# A ROMANO-BRITISH MALT HOUSE AND OTHER REMAINS AT WEEDON HILL, AYLESBURY

GAIL WAKEHAM AND PHILIPPA BRADLEY

with contributions by
CATHERINE BARNETT, NICHOLAS COOKE, GLENN FOARD,
JESSICA M. GRIMM, KEVIN HAYWARD, GRACE PERPETUA JONES,
JACQUELINE I. McKINLEY, RACHAEL SEAGER SMITH and CHRIS J. STEVENS
and illustrations by ROB GOLLER

*Archaeological investigations at Weedon Hill, Aylesbury uncovered some later Bronze Age/Early Iron Age activity but the main phase of occupation was a Romano-British settlement of 2nd–4th century date. This included a complex structure, interpreted as a malt house, and a field system. Extensive environmental remains were recovered indicative of malting. Limited artefactual material was recovered, perhaps reflecting the status of the site although these excavations may not have uncovered the main focus of the settlement. Finds from the metal detector survey indicate that mid-17th century military activity occurred in the vicinity, which seems to support the location of the known Civil War action although its precise form cannot be verified.*

## INTRODUCTION

The site lies *c.*2km north of Aylesbury, adjacent to Buckingham Road (A413), centred on SP 812157, within the parish of Weedon (Fig. 1). The excavation was undertaken prior to development, which consisted largely of housing. The site, situated on spur on the northern side of the river Thame Valley, had formerly been fields. The underlying geology is Kimmeridge Clay, with Holocene alluvium within local river valleys (BGS 1990; 1994).

Three stages of work were undertaken: a targeted excavation of 3ha, a metal detector survey and an intermittent watching brief, which focused on the access road construction (Fig. 1). The objectives of the excavation were to examine the field system, and any associated settlement features and try and establish a date range for the settlement. The metal detector survey was carried out to recover evidence to support the identification of the site of the Battle of Aylesbury (1642), which is believed to have taken place in the vicinity.

## ARCHAEOLOGICAL BACKGROUND

Some worked flint and Bronze Age or Iron Age pottery as well as a significant concentration of late 2nd to 4th-century pottery was recovered from field walking (Network Archaeology 1999). Roman artefacts and features, correlating with geophysical anomalies suggestive of a possible field system (GSB Prospection 1999; 2001), were identified during an evaluation (Foundations Archaeology 2002). To the east a Romano-British enclosure has been identified (Hawkins & Dalwood 1988), the Roman small town or roadside settlement and possible military posting station of Fleet Marston (Zeepvat & Radford 2007) is 3km to the south-west, next to the major Roman road of Akeman Street. The possible villa at Bierton is approximately 2km to the south-east (Allen 1986).

No Saxon activity was previously known apart from the reported stray find of a spearhead. The place-name of Weedon derives from Old English 'wèoh' meaning shrine or sanctuary (Farley 1997, 153). The Scheduled Ancient Monument (SAM no.12004) of Quarrendon lies to the north-west and

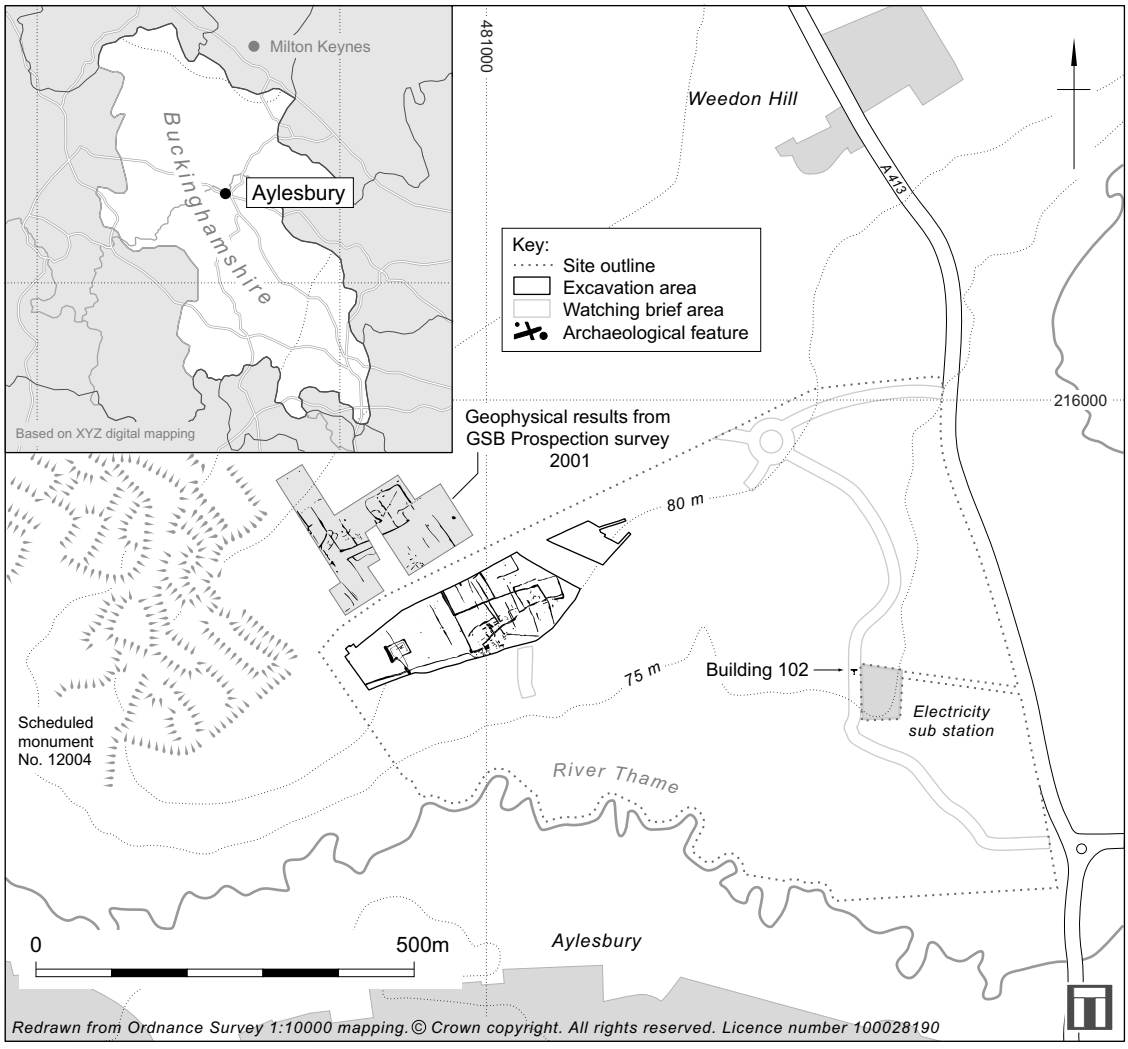



FIGURE 1 Site location showing results of geophysical survey

consists of extensive earthworks comprising one or two deserted medieval villages, a 13th-century chapel, a 16th-century moated mansion and gardens, another moated site and a post-medieval rabbit warren (previously interpreted as a Civil War battery). It had been claimed that the Battle of Aylesbury (1642) took place within the south-east corner of the site (Fig. 12), near Holman's Bridge, as shown on early Ordnance Survey maps. However, recent research by Zeepvat concludes that there is little evidence for the battle being more than a skirmish (JSAC 1998, 6).

Activity dating from the Neolithic to the post-medieval period was identified, although the main focus is mid- to late Romano-British in date (Fig. 2). Although an attempt was made to refine the phasing, particularly for the Romano-British period, the few established stratigraphic relationships and the small quantities of diagnostic datable artefacts made identification of sub-phases highly uncertain and so of little value. Such stratigraphic relationships that were established have been described, and the possible sequence of the development of the Romano-British enclosure system is discussed.

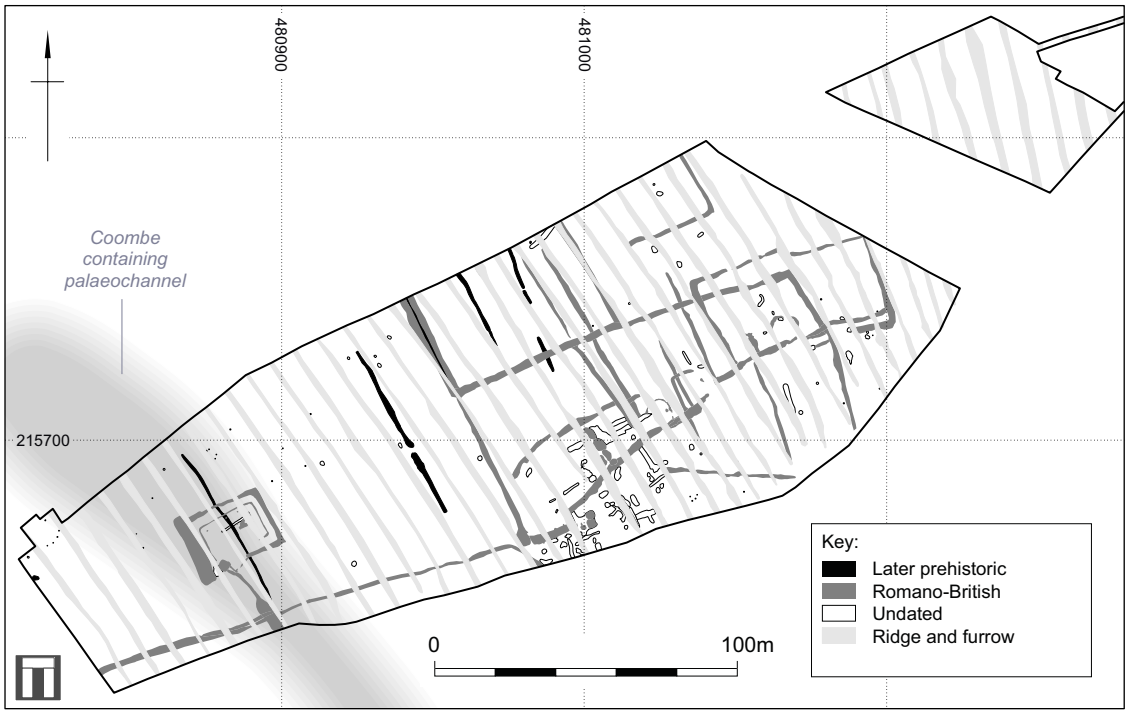



FIGURE 2 Site plan showing the main phases of activity

## EARLIER PREHISTORIC ACTIVITY

No archaeological features were identified but some worked flint was recovered, including a few diagnostic forms of Neolithic to Early Bronze Age date, the most significant of which is a barbed and tanged arrowhead (Green 1980, 122 fig. 45) and a thumbnail scraper. Despite the lack of context for the flint, it does provide an indication of low level activity in this area.

## LATER PREHISTORIC (1ST MILLENNIUM BC) ACTIVITY

A posthole (268), was recorded near the north-eastern edge of excavation adjacent to an undated ditch (841), with which it may have been associated (Fig. 3). Finds from the fills include a residual Neolithic flint core, later Bronze Age pottery and animal bone, some of which came from a charcoal-rich deposit (270).

Five heavily truncated postholes (230) (all less than 0.10m deep) in the north-west corner of the site (Fig. 3) probably represent the remains of a post-built circular building, Roundhouse A, with a diameter of *c.*8m. One of these postholes (299) contained flint post-packing and a rim sherd of post-Deverel-Rimbury fineware (Late Bronze Age) as well as 15 sherds of shell-tempered ware which may suggest a slightly later Early Iron Age date. A natural hollow (212) to the south of Roundhouse A contained Late Bronze Age pottery within its upper fill.

Six ditches (827, 833–834, 836–838) cut by Romano-British and medieval features may be the remains of a later Bronze Age field system (Fig. 3). Limited dating evidence was recovered but a few sherds of Late Bronze Age or broadly 1st millennium BC pottery came from the fills of some of these ditches. In the central part of the excavation area the ditches were relatively evenly spaced. However, ditch 827 was *c.*55m west of the nearest contemporary ditches (833 and 834), although it is possible that other features may have been masked by medieval furrows.


FIGURE 3 Later prehistoric features

## ROMANO-BRITISH

Roundhouses B and C were defined by two highly truncated curvilinear gullies with diameters of 8-9m (247 and 393) in the south-east of the excavation area (Fig. 4). Both gullies contained small quantities of mainly undiagnostic Roman pottery. Only Roundhouse B had a probably contemporary internal feature, a shallow sub-circular pit (286) which contained one sherd of Roman pottery. A possible south-east facing entrance to this building was also identified. It was thought that gully 247 of Roundhouse B was stratigraphically earlier than one of the segments from the frequently re-cut boundary ditch 774. It is possible that the roundhouses represent an early component and it is also possible that an early phase of this boundary was extant at the same time but, because of the frequent re-cutting and the similar pottery recovered from these features, this cannot be proved. Approximately 10m to the east of Roundhouse B was a keyhole-shaped oven (288). It contained only undiagnostic Roman pottery and therefore it is uncertain whether it was contemporary with the roundhouses, although it is possible that ditch 845 defined a working area around the oven.

### Enclosure system

In the eastern part of the site were the remains of an extensive field system (Figs 2, 4). Ditches 778 and

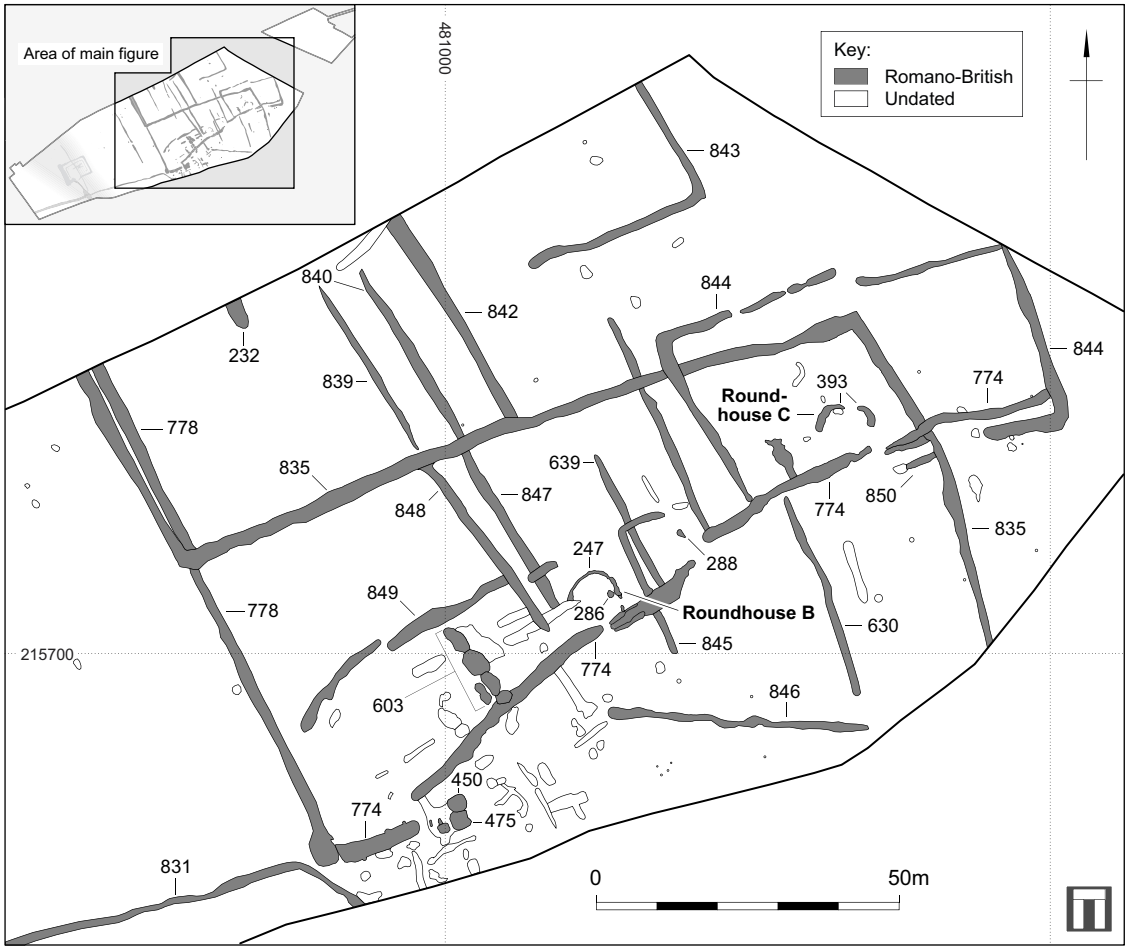



FIGURE 4 Plan of the Romano-British enclosures in the eastern part of the site

831 formed a large probable enclosure within which was the malt house (see below; Figs 2, 4–5). Ditch 778 seems to have been a major division between the malt house and the enclosures in the east. Ditch 778 contained small amounts of late Roman pottery and animal bone, and had a large bulbous terminal to the south which may have been a separate pit, although this was not visible in section. A relatively large quantity of late Roman pottery (over 40 sherds) was recovered from this ditch terminal. Ditch 778 seems to be one of the earlier boundaries within the enclosure system, possibly contemporary with this were ditches 839–840, 847–848, possibly forming a trackway, and ditch 842. Ditch 835 was obviously a later modification, whether ditches 839–840 and 847–848 functioned as sub-divisions of this enlarged enclosure is uncertain.

Ditch 843 in the north-east corner of the excavation area may have formed another separate enclosure.

Small amounts of mostly Roman pottery but few other finds were recovered from these ditches although notable discoveries included a partial skeleton of a horse in ditch 842 and a coin dating to AD 350–360 (Object Number (ON) 672) in the upper fill of ditch 835.

A sub-rectangular enclosure, probably relatively later in the sequence was defined by ditch 844 (enclosing an area 60m by 30m). A probable

entrance to this enclosure lay on its northern side. Late Roman pottery, a lead plumb bob and a group of animal bones, perhaps processed for marrow, came from the fill of ditch 844.

