolar bone through the inflammation of soft tissue surrounding the dentition) could not be recorded for the upper

dentition due to the lack of surviving alveolar bone. The lower dentition (mandible) was unaffected by periodontal disease.

### Pathological Analysis

Hypoplasia lines (hypoplastic defects in the dental enamel) are an indicator of biological stress. Hypoplasia lines are present on five teeth (4, 22, 21, 27 and 28). Three teeth (21, 27 and 28) show more than one occurrence. The recording of hypoplasia lines, if any, could not be undertaken on four teeth (23, 24, 25 and 26) due to the enamel being obscured from view by severe calculus. The hypoplasia lines indicate reoccurring periods of ill health (nutritional deficiency, childhood illness or both) between 2.5-3 years, 3.5-4 years, 4-4.5 years and 5-5.5 years.

No other pathological signs of ill-health are present on the surviving skeletal material: there is no evidence of pathology or trauma, metabolic or endocrine disorders and no congenital/ developmental variants.

### Conclusion

The Broughton skeleton represents a young female aged between 30 and 35 years, with no discernable cause of death and good dental health.

## ANIMAL BONE

by Paul Thompson

### Introduction

A total of 388 bone fragments weighing 7.782kg were recovered from forty-eight contexts. A further eight bone fragments weighing 171g were retrieved

from five environmental samples. Most of the excavated animal bone originated from the Roman and medieval periods: only small quantities were recovered from Anglo-Saxon and post-medieval deposits (Table 4). All remains were disarticulated. Full details of the assemblage are retained in the site archive.

### Preservation

Bone preservation was fair, but almost all bones recovered were fragmented, causing a high proportion of small unidentifiable fragments. As a result nearly 35% of the medieval bones were recorded as unidentifiable. The process of excavation had damaged a proportion of the bones recovered. The bones most susceptible to this damage were scapulae, resulting in a disproportionate number of fragments, so these were ignored when calculating the maximum number of individuals (MNI).

### Methodology

The remains were collected during excavation by hand. The material was washed, weighed and basic recording undertaken after which it was bagged and boxed by context. Identification was carried out using modern, medieval and Roman comparative material held by the author, with reference to Schmid (1972), Taylor (1959) and Thompson (1990).

Each bone was weighed, examined and identified in terms of type of bone and species. Evidence of pathology and butchery was noted along with other observations. This information was recorded on pro-forma recording sheets, which form a corpus within the site archive. Every bone fragment was also weighed. Bone fragments that fitted

TABLE 4 Quantification of species present by period

SPECIES	Phase 3: Roman	Phase 4: Saxon	Phase 5: Medieval	Phase 6: Post med
Horse (Equus)	16	—	23	—
Cow (Bos)	89	6	40	3
Sheep / Goat (Ovis / Capra)	40	2	43	2
Pig (Sus)	5	2	5	1
Dog (Canis)	3	—	4	—
Domestic Fowl (Gallus)	0	2	1	—
Unidentified	30	21	50	—
<b>TOTAL / %</b>	183 (47.2%)	33 (8.5%)	166 (42.8%)	6 (1.5%)

together have been identified in the archive but were left separate for the purposes of this report. Fragment counts include loose teeth, epiphysis, skull and rib fragments.

None of the bone assemblage was recovered from the sieving of environmental samples. As a result the remains of small mammals, birds and fish are not represented. No wild species were identified from the site.

## Results

### *Bone Weight*

In the Roman period cattle was the predominant species (Table 5), suggesting that beef was the major meat consumed, followed by horse. In all periods, sheep/goat is the next most common species on the site, except in early medieval contexts, where it appears to be the major type of meat consumed.

### *MNI*

Table 6 displays the minimum number of individuals by species and time period. With so few bones in the assemblage the MNI is useful only to demonstrate relative species importance to the community at a given time. However, in comparison with Table 5 the MNI does provide a clearer picture of animal exploitation at Broughton. Cattle, sheep/goat and horse are undoubtedly the staple animals across all periods, with only minor changes in their relative significance over time.

