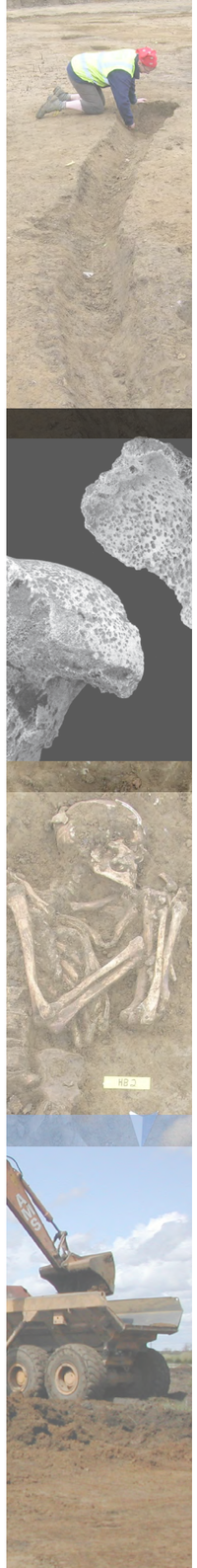

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CENTRE OF ARCHAEOLOGY

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EVOLUTION OF AN IRON AGE SETTLEMENT AT DEAN FARM, BISHOPS CLEEVE, GLOUCESTERSHIRE

ARCHAEOLOGICAL FIELDWORK 1999 TO 2005

KEVIN COLLS

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KEVIN COLLS

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INTRODUCTION

This book presents the results of the archaeological investigations completed at Dean Farm in Bishops Cleeve, Gloucestershire between 1999 to 2005 (Ordnance Survey National Grid coordinates SO 95610 28195; Fig. 1). A series of trial trenches (Nichols 1999) identified the presence of Iron Age pits and ditches across the site. This evidence was further enhanced in 2000 by a geophysical survey (conducted by GSB Prospection), with the results suggesting a complex array of anomalies were present across the southern part of the area which may represent the buried remains of a large enclosed settlement and other associated features. Open area excavation covering 1.6 hectares was recommended by the County Archaeologist, undertaken by the former field unit Birmingham Archaeology for John Samuels Archaeological Consultants (on behalf of Bovis Homes) during the summer of 2005.

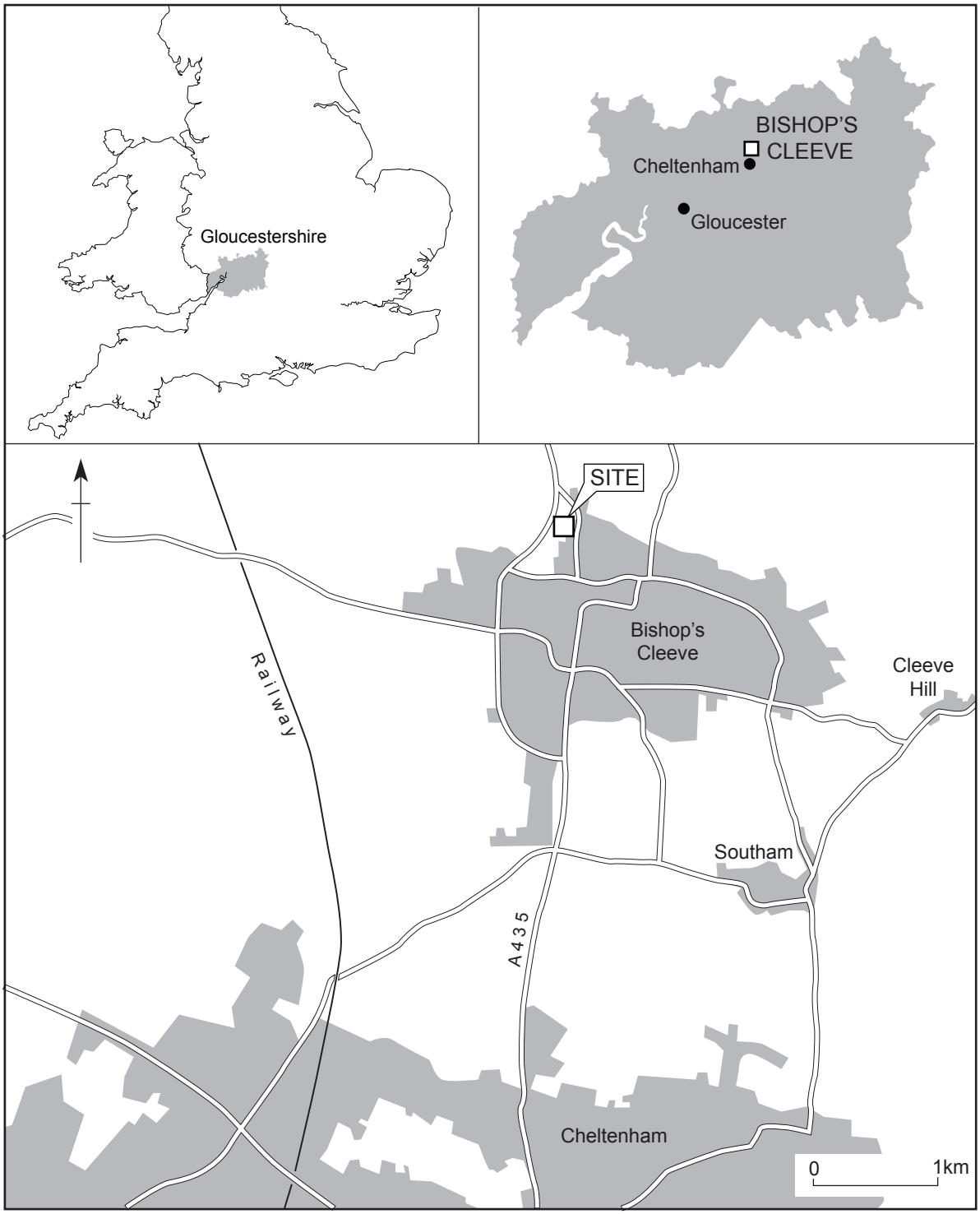

Figure 1: Location plan showing the site at Dean Farm, Bishop's Cleeve.
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SITE LOCATION, GEOLOGY AND TOPOGRAPHY

The site is located within the Severn Valley on the northern edge of Bishop's Cleeve, approximately 6km north of Cheltenham, Gloucestershire at an approximate height of 51m above Ordnance Datum. The geology of the area consists of Cheltenham Sand and Gravels overlying mudstone from the Charmouth Formation (formerly Lower Lias clay). The topography of the general area is mostly flat, dominated by Cleeve Hill, part of the Cotswold scarp, to the east and Bredon Hill further to the north. The nearest water course, the Dean Brook, runs approximately 200m north of the site and is a tributary for the River Swilgate at Stoke Orchard. The area of Bishop's Cleeve forms an integral part of a wider archaeological landscape that includes substantial evidence of human activity and occupation. Prehistoric settlement is well attested in Gloucestershire with several important Iron Age settlement sites within Bishop's Cleeve itself including Church Road (Lovell et al 2008, Cullen 2008), Gilder's Paddock (Parry 1999), Stoke Road (Langdon 1997, Enright and Langdon 1998), Cleeve Hall (King and Langdon 1999) and the substantial Romano-British settlement at Home Farm (Barber and Walker 1995; 1998) .

TRIAL TRENCHING

Before planning permission was granted, an archaeological evaluation was undertaken in 1999 to establish the presence or absence of buried archaeological features and deposits (Nichols 1999). Nine trial trenches were excavated across the site totalling 470 linear meters (Fig. 2). The evaluation identified a number of ditches, pits and postholes across the southern half of the site sealed beneath shallow topsoil and subsoil deposits. Of the 152 fragments of pottery that were recovered from hand excavation, 95% dated to the Middle or Late Iron Age (145 sherds) with the other 5% consisting of Romano-British (5 sherds) and medieval (2 sherds). The archaeological features were interpreted as a stock enclosure and boundary ditches, domestic rubbish pits and structural postholes consistent with an Iron Age settlement site. Ridge and furrow cultivation dating to the medieval period was also identified throughout the site.

GEOPHYSICAL SURVEY

In response to the results from the preceding archaeological evaluation, a geophysical survey (Figs. 3 and 4) was undertaken at the request of the County Archaeologist. This work was completed by GSB Prospection (GSB 2000). The southern half of the site, totalling 1.6 hectares, was surveyed using magnetometry to further clarify the extent and nature of the buried features. This methodology utilises calibrated equipment (for example a Gradiometer) to record magnetically charged particles. Differences in magnetic recordings can occur in a variety of ways including areas of burning (kilns and hearths). Ditch features may also be identified as the ditch fills can produce different magnetic responses to that of topsoil and natural geology (Clark 1996, 65). The survey identified a complex sequence of linear and curvilinear anomalies, which most probably represent ditched enclosures, across a central band through the southern half of the site (Figs. 3 and 4). Activity seemed to decrease to the west and south of the site, although ground conditions and modern disturbances/metal debris created a moderate amount of noise within the dataset which could mask weaker magnetic anomalies.