Ditch 774, in the south of the excavation area, followed a slightly curvilinear alignment, from south-west to north-east; it was originally dug in segments and had been frequently re-cut. Relative to other excavated features, boundary 774 contained large quantities of predominantly late Roman pottery. Episodes of dumping of domestic waste were identified, including animal bone, ceramic roof tile, two coins, a lead weight, iron nails, a copper alloy vessel fragment and a rim of a glass vessel. Given the quantity and type of finds it is possible that there may have been structures in this area, which have subsequently been ploughed away. The origins of ditch 774 are uncertain because it was frequently re-cut. However, it is possible that it was a relatively late feature as segments of it cut the gully of Roundhouse B (247), as well as ditches 835 and 845.

Associated with ditch 774 was a similar curvilinear ditch 849. Ditch 849 had also been deliberately backfilled with domestic waste, including late Roman pottery, fired clay, animal bone, and a possible rubbing stone. Together, 774 and 849 enclosed a working area containing a number of amorphous features. Of these, pit group 603 comprised five pits dug in a line (Fig. 4). No stratigraphic relationships were established between them, probably because they were all backfilled at the same time. All had a similar artefact-rich secondary fill which, like the enclosing ditches, contained dumped domestic waste with mainly late Roman pottery, animal bone (including a juvenile sheep skeleton), slag, a cluster of hobnails (probably the remains of a nailed boot), quernstone fragments and a ribbon handle from a glass vessel. Clearly this enclosed area of pits was a dumping ground for waste from a nearby settlement; however, the primary function of these pits may have been for clay extraction.

There was very little activity to the south of ditch 774. Many of the unexcavated features in this area appeared to be irregular natural hollows filled with colluvial deposits, similar to 450 and 475 which were investigated. The function of ditch 846 is unclear as its orientation differs from the majority of the other ditches on the site.

Significantly, it appears that the enclosures did not extend further to the east. No features were identified during the watching brief, although some clearly extend beyond the excavated area to the north and south (Fig. 1).

**Other features**

Ditch 831 lay parallel to the southern edge of the excavation area and extended for some 140m. It was over a metre wide and up to 0.6m deep; only two sherds of late Roman pottery were recovered. Ditch 832 contained no datable material (although is also probably of Romano-British date) and was cut by ditch 831. It is possible that ditch 832 was an early form of ditch 831. Ditches 831 and 778 may have formed a large enclosed area of almost one hectare, although much of this lay outside the excavated area. Approximately central to this possible enclosure was a shallow linear coombe, an undated palaeochannel (787), a Romano-British double-ditched enclosure (514, 516 and 825) and other associated features thought to be the remains of a probable malt house complex.

An isolated urned cremation burial lay to the south of ditch 831. A small jar or beaker had been deposited upright in a small circular pit 203 and cremated human bone, a possibly female adult was recovered (context 204, Fig. 5; see McKinley below). The feature had been largely cut away and only the base of the vessel survived.

**Malt house and associated features**

A number of features to the west of the excavated area have been interpreted as a malt house (Fig. 5). Although the pottery only provides a broad Roman date for most of these features and they cannot be proved to be contemporary, their spatial layout suggests they functioned together. Radiocarbon dates obtained on charred grain from one ditch section and the oven span AD 80–400 (Table 1). An earlier date (50 cal. BC-AD 60) on sprouted grain from the outer ditch may be on residual material (see below) or may indicate an earlier phase of activity.

These features lay in a shallow linear coombe formed by undated palaeochannel 787 (although Roman pit 595 cut 787). Water was a constant hindrance during the excavation and features had to be pumped dry every morning. It is possible that natural springs in this location were the reason why the malt house complex was sited here, as a source of fresh water would have been required.

TABLE 1 Radiocarbon determinations (calibrated using OxCAl 4.17 (Bronk Ramsey 2001; 2009) and the IntCal09 calibration curve (Reimer *et al*. 2009) with end points rounded outward to 10 years following Mook (1986))

| *Feature and context details* | *Identification* | *Laboratory code* | *$\delta^{13}C$* | *Date BP* | *Calibration BC (2 sig. 95.4%)* |
|---|---|---|---|---|---|
| Ditch Group 516 | Charred *Triticum spelta* grain | NZA-29784 | –22‰ | 1990±20 | 50 cal. BC – AD 60 |
| (cut 730, fill 733) [1] | Charred *Triticum spelta* grain | SUERC-34547 | –24‰ | 1835±30 | AD 80–250 |
| Oven 804 (fill 711) | Charred *Triticum spelta* grain | SUERC-34546 | –22.4‰ | 1720±30 | AD 240–400 |

[1]X-Test for the two samples from ditch 516 fail at 5% – Ditch 516 X2-Test: df=1 T=18.342(5% 3.8).

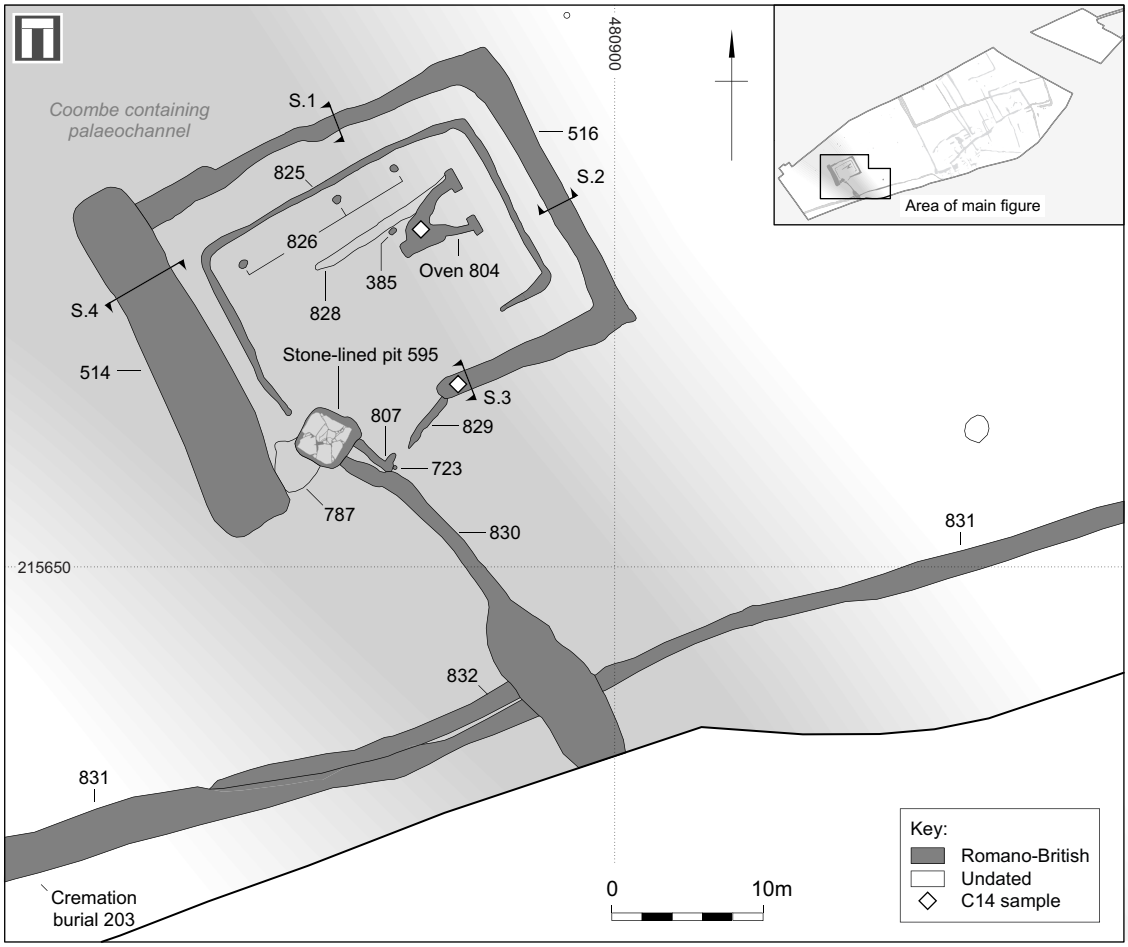



FIGURE 5 Plan of malt house and associated features

Ditches 514 and 516 were contemporary and formed the outer ditch of the double-ditched enclosure which enclosed an area approximately 21m by 16m. Ditch 514 had a U-shaped profile and was *c.*4m wide and 0.85m deep, with steep-sided square terminals. A monolith taken through the fills confirmed that the ditch had an initial thin primary fill, followed by gradually deposited humic secondary fills laid in well-vegetated and moist conditions, presumably after the complex was abandoned. Ditch 516 formed the other three sides of the outer enclosure: it was narrower than 514 (up to 2.25m wide) and deepest on its south side (up to 0.8m). There was a clearly defined entrance on the southern side. Sections through the north and east sides showed a similar sequence to 514, with primary fill and a thick dark organic-rich secondary fill, showing signs of being deposited in a wet well-vegetated environment. Although the pollen from the secondary fill was not well preserved it supports this interpretation, as the majority of plants recorded were associated with damp conditions within the ditch, with others associated with local areas of waste ground (Grant 2008).

The primary fill of both ditches 514 and 516 contained some undiagnostic Roman greyware, including the base of a relatively large jar, which was not closely datable within the 2nd to 4th centuries AD. A quernstone fragment (ON 734, context 733) and animal bone including a possibly placed deposit of a horse skull were recovered from the primary fill of the ditch terminal (segment 730). The secondary fills contained much greater quantities of pottery in a wider range of fabrics. A Roman coin (AD 270–296) was also recovered from the secondary fill of ditch 514.

On its southern and northern sides, it was evident that ditch 516 had been re-cut (ditches 853 and 426; Fig. 6), although the exact date of this is unclear. It is likely that this re-cutting is just one example of a continual process of cleaning out the ditch during the period of the use of the maltings. Waste material from the malting activities was dumped into the ditch (Figs 6 & 7) and humic sediments accumulated throughout the rest of the ditch. The black colouration seems to have been largely a product of a high humic content, although comminuted charcoal may also have been present. A substantial quantity of charred cereal remains, dominated by spelt wheat was recovered; representing waste from the dehusking of malted grain (see Stevens, below). A radiocarbon date of cal 50 BC to AD 60 (1990±20 BP, NZA-29784, Table 1) was obtained on a sprouted grain from this deposit. This result is earlier than anticipated and given the Roman pottery from the ditches, it seems probable that this is on residual material, although it is possible that there was an earlier phase of activity. However, a second radiocarbon date of late 1st to mid-3rd century AD (1835±30 BP, SUERC-34547, Table 1) on charred spelt from the same deposit is more consistent with the artefactual evidence.

Ditch 853 then silted up and its secondary fill (e.g. 734, 427, 466, 558 and 556, Fig. 6) probably represents the disuse of the enclosure, or may possibly span the last phases of activity before abandonment. Late Roman pottery, a fragment of quernstone and some iron nails were recovered from this secondary fill.

Pit 595, south-west of the entrance into the malt house building, was cut into the upper layers of an undated palaeochannel (787). It was 3.5m square and 0.6m deep with steep straight sides, which may have been revetted or lined with timber, and its base was lined with limestone (596, Figs 5 & 8). The pit fills contained charred cereal remains as well as just over 40 sherds of mainly late Roman pottery, some animal bone, two quernstone fragments (ON 725 and 732) and two iron nails. Within the lowest fill (597) a small dump of waste had been thrown in from the east (inside the outer enclosure) which contained some building rubble and two pieces of ceramic roof tile. The animal bone from pit 595 seems to have been dumped in one event or within a short interval as there were some articulated and refitting bones. Refitting sherds were identified from these fills. Pit 595 may have been completely backfilled after it had gone out of use. A feature similar to pit 595 has recently been excavated at Berryfields (Sandy Kidd pers. comm.).

Assessment of the pollen from the base of the pit indicated that marshy / waterlogged conditions existed locally, with some taxa also indicating waste ground after site abandonment (Grant 2008). Low pollen concentrations in the upper sediments suggested rapid sediment infilling and/or poor preservation conditions, such as a fluctuating water level, which is supported by the presence of sediment concretions and gleying recorded in the stratigraphy. Some large pollen grains, probably

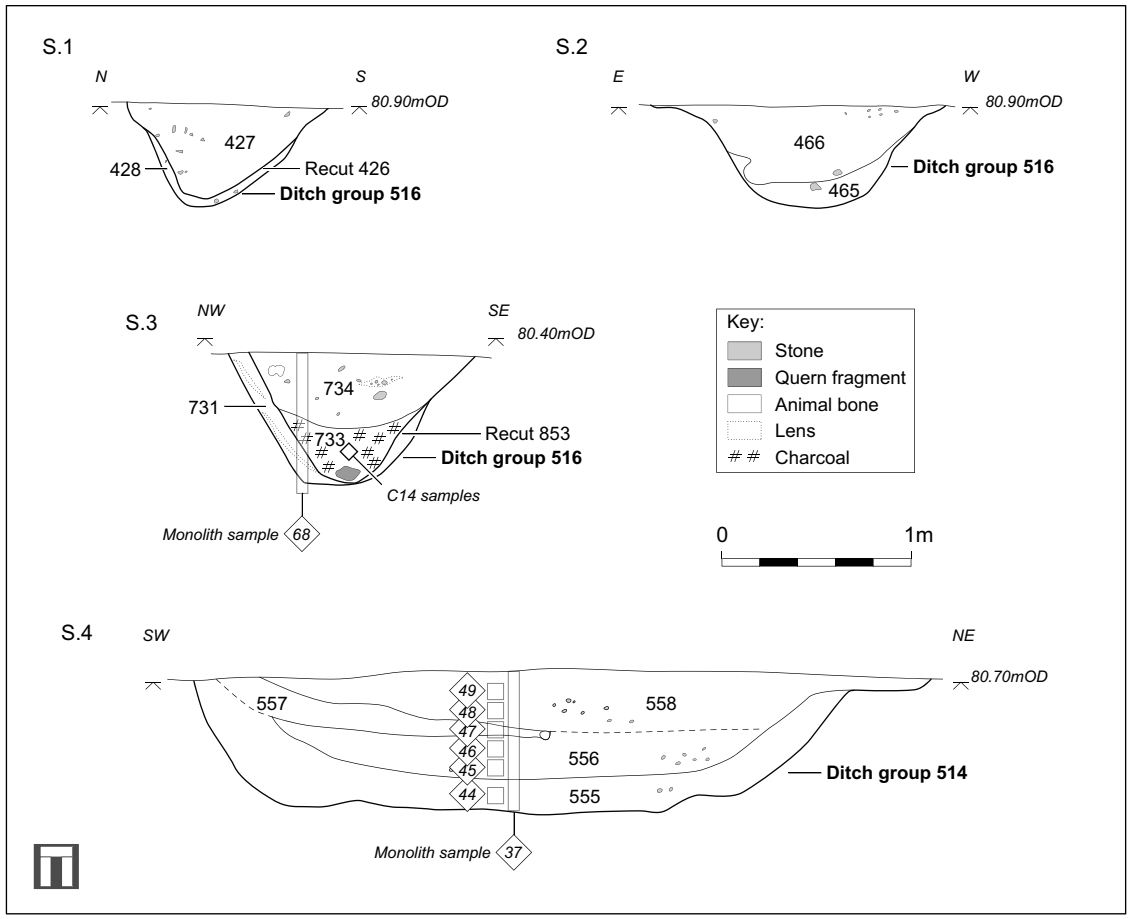



FIGURE 6 Sections of ditches associated with the malt house

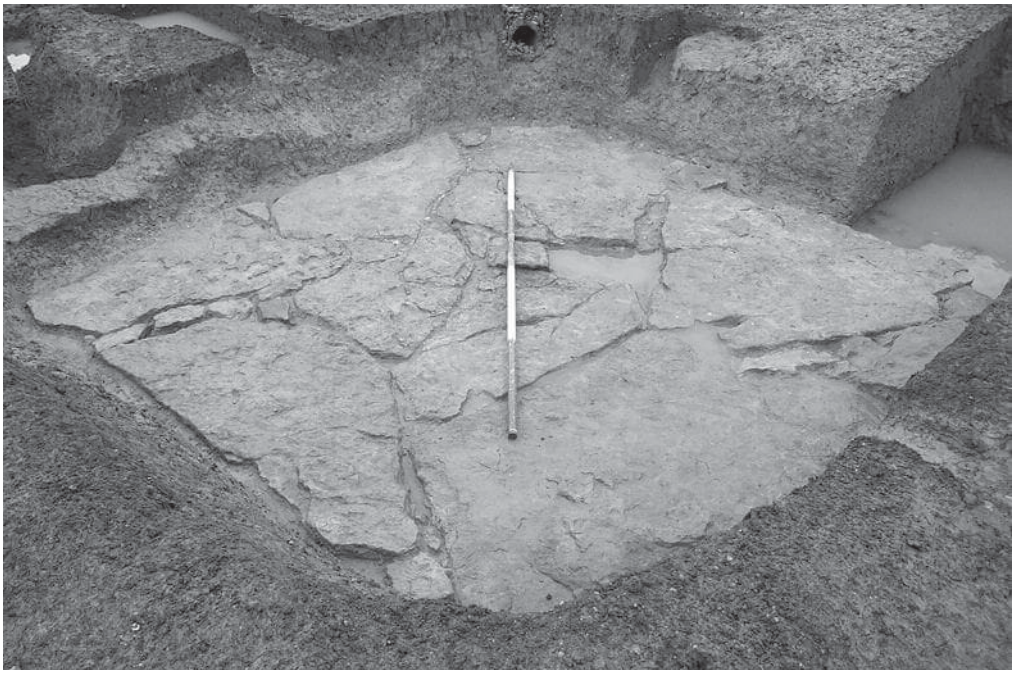
derived from cereals, were found, though percentages are low (8%), suggesting that cleaning out of the pit occurred regularly. Continued use of the pit for malting would have probably resulted in the deposition of a greater amount of cereal pollen grains, supporting the evidence that the sediment present within the pit represents infilling after its abandonment.

Although there were no deposits within the pit contemporary with its active use, and therefore no direct environmental evidence to elucidate its original function, pit 595 has been interpreted as a malting tank, where grain was steeped in water before it was removed for the next stage in the malting process. The stone base would have served to keep the water free from silt, maintaining its purity.