### *Butchery*

Only thirteen bones (3.3%) displayed butchery marks. Eight were cow, three were sheep/goat, and pig and horse were represented by single examples. Five bones were Roman and the remaining eight were from medieval contexts. Butchery marks were present on long bones, scapula, astragalus and atlas bones. Two deep cuts on a horn core may be related to removal of the horn for use in horn working.

TABLE 5 Weight/percentage of bone recovered by species/period

<i>SPECIES</i>	<i>Roman</i>		<i>Saxon</i>		<i>Medieval</i>		<i>Post Medieval</i>	
	<i>Weight (g)</i>	<i>%</i>	<i>Weight (g)</i>	<i>%</i>	<i>Weight (g)</i>	<i>%</i>	<i>Weight (g)</i>	<i>%</i>
Cow	2991.5	67.9	143	47	1282	38.8	18.5	53
Horse	628.5	14.3	–	–	1337.5	40.4	–	–
Sheep / Goat	326.5	7.4	25	8	332	10.1	5.5	16
Pig	87.5	2.0	27	9	118	3.6	11	31
Dog	114	2.7	–	–	40	1.2	–	–
Domestic Fowl	–	–	4	1	3	0	–	–
Unidentified	251.5	5.7	107.5	35	195	5.9	–	–
<b>TOTAL</b>	<b>4399.5</b>	<b>100</b>	<b>306.5</b>	<b>100</b>	<b>3307.5</b>	<b>100</b>	<b>35</b>	<b>100</b>

TABLE 6 MNI – Minimum Number of Individuals

<i>SPECIES</i>	<i>Roman</i>	<i>Saxon</i>	<i>Medieval</i>	<i>Post Medieval</i>
Cow	5	1	5	1
Horse	3	0	3	0
Sheep / Goat	4	1	5	1
Pig	1	1	2	1
Dog	1	0	1	0
Domestic Fowl	0	1	0	0
<b>TOTAL</b>	<b>14</b>	<b>4</b>	<b>16</b>	<b>3</b>



### Rodent Damage

Fifteen bones (3.8%) displayed evidence of gnawing by rodents. This seems to have been more common on the site during the medieval period. Most (11 out of 15) were long bones such as radius, humerus and metatarsal with three scapulae and a single pelvis fragment. By period, seven bones from Roman contexts had been gnawed, one from a Saxon context, and eight from medieval deposits. Eight of the bones derived from cow, five from sheep/goat and one each from pig and horse. There was little evidence that animal remains were left for long exposed to the elements, but they were certainly above ground long enough to be subjected to rodent attention. This is precisely what might be expected within the field boundaries of a pastoral economy.

### Pathology

The astragalus and calcanium bone from a cow (*Bos*), recovered from the fill of Roman Pit 158, displayed signs of pathology in the form of amorphous extra bone growth (osteophyte formation) around the articular surface in the right hind leg, resulting most probably from infection (Fig. 15). This was probably caused by an unknown injury to the animal's right hind leg. Affecting the calcaneus first, it would have caused the animal to limp,



FIGURE 15 Cow astragalus and calcaneum bones from Pit 158 (Roman), displaying signs of pathology in the form of osteophyte formation

before spreading to the astragalus. In its later stages the animal would have found it difficult, if not impossible, to walk. Consequently, this animal suffered acute pain during its life.

### Discussion

This small assemblage provides a window on the faunal domestic refuse deposited on the site at Broughton in the Roman and medieval periods, and displays a number of interesting characteristics. The paucity of ribs and vertebrae and the lack of meat-bearing bones reveal this assemblage to have been deposited as a result of domestic waste disposal. Portions of the assemblage were subjected to rodent gnawing.