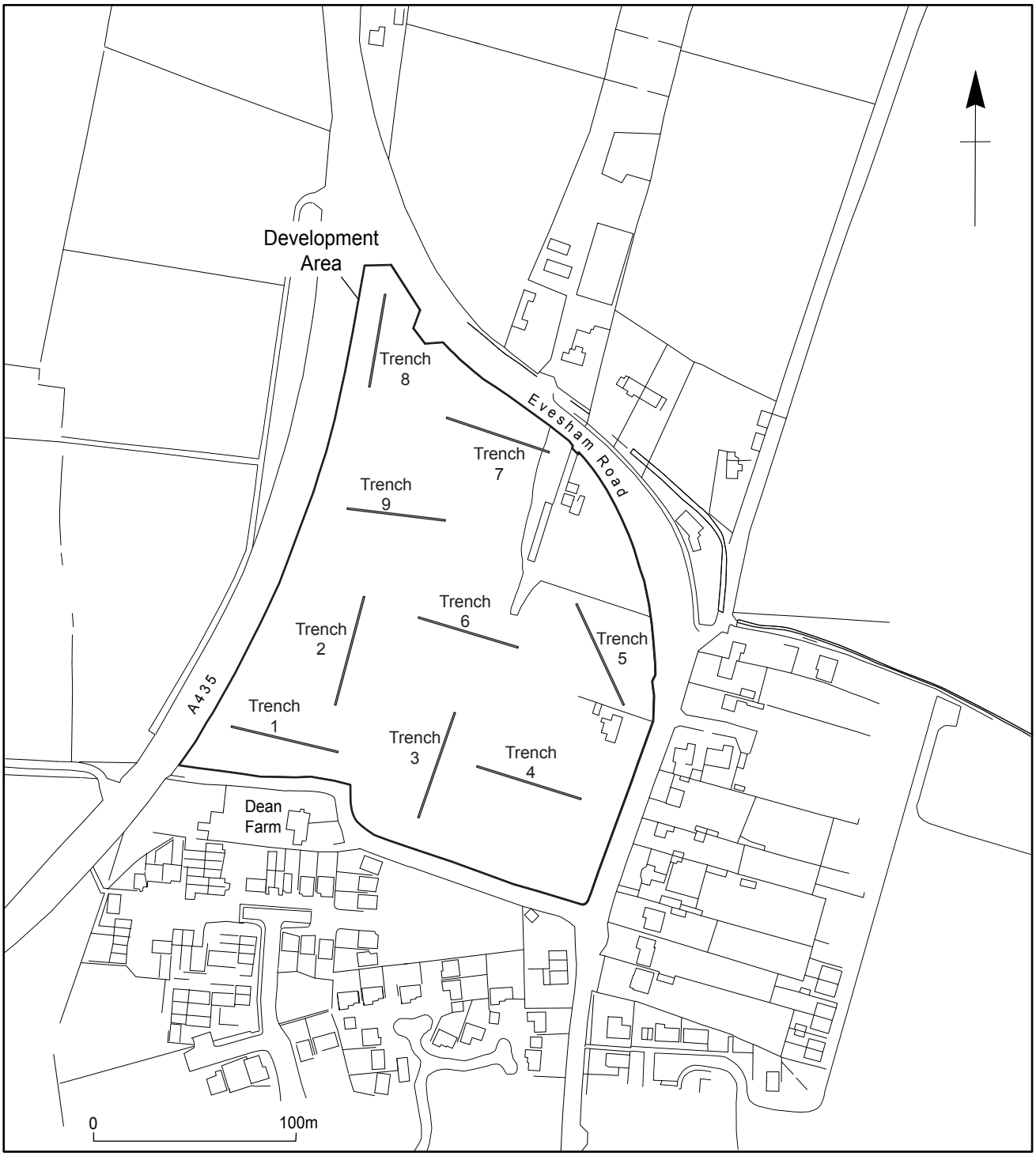

Figure 2: Plan showing the location of the archaeological trial trenches at Dean Farm
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Figure 3: Results of the geophysical survey at Dean Farm showing significant numbers of probable archaeological features across the site (GSB 2000)

Figure 4: Interpretation of the geophysical survey results showing archaeological ditches and pits
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RESEARCH AIMS

Over the last 20 years there has been a dramatic decrease in the large scale research excavations of Iron Age hillforts and settlement sites across the country, replaced instead with predominantly smaller-scale, commercially funded archaeological projects. Although this has resulted in the generation of a substantial amount of archaeological data, the pressures of development-led projects have ensured that this new knowledge is unevenly distributed and piecemeal. The approach has been largely site-specific with less concern for wider landscape contexts and settlement patterns. This site at Bishop's Cleeve offers a rare opportunity to fully expose and investigate the archaeological remains of an enclosed Iron Age settlement including a substantial portion of the immediate landscape, the results of which can be discussed in relation to the corpus of knowledge already accumulated on Iron Age and Roman settlements in this area. The project aim is to understand the archaeological resource across the site (as highlighted by the earlier evaluation and geophysical surveys) and to preserve the remains by record. More specific objectives were to:

- Establish a secure site chronology from the earliest evidence of activity onwards, giving particular emphasis to a defined chronology for various phases of activity during the Iron Age period.
- Understand the Late Iron Age – Romano-British transition through analysis of site formation and the artefactual assemblage.
- Establish the presence of specific activities which may have been undertaken in the excavation area, such as industrial or manufacturing activities, throughout the Iron Age and Roman periods.
- Recover evidence of the abandonment of the site during the Roman period.
- Increase our knowledge of local and regional ceramic sequences by completing a programme of radio carbon dating from well stratified deposits and pot residue.
- Provide comparative data to increase our understanding of settlement patterns in Bishop's Cleeve and the wider regional landscape.
- Provide data to increase our understanding of Iron Age settlement sites on a national level.

THE EXCAVATION

The excavation area covered approximately 1.6 hectares which comprised of the southern half of the development site (Fig. 5). The vegetation, topsoil and subsoil, were removed by mechanical excavators down to the uppermost surface of the natural geology or the archaeological deposits (Plate 1). The natural geological deposits of clay and gravel were identified across the site gently sloping to the west from 49.78m to 47.80m above Ordnance Datum (AOD). This was sealed by subsoil of varying thickness (0.1m to 0.9m) which in turn was overlain by 0.35m of topsoil. Post medieval furrow ditches were identified across the site, and after initial targeted investigation by hand excavation, these were removed by mechanical excavators to expose the underlying deposits. Dense concentrations of archaeological features were identified across the site (Fig. 6; Plates 2 and 3). A sampling strategy for the hand-excavation of the archaeological deposits was implemented which consisted of:

- 100% excavation of structural remains, funerary activity, industrial and domestic activity such as hearths, kilns and floor surfaces

- 100% investigation of each pit and posthole consisting of the excavation of 50% of the deposit from each feature unless they are structural in function

- 20% excavation of enclosure ditches, gullies and other linear features

Plate 1: Photograph showing the mechanical removal of the topsoil down to the top of the archaeological deposits

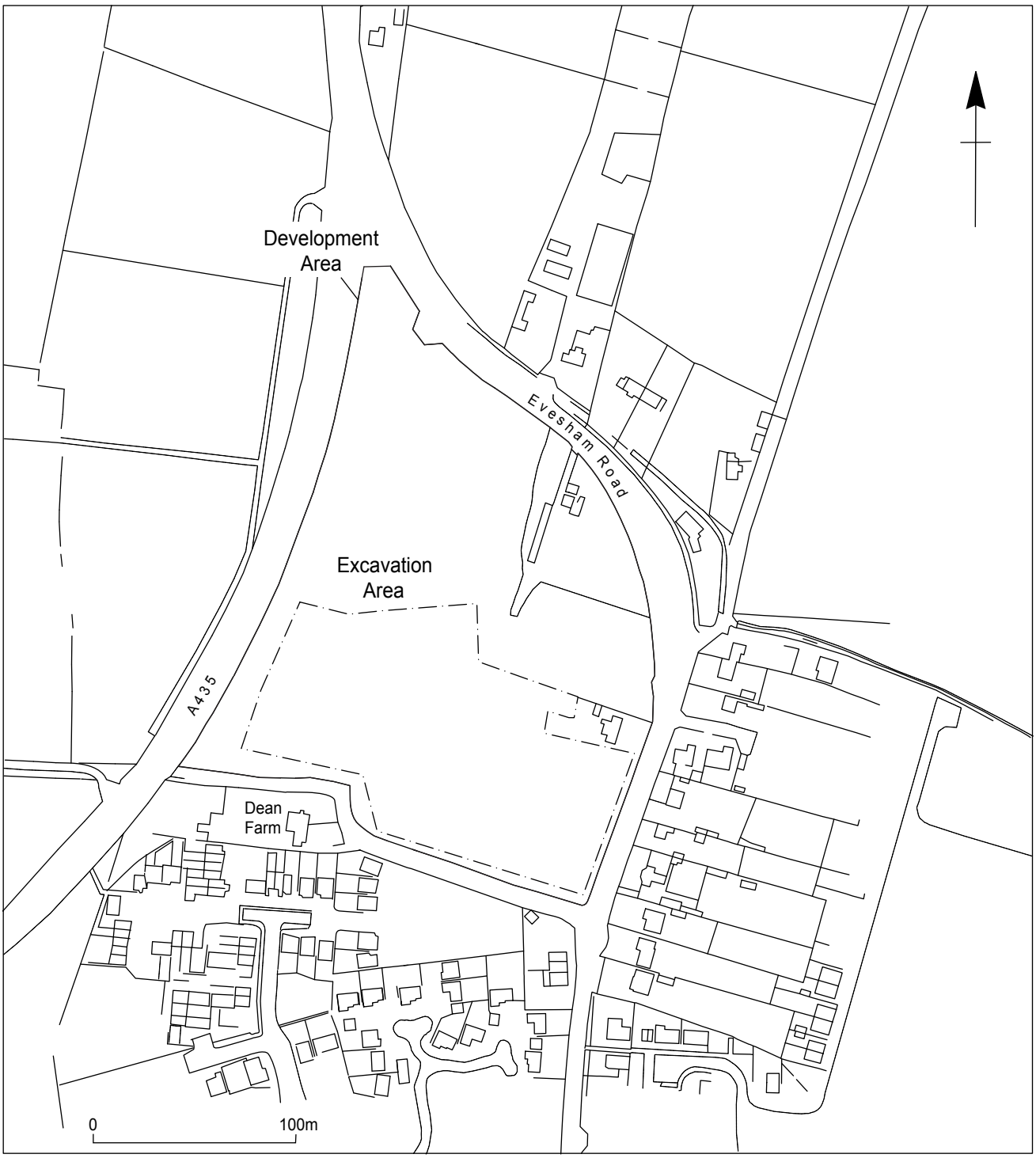

Figure 5: Plan of the site showing the limits of the open area excavation based on the results of the trial trenching and geophysical survey
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Plate 2: Aerial cam photograph showing the site looking west. The excavated sections through the archaeological features can be seen