Ditches 807 and 830 together with gully 829 may have been outflow drains from pit 595 and ditch 516. Ditch 830 was the main drain which continued downhill running along the base of the coombe. It widened out near the southern edge of excavation, probably as a result of pooling water, where it cut ditch 831. At its northern end, by pit 595, the terminal had a stepped appearance, and may have controlled the outflow of water, perhaps with the aid of sluices, although there was no evidence for these. The fills of ditch 830 were, like outer enclosure ditch 516, highly organic, apparently deposited in standing water, and rich in charred remains. Finds from ditch 830 consisted of predominantly late Roman pottery, animal bone and two coins (ON 630 and 696) dated to AD 364–378 and the 4th century AD respectively.

FIGURE 7 Dump of charred grain in ditch 516

FIGURE 8 Base of the stone-lined pit (595) associated with the malt house



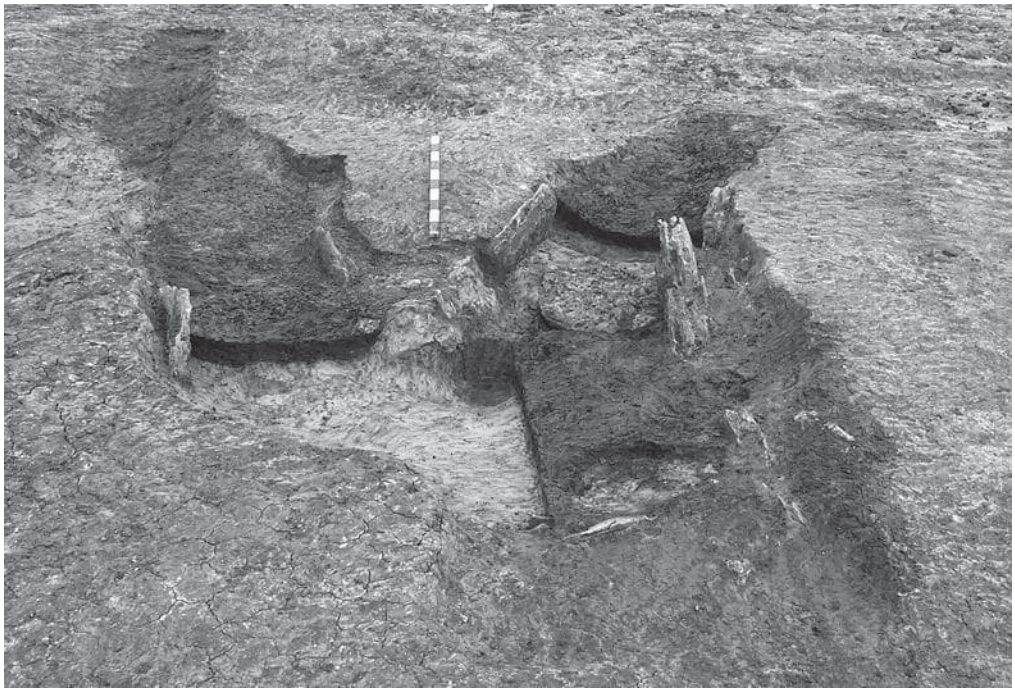


FIGURE 9 Oven 804

Gully 825 enclosed an area of approximately 17m by 11m. To the south there was a wide entrance. In contrast to the outer enclosure ditch, gully 825 had a pale inorganic secondary fill that contained rare flecks of charcoal and a few sherds of Roman pottery. Three postholes (826) were inside gully 825, one of which cut a later prehistoric ditch. Two of the postholes contained limestone post-packing. Another (385) was positioned just to the south, near oven 804; it also contained similar post-packing although it is not certain if was part of the same structure. No finds were retrieved from the fills of these postholes, although some contained similar charred plant remains to the other Romano-British features in this area. These features have been interpreted as the remains of a timber-framed building used for drying malt. It is likely that any other postholes to the south have been lost through truncation. Similarly any floor surfaces have not survived.

Inside this structure was the truncated remains of a crop-drying oven (804) (Figs 5 & 9). There were two rectangular pits, only 0.03m deep, with two flues that led to the main body of the oven. Half of the length of the flues and the main body of the oven had been lined with redeposited clay (761) placed thickest against the sides, possibly as a bedding layer for the positioning of the overlying limestone slabs (775). These angular stone slabs, were mainly set upright against the flue sides but two on the base suggest that it was originally completely lined; two of the slabs were scorched by heat. The overlying deposit was a black organic silty clay (711) which contained many charred germinated spikelets of spelt (see Stevens, below) presumably charred during firing in the oven. Sherds from an Oxfordshire greyware jar or beaker (late 3rd to 4th century) and some animal bone came from 711 indicating dumped refuse. A radiocarbon date of AD 240–400 (1720±30 BP, SUERC-34546) was obtained on a charred spelt grain (Table 1). The date is therefore consistent with the pottery from this feature. Later dumped deposits and infilling within 804 included small quantities of mainly late Roman pottery, animal bone, a quernstone fragment (ON 729) and an iron nail.

The lack of *in situ* burning (apart from the scorched stones) may simply reflect that the oven

was originally lined and the natural clay sides would therefore never have been exposed to direct heat. It is also clear from the complete lack of superstructure and the extremely shallow depths of the stoke pits that there has been considerable truncation.

## Post-Roman

Very little evidence for post-Roman activity was identified on the site but included a coin issued in AD 700–710 (ON 11) and a few sherds of medieval pottery. A number of medieval and post-medieval artefacts, including lead powder box caps and bullets, and coins were recovered from the metal detecting survey, some of which may relate to the putative Battle of Aylesbury (see below).

The remains of a small brick building (102), associated with 18th-19th century pottery and a brick-lined well (106), probably contemporary, were found during the watching brief (Fig. 1). The building may relate to one shown in this vicinity on the Ordnance Survey map of 1900.

## Pottery

*by Rachael Seager Smith*

Overall, 2986 sherds, weighing 34.517kg, were recovered, most of Romano-British date, spanning the period from the 2nd to 4th centuries AD, with small numbers of later prehistoric (84 sherds, 755g), medieval (6 sherds, 48g) and undated pieces (3 sherds, 15g). The assemblage survived in very poor condition, severely limiting the level of detailed analysis attainable, or indeed, appropriate for such material.

Although fragmentary, a small number of partially complete Romano-British vessels were recovered, including the lower part of one used to contain cremated human bone. In general, all the sherds were fairly small (mean sherd weight = 11.5g), with rolled, battered edges and severely abraded surfaces, hampering precise fabric identifications. Rims accounted for approximately 8% of the sherds, but most represented less than 10% of the vessel diameter and were broken at, or just above, the neck/shoulder junction, restricting the number of vessels that could be identified by type. The poor condition was, at least in part, caused by chemical erosion from the harsh, unforgiving soils, although the redeposited nature of much of the assemblage, largely recovered from ditch fills, and therefore perhaps only incorporated some considerable time after its initial discard, was also contributory. As the assemblages from individual features were also comparatively small, full analysis was not undertaken and this report is based on the results of a detailed scan, conforming to the Study Group for Roman Pottery's minimum standards (Darling 1994).

In addition to wares of known source or type (e.g. samian, Nene Valley colour-coated wares etc), the assemblage was divided into broad fabric groups based on dominant inclusion types and quantified (by number and weight of sherds) within each context. The number and type of vessel forms, generally cross-referenced to the Oxfordshire type series (Young 1977; chosen because it was the closest source of pottery and one of the best known type-series for the area, although not all vessels assigned a Young form code will have been made there), were also recorded together with details of the date range and any other unusual features (e.g. perforations, graffiti, residues).

### Later prehistoric

The prehistoric sherds were dominated by flint-tempered fabrics (60 sherds, 648g) with smaller groups of shell- (15 sherds, 66g), grog- (4 sherds, 15g), grog and flint- (3 sherds 10g) tempered and sandy (2 sherds, 16g) wares. Most were dated on fabric grounds alone, only one identifiable rim being present. The earliest consisted of a group of 19 coarse flint-tempered sherds (151g) from the secondary fill (context 269) of posthole 268 which probably belonged within the Middle to Late Bronze Age period. The size, frequency and sorting of most other flint-tempered sherds suggested a Late Bronze Age date, which fitted that of the only rim, a post-Deverel-Rimbury fineware cup or bowl (Barrett 1980, class IV or V) from posthole 299 (Roundhouse A). However, 15 shell-tempered sherds, all very leached and abraded, were also found in this feature, perhaps indicating that it was of slightly later, Early Iron Age, date.

Late Bronze Age sherds also occurred in natural hollow 212 and in segment 294 of ditch 838, while other prehistoric body sherds from segment 429 of ditch 833 and segment 604 of gully 827 could be only broadly dated to the 1st millennium BC. A single sandy sherd from ditch 232 is probably of Late Iron Age date. Small quantities of residual

prehistoric pottery were also present in Romano-British features (ditches 516, 656, 830 and 835 and pits 450 and 595).

**Romano-British**

The Romano-British pottery totalled 2896 sherds, weighing 33.699kg. As expected in a predominantly late Roman assemblage, imported wares were scarce. Limited activity was, however, occurring in the vicinity during the 2nd century AD, evidenced by 20 sherds (77g), of Central Gaulish samian, including pieces from three cups (form 33) and a bowl (form 37), as well as five Dressel 20 amphora sherds, including a very poorly-preserved rim from ditch 516. This was the most common amphora type to reach Roman Britain, made in the Spanish province of *Baetica* from the mid-1st to the mid-3rd century AD, and used to transport olive oil across the whole of the western Empire (Peacock & Williams 1986, 126). Other imports were confined to Central Gaulish black-slipped (4 sherds, 15g; AD 150 to early 3rd century) and Moselkeramik (3 sherds, 12g; late 2nd to late 3rd/early 4th century) beakers.

Products of the large, late Roman regional industries were more common. Nene Valley colour-coated wares (30 sherds, 92g) reached the site from the middle of the 2nd century AD onwards. All were from beakers, including at least one indented form (Perrin 1999, 20 and 94) and one with barbotine decoration. At *c*.1% of the total number of sherds, the proportion of Nene Valley colour-coated wares is broadly commensurate with that in mid-2nd to 3rd century groups at Milton Keynes (Marney 1989, 116–7). Recognisable Oxfordshire products (Young 1977), together representing almost 3% of the Romano-British sherds, included parchment ware (2 sherds, 28g), red and brown colour-coated wares (61 sherds, 577g) and whiteware mortaria (16 sherds, 775g). However, other vessels from this industry are probably included in the three unsourced "catch-all" fabric groups discussed below. All the definite Oxford products dated from the mid-/late 3rd or 4th centuries AD, although some may have reached the area from the 2nd century AD onward (Marney 1989, 125–6). Forms included a parchment ware flagon (Young 1977, 84, type P1/2), whiteware mortaria with hooked flanges (type M17), red colour-coated ware cups and bowls copying samian forms 31, 33, 36 and 38 (types C45, C47, C51 and C88) as well as body sherds (7 sherds, 96g) from mortaria and brown colour-coated beakers (types C27 and 32).

South-east Dorset Black Burnished wares represented approximately 1% of the all sherds, (35 sherds, 323g). Away from the major military and urban centres, such as Alcester and Towcester, these wares were never common in the central Midlands, the proportion at this site being about standard for the area (Allen & Fulford 1996, 244, fig. 1). Pieces from a 'cooking pot' style jar and four shallow, plain-rimmed dishes (Seager Smith & Davies 1993, type 20) were recognised. The dishes were widely traded from the late 2nd century AD onwards, although one piece, in slightly better condition than the rest, exhibited the 'late' surface treatments characteristic of these wares after the middle of the 3rd century AD.

Other coarsewares of local origin included pink grogged ware from kilns at Stowe Park, Buckinghamshire (Booth 1999). Although Weedon Hill lies outside the core distribution zone of this fabric (Booth & Green 1989, fig. 3; Taylor 2004, fig. 3), pink grogged ware was comparatively common, representing 14% of the sherds (415 sherds, 8736g). Vessel forms included large storage jars, often with externally wedge-shaped bases, as well as a range of other wide- and narrow- mouthed jars/bowls (eg. Booth & Green 1989, fig. 2, 8, 12, 14 and 18), types rarely found outside the heartland (Taylor 2004, 63). Productions of these wares began in the 2nd century AD, but most were of late 3rd to 4th century date (Booth & Green 1989, 82).

The other grog-tempered wares (154 sherds, 1681g) remain unsourced and largely undated; of the seven rim fragments, six were too small and abraded to be diagnostic while one was from a necked, cordoned jar or bowl. The shell-tempered wares (67 sherds, 527g) were probably from Harrold in Bedfordshire (Brown 1994) but other kilns may have existed in the area and it is possible that shell-gritted wares were also produced in the Nene Valley (Perrin & Webster 1990, 37; Perrin 1999, 118; Wessex Archaeology 2006). These sherds were too degraded to preserve the horizontal rilling characteristic of the late Roman Harrold wares but all probably belonged within this period. The ironstone-gritted fabric (26 sherds, 477g), represented by body sherds mostly from thick-walled storage jars, also remained unsourced.

The three "catch-all" fabric groups comprised greywares, oxidised and white wares. Greywares were most numerous (1481 sherds, 15422g; 51% by sherd count), providing utilitarian food preparation, serving and storage vessels. Fabrics varied from the heavily tempered and visibly sandy to much smoother, fine-grained wares. All were wheelmade and of the more 'Romanised' style, grey and blue-grey in colour, rather than darker, thicker wares following the native ceramic traditions of the area. Most were probably from the Oxfordshire kilns, which made a highly varied range of reduced wares (Young 1977, 202–203), but other potential sources included the Nene Valley and Much Hadham as well as more local centres, in the Milton Keynes area (Marney 1989 70–73) or near Biddlesden and in the south of the county although these were predominantly of 2nd century AD date (Swan 1984, 134, mf. 1.221–228). Forms comprised wide-mouthed bowls/jars (Young 1977, type R24/R38), narrow-necked (R15–17) and everted rim jars (R27), flat-, triangular- and dropped-flanged bowls/dishes (R41, 43, 45 and 47), shallow, plain rimmed dishes (R51), lids (R76) and indented beakers (R36/37). The base of one vessel (Fig. 10, 5) had been deliberately perforated after firing, indicating a deliberate change of its use.

The oxidised wares (507 sherds, 3526g; 17.5% by sherd count) included all the orange/red fabrics, all containing variable quantities of sand. Many may originally have been colour-coated but few surfaces survived and again, the Oxfordshire kilns were the most likely source. Necked jars/bowls (Young 1977, 195, type O27) were most common; one, from ditch 830, had had three parallel notches cut into its rim after firing, perhaps representing an owner's mark. Other forms concentrated on bowls, most copying samian forms (e.g. Young 1977, types C45/O41, C47/O44, C51/O47 and C88/O43) together with a few lids (O56) and sherds from flagons and beakers. The jar with an externally wedge-shaped base, used to contain cremated human remains (pit 203), belonged to this fabric group but was insufficiently complete to be assigned anything more than a general Romano-British date.

The whitewares (67 sherds, 739g; 2.5% by sherd count) comprised all the pale-firing white/pink/buff fabrics. Additional Oxfordshire white and parchment ware sherds may be included in this group, together with products of the Verulamium region, the Nene Valley and Northamptonshire (Marney 1989, 112). Vessel forms were comparatively rare, consisting of a flanged bowl (cf Marney 1989, fig. 43, 22), a narrow-necked jar (*ibid*, fig. 43, 2), a flat-flanged bowl/dish and two jar rim fragments. In Milton Keynes, similar fabrics were predominantly of 2nd century date (*ibid*, 112).

Overall, the pottery assemblage is that of a relatively low-status, rural community, using the full range of utilitarian forms and finer tablewares. Although spanning the period from the 2nd to 4th centuries AD, the emphasis clearly lay within the latter part of this period, during the late 3rd and 4th centuries. Comparable assemblages from similar settlements in the area are lacking (Zeepvat & Radford 2007) but broad comparisons can be drawn with the assemblages from Milton Keynes (Marney 1989) and Berryfields, Aylesbury (Dodds 2002). Only 18 features contained more than 40 sherds – ditches 774 (Fig. 10, 12; Fig. 11, 13–17), 778, 835, 639, 846, 844, 849, 247 (e.g. Fig. 11, 18), pit group 603 (e.g. Fig. 11, 19–21), and pits 635, 203, 588 (e.g. Fig. 10, 6–7). Within the malting complex, the outer enclosure ditches 514 and 516 contained 80 and 165 (e.g. Fig. 10, 1–5) sherds respectively with another 83 sherds from the re-cut 853 of ditch 516. Oven 804, pit 595 and ditch 830 each contained 82 (e.g. Fig. 10, 8–9), 42 (e.g. Fig. 10, 10) and 72 (e.g. Fig. 10, 11) sherds. Although predominantly of late Roman (late 3rd to 4th century) date, these groups also included earlier and chronologically undiagnostic Roman sherds, indicative of mixing. Only 157 sherds (2995g) or 5% of the Roman assemblage, including 27 from the base of a single jar (Fig. 10, 1) found in the terminal (segment 730) of the outer enclosure ditch 516, were found in the primary deposits within these features. Those from oven 804 and ditches 774, 778, 831 and 835 were late Roman, while the others (from ditches 514, 516, 830, 844 and 850 and ring gully 393) could only be assigned a general Roman date. It is probable, then, that the majority of features, especially the ditches, were kept clean while they were in use, the later Roman material only deposited once their significance had waned and they were filling up.