During the Roman period, a relatively high proportion of cattle bones followed by substantial horse and sheep/goat have been observed at a number of Milton Keynes sites including Caldecotte, Bancroft, Wavendon Gate, as well as others in the east Midlands (Holmes & Dobney 1994; Holmes & Reilly 1994, Dobney & Jaques 1996). The paucity of pig and the absence of deer suggest a modest farmstead to be the source of the remains. In contrast, during the medieval period farming continues on the site, but with a greater reliance on horse than on cattle.

From the recorded instance of epiphyseal fusion, only two bones belonged to calves. Most animals appear to have reached maturity, indicating that they were being kept not just for meat but also for wool/leather, milk or dairy products, and for breeding. During the Roman and particularly the medieval periods, the presence of quantities of disarticulated horse remains comprising teeth, skull, mandible and non-meat bearing bones such as metacarpal and phalange, suggests butchery waste. One bone showed signs of rodent gnawing and another displayed a butchery cut mark. All horse teeth recovered came from animals mature at death.

The dog remains from both Roman and medieval contexts are interesting. The Roman dog remains comprised a pair of mandibles from the same individual and a metatarsal, possibly from the same animal, from a medium-sized dog comparable in size to a greyhound or lurcher. The medieval dog bones, comprising a jaw and cranium from the same individual, derived from a small dog, possibly a type of terrier. Both individuals are representative of specialised animals, bred for

different types of hunting.

The only domestic fowl remains, comprising three bones, came from Saxon contexts. It is unlikely that this accurately reflects the proportion of species kept and consumed at Broughton.

## CHARRED PLANT REMAINS

by *Alistair Hill*

### Introduction

During the excavation, twenty bulk samples were taken from a range of securely dated contexts representing Roman (12 samples), Saxon (2 samples) and medieval (8 samples) activity on the site, identified as having the potential for the preservation of plant remains.

### Methods

The samples taken for the recovery of plant remains were processed by ASC using bulk flotation, utilising 10mm and 4mm sieves, with the flotation fraction (flot) collected on a micro mesh. The flots were air dried and packed in film canisters marked with details of the project code, context and sample numbers prior to laboratory analysis.

Analysis of the flots was carried out by scanning and 100% sorting each flot using a binocular microscope with magnification settings of between  $\times 7$  and  $\times 45$ . The carbonized plant remains (except charcoal) were separated from the flots and stored separately as either cereal grain, chaff, weed seeds, nutshells and fruit stones prior to being identified further. The University of Leicester Environmental Laboratory's modern seed reference collection and reference manuals (e.g. Anderberg 1994, Berggren 1969, 1981 and Cappers *et al* 2006) were then used, subject to the degree of preservation, to identify the morphological characteristics of the archaeobotanical evidence found in each of the samples.

The plant names and order follow Stace (1997).

Numerical quantification, by species, of the grains, chaff and seeds from each sample was carried out using the following methodology. For cereals, each grain present in the assemblage was counted as one. Where fragments of grain were present an estimate of the number of whole grains this would have represented was made by combining fragments. This method was also used in counting the chaff present in the assemblage. The weed seeds, although generally poorly

preserved, were counted as one in common with the rest of the archaeobotanical assemblage, unless they could be identified as fragments of a fractured large weed seed (following van der Veen 1992). The results of the analysis, by sample, were recorded using a Microsoft Excel spreadsheet and subsequently each sample was grouped in line with the context features from the site with the item total and items per litre tabulated to illustrate the distribution of charred plant remains across the site. The spreadsheets containing the detailed results are retained in the project archive.

### Preservation

The survival and quality of plant material at archaeological sites is mainly determined by the taphonomic conditions present at an excavation site. These conditions include the mode of preservation, the conditions that surrounded the organic evidence and the local or regional climatic conditions. In the case of Broughton, the archaeobotanical remains from the excavation were found to have been preserved through carbonisation, although partially mineralised seeds were also present in the assemblages.