Plate 3: Aerial cam photograph showing the site looking southeast. The excavated sections through the archaeological features can be seen including the two roundhouse gullies
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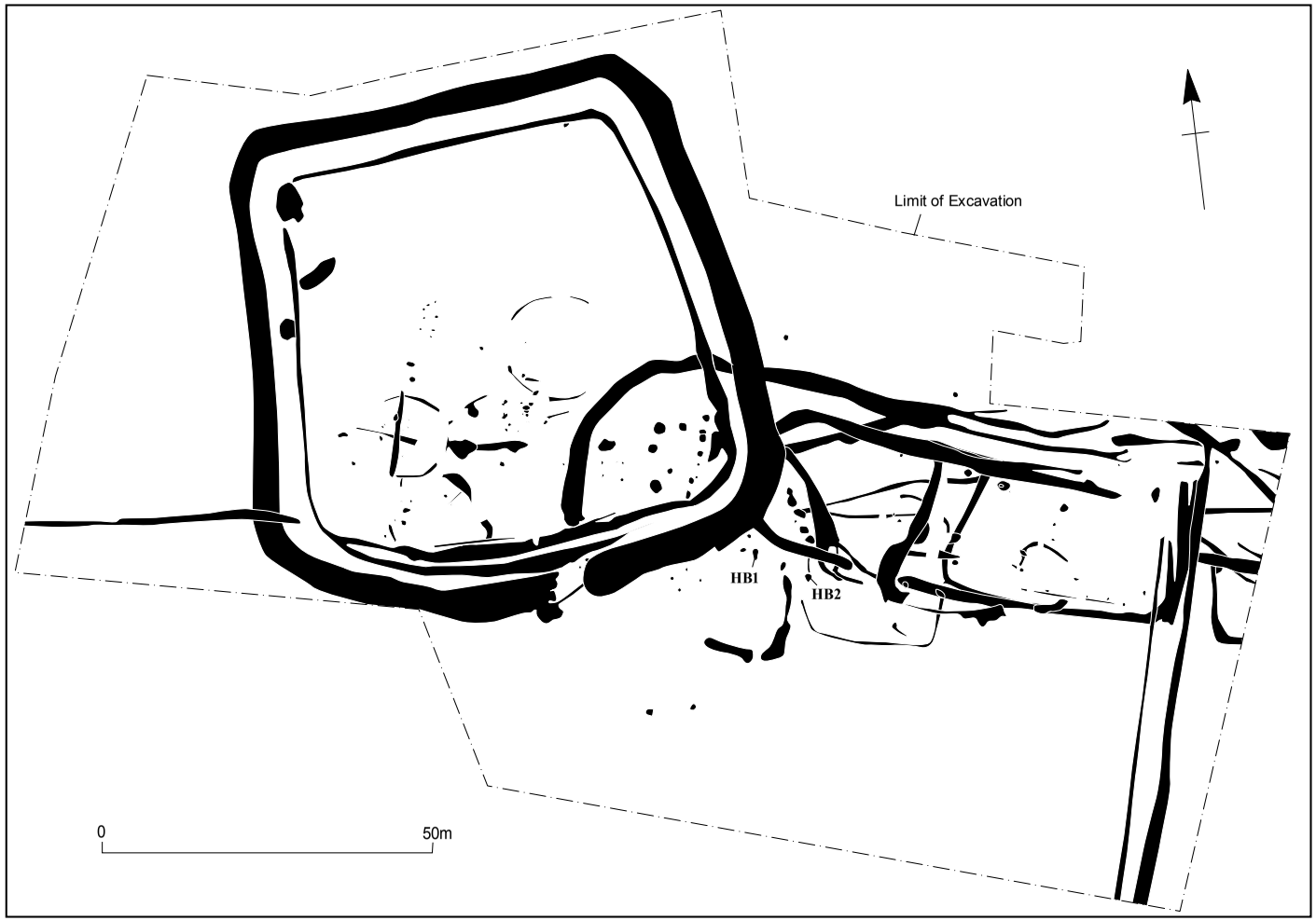

Figure 6: Pre-excavation plan of the archaeological features after the removal of the topsoil, including two human burials (HB1 and HB2)
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Resulting from the subsequent hand excavation of features and deposits, evidence for activity on this site can be placed into the following five phases:

- Phase 1: Bronze Age (1500 to 700 BC)
- Phase 2: Middle Iron Age (400 to 100 BC)
- Phase 3: Later Iron Age (100 BC to AD 43)
- Phase 4: Romano-British (43 to 410 AD)
- Phase 5: Medieval and later (1066 to 20th century AD)

Approximately 95% of the archaeological activity across the site dates to the Iron Age, with greater emphasis on the Middle Iron Age. Several archaeological contexts were identified and grouped together under one single unique number, for example interventions excavated through the same ditch or groups of post-holes forming the remains of structures. These numbers are depicted below prefixed with the letter G.

PHASE 1 – BRONZE AGE

The earliest activity on the site comprised of one pit (1824) located towards the western end of the site, measuring 3.45m in diameter and 1.25m in depth (Figs. 7 and 8). The primary waterlogged fill of the pit (1825) contained well preserved wood fragments and although no ceramic evidence was present in either of the two fills, the wood fragments have been radiocarbon dated to the Middle Bronze Age (3080+35yrs BP, 1430-1260 cal. yrs BC; SUERC-17650).

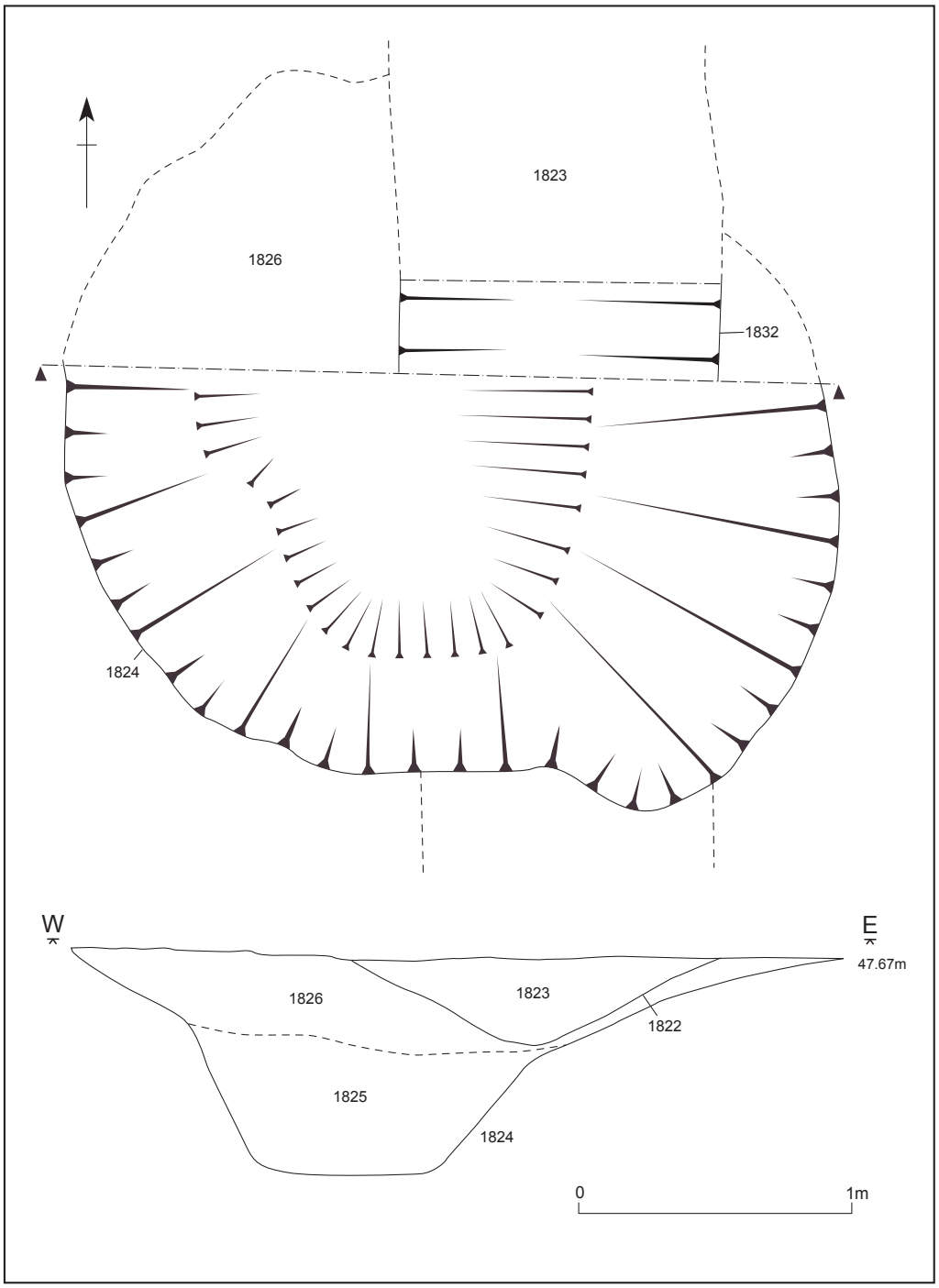

Figure 7: Archaeological plan and section of Bronze Age (Phase 1) pit 1824.
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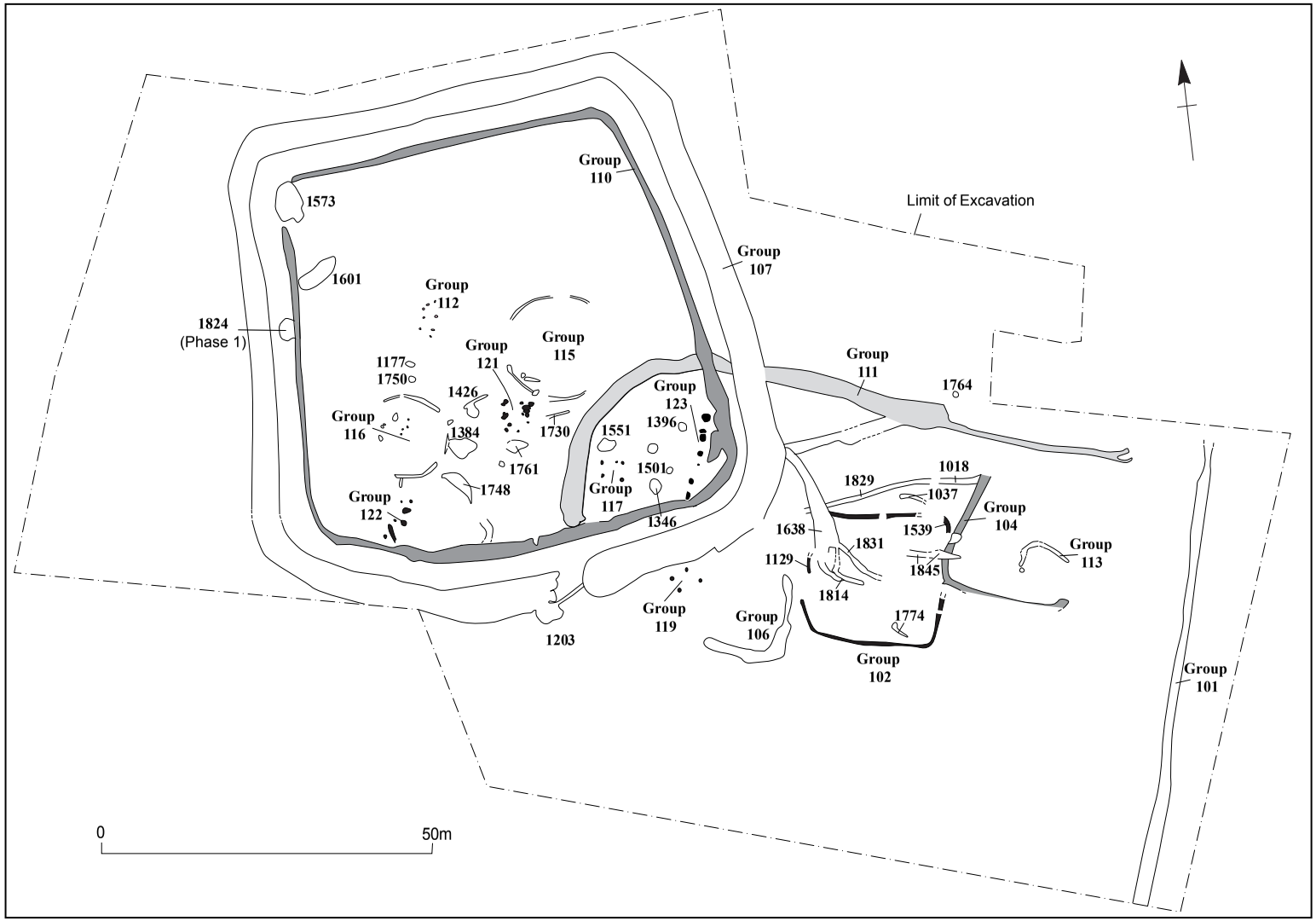

Figure 8: Plan showing the archaeological features and feature groups which date to Phases 1 (Bronze Age) and Phase 2 (Middle Iron Age)
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PHASE 2 – MIDDLE IRON AGE

Features dating to this phase were identified across the excavation area and accounted for 90% of the total archaeological remains present at this site (Fig. 8). Ditches (enclosure and boundary), pits of varying functions, and structural evidence were all identified and are discussed below.