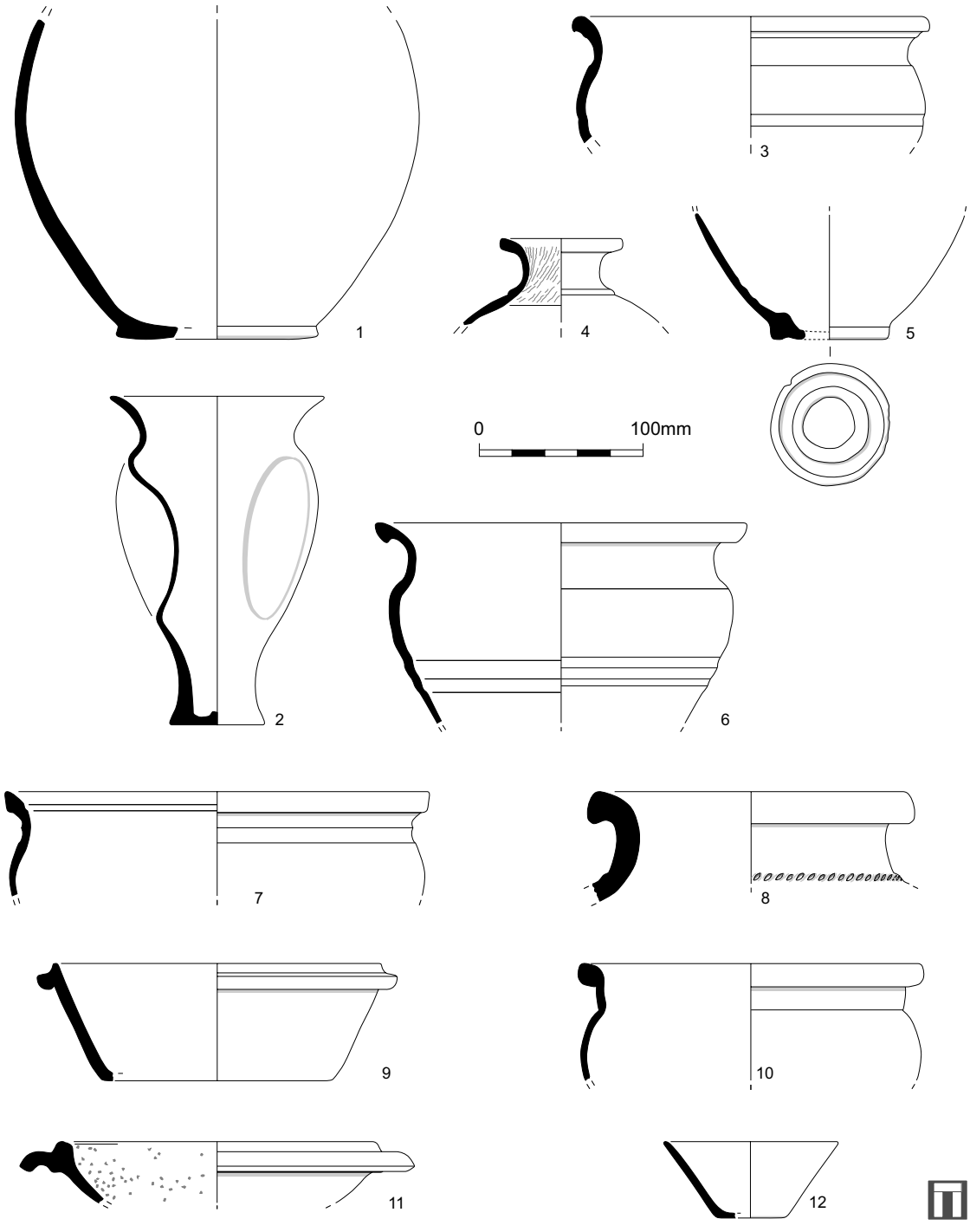



FIGURE 10 Roman pottery (details in the catalogue)

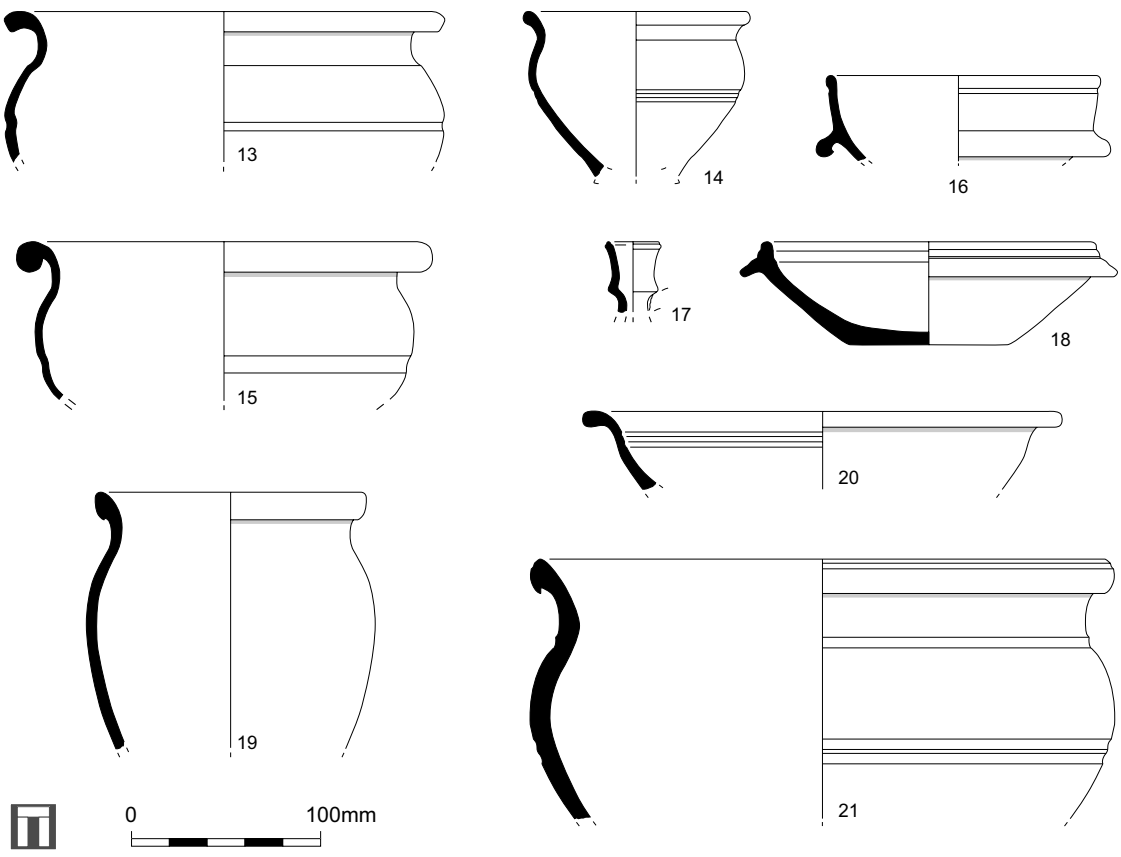



FIGURE 11 Roman pottery (details in the catalogue)

**Medieval**

A single medieval cooking pot rim was found intrusively in Romano-British ditch 835 while a slipped and rouletted decorated sherd from furrow 320 is probably from an imitation Rouen ware vessel of 13th-century date. Other medieval sherds made in moderately coarse sandy fabrics and recognisable by tiny patches of glaze or applied decoration were also found intrusively in Romano-British ditches 837 and 842 and pit 203. Their presence relates to the ridge and furrow found extensively across the site.

**Undated ceramic object**

A curious ceramic object (Fig. 12) was also found in one of the medieval furrows (320). Collectively the furrows contained both medieval and Roman pottery, and therefore the context is insecure. Its date and function remain unclear although its light-grey, fine-grained sandy fabric was more akin to those of the Romano-British coarsewares from the site than any of the medieval sherds. It is possible that it represents a crude, localised interpretation on the theme of a Roman triple vase (Booth pers. comm.), but with four rather than three miniature vessels and a more than usually substantial basal 'ring'.

**List of illustrated sherds (Figs 10–11)**

1. Jar base; greyware; primary fill (context 731), segment 730, outer enclosure ditch 516
2. Indented beaker (Young 1977, 217, R36/37); greyware; secondary fill (context 675) segment 674, outer enclosure ditch 516
3. Necked bowl (Young 1977, 220, R38); greyware; deliberate backfill (context 733) segment 730, re-cut

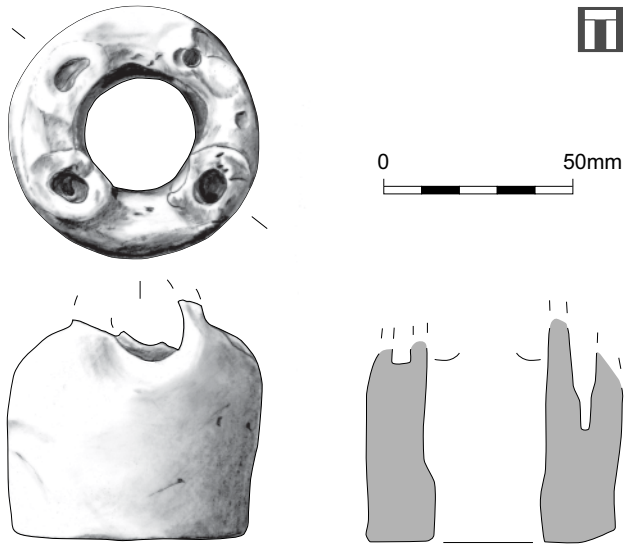



FIGURE 12 Ceramic object

853 of outer enclosure ditch 516
4. Narrow-necked jar (Young 1977, 212, R15); greyware; secondary fill (context 791), segment 788, re-cut 853 of outer enclosure ditch 516
5. Jar base with post-firing perforation; greyware; secondary fill (context 791), segment 788, re-cut 853 of outer enclosure ditch 516
6. Wide-mouthed, necked bowl (Young 1977, 195, O27); oxidised ware; secondary fill (context 501), segment 499, outer enclosure ditch 514
7. Necked bowl (Young 1977, 220, R38); greyware; secondary fill (context 507), segment 505, outer enclosure ditch 514
8. Narrow-mouthed jar (Booth & Green 1989, 80, fig.2, 12); pink grogged ware; secondary fill (context 711), oven 804
9. Straight-sided bowl with flanged rim (Young 1977, 220, R47); greyware; secondary fill (context 711), oven 804
10. Necked jar/bowl (Young 1977, 216, R24); greyware; fill (context 599), pit 595
11. Mortaria rim (Young 1977, 72, M17) Oxfordshire whiteware mortaria; fill (context 356), segment 349, ditch 830
12. Straight-sided cup (Young 1977, 196, O43), oxidised ware; secondary fill (context 293), segment 292, ditch 774
13. Jar/bowl (Booth & Green 1989, 80, fig.2, 18); pink grogged ware; fills (contexts 391 and 392), segment 390, ditch 774
14. Small necked bowl (Young 1977, 220, R38); greyware; secondary fill (context 393) segment 390, ditch 774
15. Necked bowl (Young 1977, 220, R38); greyware; secondary fill (context 393) segment 390, ditch 774
16. Flanged bowl copying samian form 38; oxidised ware; secondary fill (context 522) segment 547, ditch 774
17. Flagon (Young 1977, 84, P1 or 2); Oxfordshire parchment ware; secondary fill (context 522) segment 547, ditch 774
18. Small flanged bowl; whiteware; fills (contexts 303 and 305), segments 304 and 306, roundhouse gully 247
19. Narrow-necked jar; whiteware, possibly Verulamium region; fill (context 394), pit 348, pit group 603
20. Shallow bowl with a rolled rim (Young 1977, 158, C47); Oxfordshire colour-coated ware; fill (context 394), pit 348, pit group 603
21. Necked bowl (Young 1977, 220, R38); greyware; fill (context 394), pit 348, pit group 603

## METALWORK
*by Grace Perpetua Jones*

### Iron
A total of 134 iron objects were recovered, including six post-medieval items. The iron assemblage is dominated by fittings, most of which were recovered from Romano-British features (Table 2). Forty-seven nails were recorded, with either flat

(Manning 1985, type 1B) or triangular-shaped (Manning 1985, type 2) heads, where discernable. Other fittings comprise a bolt with a large (70 × 50mm), possibly diamond-shaped, head (ON 658, ditch 835); part of a hook or T-clamp (ON 712, ditch 774) and four fragments from a joiners dog (ON 711, ditch 774). Hobnails, including 30 from pit 488, probably the remains of a boot, were the only personal items recovered. A punch came from ditch 830 (ON 651).

Medieval/post-medieval fittings include two end plates from cylindrical/barrel padlocks. Object number 645 (medieval furrow 320) displays three rectangular-shaped apertures for the spring strips of the bolt (cf Egan 1998, fig. 70.251). Object number 647 (secondary fill group 860, from enclosure ditch 514) is very similar, but with only two visible rectangular apertures and two 12 × 6mm strips, one placed within an aperture. A ring was also recovered from furrow 320 and a horseshoe (ON 376) came from the ploughsoil.

**Lead**

Of the 115 lead objects recovered, 97 are of post-medieval date. Foard (Appendix 1) discusses the bullets and powder box caps. The remaining assemblage includes nine lead weights, seven plugs and two unidentifiable objects. The weights range from 23g to 99g and include bun-shaped, conical and biconcial examples. Some of the concial weights may have functioned as plumb bobs. A bun-shaped and conical-shaped weight came from Roman ditches 774 and 844. Five other weights came from medieval furrow 320 (three conical, one bun-shaped and a biconical example, ONs 653,677, 698, 650 and 654), and two were unstratified (a perforated cube-shaped object and a biconical weight, ONs 660 and 657).

Lead plugs, used in the repair of ceramic vessels, were recovered from Roman pit 488 (ON 681); medieval furrow 320 (ON 665); the ploughsoil (ONs 12, 130) and two were unstratified (ONs 691, 699).

**Copper alloy**

A total of 397 copper alloy objects were recovered, 352 of which are of post-medieval date and are detailed in the archive. Of the remaining 45 objects, 30 are coins (see Cooke below). None of the other finds could be assigned to the Romano-British period on typological grounds, although two came from Romano-British features: a curved sheet fragment, cut on three sides (ON 694, ditch 774) and a plate fragment with traces of tooling on one side (ON 695, ditch 774).

Finds of medieval/post-medieval date include a belt-mount, a key, and an unidentified fitting, a possible token, a small biconical bead and an awl. A small number of later or undated finds were also recovered.

TABLE 2 Summary of iron objects by type feature

| *Type of object /feature* | *Ditch (Romano-British)* | *Furrow (medieval)* | *Oven (Romano-British)* | *Pit (Romano-British)* | *Ploughsoil* | *Tree-throw hole* | *Total* |
|---|---|---|---|---|---|---|---|
| Bolt | 1 | | | | | | 1 |
| Hobnail | | 1 | | 37 | | | 38 |
| ?Hook/T-clamp | | | | 1 | | | 1 |
| Horseshoe | | | | | 1 | | 1 |
| Joiners dog | | | | 4 | | | 4 |
| Nail | 33 | | 1 | 13 | | | 47 |
| Padlock | 1 | 1 | | | | | 2 |
| Ring | | 1 | | | | | 1 |
| Rod | | | | 1 | | | 1 |
| Shank | 10 | | | 8 | | | 18 |
| Tool | 1 | | | | | | 1 |
| Uncertain | 10 | | | 2 | | 1 | 13 |
| **Totals** | **56** | **3** | **1** | **66** | **1** | **1** | **128** |

## Coins
*by Nicholas Cooke*

A total of 84 coins was recovered, 17 of which came from the excavations and the remainder from the metal detecting survey. The coins from the excavations comprise Roman silver and copper alloy issues, whilst those from the metal detecting range in date from the Romano-British period to the late 20th century. In general, the coins are in poor condition, with many showing signs of corrosion and damage as well as wear.

### Coins from the excavations

The coins all date to the Romano-British period (Table 3), the earliest of which are a corroded silver *denarius* and two bronze *asses* or *dupondii* of a similar date. All were too worn or corroded to be dated closely.

The remaining 14 coins all date to the late 3rd or 4th centuries AD. Four of these could not be dated closely. Three coins are radiate copies minted in the late 3rd century, with a further three minted by emperors of the House of Constantine. Five of these six coins are probably contemporary copies. Such copies may have been struck semi-officially to make up for shortfalls in the supply of official coinage to Britain in the late 3rd and 4th centuries, and seem to have circulated alongside 'official' coins. The four latest coins from the site were all minted by emperors of the House of Valentinian. Of these, the latest to be minted is almost certainly the coin of Gratian, which may well have been minted towards the end of his reign. These four coins may have been in circulation until the end of the 4th or early 5th century.

The small assemblage of Roman coins from the excavations indicates coin use on the site in the late 3rd and 4th centuries. The badly corroded earlier coins need not indicate earlier activity on the site, as there were no official mechanisms for removing bronze coins from circulation, and coins such as these could have remained in circulation until *c.* AD 260.

### Coins from the metal detecting survey

The 67 coins from the metal detecting survey are dominated by post-medieval and modern issues, although a small but significant quantity of Roman and medieval coins was also found (Table 4).

Seven of the eleven Roman coins were too badly corroded to be dated closely (four are 1st to 3rd centuries AD and three are 4th century in date). The earliest closely dated coin was an *As* of Claudius, probably struck between AD 43–54. This may be one of the contemporary copies of Claudian coins circulating in Britain in the 1st century AD. Two radiate *antoniniani* of the late 3rd century were recovered – one minted by the emperor Gallienus (AD 253–268), and the other a radiate copy. The latest coin is a *nummus* of the House of Valentinian, minted between AD 364 and 378. The distribution of Roman coins from the survey coincides with the area of the enclosures and malting complex.

A single Saxon silver sceatta (type C) was also recovered; it was probably minted between *c.* AD 700–710.

Seven medieval hammered silver coins were recovered; six are late 13th or 14th centuries in date, four of which are long cross pennies struck during the reign of Henry III and two were minted during the reign of his successor Edward I. The single undated medieval coin is a badly worn groat, struck in London after 1279. Long cross pennies were first issued during the reign of Henry III in order to prevent clipping of silver coinage, reducing its silver content and value. Six of the seven were clustered within or close to the north-eastern field in a roughly north-south band perhaps suggesting a focus of medieval activity here.

Two small copper alloy farthings of Charles I were recovered in the south-east of the area investigated, close to the putative site of the Battle of Aylesbury of 1642. These could have been in circulation at the time of the battle, but cannot be linked to it with any certainty.

The remaining post-medieval and modern coins are summarised in Table 4.