Carbonization occurs when the botanical material has been subjected to fire, which in most cases preserves a carbonized morphological structure of the material that is not subject to biological decay but is susceptible to mechanical damage (Moffett 1993). Mineralisation occurs when the organic material in the plant present has been replaced over time by calcium phosphates and carbonates. For this to happen there needs to be a relatively high concentration of mineral salts present as well as a sufficient level of water in which the mineral salts can dissolve and then percolate into the organic material (*ibid.*). The partially mineralized seeds found at Broughton had the appearance of modern seeds but were missing their starchy internal seed parts. Dr Mark Robinson has put forward the suggestion that minimal mineralisation taking place at the surface of the testa may be all that is needed to preserve the remainder of the testa (*ibid.*). In the absence of other evidence from the excavation, those seeds that showed signs of partial mineralisation were listed with the uncharred seeds.

### The Plant Remains by Period

Charred plant remains were found in all samples recovered from Broughton North. However, the flots were mostly composed of uncharred intrusive root material and across the range of samples the number of seeds present per sample varied considerably, with most of the samples (13) containing a low level of 0.5 or less items per litre of soil.

Across the range of samples, cereal grain was the most commonly found archaeobotanical item, as is usually the case. This survives deposition in an archaeological context remarkably well when charred/carbonised, and can survive so well in archaeological sediments that it may be redistributed into deposits of a later, or earlier, date (van der Veen 1992). Cereals, it has been suggested, are also more likely to come into contact with fire than other food plants, in part because of the requirement to parch the hulled varieties if pounding or milling is not sufficient to separate the grain from the chaff. The storage of cereals in buildings or granaries, which were often susceptible to fire, also increases the possibilities of cereal grain being charred or carbonized. There are also a number of other taphonomic routes by which charred/carbonized cereals can become incorporated into archaeological deposits, e.g. from straw utilised for either thatch, animal or human bedding and from animal dung used for fuel.

In addition to the charred or carbonised material, many of the samples contained uncharred seeds. These included buttercup (*Ranunculus* sp.), fumitory (*Fumaria* sp.), nettle (*Urtica* sp.), goosefoot (*Chenopodium* sp.), pink family (Caryophyllaceae), chickweed (*Stellaria* sp.) knotweed family (Polygonaceae), black bindweed (*Fallopia convolvulus*), common sorrel (*Rumex acetosa* L.), field pennycress (*Thlaspi cynapium* L.), brambles/blackberries (*Rubus* sp.), fool's parsley (*Aethusa cynapium* L.), dead nettle family (Lamiaceae), claries (*Salva* sp.), sow-thistle (*Sonchus* sp.) and sedges (*Carex* sp.). None of these seeds were thought to be of archaeological origin, most being common weeds of disturbed/arable ground. The mineralized seed assemblage comprised sloe (*Prunus spinosa* L.), wild cherry (*Prunus avium* L.), hawthorn (*Crataegus monogyna* Jacq.) and elder (*Sambucus nigra* L.).

### Roman

Samples from Pit 323 and Ditch 1007, Enclosure 3,

contained badly-preserved charred cereal grains, the majority being tentatively identified as emmer or spelt wheat (*Triticum dicoccum* or *Triticum spelta*). However, one grain of free-threshing wheat (*Triticum* cf. *aestivum*) was tentatively identified from the pit and three grains of barley (*Hordeum* sp.) from the ditch. The pit sample contained three medium-sized vetch seeds and the ditch sample contained a charred weed tuber of onion couch (*Arrhenatherum elatius* L.), a plant believed to be a perennial weed species of cultivated land and often associated with arid ploughing (van der Veen 1992). The sample from Ditch 1005, Enclosure 2, contained a significant number of cereal grains, tentatively identified as spelt, and weed remains. Like the Pit 323 sample, it also contained medium-sized vetch seeds. Samples from Ditches 1011, 1013 and 1014 and Pits 157 and 158, all related to Enclosure 5, contained cereal remains. However, the sample from pit 157 contained three spelt glume bases. This was the only evidence of cereal chaff found in any sample assemblage from the site. The samples suggest that the archaeobotanical assemblage from the Roman enclosures and related features represents a thin scatter of redeposited domestic archaeobotanical material that had accumulated over the period of the site.