Small enclosures and boundary ditches

Ditches that form the partial remains of several small enclosures dominated the eastern part of the site. Group 102 (Fig. 8) represents a small sub-square enclosure, approximately 20m2, was shallow in profile with a terminus, suggesting an entrance, situated along the western edge. Group 102 produced a small number of pottery sherds dating to the Middle Iron Age (fills 1132, 1828). The partial remains of a further enclosure (group G104) truncated the eastern edge of enclosure G102. Also containing pottery dating to the Middle Iron Age (fills 1042, 1052, 1173, and 1197), only two sides of this square enclosure survived. The partial remains of a rather different feature type was identified immediately to the east of G104. Group 113, representing sections cut through a curvilinear feature revealed a ditch with steeply sloping sides leading to a 'V' shaped base. This profile is distinctly different from the aforementioned larger enclosure ditches (G102, G104). The ditch produced pottery dating to the Middle Iron Age and it is possible to speculate that this may represent the sparse remains of an enclosure within an enclosure, perhaps a ditch encompassing a roundhouse (although no structural features survived). Similar 'enclosed' roundhouses have been identified at other sites across Gloucestershire including Salmonbury (Dunning 1976) and Thornhill (Jennings et al 2004). The partial remains of a further ditched enclosure (G106) was identified immediately to the west of G102. No evidence was identified to suggest the presence of banking associated with any of the enclosure ditches outlined above.

At the eastern edge of the site, a more substantial ditch (G101) was identified on a north south alignment. The ditch measured 1.50m in width with an average depth of 0.86m. Middle Iron Age pottery (Malvernian ware) was recovered from the primary fills of two excavated sections (fills 1165 and 1399). The ditch was later recut along the same alignment (Phase 3; G100) with the fills containing Late Iron Age pottery (1094 and 1166), which suggests that this possible boundary ditch continued as an important feature in the landscape and maintained from the Middle to the Late Iron Age. Indeed, this alignment also matches a somewhat smaller Romano-British field system boundary ditch located immediately to the west of G100 (Phase 4; G118).

G111 represents excavated sections through another substantial ditch aligned east west before curving to the south and terminating (Plate 4). Although a number of interventions revealed multiple recuts, only Middle Iron Age pottery was recovered (1207, 1210, 1225, 1460 (Plate 5), 1505, 1506, and 1563). A radiocarbon date of 2200 BP (2200+35 BP, 380-180 cal. yrs BC; SUERC-16403) was extracted from probable burnt food residue identified on a pot sherd from 1460, although stratigraphically, G111 must be earlier than this in origin as it is cut by both the large square enclosure ditches covering the western part of the site (G107 and G110 see below). It is possible that G111 is associated with G101, forming two sides of a large field enclosure.

Plate 4: A photograph of an excavated section through ditch group G111 (Top)

Plate 5: An example of the Middle Iron Age pottery recovered from the fill of ditch group G111 (Bottom)
© Staffordshire University

Main enclosure ditches (G107 and G110)

The western half of the site is dominated by a large, double-ditched, square enclosure (G107 and G110; Plates 6 and 7) with associated internal structures and features (Fig. 8). The dating places the origins of this enclosed farmstead settlement firmly in the Middle Iron Age, continuing in use into the Late Iron Age. The outer enclosure ditch (G107) encompassed a total area of 0.64ha (6400m2) with average dimensions of 3.5m in width and 1.3m deep (Fig. 9). Along the southern boundary two terminals (1366 and 1408) defined an entrance way 6m wide (Figs. 10 and 11; see below). The lower ditch fills were below the water table, resulting in excellent bone and organic preservation (including some intriguing palaeo-environmental evidence, see below) but poor ceramic survival. Burnt food residue identified on the inner surface of a pot sherd from 1707 (G107) has produced a radiocarbon date of 2250 BP (2250+35yrs BP, 410-200 cal. yrs BC; SUERC-17644). The nature and deposition of the fills indicate the possibility of a bank along the internal edge, suggesting a profile for the enclosure boundary as a double ditch (G107 and G110) with a bank in between. Excavation at the interface between G107 and G111 confirmed that G107 is stratigraphically later, although the ceramic assemblage suggests a close Middle Iron Age date range for the two enclosures. G108 represents a recut of several sections G107 and will be discussed below in Phase 3.

Both the terminals of G107 were excavated revealing a dense concentration of complex archaeological remains (Figs. 10 and 1; Plate 8). Although not visible in plan, excavations across the terminals identified a number of pits and post-holes, and one gully. The earliest feature in this area appears to be gully/palisade trench 1205. This small, NE-SW aligned gully, dated to the Middle Iron Age was truncated by both the east and west terminals of G107. Clustered around the internal edge of terminals 1366 and 1408 were eight postholes (1372, 1374, 1415, and 1417, western terminal; 1450, 1452, 1454, and 1456, eastern terminal). The fill of post-hole 1372 produced two sherds of Middle Iron Age pottery. Terminal 1408 truncated two of the post-holes, 1415 and 1417. The latest features in this sequence appear to be a number of pits cut into the upper fills of both terminals (1203, 1218, 1282, 1358 and 1360). Three of these pits contained finds dated to the Middle Iron Age (1203, 1218, and 1358). The location of the postholes may suggest some monumentality of structure, perhaps a timber gate or framework was in place at the entrance to the settlement. As two post-holes and the gully were truncated by the terminals, it suggests these were in use prior to the excavation of G107 (or certainly the terminals). Another interesting possibility arises when examining the internal boundary ditch (G110). At the location of the entranceway, there is no break in this ditch. This may indicate that the postholes clustered around the internal edge of G107 may instead be associated with a timber bridge or walkway spanning across the inner ditch. The pits complete the tight stratigraphical sequence of this area as several contained Middle Iron Age pot sherds whilst truncating the upper fills of the terminals. It is noteworthy that both terminals contained fills with Palaeozoic fabric type pottery (1361 and 1409). Generally this fabric type is tentatively dated as later than Malvernian ware. The stratigraphic sequence recorded from the excavation of this area demonstrated that Palaeozoic ware was present in features that predated other remains containing Malvernian.

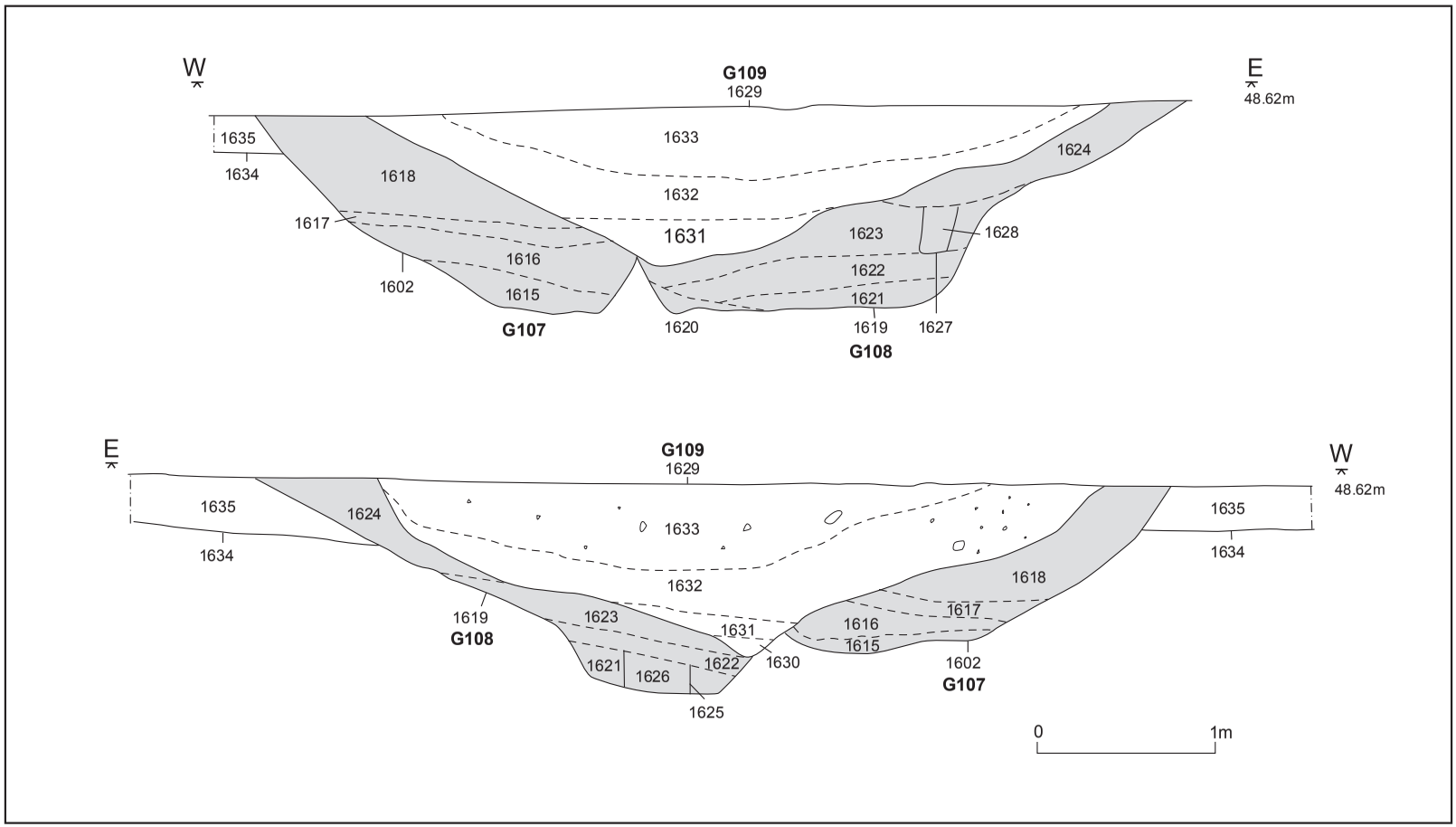

Figure 9: Archaeological section profiles through ditches G107 and G108 (shown in grey) and the later ditch re-cut G109
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The interior enclosure ditch represented by G110 measured on average 0.75m in width with a depth of 0.50m, significantly smaller than G107 (Fig. 8). Excavated sections recovered a small assemblage of Middle Iron Age pottery (Malvernian ware). The absence of Palaeozoic ware from this feature, and the presence of this fabric type in several fills from G107 may suggest this interior enclosure ditch may be earlier, perhaps a first attempt to enclose the site. As with G107, G110 also truncates ditch G111. A number of recuts of G110 were identified, but only along the southern section of the enclosure. This may be due to local topography and geology, as the southern area of the site was predominantly wetter, probably due to the higher clay content of the natural geology. A break in the ditch was identified at the northwestern corner with two terminals creating a gap 7.00m in width. Pit 1573 was situated in this gap.