## Worked Stone
*by Kevin Hayward*

Thirty-five fragments of worked, burnt and unworked stone (30.2kg) were recovered. These were examined using a hand lens at ×10 magnification to determine their geological character. The site lies on gently sloping topography (80m) where the underlying geology consists of mudstones of the Upper Jurassic (Callovian) Kellaway Clay Member (Horton *et al*. 1985). At Weedon Hill, half a kilometre north-east, younger Upper Jurassic and Lower Cretaceous sediments, represented by Port-

TABLE 3 Coins from the excavations, sorted by issue date

| *Object* | *Context* | *Metal* | *Denom* | *Dia. (mm)* | *Weight (g)* | *Issuer* | *Description* | *Issue date* | *Reference* | *Comments* |
|---|---|---|---|---|---|---|---|---|---|---|
| 675 | Unstrat. | Cu Alloy | *As/Dupondius* | 28 | 16.7 | Unknown Roman Emperor | (O) Bust r (R) Standing fig?. Unknown mint | C1 – C2 | | Dated by size alone |
| 646 | Unstrat. | Silver | *Denarius* | 12 | 0.6 | Unknown | (O) Bust r, laureate (R) Trophy. Unknown mint. | C1 – C3 | | Fragment of a C1 – C3 denarius |
| 682 | Unstrat. | Cu Alloy | *As/Dupondius* | 27 | 6.3 | Unknown | (O) Illegible Roman Emperor | C1 – C3 (R) Illegible. Unknown mint. | | Dated by size alone |
| 678 | 522 | Cu Alloy | *Antoninianus* | 18 | 1.9 | Radiate copy | (O) Bust r, radiate (R) Standing fig? Unknown mint | AD 270–296 | | Barbarous Radiate |
| 685 | 356 | Cu Alloy | *Antoninianus* | 16 | 1 | Radiate copy | (O) Bust r, radiate (R) Standing figure l with cornucopia and patera. Unknown mint | AD 270–296 | | Barbarous Radiate |
| 742 | 325 | Cu Alloy | *Antoninianus* | 16 | 1.8 | Radiate copy | (O) Bust r, radiate. Stylised (R) Stylised fig l. Unknown mint. | AD 270–296 | | Barbarous Radiate |
| 674 | 202 | Cu Alloy | *Antoninianus/ Nummus* | 17 | 1.1 | Unknown Roman Emperor | (O) Illegible (R) Illegible. Unknown mint. | C3 – C4 | | Dated by size alone |
| 690 | 694 | Cu Alloy | *Antoninianus/ Nummus* | 19 | 3.1 | Unknown Roman Emperor | (O) Bust r (R) Illegible. Unknown mint. | C3 – C4 | | Irregular flan, possibly once pierced |
| 740 | Unstrat. | Cu Alloy | *Antoninianus/ Nummus* | 16 | 0.9 | Unknown Roman Emperor | (O) Illegible (R) Illegible. Unknown mint. | C3 – C4 | | Dated by size alone |
| 706 | Unstrat. | Cu Alloy | *Nummus* | 13 | 1.5 | Emperor of the House of Constantine | (O) Bust l, helmeted. Constantinopolis type (R) Winged victory on prow. Unknown mint. | AD 330–345 | Copy as LRBC I, 52 | Small flan. Slightly stylised engraving |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 668 | 234 | Cu Alloy | *Nummus* | 15 | 1.2 | Emperor of the House of Constantine | (O) Bust r, pearl diadem. (R) soldiers, 1 standard GLOR (IAEXERC ITVS). Mint Mark TRS. Minted in Trier. | AD 335–341 | As LRBC I, 87 | |
| 672 | 317 | Cu Alloy | *Nummus* | 13 | 0.8 | Emperor of the House of Constantine | (O) Bust r, pearl diadem DN- (R) Soldier spearing a fallen horseman. Fel Temp Reparatio type. | AD 350–360 | Copy as LRBC II, 25 | |
| 630 | 356 | Cu Alloy | *Nummus* | 18 | 1.5 | Valens | (O) Bust r, pearl diadem DNVALEN SPFAVG (R) Winged victory l with wreath. Securitas Reipublicae type. Unknown mint. | AD 364–378 | As LRBC II, 82 | |
| 656 | 202 | Cu Alloy | *Nummus* | 14 | 1.2 | Emperor of the House of Valentinian | (O) Bust r, pearl diadem (R) Emperor r with standard, dragging captive. (GLORIARO M) ANORVM. Mint Mark: OF \| II ?. Unknown mint. | AD 364–378 | Copy as ?LRBC II, 280 | Small damaged flan, heavily corroded |
| 673 | 202 | Cu Alloy | *Nummus* | 12 | 0.7 | Emperor of the House of Valentinian | (O) Bust r, pearl diadem (R) Winged victory l with wreath. Securitas Reipublicae type. Unknown mint. | AD 364–378 | ? Copy as LRBC II, 82 | |
| 743 | Unstrat. | Cu Alloy | *Nummus* | 14 | 1 | Gratian | (O) Bust r, pearl diadem. DNGRA- (R) Illegible. Unknown mint. | AD 367–383 | | Small flan suggests a copy |
| 696 | 769 | Cu Alloy | *Nummus* | 11 | 0.4 | Unknown Roman Emperor | (O) Illegible (R) Illegible. Unknown mint. | C4 | | Nice round flan, dated by size alone |

TABLE 4 Coins from the metal detecting survey

| *Issuer* | *Type* | *Reference* | | *No* |
|---|---|---|---|---|
| *Roman* | | | | |
| Claudius (AD 43 – 54) | *As* | ? Copy as RIC I, Claudius 100 | | 1 |
| Gallienus | *Antoninianus* | RIC V (I) Gallienus 236 | | 1 |
| Radiate copy | *Antoninianus* | Barbarous radiate | | 1 |
| House of Valentinian | *Nummus* | As LRBC II, 82 | | 1 |
| Illegible C1 – C3 | *Denarius* | uncertain | | 1 |
| | *Sestertius* | uncertain | | 1 |
| | *As/Dupondius* | uncertain | | 2 |
| Illegible C4 | *Nummus* | uncertain | | 3 |
| | | | **Total** | **11** |
| *Saxon* | | | | |
| ? Kentish Saxon | Sceatta | North, 1994, Vol. 1, type C, p 59 | | 1 |
| | | | **Total** | **1** |
| *Medieval* | | | | |
| Henry III | Penny | As North 1994 Vol. 1, 985/1 | | 2 |
| | Penny | North 1994, Vol. I, 987/1 | | 1 |
| | Penny | North 1994, Vol. I, 991/2 | | 1 |
| Edward I | Penny | North, 1975, Vol. 2 1039 c – e | | 1 |
| | Penny | North, 1975, Vol. II, 1040 | | 1 |
| | Groat | uncertain | | 1 |
| | | | **Total** | **7** |
| *Post-Medieval* | | | | |
| Charles I | Farthing | Seaby, 1989, 3181 | | 1 |
| | Farthing | As Seaby, 1989, 3201 | | 1 |
| George II | Farthing | Seaby 1989, 3720 | | 1 |
| | Half Penny | Seaby 1989, 3717 | | 5 |
| George III | Farthing | Seaby 1989, 3775 | | 2 |
| | Penny | Seaby 1989, 3777 | | 1 |
| | Penny | Seaby, 1989, 3780 | | 1 |
| | Half Penny | Seaby 1989, 3774 | | 4 |
| Uncertain | Token | uncertain | | 1 |
| Illegible | Farthing | C18? | | 4 |
| | Penny | C18? | | 1 |
| | Penny | C18? | | 3 |
| | Half Penny | uncertain | | 1 |
| | Farthing | uncertain | | 1 |
| | coin | uncertain | | 2 |
| | | | **Total** | **29** |
| *Modern* | | | | |
| Victoria | Sixpence | Seaby 1989, 3912 | | 1 |
| | Farthing | Seaby 1989, 3958 | | 2 |
| | Penny | Seaby 1989, 3954 | | 5 |
| | Half penny | Seaby 1989, 3956 | | 2 |
| Edward VII | Penny | Seaby, 1989, 3990 | | 1 |
| George V | Florin | Seaby 1989, 4038 | | 1 |
| | Penny | Seaby 1989, 4051 | | 2 |
| | Half penny | Seaby 1989, 4056 | | 1 |
| George VI | Florin | Seaby 1989, 4107 | | 1 |
| | Half penny | Seaby 1989, 4115 | | 1 |
| Elizabeth II | Two pence | Seaby 1989, 4230 | | 2 |
| | | | **Total** | **19** |

land Limestones (Portlandian) and soft Gault Clays (Lower Cretaceous), cap the hill. The site also lies within reach of other Upper Jurassic and Lower Cretaceous limestones and sandstones. However, many of these materials are either too hard or soft for the production of quernstones or other artefacts.

Four rotary quernstone understone fragments (contexts 376, 504, 598, 599), with thickness between 38–51mm, including one with rounded edge profile, were made from Millstone Grit. This material has probably been brought to the site from South Yorkshire or Derbyshire some 200km away, although it is also possible (given the sites accessibility to Akeman Street) that they come from the Namurian – South Wales/Forest of Dean, though no Roman quarries have been identified from this region.

Three understone rotary quern fragments were made from quartz conglomerate probably from the Upper Devonian from the Forest of Dean, some 120km away. These pieces are much thicker than the Millstone Grit examples (55–91mm). One example came from the upper fill (677) of the crop-drying oven (804).

Local stones were also used both for querns and other artefacts including rubstones, and pieces probably used as packing materials. These included fine quartz sandstone (a reused saddle quern (298), packing stones (298, 596) and two rubstones (734), fine calcareous glauconitic sandstone (hammerstones (300), flagstone (596), and siliceous oolitic and shelly limestone (packing stones (325), paving stones from the malting pit (595) and burnt pieces (581, 781). All of this material would have been available within the Portland Formation, Upper Jurassic of Weedon Hill (Horton *et al.* 1995).

**Discussion**

As expected, stone used during the earliest occupation phases (1st millennium BC) as post-packing (including a reused saddle quern) (298) and hammerstones (300) comes from hard, poor quality materials from the local Portland Group (Upper Jurassic), from Weedon Hill. This local source was also used to provide material for the stone-lined pit within the double-ditched enclosure. A comparable stone-lined feature found about 20km to the north at Milton Keynes (Last 2001) may have also used Aylesbury Limestone (described by Andrew Pearson as a shelly oolitic limestone of Jurassic Age). However, the more likely candidates here are the limestone units from the more accessible Corallian.

By contrast, all of the quernstone from the 2nd–4th Romano-British occupation layers has been brought in from afar with sources in Forest of Dean (120km away) and Millstone Grit from the Upper Carboniferous of Derbyshire and South Yorkshire (200km away). These provide clear evidence for provincial supply of specialist quern materials. The site's accessibility (3km) to Akeman Street and the roadside settlement of Fleet Marston would have been a major determining factor in the choice of more exotic specialist materials from northern and western England. Moreover, Alchester, an important nodal point in the Roman road network along Akeman Street provides direct access to outcrops in northern England. It is interesting to note the absence of both Lodsworth Greensand (Upper Greensand – West Sussex) and Puddingstone Conglomerate (Tertiary – Chilterns) in the quern assemblage at Weedon Hill. Both materials were in common use during Romano-British occupation in southern and central England, especially Lodsworth Greensand (Peacock 1987), including sites in the Thames Catchment area at Silchester (Wooders 2000) and Slough (Hayward 2008). One possibility is that the Thame was not navigable as far as Aylesbury making it easier to obtain suitable materials from the extensive road network.

**Illustrated stone** (Fig. 13)

1. Quern fragment, Quartz Conglomerate, object number (ON) 708, context 504, pit 515 (gp 603)
2. Rotary quern fragment (under stone), Millstone Grit, ON 709, context 504, pit 515 (gp 603)

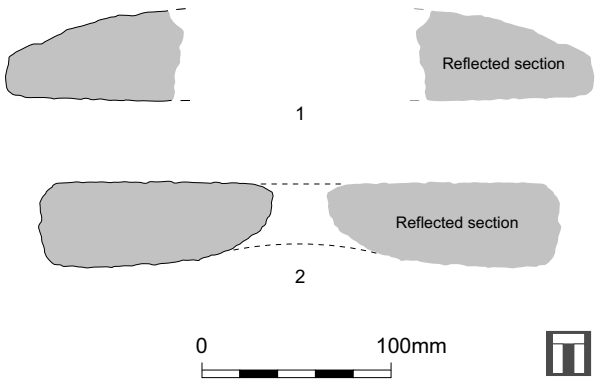



FIGURE 13 Querns (details in the catalogue)

## Cremated Human Bone
*by Jacqueline I. McKinley*

Cremated human bone was recovered from the remains of a lone Romano-British urned burial made within a close-fitting grave (203). The grave was located on the south-west margins of the site, *c*.25m from the double-ditched enclosure and immediately to the south of boundary ditch 831 (Fig. 5).

Osteological analysis followed the writer's standard procedure for cremated bone (McKinley 1994, 5–21; 2004a). Age was assessed from the stage of tooth and skeletal development (Beek 1983; Scheuer & Black 2000), and the patterns and degree of age-related changes to the bone (Buikstra & Ubelaker 1994). Sex was ascertained from the sexually dimorphic traits of the skeleton (*ibid*.).

The burial had been heavily truncated, at least partly during machine stripping of the site, and the grave cut survived to a depth of only 0.04m; a substantial quantity of the bone is likely to have been lost from the deposit as a result of this disturbance. The surviving bone is in good visual condition, with both trabecular and compact bone being relatively well represented. The 84.1g of bone recovered represents the remains of an adult, *c*.25–40 years of age, possibly female. No pathological lesions were observed.

Most of the bone is white, indicating a high level of oxidation (Holden *et al.* 1995a; 1995b). Some incompletely oxidised bone (brown, black, blue or grey) was observed, however, including several fragments of skull vault (diploe and endocranial), femur and fibula shaft; such variations in oxidation are most frequently observed in elements of skull and femur (McKinley 2008, table 2). Factors affecting the efficiency of oxidation have been discussed elsewhere (e.g. McKinley 2004b, 293–295; 2008). The changes in this instance are relatively minor and suggest a general shortfall, most probably in the quantity of wood used to construct the pyre, though the poor oxidation to the fibula shaft in the absence of similar variations in the tibia may indicate that one leg was either muffled by some overlying materials (leather/furs) or too close to the pyre margins resulting in a lower temperature affecting this part of the body. Given the clearly very disturbed nature of the deposit and obvious loss of an unknown quantity of bone, comment regarding bone weight and mortuary rite would be inappropriate. Most of the surviving bone was recovered from the 5mm sieve fraction (49%) with a relatively small maximum fragment size (38mm); the heavy disturbance to the deposit will have had a major impact on recorded fragment size and no confident statement can be made regarding post-cremation manipulation of the bone. Despite the small quantity of bone recovered elements from all skeletal areas are represented, including one tooth root and several elements of the small foot bones, indicting there was no anatomically ordered deposition of the bone within the burial.

## Animal Bone
*by Jessica M. Grimm*

A small assemblage of animal bone, 1254 fragments (including 83 from environmental samples), are datable to the Romano-British period. A further 12 fragments of animal bone were retrieved from later prehistoric features. Only the Romano-British assemblage is discussed here. A full method statement and database may be found in the archive. Taphonomic analysis showed that the assemblage is well preserved, comes at least partly from primary deposits and was only minimal biased by canid gnawing. The degree of fragmentation is high and new breaks were especially common. Both are characteristic for the area and the latter is the result of the heavy soil matrix (Holmes & Rielly 1994, 515). The low number of burnt fragments shows that burning waste was not a common practice.

### Husbandry and diet
The bulk of the bones derive from the usual domesticates (*i.e*. cattle, horse, sheep/goat and pig) and wild species were not important to the diet (Table 5). Where possible, a distinction between sheep and goat was made, indicating only the presence of sheep. The absence of definite dog bones is in line with the low percentage of gnawed bones. Although all bulk samples taken were sieved, no fish bones were recovered. From the literature, it is known that donkeys, mules and hinnies were present in the period (Armitage & Chapman 1979). Distinguishing their disarticulated remains confidently apart is not possible. However, none of the teeth was indicative of donkey or of a crossbreed (Davis 1976; Armitage & Chapman 1979; Baxter 1998). Furthermore, the metric data from the

complete metacarpus found in crop-drying oven 804 and the first phalanx from enclosure ditch 514 indicate horse (Eisenmann & Beckouche 1986). The only two definite wild animals are mallard and vole. The former might have been hunted and the latter was probably part of the natural background fauna.

Compared with other Romano-British sites in the area, sheep/goat and especially pig seem to have been less important components of the diet (Table 6); although this is a characteristic of the eastern England and East Anglia group as defined by Hambleton (1999, 46). This bias might be partly taphonomic in nature, but MNI counts also show that cattle remains the most important species with 40%, sheep/goat and horse both account for 15% and pig accounts for only 10%. The pastures might have been quite wet in this part of the river Thame Valley making them unsuitable for large-scale sheep farming (liver fluke).

A higher than normal proportion of the assemblage could be attributed to horse, although quite high proportions were also seen at the Romano-British mausoleum at Bancroft and the temple at Folly Lane, Verulamium. It must, however, be stated that the latter do not come from normal settlement sites. Although no definite butchery marks were seen on the horse bones from Weedon Hill or the villa at Dicket Mead (King 1987, 166), their mainly disarticulated nature and mixture with other bone waste indicates that horses were occasionally consumed. As some of the horse bones from Skeleton Green (Ashdown & Evans 1981, 215) and Bancroft (Holmes & Rielly 1994, 522) did bear cut marks, the use of horses as a food source in the Romano-British period is not excep-

TABLE 5 Species list according to Number of Identified Specimen, Bone Weight and Minimum Number of Individuals

| *Species* | *NISP* | | *BW* | | *MNI* | |
|---|---|---|---|---|---|---|
| | *n* | *%* | *g* | *%* | *n* | *%* |
| Cattle (*Bos Taurus*) | 381 | 30 | 19.171 | 64 | 8 | 40 |
| Horse (*Equus caballus*)* | 123 | 10 | 7.641 | 25 | 3 | 15 |
| Sheep (*Ovis aries*)** | 77 | 6 | 314 | 1 | 3 | 15 |
| Sheep/Goat (*Ovis*/*Capra*) | 44 | 4 | 234 | 1 | | |
| Pig (*Sus domesticus*) | 10 | 1 | 63 | 0 | 2 | 10 |
| Dog/Fox (*Canis familiaris*/*Vulpes vulpes*) | 3 | 0 | 5 | 0 | 2 | 10 |
| Vole (Muridae) | 1 | 0 | 0 | 0 | 1 | 5 |
| Mallard (*Anas platyrhynchos*) | 1 | 0 | 1 | 0 | 1 | 5 |
| Large mammal | 559 | 45 | 2.641 | 9 | – | – |
| Medium mammal | 55 | 4 | 78 | 0 | – | – |
| **Total** | **1254** | **100** | **30.148** | **100** | **20** | **100** |

* includes partial mare skeleton 605 (NISP 83, 3425 g)
** includes juvenile sheep skeleton 636 (NISP 69, 289 g).