### Saxon

The samples from Pits 188 and 204 contained predominately cereal grains. However, due to the poor level of preservation, identification was limited to the general taxonomy of free-threshing wheat (*Triticum* cf. *aestivum*), wheat (*Triticum* sp.) and barley (*Hordeum* sp.). Again the samples appeared to be representative only of thin scatters of redeposited domestic material that had accumulated over the period.

### Medieval

Samples were taken from Pit 353, enclosure ditches 1014, 1016, 1017, 1018, the fill of Oven 423 and later medieval Ditch 1021. Those from Pit 353 and Ditch 1014, the earliest phase of the medieval enclosure, contained cereal grains identified as a free-threshing wheat variety as well as various vetches. Pit 353 also contained barley (*Hordeum* sp.), oats (*Avena* sp.), which may have been grown as a crop, and cultivated vetch/pea (*Vicia sativum*/*Pisum*) which could be representative of a fodder crop and indicate the possibility of crop rotation.

Both samples also contained stinking chamomile (*Anthemis cotula* L.), a weed commonly found in medieval contexts and associated with the cultivation of heavy soils.

Samples from the later phases of the enclosure (Ditches 1016, 1017, 1018) contained a thin scatter of poorly-preserved cereal grain. Only three grains across the three samples could be identified as wheat (*Triticum* sp. ×1) and barley (*Hordeum* sp. ×2). Other seeds present included vetches (*Vicia* sp.), oats (*Avena* sp.) and rye (*Secale cereale*). However, the evidence in each case was too limited to suggest that any of them were representative of a crop.

Both samples from the oven contained free threshing wheat (*Triticum* – free threshing) and barley (*Hordeum* sp.) grains, as well as possible broad beans (*Vicia* cf. *faba* L.) and cultivated vetch/pea (*Vicia sativum/Pisum*). Ovens and kilns were used to parch cereal grain for a variety of reasons: for example, to dry the grain prior to storage if it had been gathered damp, to facilitate milling or, in the case of barley, to remove the hulls from hulled barley for human consumption or to roast the grain during the preparation of barley malt for ale brewing, a common activity in the medieval period (Dyer 2002). Although the density of remains exceeded one item/litre for these samples, there was insufficient evidence to suggest the reason for their presence within an oven context, particularly as legumes do not require parching in their processing. Therefore, it may be that the cereal and legume remains present in these samples resulted from the re-deposition of food preparation waste.

The sample from later medieval Ditch 1021 was representative of a thin scatter of redeposited domestic material that included two grains of free threshing wheat (*Triticum* – free threshing), brome grass (*Bromus* sp.) and a possible rye grain (cf. *Secale cereale*).

## Discussion

The archaeobotanical remains recovered from Roman contexts all contain possible bread (*Triticum* cf. *aestivum*) and spelt (*Triticum spelta*) wheat, vetches and arable weeds including stinking chamomile (*Anthemis cotula* L.). However, there are also some similarities with the medieval archaeobotanical assemblages, notably in terms of the mix of cereal grain and vetch seeds. This may

suggest that they are intrusive from the later medieval phases of activity associated with the site.

Little change appears to have taken place in the agricultural productivity of the locality during the Roman to Saxon period, with bread wheat (*Triticum aestivum*) spelt wheat (*Triticum spelta*) and barley (*Hordeum* sp.) continuing to dominate the cereal crops.

The most significant change was noted in the medieval period, where the cereal crop appears to be dominated by free-threshing varieties of wheat, an increased presence of oat (*Avena* sp.) and the possible introduction of rye (*Secale cereale*) as a cereal crop. The number of medium to large legumes present in the assemblages also increases with the possible introduction of broad bean (*Vicia* cf. *faba*) and common vetch/pea (*Vicia sativa/Pisum*) as pulse crops for human and animal consumption as well as a method of crop rotation.