Plate 6: A photograph showing the excavated section through enclosure ditch G107

Plate 7: A photograph showing the excavated section through enclosure ditches G107 and G108 (Top)

Plate 8: A photograph showing one of the termini of the enclosure ditch G107, which together with its counterpart forms an entrance way to the interior of the enclosure that measures 6m in width (Bottom)

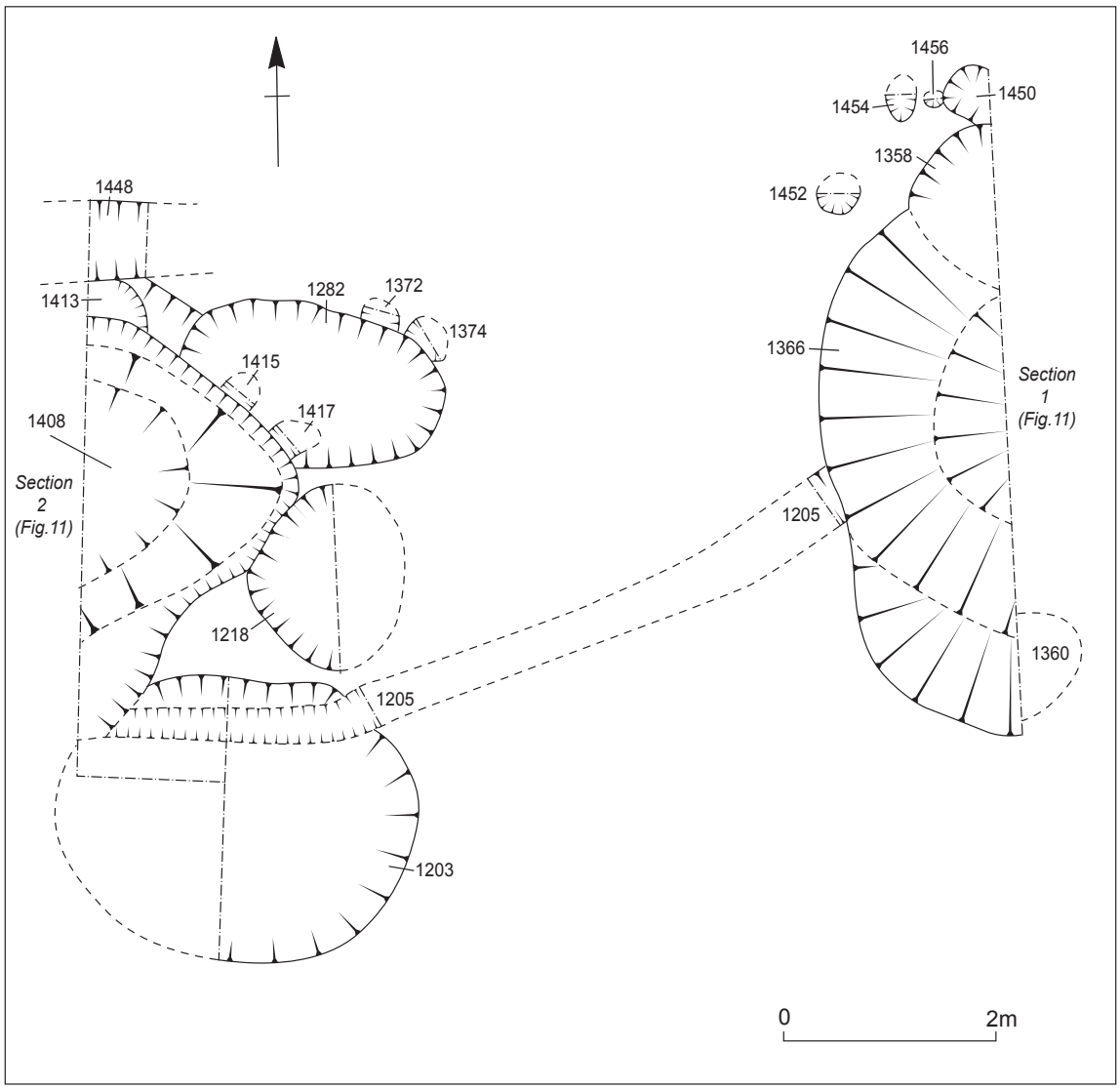

Figure 10: Archaeological plan of the two terminus ends of enclosure ditch G107 which forms an entrance to the interior of the settlement
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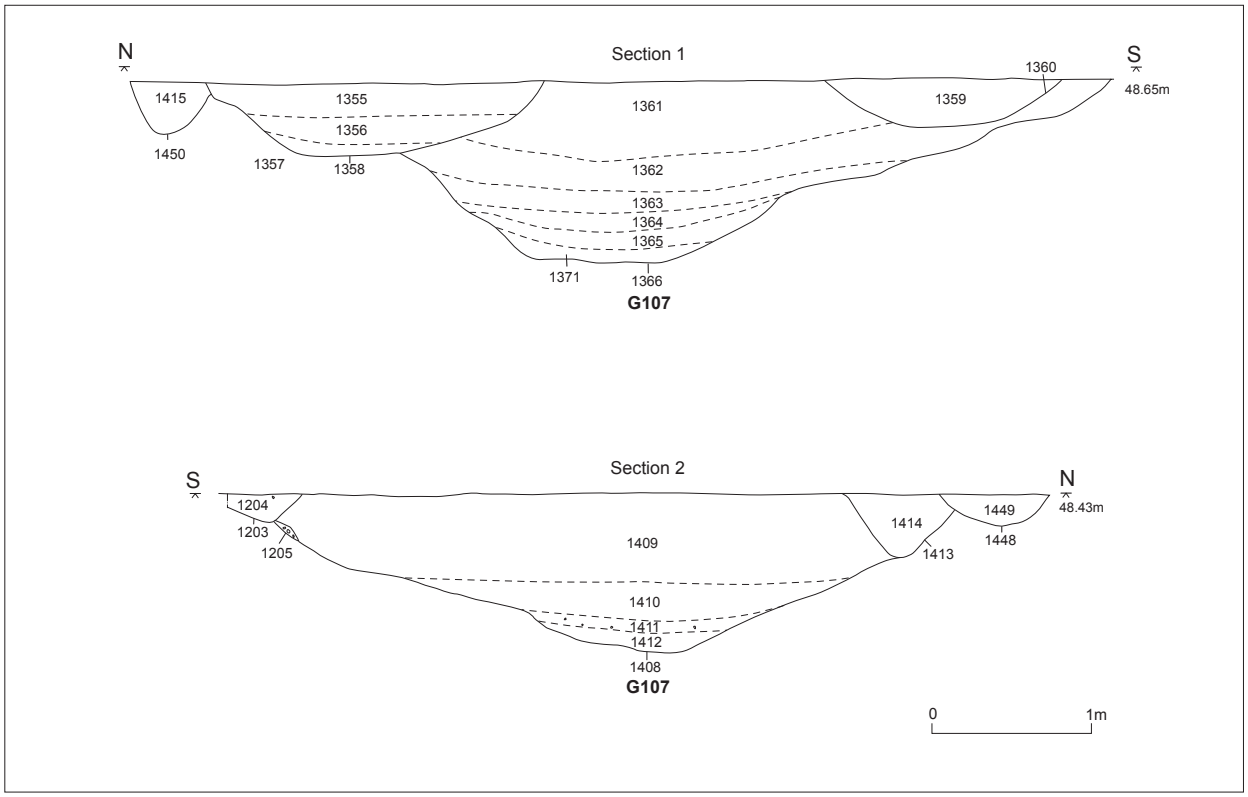

Figure 11: The section profiles of the two terminals of enclosure ditch G107

Pit 1573

With dimensions of 6m in length, 4m in width and a depth of 1.2m, pit 1573 was clay lined at the base (1577) with a gradual sloping eastern edge lined with gravel 1576 (Fig. 12). The reminder of the pit was filled by a sequence of two waterlogged deposits, 1575 and 1574. Middle Iron Age pottery was recovered from the lower waterlogged fill 1575 with Later Iron Age pottery recovered from 1574. The profile and lining of this feature suggests it may have functioned as a waterhole. The lower deposits of the feature were beneath the modern water table and the clay lining proved to be an effective barrier to hold water. The gently sloping gravel lined eastern edge indicates a probable ramp to allow access.

Structures and associated features

Located within enclosures G107 and G110 were the remains of two probable roundhouses (G115 and G116; Fig. 8; Plates 9 and 10). G115 represents the truncated remains of a small, shallow, circular 'drip' gully with a projected diameter of 15.0m. A total of 21 sherds of Middle Iron Age pottery were recovered from fill 1598. Evidence for internal features was scarce, with only two postholes and one probable elongated pit identified at the southern end of the structure. Due to the high levels of truncation, no entrance could be determined.

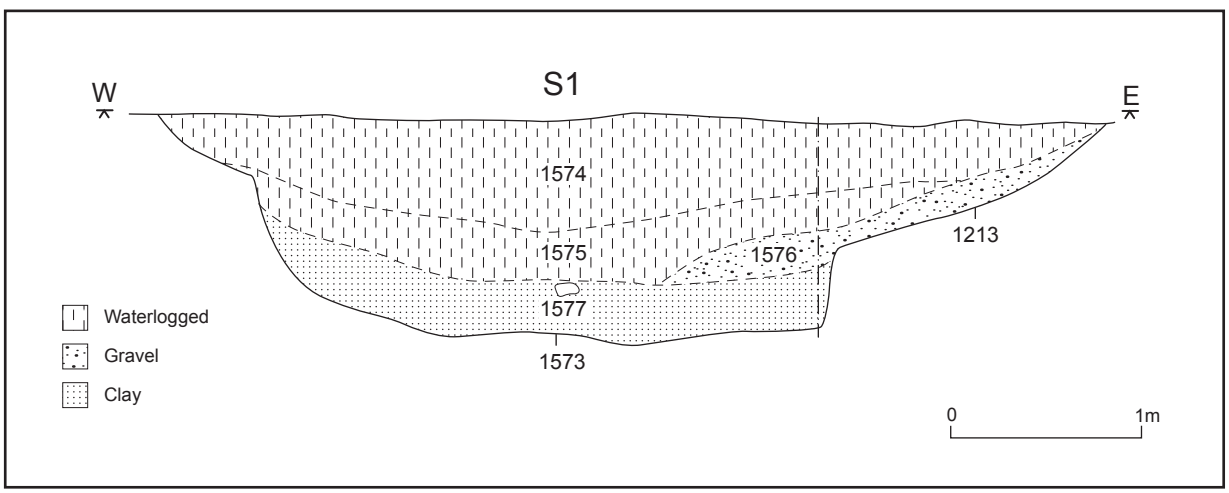

Figure 12: A section profile through pit 1573. The clay lining and the sloping gravel side may indicate this feature was used as a watering-hole.
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Plate 9: A photograph of the western part of the site showing the excavated exterior drip gullies of roundhouses G115 and G116
© Staffordshire University

Located approximately 12.0m southwest of G115, a second probable roundhouse (G116) was identified. This group includes the partial remains of a circular gully and eight discrete pits and post-holes located within. If complete, the gully would form a circle with a diameter of 12.0m (smaller than G115). A total of 17 sherds of Middle Iron Age pottery were recovered during excavation of the gully, although no pottery was recovered from any of the internal features. One section of the gully is cut by pit 1384 containing pottery dating to between 410 and 200 BC (see below). Also noteworthy is the presence of fuel ash slag within the fills from several of the features associated with G116 (see 'Industrial Residues' below). Although analysis cannot identify the formation processes involved in the creation of the slag, it is thought to have been subjected to extremely high temperatures (at least 1200°C), certainly too high for ironworking or cremation. However, one additional piece of industrial waste, similar to tap slag residue from the smelting of iron ore, was recovered from posthole 1260 (G116). Features associated with both G115 and G116 were all heavily truncated by post-medieval furrow ditches. The overlying subsoil and topsoil in this area of the site was markedly shallower compared with the eastern part of the site.