TABLE 6 Species proportions from selected Romano-British sites in Hertfordshire, Bedfordshire and Buckinghamshire

| *Site* | *Author* | *Type* | *NISP* | *Cattle* | *Sheep/Goat* | *Pig* | *Horse* |
|---|---|---|---|---|---|---|---|
| | | | | *%* | *%* | *%* | *%* |
| Latimer | Hamilton 1971 | Villa | 675 | **76** | 10 | 13 | 1 |
| Weedon Hill | This report | Settlement | 635 | **60** | 19 | 2 | 19 |
| Bancroft | Levitan 1994 | Villa | 9378 | **51** | 31 | 12 | 6 |
| Dicket Mead | King 1987 | Villa | 1357 | **49** | 28 | 15 | 8 |
| Bancroft | Holmes and Rielly 1994 | Mausoleum | 693 | **40** | 35 | 11 | 14 |
| Folly Lane, Verulamium | Locker 1999 | Temple | 1106 | **39** | 35 | 11 | 14 |
| Skeleton Green | Ashdown & Evans 1981 | Settlement | 2466 | 32 | 18 | **49** | 1 |

tional. The absence of definite dog bones is noteworthy but should probably be attributed to small sample size as their gnawing marks were found on some bones. The similarly small assemblage from the Roman villa site at Boxmoor also lacked dog bones (Gebbels 1976, 110).

The analysis of the representation of different anatomical elements showed most skeletal elements to be present and thus suggests that animals were slaughtered and their products processed locally. Because of the particularly small nature of the dataset for horse and sheep, their patterns are not further commented on. The pattern for cattle showed that the dense and/or easily recognisable parts, like the mandible, the odontoid processus of the epistropheus, the distal humerus and the proximal parts of the metapodials are particularly well represented. For the same reason, the weaker maxilla, proximal humerus and tibia are less well represented. The under-representation of the phalanges is the only possible observation which cannot be explained solely by taphonomy as the similarly small centrotarsal is quite well represented. It is therefore likely that the feet were kept attached to the cattle hide and then transported to the tanner.

The age analysis of the Weedon Hill assemblage showed that cattle and sheep were both kept as part of a mixed husbandry strategy, which optimised primary and secondary products. Cattle were mainly slaughtered in their third or fourth year indicating a compromise between meat production and the provision of milk, manure and traction. The presence of some stress related pathology might especially indicate the use of cattle as beasts of burden. A small proportion of meat was also obtained from the valued breeding stock at the end of their useful life. This meat was probably a little tough and needed prolonged gentle cooking. A similar killing pattern was seen at Skeleton Green (Ashdown & Evans 1981, 208) and Folly Lane, Verulamium (Locker 1999, 338), whereas the cattle from the mausoleum at Bancroft were clearly kept alive for longer emphasising the use of secondary products (Holmes & Rielly 1994, 524). A pattern typical of a mixed economy with excess animals being killed early, a proportion slaughtered at optimum meat yield and a group of old animals killed at the end of their useful life was seen at Bancroft villa (Levitan 1994, 540).

Pigs were probably killed around two years of age when their meat yield is highest. However, the small dataset does not allow such observations to be made. The presence of horses of both sexes of mainly older age but with evidence of at least one subadult individual might indicate breeding practices, although it is equally possible that young horses were obtained from elsewhere and further raised at Weedon Hill. The same age patterns were seen at Skeleton Green (Ashdown & Evans 1981, 211) and Bancroft mausoleum (Holmes & Rielly 1994, 525).

To gain some insight in the cattle and horse types present, height at the withers were estimated. Eleven cattle bones could be used resulting in a range from 1.12–1.31m, mean 1.19m (von den Driesch & Boessneck 1974). Comparing height at the withers estimation based on metapodial lengths from several Roman sites in the area showed that the values for Weedon Hill are comparable. The horses at Weedon Hill were of the small type (Vitt 1952) with heights at the withers of 1.28 and 1.31m (May 1985) respectively.

Only 16 definite butchery marks were observed. Most were made with a cleaver and they were mainly seen on cattle bones reflecting species proportions. In cattle, marks related to disarticulation, portioning and filleting were seen. The hind leg was sometimes portioned at the distal tibia joint and sometimes at the distal metatarsus joint. Typical of a Romanised butchery style were the scoops seen on the scapula deriving from filleting with a cleaver (see also Locker 1999, 334 for Verulamium). The find of five cattle metatarsi in context 586 (ON 722; no pairs) which were probably all fractured mid-shaft after having been mildly heated, points to the utilisation of marrow. The butchery marks on the sheep bones mainly involved portioning and disarticulating the carcass in the lumbal/pelvic area. A knife was probably used more often than in cattle butchery reflecting the smaller size of the carcass. Skinning marks were seen on a calcaneus.

Beef clearly contributed most to the diet of the people at Weedon Hill with small proportions of pork and mutton; occasional wild fowl might also have come to the table. In his analysis of the Iron Age diet, King (1991, 16) showed that beef became more important in the early Romano-British period compared to the Late Iron Age. High cattle (and pig) proportions are linked to a Romanised lifestyle as they mainly occur in urban and military

sites (King 1999, 180). Since Weedon Hill was a rural settlement, it is more likely that species proportions reflect the local environment (see above).

**Discard practices**

In order to see if there were any differences in discarding policies between material from the malting complex and the enclosures in the east of the site, the characteristics of these sub-assemblages were compared. The results show that preservation and species proportions did not really differ between the two sub-assemblages. The average weight of the fragments indicated that the material from the malting complex was slightly more fragmented. Since cattle are by far the major species represented in both sub-assemblages, body part representation for this species was used to investigate differences between the assemblages. The cattle skeleton was divided into elements representing the head, trunk, front limb, hind limb and feet (see Benecke 2005). The weight of each group in the excavated assemblages was compared to that of a modern reference skeleton (Fig. 14). It is clear that in both sub-assemblages elements of the feet are over-represented. These elements are commonly regarded as primary butchery waste and therefore usually stay relatively undamaged. This makes them valued raw materials for a variety of bone objects. Excluding the feet, the assemblage from the malting complex follows more or less the proportions of the reference skeleton indicating that the assemblage is made up of butchery and kitchen waste. In contrast, the material from the rest of the settlement shows enrichment with elements of the meat-rich front limb and a depletion of elements of the trunk (primary butchery waste). Thus, kitchen waste was probably dumped within the area of enclosures, particularly in the south, close to the roundhouses. It is likely that the

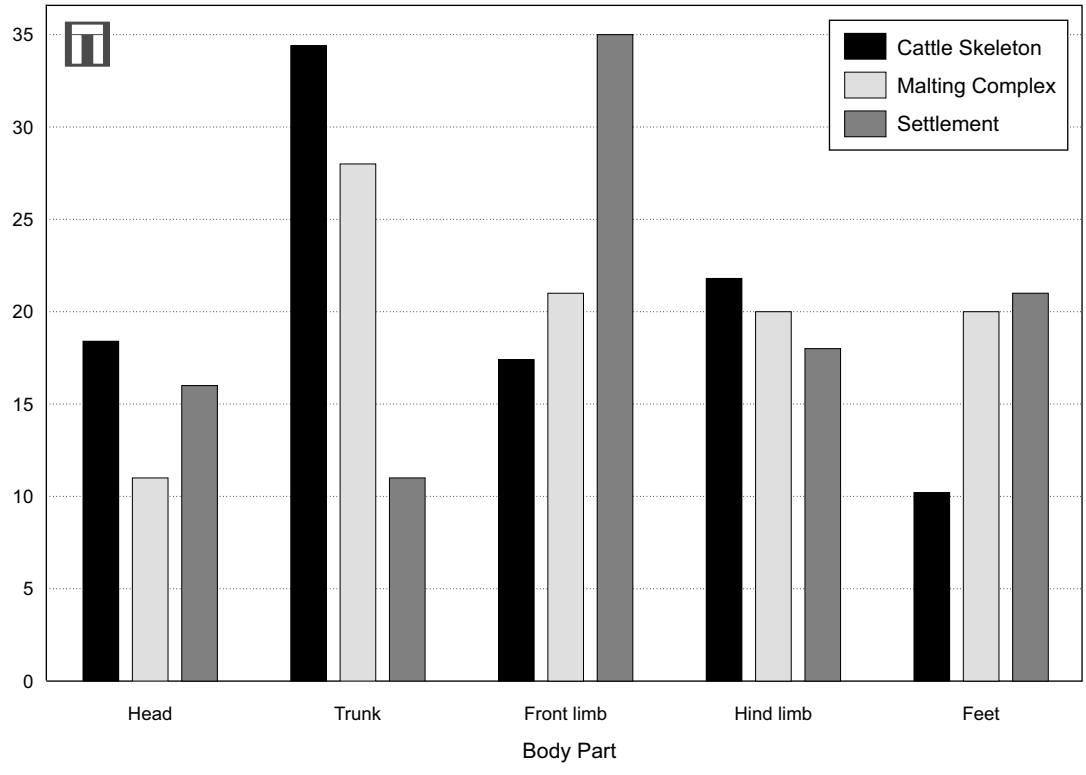



FIGURE 14 Body part representation shown against a modern cattle skeleton

animal bone in malting pit 595 was dumped in one go or within short intervals as material from contexts 597–599 and 625 articulated and refitted.

Apart from the normal food waste, the articulated (partial) skeletons of a lamb and an old horse were also found. The partial horse skeleton in enclosure ditch 842 consists of a more or less complete cranium, a loose mandibular tooth, the atlas, seven thoracic vertebrae and eight left and eleven right costae and both scapulae. The epiphyses on the scapulae and vertebrae have fused and indicate an animal of over five years. The small canine in the maxilla indicates a mare, which was *c.*8.5–11.5 years old at time of death according to tooth wear (Levine 1982). The horse was found partly in articulation and no butchery marks were seen. Gnawing marks on the wings of the atlas, some of the ribs and the scapulae indicate that the skeleton was accessible to dogs before final deposition. This might explain why no butchery marks were seen although the skeleton is far from complete. Furthermore, the highly fragmented skull (mainly maxilla and petrosum) of an older horse was found in context 731 (primary fill group 859). This might be an intentional deposition in the terminal of the malting complex's outer enclosure ditch 516.

The near-complete skeleton of a lamb was found in one of the inter-cutting pits (group 603). The skull, most of the costae and many phalanges were not present/retrieved. According to tooth eruption and wear, the lamb was about 4–7 months old at the time of death. The epiphyseal fusion suggests an age between three/four and five months. Again, the animal had not been butchered. It is possible that a deceased lamb was thought not fit for human consumption and dumped in one of the pits.

The occurrence of seemingly unbutchered (partial) skeletons in a settlement context is quite common in the Romano-British period. For instance, the skeletons of a calf, adult sheep and an immature pig were found in post-villa phase 3 at Latimer. Furthermore, a cat skeleton was found in the floor make-up of corridor 25 of villa phase 3 (Hamilton 1971, 166). The possible placement of a horse skull in the malting complex enclosure ditch is paralleled by a find from Bancroft mausoleum where a goat skull was placed in an enclosure ditch (Holmes & Rielly 1994, 529). From the same site, the semi-articulated skeleton of a young pig was found in the shrine. The ceremonial enclosure ditch at Folly Lane, Verulamium contained a probable partial horse skeleton (Locker 1999, 326). The reasons behind these 'special deposits' are probably manifold ranging from the discard of diseased animals, to the burial of a pet or the expression of religious beliefs.

## Charred Plant Remains
*by Chris J. Stevens*

Fifty-three samples from Late Bronze Age and Romano-British features were taken for charred plant remains, of which fifteen were selected for full analysis (Wessex Archaeology 2006). While a single sample from a probable Bronze Age pit (268) contained a few cereal remains no samples from this phase were rich enough for full analysis. The selected samples came from both the large enclosure system in the west and the associated settlement to the east, although the latter were notably less rich in material by comparison to those within the vicinity of the main complex (Tables 7–8).

The bulk samples were processed by standard flotation methods (Wessex Archaeology 2008). Flots were scanned under a ×10 – ×40 stereo-binocular microscope following the nomenclature of Stace (1997).

Four of the samples were very rich in charred plant remains. These samples were fractionated and sub-samples of 25%, 10% or 5% examined and counted in full, estimates were then produced from these counts by multiplying by 4, 10 or 20 respectively (denoted by * in Table 8). Germinated coleoptiles (cereal sprouts) were counted only when the coleoptile had the trefoil-shaped base (two rootlet bases and the base of the acrospire) fully preserved.

### Late Bronze Age

Five samples from Late Bronze Age features (roundhouse posthole (299), a pit (268) and natural hollow (212)) were examined during the assessment (WA 2006). Only a single sample from pit 268 yielded any remains comprising a few glumes and a single grain of spelt wheat (*Triticum spelta*), as well as a seed of knotgrass (*Polygonum aviculare*).

Spelt wheat is recorded from both Middle and Late Bronze Age sites in Britain but given the amount of spelt wheat recovered from the Romano-

TABLE 7 Charred plant remains from the settlement and boundary ditches

| *Group* | | | *247* | *247* | *835* | *774* | *831* | *849* |
|---|---|---|---|---|---|---|---|---|
| *Feature Type* | | *Oven* | *Ring Ditch* | *Pit* | *Ditch* | *Ditch* | *Ditch* | *Ditch* |
| Feature Number | | 288 | 267 | 286 | 335 | 390 | 672 | 580 |
| Context | | 289 | 266 | 287 | 336 | 392 | 671 | 581 |
| Sample | | 10 | 3 | 9 | 66 | 28 | 27 | 26 |
| Size Litres | | 16 | 10 | 8 | 10 | 8 | 6 | 8 |
| Flot Size ml | | 120 | 5 | 10 | 3 | 20 | 15 | 5 |
| **Cereals** | | | | | | | | |
| *Hordeum vulgare sl* (grain) | barley | – | – | – | – | – | 1 | cf.1 |
| *Triticum* sp. (grains) | wheat | – | 1 | 1 | – | – | 3 | – |
| *Triticum spelta* (glume bases) | spelt wheat | 1 | cf.3 | – | – | 2 | 693 | 33 |
| *T. dicoccum/spelta* (grain) | emmer/spelt | – | – | – | – | – | 30 | 8 |
| *T. dicoccum/spelta* (germinated grain) | emmer/spelt | – | – | – | – | – | 16 | 2 |
| *T. dicoccum/spelta* (spikelet fork) | emmer/spelt | – | – | – | – | – | 1 | – |
| *T. dicoccum/spelta* (glume bases) | emmer/spelt | – | cf.1 | 1 | 1 | 8 | 1635 | 310 |
| Cereal indet. (grains) | cereal | 2 | – | 1 | 2 | 1 | 15 | 3 |
| Cereal indet. (est. grains from frags.) | cereal | 1 | – | – | – | – | 30 | – |
| Cereal indet. (sprouted coleoptile) | cereal | – | – | – | – | – | 38 | 2 |
| Cereal indet. (culm node) | cereal | 1 | – | – | – | – | – | – |
| **Species** | | | | | | | | |
| *Atriplex* sp. | orache | – | – | – | – | – | 17 | – |
| *Rumex* sp. | docks | – | 1 | 1 | – | – | 28 | 2 |
| *Vicia/Lathyrus* sp. | vetch/pea | – | – | 2 | – | 1 | 3 | 3 |
| *cf. Lathyrus* sp. | grass-pea | – | – | 1 | – | – | – | – |
| *Trifolium* sp. | clover | – | 1 | 2 | – | – | 1 | 14 |
| *Prunella vulgaris* | self-heal | – | – | – | – | – | 1 | – |
| *Odontites vernus* | red bartsia | – | – | – | – | – | 3 | – |
| *Galium aparine* | cleavers | – | – | – | – | 1 | 1 | – |
| *Anthemis cotula* | stinking chamomile | – | 1 | – | – | 1 | 29 | – |
| *Tripleurospermum inodorum* | scentless mayweed | – | – | – | – | – | 20 | 5 |
| *Eleocharis cf. palustris* | common spike-rush | 3 | – | – | – | – | 1 | – |
| *Lolium perenne* | rye grass | – | 1 | – | – | 2 | 110 | 10 |
| *Poa/Phleum* sp. | grasses | – | – | – | – | – | 2 | – |
| *Avena* sp. (grain) | oat grain | – | – | 1 | – | – | – | 2 |
| *Avena* sp. (floret base wild) | wild oat floret base | – | – | – | – | – | 3 | – |
| *Avena /Bromus* sp. | oat/brome | – | – | – | – | – | 4 | – |
| *Bromus* sp. | brome | – | – | – | – | – | 2 | 1 |