The density of remains present in the samples from Broughton was in general low, most samples having a density of 0.5 items or less per litre of soil sieved. The low-density scatter of cereal grains, the minimal presence of chaff and the low volumes of weed seeds present in the samples appear to indicate that these remains were associated with the preparation and consumption of cereals on the site and could be interpreted as domestic waste. Low-density domestic scatter is usually associated with a slow accumulation of domestic food preparation waste and waste from latter stages of cereal processing over time. The relatively low ratio of weed to cereal grain present in most of these samples also supports the suggestion that a degree of crop cleaning/hand sorting to remove extraneous material may have taken place prior to food preparation. The charred/carbonised weed seeds are mainly typical of arable/disturbed land and are frequently found in archaeobotanical assemblages. It is likely that the weed seeds are representative of crop contaminants: however, they may also have derived from other areas of disturbed ground or been brought to the site with other plant material.

## CONCLUSIONS

The flint assemblage represents the earliest evidence of prehistoric activity at Broughton North, dated either to the late Neolithic/ early Bronze Age or slightly later. It is not the earliest known activity in this part of Milton Keynes, as a



Mesolithic/ earlier Neolithic assemblage was recovered from the Broughton Manor site, and a background scatter including a possible Palaeolithic flake was recorded at Brooklands. The terrain at Broughton North, being a terrace (now at least) above the east side of Broughton Brook would have been an ideal settlement and agricultural environment for both seasonal and continuous occupation. The lack of structural evidence suggests that the finds came from the periphery of an actual settlement or were part of a wider background scatter from sporadic and possibly seasonal occupation. The lack of evidence for hunting and for woodland management, particularly to provide wood for structures and for fires (*i.e.* no arrowheads or axes) in the limited flint assemblage suggest that these activities took place away from the site, in the surrounding countryside. Perhaps it is no coincidence that, although of much earlier date, arrowheads, an axe and scrapers were recovered from Broughton Manor, to the south-west of the site (Bishop 2008). The proximity of this site to Broughton Manor, Brooklands (Webster 2005) the prehistoric site and barrows at Cotton Valley (Green & Sofranoff 1985), and the barrows and pit alignments at Gayhurst (Chapman 2007), 1-1.5km to the north-east and west, might suggest that the communities on these sites would at least be aware of one another, even if it is not possible to demonstrate any link.

The limited presence and poor survival of the few sherds of late Bronze Age and middle Iron Age pottery, together with the lack of associated features, suggest that the site was used for agricultural purposes, perhaps farmed from a settlement somewhere nearby. Similar low-density finds of prehistoric ceramics were also made at Broughton Manor, some within features containing contemporary flint. Whilst there is no coincidence of flint finds with contexts that contain Bronze Age pottery, there is a general similarity in their spatial distribution and the possibility that they are contemporaneous cannot be ruled out.

In the large open-area excavation at Broughton Manor a small middle Iron Age settlement comprising a single family or homestead was recognised. Fragmentary enclosures together with a roundhouse, four-post structures, shallow pits and an associated cemetery were dispersed over 1.6ha, a layout that would be difficult to detect in the smaller area available at Broughton North. The

difficulty in distinguishing between Iron Age and early Saxon pottery has meant that it is not certain whether the earliest three features on the site are actually of Iron Age date, and it is therefore difficult to view these features in their proper perspective. If the features are conclusively of Iron Age date then it may be that these are the fragmentary survivors of a settlement which extended further to the south-east, beyond the excavation limits. Residual finds of late pre-Roman Iron Age pottery from the southern half of the site attest that human activity of some sort continued at Broughton North over some considerable time.

The site was utilised for agriculture for at least two centuries in the later Roman period. There was an earlier Roman presence here, but what form it took, and whether or not it was continuous from the late pre-Roman Iron Age, is not certain. Nor is the extent of the enclosures of this period, but they certainly would have continued in all directions except perhaps to the north-east, as an evaluation in the adjacent field failed to detect any sign of ditches, even where the ground was not disturbed by later activity.