Evidence for three smaller post-built structures were identified, two within G107/G110 (G112 and G117) and one outside (G119). Group G117 represents five post-holes that collectively formed the remains of a sub-square, post-built structure (3m2) located towards the southeastern corner of the large square enclosure G107/110. The postholes were all sub-circular in plan with an average depth of only 0.19m, suggesting a high degree of truncation in this area from ploughing activity. Given the shallow nature of the features, no post-pipes were identifiable. The structure is located immediately to the southeast of the main occupation area and most probably represents some type of raised structure, possibly for the drying and storage of cereals. Middle Iron Age pottery was recovered from the fills of post-holes 1578 and 1783. A number of pits were located close to this structure (1501. 1551, 1396; see below).

The second group (G112) was located towards the northwest of the two roundhouses (G115 and G116) and consisted of eight postholes that collectively formed the remains of a sub-oval, post-built structure within the main enclosure G107/G110 (Figs. 8 and 13). Measuring 5.0m in length and 2.0m wide, the probable structure was somewhat irregular with several postholes being slightly out of alignment. Although undated, this feature has been tentatively placed in this phase using feature typology and deposit characteristics. A third group (G119), comprising of four postholes forming a sub-square post-built structure was located on the outside of G107/110, to the east of the entrance and most probably represents another raised granary similar to G117 discussed above. With the exception of pit 1764, all the pits dating to this phase were identified within

Plate 10: A photograph showing the excavation of the grip gully from roundhouse G116. The gullies for both roundhouses were entirely excavated

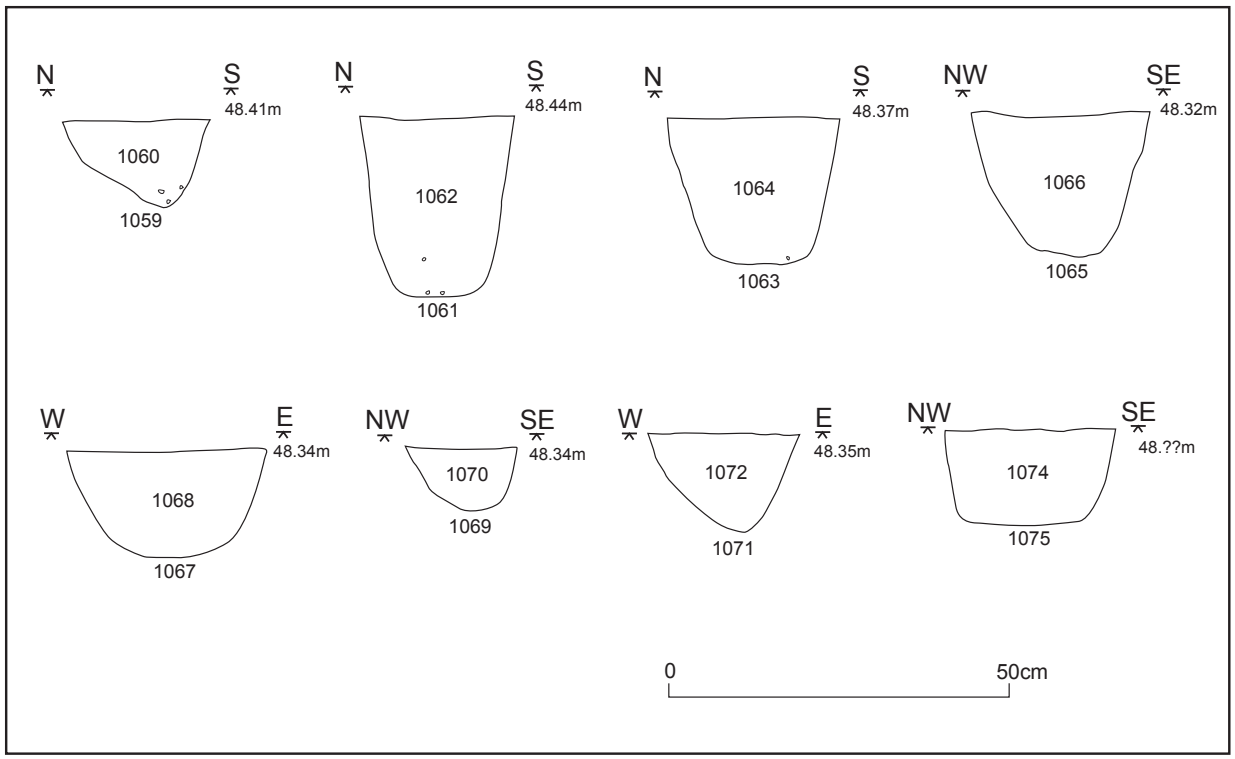

Figure 13: Section profiles through eight post-holes (G112) which forms the remains of a sub-oval post-built, raised grain store.
© Staffordshire University

Other pits and postholes

G107/110 (although several other pits across the site remain undated – see below). These pits have been phased based on the finds analysis, stratigraphy, location or deposit characteristics. Two distinct clusters of pits and postholes (G121 and G122; Fig. 8) were identified in similar locations to the south of each roundhouse (G115 and G116) and although no dating evidence was recovered from these groups, the location and nature of these remains suggests they are contemporary with these Middle Iron Age structures. Varying greatly in both shape and size, with depths ranging from 0.12m to 0.62m, these features were all filled with similar deposits of brown silty clay with frequent charcoal fragments.

Excavation of three pits located close to roundhouses G115 and G116 (1384, 1426 and 1761) recovered pottery dating to the Middle Iron Age. Residue identified on a pot sherd from the upper fill (1385) of large, shallow pit 1384 produced a radiocarbon date of 2280 BP (2280+35yrs BP, 410 to 200 cal. yrs BC; SUERC-17643). Stratigraphically, pit 1384 post dated the final infilling of the gully associated with roundhouse G116. Two further small pits (1175 and 1177) were identified to the north of G116. Although no dating evidence was recovered, these two features have been placed in this phase. Further to the north the remains of a larger pit was identified (1601) close to the western section of ditch G110. Pit 1601, being irregular in shape, was large but shallow with a depth of 0.57m. Four fills were recorded, the latest of which (1614) contained two sherds of Middle Iron Age pottery and high levels of charcoal fragments.

Four further pits located in the southeastern corner of enclosure G107/G110 are dated to this phase (1346, 1396, 1501 and 1551; Fig. 8). Excavation of pit 1551 produced large quantities of Middle Iron Age pottery, including fragments from a large storage jar (sparse shell and limestone (SH1) fabric type) alongside smaller fragments of sparse shelly ware (SH2) and Malverian rock-tempered ware (MAL RE A). Pottery of a similar date and type was recovered from pit 1501, located immediately to the east. Further evidence for pit activity was identified at the southeastern corner of enclosure G107/G110. Pit group G123 comprised of eight pits running in a north south alignment.

In general, none of the pits within this phase contained a high density of archaeological finds (with exception to pit 1551 and the industrial residues within the pits associated with roundhouse G116) and very few fragments of animal bone were present within the pit fills.

PHASE 3 – LATER IRON AGE

Although much of the evidence for the settlement covering the western part of the site dates to the Middle Iron Age (Phase 2), a number of features demonstrate continuity into the later Iron Age. Several of the excavated sections through the large outer enclosure ditch (G107) provided evidence of recutting with the subsequent fills containing pottery which dates to the later Iron Age (G108; Figs. 9 and 14). No evidence of recutting was identified at either terminal or at the southwestern or northeastern corners of the enclosure. Where present, the recut was located close to the original line of the ditch and excavated to similar dimensions and depth with the lowest fills being waterlogged.

A total of three pits, 1175, 1370 and 1503 and two small gullies (1289 and 1751) were located within the main enclosure ditches (G107/G110) and contained evidence dating to this phase. Pottery of a similar date was recovered from the upper fill (1574) of the probable waterhole 1573 in the northwestern corner of the enclosure suggesting that this feature was no longer functioning as an open watering hole. The consistency and nature of the upper fills, in conjunction with the overall lack of artefacts, suggests that waterhole 1573 silted up gradually rather than deliberately backfilled within a short space of time.