TABLE 8 Charred plant remains from the malt-house and enclosure

| | Group | 830 | 595 | 516 | 516 | 516 | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Feature Type | Drain-ditch | Stone-lined pit | Enc-ditch | Enc-ditch | Enc-ditch | Post-hole | main oven | main oven |
| | Feature Number | 349 | 595 | 730 | 359 | 359 | 385 | 804 | 804 |
| | Context | 356 | 597 | 733 | 375 | 373 | 386 | 680 | 711 |
| | Sample | 12 | 51 | 61 | 18 | 39 | 40 | 30 | 59 |
| | Size Litres | 10 | 10 | 8 | 10 | 20 | 10 | 16 | 16 |
| | 2mm | 100% | 100% | 100% | 10% | 100% | 100% | 100% | 100% |
| | 1mm | 10% | 100% | 25% | 10% | 100% | 100% | 100% | 10% |
| | 0.5mm | 10% | 100% | 10% | 5% | 100% | 100% | 100% | 5% |
| **Cereals** | | | | | | | | | ? |
| *Hordeum vulgare sl* (grain) | barley | 1 | – | 11 | 60* | – | – | 1 | 3 |
| *H. vulgare* (6-row rachis fragment) | barley | – | – | 8* | 20* | – | – | – | – |
| *Triticum* sp. (grains) | wheat | 96 | – | – | – | – | – | – | – |
| Triticum indet. (basal rachis frg) | cereal | – | – | 15 | est.40 | – | – | – | – |
| *Triticum spelta* (spikelet fork) | spelt wheat | 63* | – | 25 | 10 | 16 | – | 50* | – |
| *Triticum spelta* (glume bases) | spelt wheat | 5104* | 109 | 7603* | 9625* | 1085 | 26 | 440* | 25 |
| *T. dicoccum/spelta* (grain) | emmer/spelt | 101 | 19 | 840 | 1250* | 35 | 15 | 80 | 500 |
| *T. dicoccum/spelta* (germinated) | emmer/spelt | 19 | 1 | 129 | 245* | 13 | 3 | 29 | 503 |
| *T. dicoccum/spelta* (spikelet fork) | emmer/spelt | – | 1 | 110* | – | – | – | 3 | 20* |
| *T. dicoccum/spelta* (glume bases) | emmer/spelt | 11000* | 337 | 8830* | 18400* | 1390 | 217 | 900* | 13100* |
| *Triticum* cf. *aestivum sl* (grain) | bread wheat | cf.1 | – | 10 | – | – | – | cf.1 | 1 |
| Cereal indet. (grains) | cereal | 100 | 3 | – | – | 22 | 6 | 20 | 260* |
| Cereal indet. (grains from frags.) | cereal | – | – | – | – | 5 | 4 | 10 | 120* |
| Cereal indet. (sprouted coleoptile) | cereal | 218* | 11 | 348* | 900* | 52 | 2 | 4 | 397* |
| Cereal indet. (culm node) | cereal | 3 | – | 1 | 35* | – | – | – | – |
| Cereal indet. (basal culm node) | cereal | – | – | – | 1 | – | – | – | – |
| **Other Crop Species** | | | | | | | | | |
| *Beta vulgaris* subsp. *ulgaris* | beet | 1 | – | – | – | – | – | – | – |
| *Malus* sp. | apple | – | – | – | 1 | – | – | – | – |
| **Species** | | | | | | | | | |
| *Chenopodium album* | fathen | – | – | 10* | 300* | – | – | – | – |
| *Atriplex* sp. | oraches | – | – | 58* | 140* | 8 | 1 | – | – |
| *Stellaria media* | stitchwort | – | – | – | – | – | – | – | 20* |
| *Agrostemma githago* | corn cockle | – | – | – | 10* | – | – | – | – |
| Polygonaceae indet. | knotgrasses | – | 2 | – | – | – | – | 2 | – |
| *Persicaria lapathifolia /maculosa* | persicaria | – | – | 1 | – | – | – | – | – |

| | Group | 830 | 595 | 516 | 516 | 516 | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Feature Type | Drain- | Stone- | Enc- | Enc- | Enc- | Post- | main | main |
| | ditch | lined pit | ditch | ditch | ditch | hole | oven | oven | |
| | Feature Number | 349 | 595 | 730 | 359 | 359 | 385 | 804 | 804 |
| | Context | 356 | 597 | 733 | 375 | 373 | 386 | 680 | 711 |
| | Sample | 12 | 51 | 61 | 18 | 39 | 40 | 30 | 59 |
| | Size Litres | 10 | 10 | 8 | 10 | 20 | 10 | 16 | 16 |
| | 2mm | 100% | 100% | 100% | 10% | 100% | 100% | 100% | 100% |
| | 1mm | 10% | 100% | 25% | 10% | 100% | 100% | 100% | 10% |
| | 0.5mm | 10% | 100% | 10% | 5% | 100% | 100% | 100% | 5% |
| *Polygonum aviculare* | knot grass | – | – | 3 | – | – | – | – | – |
| *Fallopia convolvulus* | black bindweed | 1 | – | 2 | – | – | – | – | – |
| *Rumex* sp. | docks | 65* | 9 | 238* | 140* | 25 | 4 | 11 | 43* |
| *Rumex acetosella* | sheeps sorrel | – | – | – | – | 5 | 3 | – | – |
| *Malva* sp. | mallow | – | – | 1 | 5sd hd | – | – | – | 10* |
| Brassicaceae indet. | Brassicaceae | – | – | – | cf.1 | – | – | – | 20* |
| *Brassica* sp. | wild mustard | – | – | – | 20* | – | – | – | – |
| *Vicia/Lathyrus* sp. | vetch/pea | 35 | – | 36* | 83* | 5 | – | 2 | 12 |
| *V. tetrasperma* | smooth vetch | – | – | 32 | – | – | – | – | 230* |
| *cf. Lathyrus* sp. | grass-pea | – | – | – | 2 | – | – | – | – |
| *Medicago lupulina* | black medick | – | – | 36* | 10* | – | – | 1 | 30* |
| *Trifolium* sp. | clover | – | – | 1 | 20* | – | 1 | 2 | 100* |
| *Bupleurum* sp. | hare's ears | – | – | – | – | – | – | – | 20* |
| *Prunella vulgaris* | self-heal | – | – | – | 1 | – | – | – | – |
| *Plantago lanceolata* | ribwort plantain | 1 | – | – | 10* | – | – | – | – |
| *Odontites vernus* | red bartsia | – | – | 30 | 30* | – | – | 1 | 40* |
| *Galium aparine* | cleavers | 2 | – | 2 | – | – | – | – | – |
| *Valerianella dentate* | corn salad | – | – | – | – | – | – | 1 | – |
| Asteraceae small indet. | daisy family | – | – | – | – | – | – | – | 10* |
| *Carduus /Cirsium* sp. | thistle | – | – | 1 | – | – | – | – | 30* |
| *Anthemis cotula* | stinking chamomile | 93* | 9 | 11* | – | 7 | 6 | 36 | 330* |
| *Chrysanthemum segetum* | corn marigold | – | – | – | – | – | – | – | 40* |
| *Tripleurospermum inodorum* | scentless mayweed | 12* | – | 400* | 2000* | 17 | – | – | 1 |
| *Eleocharis cf. palustris* | spike-rush | – | 1 | – | – | – | – | – | – |
| *Carex* sp. Lenticular | sedge flat seed | – | – | cf.1 | – | – | – | – | – |
| POACEAE (culm node) | grass culm node | – | – | 2 | – | – | – | – | – |
| *Lolium perenne* | rye grass | 143* | 4 | 666* | 2490* | 68 | 11 | 16 | 810* |
| *Lolium perenne* (germinated) | rye grass | – | – | 5 | – | – | – | – | – |
| *Poa/Phleum* sp. | grasses | – | 1 | – | – | – | – | – | 40* |
| *Avena* sp. (grain) | oat grain | 20* | 3 | 48 | 620* | 8 | 2 | 19 | 321* |
| *Avena* sp. (germinated grain) | oat grain | – | 8 | 3 | 50* | – | – | – | 10 |
| *Avena* sp. (floret base wild) | wild oat floret base | – | 1 | – | – | – | – | 2 | 1 |
| *Avena* sp. (awn) | oat awn | ++++ | + | ++ | – | – | + | + | ++ |
| *Avena /Bromus* sp. | oat/brome | 340* | – | 73 | 10 | – | 1 | 5 | 1120* |
| *Avena /Bromus* sp. (germinated ) | oat/brome | – | – | 10 | – | – | – | – | 10 |
| *Bromus* sp. | brome | 6 | – | 30 | 220* | 3 | 12 | 5 | 170* |
| *Bromus* sp. (germinated grain) | brome grass | – | – | 5 | – | – | – | – | 5 |
| Seed indet. | seed | – | – | – | – | – | – | 3 | – |

Key:– The percentage of each fraction from the flot examined is given in the table headings. The counts of individual items from each fraction were then multiplied up to produce estimates marked by *

British settlement some of this material may be intrusive.

**Romano-British**

The majority of the samples associated with the western enclosure are very rich in cereal remains, dominated in particular by the glumes of spelt wheat (*Triticum spelta*). While spelt can be seen to be the dominant crop within the Romano-British period within this region (cf. Jones 1986), these same samples also contained numerous grains that could clearly be seen to have germinated, while many samples contained numerous elongated coleoptiles, the germinated embryo/sprout of most probably spelt grain.

The richest samples came from central oven 804, the secondary infilling of the main enclosure ditch 516, drainage ditch 830 and a sample from the east terminal of boundary ditch 831 to the south, adjacent to the "entrance" through which ditch 830 passed.

The samples from the posthole (385), the lowest primary fill of the enclosure ditch 516 and the base of the stone-lined pit 595 while similar in composition were notably less rich in such remains.

By contrast the samples examined from the settlement to the east contained relatively few remains, except occasional grains and weed seeds, with very little evidence for germinated grain.

Grains of hulled barley (*Hordeum vulgare sl.*) were relatively rare in the samples, appearing only in the ditch group 516, and a few in the drying oven 804. Rachis fragments that in several cases could be identified as from six-row barley were also present in these same samples. Given the number of grains and rachis fragments in comparison to the number of grains of hulled wheat it may be that barley is only present as a weed, although it was certainly cultivated in Roman Britain at this time.

Weed seeds were dominated by grains of oats (*Avena* sp.), and brome grass (*Bromus* sp.), along with those of rye grass (*Lolium* cf. *perenne*), vetches/wild pea (*Vicia/ Lathyrus* sp.), and docks (*Rumex* sp.). It was also notable that in several cases within the samples from the main-enclosure, grains of oats, brome-grass and rye-grass had germinated.

While oats (*Avena* sp.) can also be grown as a crop, wild (mainly *A. fatua*) and cultivated species (*A. sativa*) cannot be distinguished on the basis of grain morphology alone. However, the identification of a number of wild floret bases characterised by their horse-shoe scar (cf. Jessen & Helbaek 1944) may suggest that most arrived on the site as weeds of spelt rather than as a crop in their own right.

Seeds of both scentless mayweed (*Tripleurospermum inodorum*) and stinking mayweed (*Anthemis cotula*) were common in the samples, the latter being associated with the cultivation of clay soils. It was also notable that *Tripleurospermum inodorum* seeds were commoner in the samples from the enclosure ditch 516 while those of *Anthemis cotula* were commoner in the central oven (804), ditch 830 and posthole 385 adjacent to the oven.

The differences between these features extended to the presence/absence of other species, with goosefoot (*Chenopodium* sp.), orache (*Atriplex* sp.) and seeds of wild mustard (*Brassica* sp.) all present in enclosure ditch 516 but generally absent from the other features.

A small number of species whose seeds were relatively infrequent in the samples can be generally grouped as more closely associated with drier, more calcareous soils. These include mallow (*Malva* sp.), ribwort plantain (*Plantago lanceolata*), narrow-fruited cornsalad (*Valerianella dentata*), red bartsia (*Odontites vernus*), black medick (*Medicago lupulina*) and self-heal (*Prunella vulgaris*).

Seeds of spikerush (*Eleocharis palustris*), a species associated with the cultivation of wet and seasonally flooded soils, were only recovered from oven 288 on the settlement site, the boundary ditch (831) and the stone-lined pit (595).

The samples from the settlement, in keeping with the poor number of cereal remains, also had low number of weed seeds. In general a similar array of species was recovered, with mainly dock, rye-grass, vetch/wild pea and clover represented.

## Discussion

*Brewing*

The charred remains from the main enclosure are rich in glumes and sprouts (elongated coleoptiles), suggesting that they comprise waste from the dehusking of malted spikelets. The evidence suggests that the main enclosure was used for brewing, and the structure has been interpreted as a malt house.

The process of malting involves steeping the spelt spikelets in water for one to two days, possibly within the stone-line pit (595). The spikelets would then be removed and germination begins. It must be noted, that for hulled wheats such as spelt, the dehusking process to release the grain from the spikelet frequently damages the embryo and for this reason steeping and germination must be conducted within the spikelet. Today grain is usually left on the malting floor to germinate for four to six days, being turned-over at regular periods to ensure even germination. To halt the germination process the grain is then dried in a kiln, assuming that this was the function of the central feature (804). It is probable that this would have involved placing the sprouted spikelets upon a cloth or raised wooden floor above the oven (cf. Andrews 1995, 85).

The final preparation of the malt appears to have involved the pounding of the spikelets in order to remove both the chaff (the glumes, rachis, palaea, lemma and awns) and the sprouted embryos or germs (the elongated coleoptile and root). It is the waste from this final process that dominates the charred assemblages, assumingly used as additional fuel to fire the drying kiln. Unfortunately the final stages of brewing, the fermentation process, will leave little or no archaeobotanical evidence, and any artefacts used are unlikely to have been specialised types, although there is no reason why such processes were not also undertaken within this complex.

It was thought, that as germinated spikelets would be present within the drying oven, and that some undoubtedly would have become charred during drying, this feature may be more grain-rich than the dumps in the ditch. The use of waste as fuel within the oven meant that all the deposits were richer in glumes than grain. However, it was speculated that, if whole spikelets had indeed become regularly charred in the oven this deposit would have a greater ratio of grain to glumes than those from the ditches where purely glume waste would be dumped. The ratio of grain to glumes showed this undoubtedly to be the case, in the oven the ratio is approximately 10 glumes to every grain, whereas in the ditches the ratio is 25-40. Posthole 385 near oven 804 contained waste from the fire and also from the oven itself. It was speculated also that grain might be commoner than weed seeds although this was only seen in the oven sample from context 680.

Such evidence for brewing has been seen at a number of sites in Britain, although the direct association with a 'specialist complex' is relatively rare and Weedon Hill is the first known to the author outside East Anglia, the others being Stebbing Green (Bedwin & Bedwin 1999) and Great Holts Farm (Murphy 2003; Murphy *et al*. 2000) both near Chelmsford, Essex; Mildenhall, (Bales 2004; Fryer 2004) and Waveney (Ashwin & Tester forthcoming), both in Suffolk; and Godmanchester (Murphy forthcoming) in Cambridgeshire.

Charred assemblages suggesting malting are generally associated with more Romanised settlements, including small towns; such as Godmanchester, Ilchester, Somerset (Murphy 1982; Paradine 1994; Stevens 1999), Springhead, Kent (Stevens 2011, 95–105), Alcester, Warwickshire (Colledge 1985–6), and probably Droitwich, Herefordshire (cf. Vaughan 1982; de Moulins 2006). Finally such deposits have also been recovered from manorial farms and villas, such as Great Holts Farm, Bancroft Villa, Milton Keynes (Pearson & Robinson 1994), and Catsgore near Ilchester (Hillman 1982).

As with the probable malt house at Beck Row, Mildenhall, Suffolk there is no known settlement or villa associated with the Weedon Hill example, but geophysical survey indicates that the field system continued to the north (see above).

Notably the majority of these sites are located along major Roman roads, as at Weedon Hill, situated close to Akeman Street. Weedon Hill, as with Springhead, is also associated with nearby springs and it seems possible that a number of other sites mentioned above are likely to be similarly located. Given the association of the Saxon origin of the place-name Weedon with a shrine or sanctuary, perhaps once related to the spring, it does not seem unfeasible that the brewing may be provision for pilgrims, as well as military and non-military traffic along the Roman road. However, such an inference is largely speculative.

**Crop husbandry**

The recovery of seeds of stinking mayweed (*Anthemis cotula*) on archaeological sites has been associated with the introduction of ploughs comprising asymmetrical shares and coulters that would have facilitated the working of heavier clay soils (Jones 1981). While seeds of *Anthemis cotula* are relatively common on many Romano-British

sites, it is notable that this species often only appears on more Romanised settlements and most frequently within later 3rd-4th century settlements (Stevens 2006).

As discussed above there were some differences between the enclosure ditches and the central oven. In the former several of the species, whose seeds occur in greater frequency, are associated with lighter soils, including scentless mayweed (*Tripleurospermum inodorum*). In the central feature as well as ditch (831) seeds of stinking mayweed (*Anthemis cotula*), associated with clay soils predominated. Such differences may merely reflect that crops within each feature were grown within fields located on slightly different geologies.

Spikerush (*Eleocharis palustris*) is indicative of the cultivation of wetter seasonally flooded soils (Jones 1988). It also might be noted that such perennial species are more likely to have survived under the ard than the plough (cf. Behre 1981). There is also some indication of the cultivation of lighter, drier more calcareous soils, and it seems probable that crops used within the malt house arrived from a range of fields, although there is no indication that the crops were not cultivated locally,

**Crop-processing**

The number of weed seeds was relatively low across the site. The general impression from the relatively high number of larger grain sized and intermediate sized seeds is that the crops arrived at the site as relatively cleaned spikelets, e.g. after threshing, winnowing, coarse and fine sieving, conducted probably following harvest in the field, which removed most of the contaminants. Intermediate sized seeds are those species whose seeds, by virtue of appendages, are often grain or spikelet sized; for example, orache (*Atriplex* sp.), rye grass (*Lolium* sp.), black medick (*Medicago lupilina*) and dock (*Rumex* sp.). Threshing will release many of these seeds from their appendages, however, several more may remain until the spikelets are pounded to release the grain at which point the remainder will be removed with the glumes.

It is notable that several of the samples, in particular those from the enclosure ditch 516, were rich in seeds of intermediate species. It might be expected that spikelets destined for use as malt were not hand sorted for larger weed seeds to the same extent as those destined for use as bread, leading to a high proportion of the seeds of such species within these samples.

## Charcoal

*by Catherine Barnett*

Five samples were selected for analysis from Romano-British contexts, including the double-ditched enclosure, oven and a drainage ditch.

All wood charcoal >2 mm was separated from the processed flots and the residue scanned or extracted as appropriate. Large samples were sub-sampled, with fragments chosen at random to a level that allowed characterisation of the assemblage, normally 50-75%, smaller samples were analysed in their entirety. Fragments were prepared for identification according to the standard methodology of Leney and Casteel (1975, see also Gale & Cutler 2000) and examined under bi-focal epi-illuminated microscopy at magnifications of ×50, ×100 and ×400 using a Kyowa ME-LUX2 microscope. Identification was undertaken according to the anatomical characteristics described by Schweingruber (1990) and Butterfield and Meylan (1980) to the highest taxonomic level possible, usually that of genus with nomenclature according to Stace (1997). Individual taxa were quantified (mature and twig separated).