Environmental remains obtained through comprehensive sampling of Roman features suggest that spelt wheat was the main cereal crop cultivated throughout the Roman period. Perennial weeds amongst the crops comprised mainly vetch, but the presence of onion couch in Enclosure 3 suggests that ard ploughing (an ard is a primitive plough without a mouldboard, fitted with a symmetrical share that traces a shallow furrow but does not invert the soil) could have been practised. A single occurrence of cereal chaff amongst domestic waste was recovered from a late Roman pit. Evidence of butchery waste in the faunal assemblage suggests that pastoral farming of cattle and sheep was taking place during the Roman period; horses also being used for meat. It is unclear whether these animals were being reared in the enclosures on site, or their waste was middened onto ploughed fields and deposited in the ditches.

The enclosures at Broughton North are part of a wider picture of a heavily exploited and settled Roman landscape in this part of Milton Keynes. Field systems have been recorded at Broughton Grounds to the east of the M1, at Willen Quarry to the north and at Broughton Manor to the south and east, where earlier and middle Roman enclosures and boundary ditches were laid out in similar orien-



tation to those excavated here, probably because of their similar relationship to Broughton Brook. At Brooklands, settlement and associated field systems continued to the north and west (Dean & Bedford 2008).

The people who were farming at Broughton are presumed to have lived nearby, possibly within the other areas of the enclosures, since amounts of their rubbish were deposited in the ditches, probably from manuring practices. The pottery found in the evaluation and excavation comprises a wide range of kitchen, table and storage wares. The presence of local wares (greywares, shell and grog tempered wares), regional wares (Oxford ware bowl, Verulamium region white ware, mortaria) and imported wares (amphora and samian) show that the site had access to a range of markets.

Tegula, imbrex box-flue tile and brick are present in small quantities and may have derived from a Roman building fitted with ceramic roof tiles and an under-floor hypocaust heating system, which could be several miles away. Rubble of this sort is not uncommonly used as hardcore on Roman sites (Zeepvat *in* Mynard 1987, 118–119).

Few finds from the site shed light on its Roman inhabitants. A copper alloy brooch and fragments of two possible children's bracelets attest to a community, probably a family, of at least two generations. Residues of lead and copper alloy may indicate small-scale metalworking, though lead droplets are ubiquitous on Roman rural sites as the metal was widely used for a variety of household items, and is easily cast and re-worked due to its low melting-point.

The single undated burial of an adult female is most likely a late Roman individual: two of the three undated inhumations at nearby Broughton Manor are thought to be late Roman (Bishop 2008). At this date there is a possibility that the individual could have been Christian: the east-west orientation and lack of grave goods, though not conclusive, are certainly suggestive of this. The presence of both bread wheat and barley grains in the environmental sample taken from the grave seems to be more in keeping with Saxon than Roman environmental evidence from the site, but this is not conclusive as organic offerings such as bread could have been placed in the grave. The second but less likely option is that the individual was Saxon.

The Roman/Saxon transition is difficult to char-

acterise at Broughton North. It seems that the latest Roman features were finally allowed to infill and were not recut. As the Saxon period is represented by only two discrete pits and a limited pottery assemblage, it is difficult to determine the nature and extent of activity, or its relationship to the early medieval settlement at Broughton recorded in the Domesday survey. Excavation of the nearby Saxon element on Site 1 at Brooklands revealed that, although the early Saxon settlement was established in the same location as the Roman settlement, it disregarded its layout, suggesting an incoming population re-occupying a favoured location. In contrast, on Site 7 at Brooklands, continuity between late Roman and early Saxon settlement was evident (OA 2012, 145).