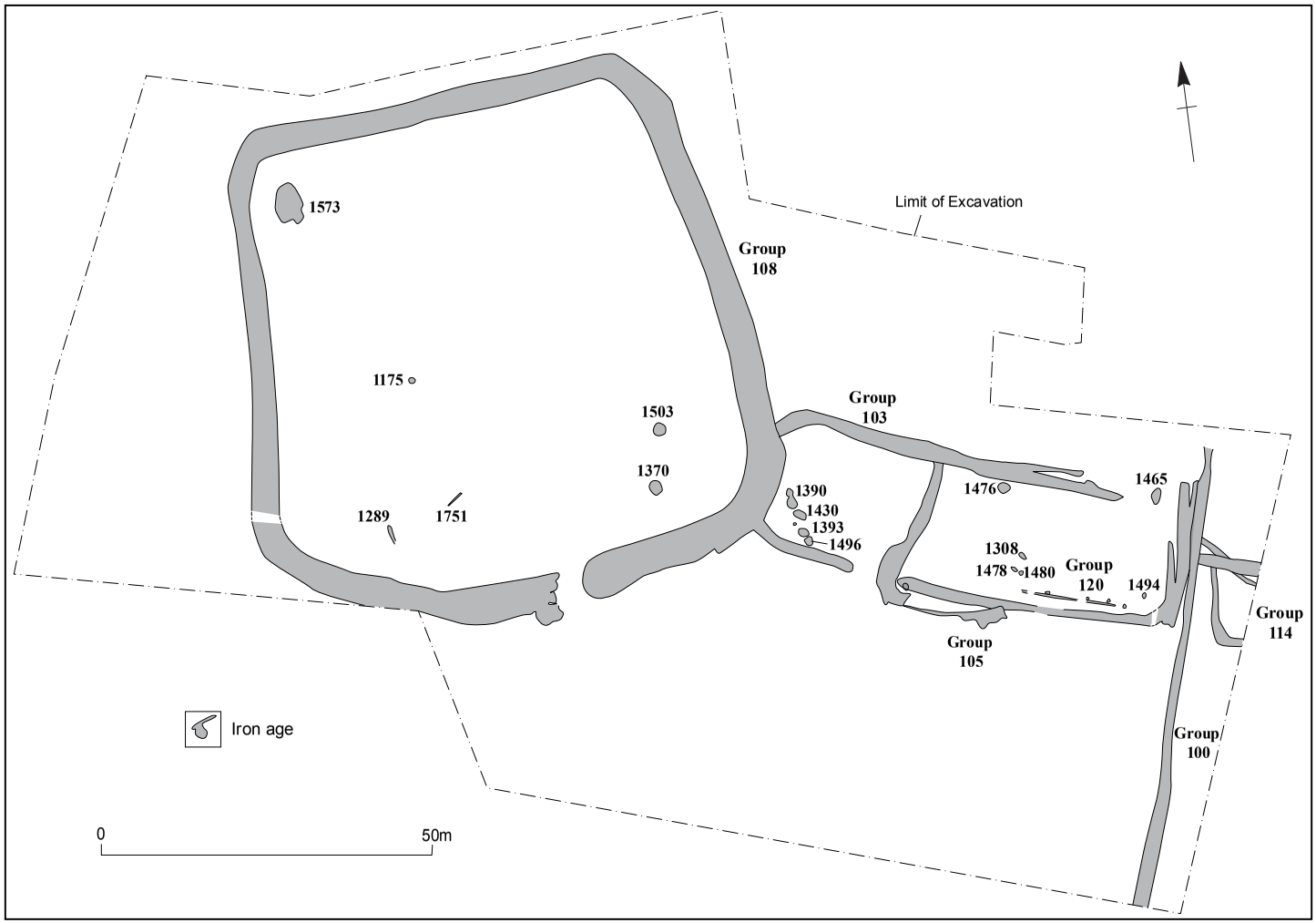

Figure 14: An archaeological plan showing the features across the site that dated to the later Iron Age (Phase 3)
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Across the eastern half of the site, group G103 consists of excavated sections through the ditch of a large, sub-rectangular enclosure measuring approximately 61.0m in length and 20.0m in width with an entrance situated along the southern section. Several excavated sections identified episodes of cleaning-out/recutting of the ditch. Relative to the other features on this site, a large quantity of pottery dating from the Middle to Late Iron Age (485 sherds) was recovered from G103 during excavation. G103 truncates two of the square enclosures (G102 and 104) dating to Phase 2. Perhaps this suggests a progression from small, square enclosures to somewhat larger examples. Evidence for a small gully with an associated line of postholes (G120) was identified along the internal edge of the southern ditch of enclosure G103. This may represent the scant remains of a fenceline or palisade. A total of nine pits were identified within G103 (1390, 1393, 1430, 1496, 1478, 1480, 1476, 1308 and 1494) with a tenth pit (1465) situated close to the northeastern corner of the enclosure. Although most pit fills contained small quantities of Phase 3 pottery, pit 1430 was the exception as a total of 89 sherds of pottery was recovered from fill 1431. Pit 1700 was identified cutting the upper fill of G103. One sherd of pottery recovered from fill 1702 of pit 1700 produced pot residue that has been dated to the Early to Mid Iron Age (2360+35 yrs BP, 540-370 cal. yrs BC; SUERC-17651) demonstrating that this sherd is residual. G103 was truncated along the western edge by the recut of the large ditch (G108) associated with the square enclosed settlement covering the western part of the site.

The partial remains of two further enclosures were identified, G105 and G114. G105 represents a ditch forming the partial remains of a probable square enclosure. Only two sides survive, with evidence suggesting full dimensions of just over 20.0m2. The southern surviving ditch segment truncates the corresponding ditch of G103. As with G103, a large amount of pottery was recovered from the excavated sections across this enclosure ditch. Group G114 represents the sections excavated through a ditch located towards the eastern edge of the site. This may form the partial remains of an enclosure similar to G103. Group 100 represents interventions through the north-south aligned recut of ditch G101.

PHASE 4 – ROMANO-BRITISH

Located towards the centre of the site, two inhumations (HB1 and HB2) were recorded and excavated (Figs. 15 and 16; Plates 11, 12, and 13). Grave cut 1328, orientated north-south, contained one adult skeleton (HB1) placed in the extended position (Plate 12). A number of iron coffin nails were recovered from grave fill 1329. Located 8m to the southeast, grave cut 1571, also orientated north south, was identified containing one adult skeleton (HB2; Plate 13) placed in a crouched position and the humerus of a second individual (see "Human Remains" below). Several iron nails were recovered from grave fill 1572. Both skeletons were fragmented, probably due to medieval agricultural activity. Radiocarbon dates have been processed on bone fragments from both skeletons with HB1 being early Roman (1795 BP-155AD) and HB2 dating to the late Roman period (1615 BP-335 AD).

G118 represents interventions excavated through the probable remains of field systems dating to the Roman period. The ditches are heavily truncated by later agricultural activity and only survive in sporadic locations across the site. Over the eastern part of the site, two ditches were identified, one aligned north south (1010) and the second aligned east-west (1014). Two further ditches were identified over the western part of the site (contexts 6 and 1599; Fig. 15). Roman pottery was recovered from these features during the excavation (1011, 1015, and 1600) and the evaluation (5). These features were shallower in depth than the more substantial Iron Age enclosure ditches. This reinforces the hypothesis that this group represent the remains of a Roman field system as this function would require the excavation of shallower ditches than large defensive, boundary ditches or stock enclosures. This also is important when considering the survival rates of archaeological deposits across the site. The site has been subjected to intensive agricultural activity resulting in the removal of the shallowest archaeological features and deposits.

The other artefacts dating to the Roman period are small in number, with most of the material recovered from the final silt fills of ditches that originate in the Iron Age. Roman pottery was recovered from the upper fills of several ditches across the site. G109 represents one such example. Here, a concentration of material was recovered from the upper fill of the large enclosure ditch at the southeast corner. It is unclear whether these deposits were within a recut dating to this phase. Similar Roman material was recovered from the upper fills of ditches represented by G103, G105, and G111.

Although small, the Roman pottery assemblage suggests the main settlement was abandoned by the early 1st century A.D. A number of Roman wares one might expect are absent, most notably the early grog-tempered wares and potential fore-runners of the Severn Valley industry which have manifested themselves at other sites in Gloucestershire such as Frocester and Kingsholm. With this, and the lack of discrete features on site dating to this phase, the evidence is indicating that occupation on site continued until the early 1st century. The settlement was subsequently abandoned, with the area utilised as one part of a large field system, perhaps associated with the Romano-British settlement excavated at Home Farm (Barber and Walker 1998).