The species list is restricted (minimum six types) All the samples were of low charcoal volume and the pieces were generally fragmentary but firm and fresh with no evidence for rolling or transportation. They are interpreted as debris related to Romano-British domestic and small-scale economic/ industrial activity. The assemblages identified are simple ones notably that from context 705 of the enclosure ditch 825, which comprised only pieces of hazel (*Corylus avellana*) roundwood cut at 12 years old. The fragments may all derive from a single long straight rod (possibly produced by coppice management) be it a fuel or structural piece burnt *in situ*.

Mature oak timber (*Quercus* sp.) dominated the other four contexts examined, with oak roundwood also common in context 289 of oven 288. Cherry-type wood (*Prunus* sp.) which may represent wild cherry or blackthorn, also hazel and pomaceaous fruit wood (Pomoideae eg. hawthorn, whitebeam) were present in two-three contexts and are all common deciduous open woodland or hedgerow types. A rarer find was that of honey-

suckle (*Lonicera* sp.) wood charcoal within context 356 of drainage ditch 830, presumably part of the fuel debris but unlikely to have been deliberately selected and was probably accidentally introduced with the oak, again from an open woodland or hedgerow environment.

Given the limited nature of the samples, no further inference on the nature of the source woodland/ hedgerow environments exploited can be made, nor comparisons drawn with other Romano-British sites. However, some useful data on the selection and availability of certain woody types have been presented.

## Discussion

### Prehistoric

Limited evidence was recovered for activity dating before the Romano-British period. A small flint assemblage indicates Neolithic and Early Bronze Age activity. Slightly more evidence for later Bronze Age/Early Iron Age occupation was found, comprising the remains of a possible field system, a poorly-preserved roundhouse and a few other features. Arable farming is more likely in this area with crops on the drier south-facing slope, leaving the flatter lower ground of the floodplain in the far south of the site for grazing. Very little artefactual remains or environmental material was recovered, hampering discussion of the nature of this occupation.

Extensive Middle Bronze Age field systems and associated settlements with comparable post-built roundhouses are well known within the wider Thames Valley (see for example Allen & Welsh 1998; Moore & Jennings 1982; Framework Archaeology 2006; Yates 2007) although comparable evidence from Buckinghamshire is relatively scarce (cf Kidd 2007), examples were found at Walton Aylesbury (Dalwood *et al*. 1989; Ford *et al.* 2004).

The later Bronze Age and Iron Age occupation in Buckinghamshire has been recently summarised (Kidd 2007) and is not repeated here, but the remains from Weedon Hill seem to fit into this picture of relatively small-scale occupation with evidence for roundhouses, field systems and enclosures (e.g. Fenny Lock, Milton Keynes (Ford & Taylor 2001); Lower Icknield Way Site B (RPS 2005, 6); Walton Lodge (RPS 2005, 358–360); Stone (Gibson 2001); Coldharbour Farm (Parkhouse & Bonner 1997) and Ellen Road, Aylesbury (Parkhouse 1999). To the north of the site at Bancroft a much larger and more complex circular structure, dating to the Late Bronze Age/Early Iron Age, may hint at high-status settlement, although few other contemporary structures were identified (Williams & Zeepvat 1994, 40).

The excavation of a large area at Weedon Hill has provided an opportunity to examine the poorly-preserved remains of the field system and associated settlement remains, and although the evidence is limited, it contributes to a growing body of data suggesting that the local environs were similar to the wider Thames Valley with a cleared, organised and occupied landscape in the later prehistoric period.

At Weedon Hill there was a hiatus in the Middle-Late Iron Age, with only a single sherd of pottery of this date found. However, the date on arguably residual charred grain from ditch 853 is consistent with the Late Iron Age, although a subsequent date on the same deposit was AD 80–250.

It seems probable that the focus of occupation was elsewhere, perhaps at Berryfields, *c.*1.5km west of the site, where Middle Iron Age settlement evidence was found (Dodds 2002), or at Quarrendon Fields to the north-west.

### Romano-British

The evidence points to a small-scale agricultural community dating from the 2nd to 4th century; although the ceramic assemblage suggests that the latter part of that date range (late 3rd to 4th century) was the main emphasis of occupation. The main focus of the settlement seems to have lain outside the area excavated, possibly to the north where geophysical survey identified ditches and other features (Fig. 1; GSB Prospection 1999; 2001). The presence of an isolated, highly truncated Roman cremation burial also suggests these field enclosures lay away from the main settlement.

The phasing and dating of these features was hampered by the poor condition of much of the pottery and the lack of diagnostic material. However, it can be seen that regional products representing a range of utilitarian forms and finer tablewares with limited evidence for imported wares was found. The coin evidence supports the ceramic dating. Unfortunately, due to the calibration curve during this period, two of the radio-

carbon dates obtained have wide ranges (Table 1), precluding refinement of the ceramic dating. However, the date (SUERC-34546) on the deposit of charred grain from the oven does indicate activity within the late Romano-British period, which accords with the ceramic evidence.

Mixed husbandry is indicated by the animal bones and spelt wheat was the dominant local crop. The malting complex indicates the specialised nature of this part of the settlement, although at Berryfields a similar stone-based pit with a water-logged pit dug into a spring has recently been found (Sandy Kidd pers. comm.), perhaps indicating wider-scale malting activities were occurring. Limited evidence for settlement within this agricultural landscape was indicated by the remains of two roundhouses and an oven, pits, possibly for clay extraction, were later infilled with dumped domestic refuse.

Romano-British enclosures are known locally (e.g. Watermeads Roundabout, Hawkins & Dalwood 1988), but perhaps more comparable are remains from Three Locks Golf Course, Stoke Hammond where mid-2nd to late 4th century enclosure ditches were associated with a droveway, pits and a metalled area (Ford & Taylor 2000). Like Weedon Hill, the focus seemed to lie just north-east of the site, where a stone building was identified during the evaluation. At Berryfields, *c.*1.5km west of the site, a planned series of plots fronting a north-east to south-west aligned trackway was found with 2nd to 4th century pottery (Dodds 2002, 32–35). It is possible that this trackway linked the Weedon Hill site to Akeman Street and may also have been associated with a trackway identified during the geophysical survey to the north of the excavation area (Fig. 1), which appears to have run to Quarrendon Fields (Sandy Kidd pers. comm.).

Aside from the major villas and the small-scale pottery production sites in Buckinghamshire, there is little evidence for agricultural or industrial specialisation (Zeepvat & Radford 2007), therefore the Weedon Hill site is of some significance. Malting (and brewing, although the latter was not detected archaeologically) requires large quantities of fresh water, which may explain the location of the features. Equally the water source may explain why the malt house complex was abandoned, as it may have been liable to flooding and its maintenance proved too labour-intensive.

The various stages in the malting process have been outlined above (see Stevens, above), and the evidence recovered suggests provision for a sizeable settlement or it may have been part of a farm estate that could potentially have produced a surplus for the local market such as the nearby Fleet Marston roadside settlement.

Evidence for malting is increasingly being recognised in Romano-British contexts, and frequently comes from Roman towns or sizeable settlements and villa sites often well connected to Roman roads, such as Springhead and Northfleet villa, Kent (Stevens 2011; Smith 2011); Ilchester (Murphy 1982) and Catsgore, Somerset (Hillman 1982). However, often it is just the waste from the process that is found associated with crop-drying ovens: for example, the main published evidence from Buckinghamshire is from a corn drier at Bancroft villa (Pearson & Robinson 1994). Evidence for brewing on a small scale has been identified at a number of sites in the county and on the Buckinghamshire/Hertfordshire border (Zeepvat & Radford 2007). The association between crop driers and malting has been recognised by several authors (Reynolds & Langley 1979; van der Veen 1989; Millet 1992, 205). However, other accompanying structural features where the processing occurred, such as those found at the Weedon Hill site, are rarer and therefore the combination of these features and the environmental evidence make this site significant.

**Post-Roman**

Despite the fairly extensive early Saxon activity found in and around Aylesbury (Farley 2006), there was no evidence for continuity of the Weedon Hill site after the abandonment of the Romano-British settlement. The most significant amongst the later finds are the artefacts potentially relating to Civil War action – the lead powder box caps and bullets (see Foard below). Unfortunately the assemblage is too small to draw firm conclusions about the type of military action, but does confirm that the location at Holman's Bridge marked on early maps is accurate.

## Appendix 1: Early Modern Small Arms Munitions

*by Glenn Foard*

Four lead powder box caps and 26 lead bullets from the metal detecting survey were examined, however only 18 bullets could be securely provenanced (Fig.

15), so it has not been possible to fully analyse the spatial patterning of these artefacts. A more detailed report and catalogue may be found in the site archive. The methodology defined for the Edgehill battlefield study (Foard 2008; Courtney 1988) has been followed here. The apparent low density of finds may be a result of various constraints rather than reflecting the actual density of artefacts on the site. The results of an earlier metal detecting survey (Network Archaeology 1999) were examined but the finds were not available for analysis.

**Powder box caps**

The four powder box caps are a clear indication the assemblage represents mid-17th century military action. Most musketeers in the Civil War (1642) carried a bandolier on which 12 powder boxes and one priming flask were suspended (Foard 2008, 88–90), each by a string or leather thong which was attached at both ends to the box and passed through two holes or loops on the powder box cap to retain the cap when the latter was removed to load the musket. Each box contained a single charge of gunpowder while the priming flask contained finer powder for the priming pan. Powder boxes and caps were usually wooden but some had lead caps. Such bandoliers could also be used for loading smaller calibre firearms (one on display at the Royal Armouries). It is possible that the size of a powder box cap might relate to the calibre of the weapon in use. It has also been noted from examination of

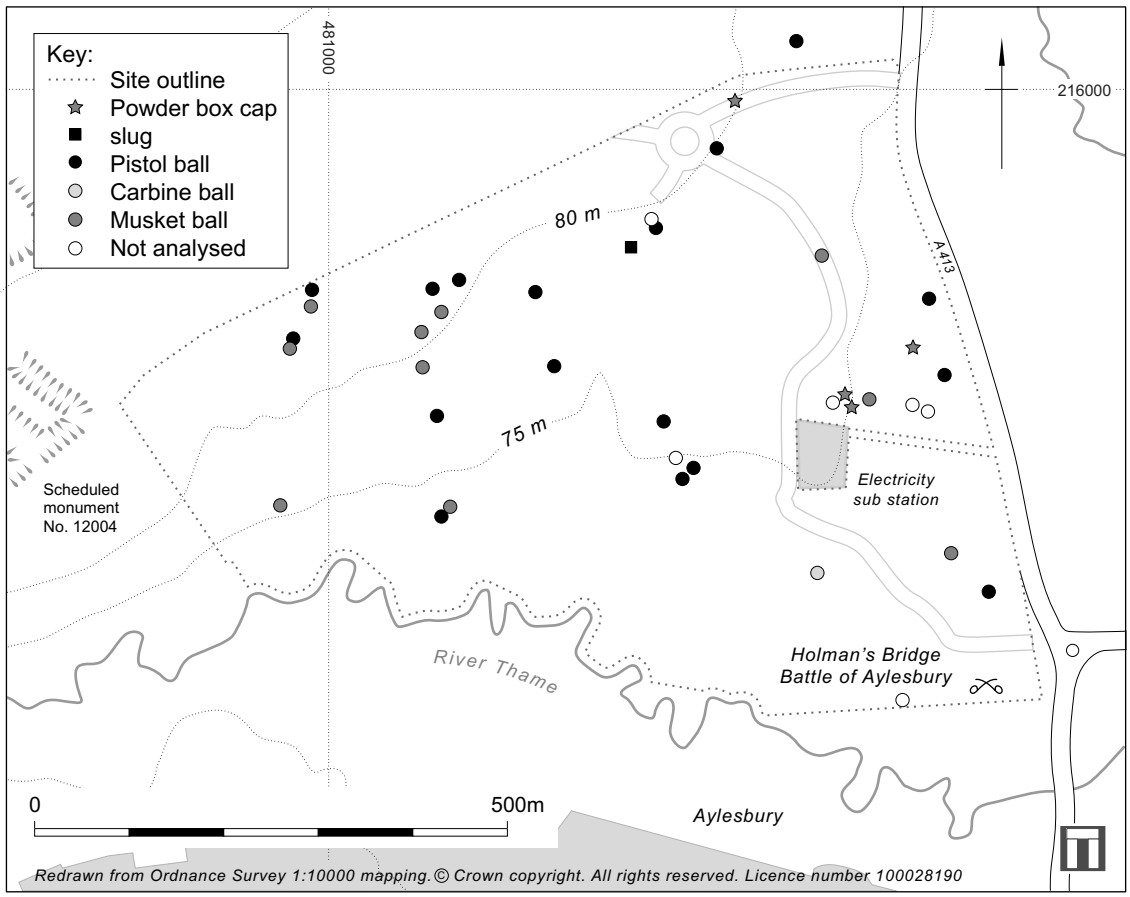



FIGURE 15 Distribution of powder box caps, musket balls and related items

powder box caps from various Civil War sites including Edgehill (Warwickshire), Sandal and Pontefract castles (West Yorkshire), Scarborough Castle (North Yorkshire) and Beeston Castle (Cheshire) that there are differences in the exact form and construction of the lead caps, although all appear to have been manufactured by casting in one piece (main attributes are detailed in archive). All the caps are partly or wholly flattened. The weight of the caps could not be established but measurements of external diameter of the top and height of the side were made.

Three have what appears to be the common form of casting with a groove around the rim of the top where it joins the side, two thin loops to take the suspension string, and un-reinforced side with a single vertical casting line. The fourth cap (ON 163) is of a form not previously noted, having thicker reinforcing bands around the top and bottom of the side. There are distinct vertical mould lines on opposing outer faces of the side. It also has a central ring and dot casting mark in the centre of the outer face of the top, something only previously seen occasionally on the inner face of the top where the cap has not been squashed.

The ratio of 1:6 for powder box caps to bullets in the Weedon Hill assemblage is exceptional. At Edgehill the overall ratio was 1:38 though they were concentrated in areas of suspected routing of infantry away from the main infantry action. In those zones the ratio was *c.*1:10. Thus it is possible that the Weedon Hill data related to part of a larger engagement and represents an area away from the main action where routed infantry were pursued by cavalry, though this conclusion must remain highly conjectural.

**Lead bullets**

Twenty-five lead balls and one lead slug were recovered, all fired from or intended for use in gunpowder small arms.

The slug was of regular double hammered form, having been modified from a lead ball of 18 bore, of which two apparently unmodified examples were present in the 1999 survey. The slug had a maximum diameter of 14.51mm, indicating firing from a weapon of a minimum of 25 bore and thus probably fired from a carbine or large calibre pistol. The presence of one slug within such a small assemblage, giving a ratio is 1:22, may be significant, and compares to a ratio of 1:28 from Edgehill. On the latter site the slugs tended to concentrate within the infantry action alongside pistol and carbine, where the documents indicate intensive cavalry action against infantry battalions fighting in formation.

The remaining 22 lead balls have a range of calibres dominated by smaller bullets intended for use in pistols. The high proportion of bullets for pistol (14) together with carbine (2) is also indicative of cavalry action, with musket calibres represented by only 5 bullets (<19g: pistol; 19–25g: carbine and probably some pistol; >25g: musket (Foard 2008)). The musket calibre bullets are likely to represent infantry or possibly dragoon action. The focus of musket calibres on bastard musket (15–16 bore) may be significant as this is unusual in Civil War assemblages so far studied, where 14–12 bore musket normally dominates the calibre graphs. There are no bullets fired as case from artillery. The calibre analysis is broadly supported by the data from the 1999 survey suggesting that the slight peaks in the graph are a genuine reflection of the calibres.

The condition of the bullets is generally adequate to enable impact and major firing evidence to be distinguished, but the more ephemeral firing evidence is unlikely to have survived on some of the bullets. In all, 13 bullets show distinct evidence of having been fired (5 banded; 6 impacted; 2 compressed) while most of the rest have equivocal evidence, mainly in the form of minor gouges which may represent impact after firing. Two bullets show massive impact damage and four others show clear impact evidence, whereas the possible impact damage on other bullets is of a more minor character. The absence of distinctive impact damage on the banded bullets and *vice versa* shows that impact evidence may not always have been created when bullets were fired on this site, probably due to pastoral land use at the time, nor firing evidence survives on the bullets, as a result post-depositional corrosion and erosion damage caused by ground conditions, and thus identification of unfired bullets is not practicable.

This assemblage appears to be compatible with cavalry action against infantry where the latter did not deliver a major musket volley. However it should be noted that with such a small assemblage the background noise from small calibre sporting rounds of earlier and later date, which are present

in small numbers in most parts of lowland England, may significantly distort the calibre graph for the military action. Indeed the graph has similarities with graphs of background noise seen from work in Northamptonshire and in other non-civil war battlefield survey (Foard 2008).

Interpretation of this material suggests that the infantry, as indicated by the powder box caps, were engaged immediately north of Holman's Bridge. The musketeers were either standing or, perhaps more likely, in flight along the Aylesbury-Winslow road. Musket calibre balls fired point blank would be expected to have a final range of around 250 to 350m on level ground, depending on the land use and ground conditions at the time of the action, and thus the majority found on the site could be argued to have been fired westward by the musketeers standing close to the road. In contrast, pistol calibre balls have a far shorter range, probably well under 150m (although experimental data are not yet available for pistol and carbine), and far less if fired downwards at infantry. Thus the majority of pistol calibre bullets fired by cavalry are likely to lie close to the actual point of engagement.

**Conclusions**

The presence of four powder box caps demonstrates the assemblage is at least partly a result of military activity in the mid-17th century. The results suggest military activity dominated by cavalry action together with limited associated infantry action in this sector of the battlefield, if the finds relate to the documented battle of Aylesbury in 1642. Comparison with Edgehill suggests that it might represent cavalry action against routed infantry. However the size of the assemblage is too small to draw definite conclusions as to the nature of the action in the area surveyed. The demonstration that combat did occur in this area in the Civil War provides limited support for the interpretation of the burials reported in the 19th century as Civil War casualties and indicates the need for more intensive metal detecting survey on any undisturbed land between Holman's Bridge and Weedon Hill should the opportunity arise.

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The archive is currently stored at the offices of Wessex Archaeology (project codes 62030 and 62033); it will in due course be deposited with Buckinghamshire County Museum, Aylesbury under the Accession Number 2006.16.

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