Although there is a gap of at least 600 years between the Roman and medieval boundaries at Broughton North, there is a remarkable coincidence in their juxtaposition. At Raunds, Northamptonshire, it has been shown repeatedly that medieval boundaries had a long ancestry dating from at least the Saxon period (Parry, pers. comm.). Recent excavations at Wolverton, Milton Keynes (Thorne 2005) have also shown that Saxon land divisions survived into the later medieval period. At Broughton North there is no physical evidence of later Saxon activity on the site. However, it is possible that there may have been an old tree line or a depression that marked the line of infilled Roman ditches, which was subsequently used as a boundary marker by the earlier medieval community at Broughton.

The present settlement at Broughton has Saxon origins, as the Domesday survey records its existence at the Conquest, when there were two manors and a mill, owned by Walter Giffard and Countess Judith. By 1092 Broughton was in Giffard's sole possession (Markham 1973, 43), though there is no way of knowing whether he united the two manors by purchasing or acquiring the other. One manor is likely to have included the church within its boundaries. Medieval village earthworks survive on the east side of the village, the fringes of which were located at Brooklands (Dean & Bedford 2008). The enclosure on that site, dated to the 11th-12th centuries, provides the earliest evidence for medieval activity to that side of the village. It is tempting to suggest that this relates to the second manor, and provides evidence of expansion of the settlement outwards from a village or manorial

core further to the south, towards the church. Although cultivation features are absent within the enclosure it is not certain whether this was a new close of land encroaching onto surrounding agricultural land, or an enclosed infield for keeping stock.

The medieval economy evidenced at Broughton North was pastoral, with horse predominating rather than the more usual cattle and sheep. Whether the horses were draught animals or kept for riding or meat cannot be ascertained. Environmental evidence from the medieval enclosure and its associated pits suggests that wheat was the main crop species grown. Barley was also present in small quantities, but it was not possible to ascertain whether oats were grown as a crop. Vetch/cultivated peas may also have been grown as an animal fodder, and as such provides evidence of crop rotation according to normal medieval practice which followed a three-year cycle. Not enough of the enclosure was revealed to determine whether it was laid out on acreage measurements, as has recently been found at excavations at the Cowper Tannery, Olney, and at Wolverton (Thorne 2003 & 2005).

Remodelling of the enclosure in the later medieval period shows further formalisation of the landscape. The new boundary to the north effectively created two new enclosures, or formalised existing open fields. Traces of ridge and furrow earthworks and a headland survived in the field to the east of the boundary, running parallel to it. Faunal remains suggest the pastoral economy remained largely unchanged. Towards the end of the medieval period, threshing wheat was grown; together with the presence of brome grass and chamomile, this indicates that cultivation of heavy soils was taking place.

By the later 14<sup>th</sup> century the southern enclosure appears to have been a close. It contained a stone-built oven or kiln structure possibly associated with a bakehouse/brewhouse, though no definite evidence for the latter survived. One might expect to find a bakehouse within a settlement, though far enough away from any dwellings to prevent the spread of fire, to which such buildings were prone. Similar examples were recorded at Great Linford (Mynard & Zeepvat 1992). Environmental samples from the oven contained charred threshing wheat and barley grains, suggestive of both drying and malting processes. Broad beans and pea/vetch seeds were also present, and as there was no

obvious reason for this, it is suggested that they represent domestic refuse deposition. Peas were widely used in the medieval period: fresh peas were often consumed as pottage, and in dried form in the dish pease pudding, which could be eaten hot or cold throughout the year, as the eponymous rhyme records.

By the 16<sup>th</sup> century it appears that the infilled enclosure ditches were abandoned, though pits presumably associated with the enclosure continued to be dug right on the edge of the infilled boundary ditch, suggesting that although no trace of it remained above ground, the boundary line was still respected. Two post-medieval ditches, roughly parallel to the medieval and modern field boundary and a final recut of one of the trackway ditches, show that land divisions did not remain static.

The small assemblage of post-medieval pottery ranging from 17<sup>th</sup> to the 19<sup>th</sup> century, recovered mostly from the evaluation, is typical of finds from the edge of a small village. The presence of lead musket shot suggests the area was used for shooting, but there is no way of knowing whether this was for game on pasture or open ground, or to remove vermin from cereal crops.

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