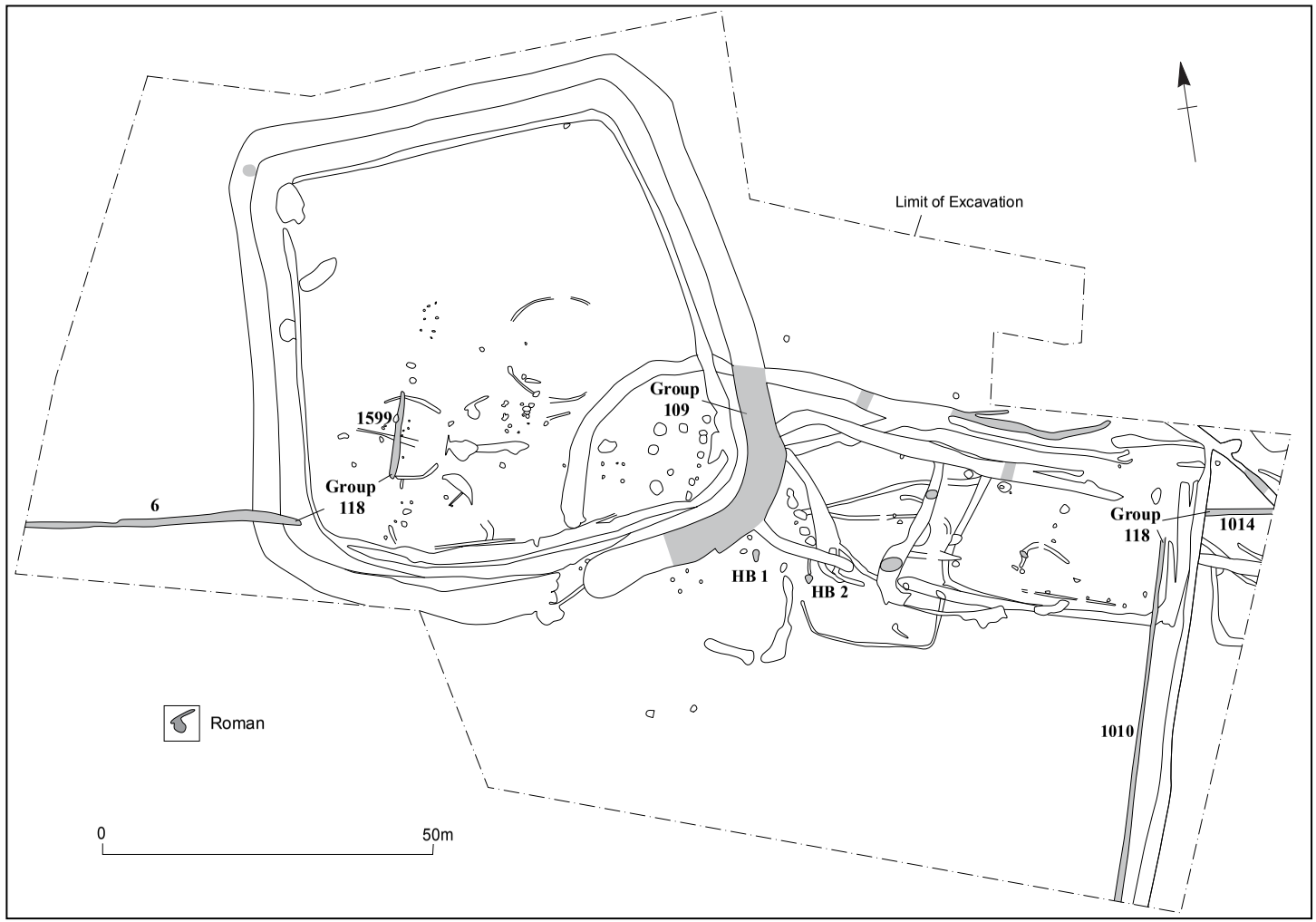

Figure 15: An archaeological plan showing the features across the site that dated to the Roma-no-British period (Phase 4)
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Plate 11: A photograph showing the careful excavation of the first human burial (HB1), an extended burial dating to the Roman period
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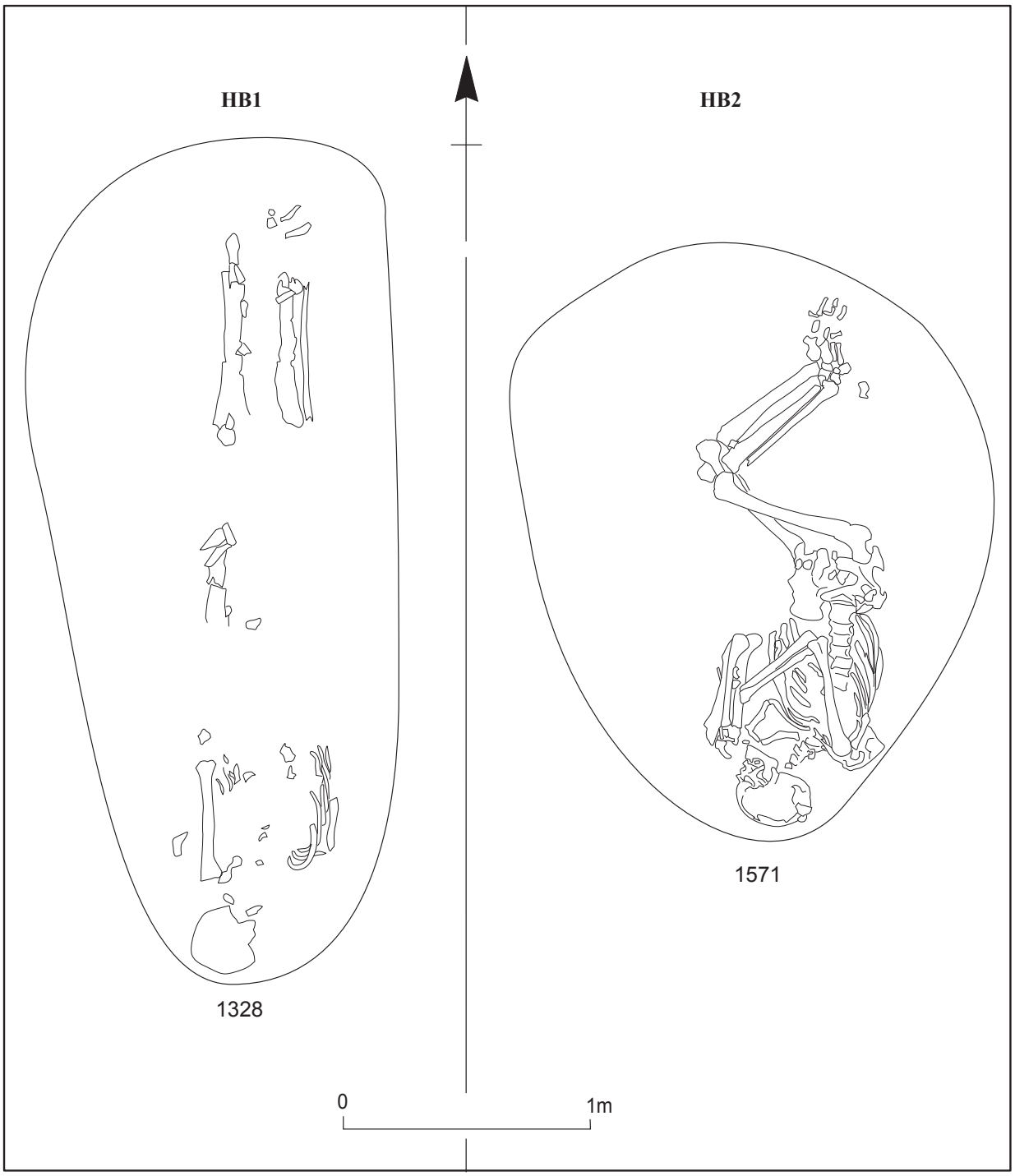

Figure 16: Archaeological plans of the two Roman burials HB1 and HB2. Both date to the later Roman period, although one skeleton was in an extended position and the other crouched
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Plates 12 and 13
Photographs of insitu Roman burials HB1 (left) and HB2 (right)


HB2
300mm

PHASE 5 – MEDIEVAL AND LATER

Medieval activity was restricted to the remains of furrow ditches that were present across the site cutting through the subsoil on a north-south alignment. Although the ditches varied in width and depth, the shallow nature of the subsoil resulted in truncation of the archaeological remains. Furrows on an east-west alignment were identified over the western part of the site. After initial hand investigation and documentation, all the furrow ditches were removed by mechanical excavator in order to assess any earlier archaeological remains beneath.

Evidence for post-medieval and modern activity on the site was scarce, restricted to ceramic field drains and a modern fence line. The excavation of two pits (1346 and 1496) recovered several sherds of post-medieval pottery. However, it seems likely this material was intrusively deposited during the back-filling of the evaluation trenches, and the pits most likely date to the Iron Age.

THE FINDS

Pottery

Jane Timby

The excavation resulted in the recovery of 2392 sherds of pottery (22.1 kg) accompanied by 128 fragments of fired clay. A further 152 sherds (639 g) came from the preceding evaluation in 1999. Most of the pottery dates to the middle and later Iron Age with a few Roman pieces, one medieval and two post-medieval sherds. Pottery was recovered from 127 individual contexts from 53 features, mainly ditches and pits, some of which were grouped into single structures such as enclosures or roundhouses. The assemblage was of mixed condition. The nature of the material, handmade, low fired, well-tempered ware, tends to make it very friable with a predisposition to crumble. There is thus a mixture of very small sherds with a few larger pieces and, clearly in a few cases, numerous sherds from single large vessels, which would be extremely difficult to reconstruct. The overall average sherd weight is just 9.2 g, which is not atypical for this sort of assemblage and reflects its generally fragmented state. Some fabrics show a higher predisposition to crumble than others.

The assemblage was sorted into fabric groups based on the size and frequency of inclusions following the recommended guidelines for the analysis of later prehistoric pottery (PCRG 1997). Roman named traded wares were coded following the national Roman fabric reference series (Tomber and Dore 1998). The sorted sherds were quantified by count and weight for each recorded context. Rim sherds were measured for diameter. Any decoration or surface finish such as burnishing was noted along with evidence for use in the form of sooting or limescale.

Description of fabrics and associated forms

In total 17 fabrics have been identified for the Iron Age assemblage (Table 1): calcareous wares (fabrics: L1-L3, SH1-3, SALI, MAL RE B, MA4), an iron-oxide rich fabric (FE1), rock-tempered wares (MAL RE A, MA2-3), and sandy wares (SA1-3). In addition there is a single grog-tempered sherd which may be later Iron Age or early Roman and five Roman wares. Small crumbs were not sorted into fabrics but subsumed under the code OO. Looking at the pottery irrespective of phase, the Palaeozoic limestone-tempered wares dominate numerically at 48%, followed by the Jurassic shell and limestone wares at 26.8% and Malvernian rock-tempered wares at 19.4%, leaving just under 6% which belonged to other wares. By sherd weight however, this changes with the Jurassic source wares dominating at 53.8% followed by the Palaeozoic limestone wares at 29.6% and Malvernian rock-tempered wares at 12.8%.

	Fabric	Description	No	No %	Wt	Wt %
Iron Age	CA1	calcite tempered	19	0.8	157	0.7
Calcareous	L1	oolitic limestone	33	1.4	350	1.6
	L2	Jurassic limestone and shell	33	1.4	530	2.4
	L3	Jurassic limestone and mixed fossiliferous	8	0.3	44	0.2
	SH1	coarse shell and limestone	400	17.0	9385	42.8
	SH2	sparse coarse fossil shell	156	6.6	1434	6.5
	SH3	fine shell	1	0.0	10	0.0
	MAL RE B	Palaeozoic-limestone tempered	1122	47.7	6511.5	29.7
	MA4	Palaeozoic limestone and dark pellets	1	0.0	18	0.1
	SALI	sandy with limestone	1	0.0	24	0.1
Rock	MAL RE A	Malvernian rock-tempered	460	19.6	2810	12.8
	MA2	Malvernian rock and iron pellets	1	0.0	17	0.1
	MA3	mixed inclusions with sandstone	66	2.8	345	1.6
Sandy	SA1	micaceous sandy	14	0.6	115	0.5
	SA2	very fine micaceous sandy	12	0.5	73	0.3
	SA3	glauconitic sandy	3	0.1	53	0.2
Ferruginous	FE1	ferruginous ware	1	0.0	4	0.0
	OO	unidentified crumbs	18	0.8	19	0.1
LIA-ERO	GR	grog-tempered (Glos TF 2C)	1	0.0	19	0.1
IA Total			**2350**	**100.0**	**21918.5**	**100.0**
Roman	BW/GW	reduced black/grey wares	2		10	
	DOR BB1	Dorset black burnished ware	1		31	
	SG SAM	South Gaulish samian	5		59	
	SVW RE	Severn Valley ware (reduced)	3		82	
	SVW OX	Severn Valley ware (oxidised)	37		149	
	MALV RO	Roman Malvernian ware	1		10	
sub-total			**49**		**341**	

Table 1: Pottery fabric types

Calcareous wares

Calcite-tempered (CA1): A black or dark brown ware with fragments of crushed calcite crystal in the paste. Some sherds have a burnished finish. This ware represents less than 1% of the assemblage with just two rimsherds. Possible sources for calcite-tempered wares, which seem to date from around the 2nd century BC, are discussed in Allen (1998).

Oolitic limestone (L1): An orange-brown ware with brown margins and a dark grey inner core. The sherds contain a sparse to common frequency of oolitic limestone, with both discrete oolites and conglomerates up to 3-4 mm in size, accompanied by varying amount of fossiliferous matter. A moderately small group accounting for 1.4% (by count) of the assemblage. Featured sherds include a jar from pit 1128 (Fig. 17.15) and two pieces with a zone of incised 'lattice' from pit 1203 (Fig. 17.25).

Limestone and shell (L2): A moderately hard ware with a brown to orange exterior with a brown interior and dark grey core. The paste contains a common frequency of very fine calcareous detritus, including shell and other fossiliferous matter (coral, bryozoa etc), oolitic limestone, all of which are mainly less than 0.5mm in size. A similar quantity of material to fabric L1. Sherds include five pieces from an vessel with a burnt interior from ditch group 107 and a small jar or bowl from ditch group 111 (Fig. 17.9).

Limestone and shell (L3): A red-brown ware with a moderate to common frequency of ill-sorted limestone and fossiliferous matter, including shell and coral. Sub-angular to rounded fragments up to 5mm in size. A small group of bodysherds, accounting for just 0.3%, all derived from pit 1370.

Sparse shell and limestone (SH1): A generally oxidised ware with an orange exterior and brown core. The paste contains a sparse frequency of coarse fossil shell and limestone with fragments up to 8mm in size. Vessels are frequently thick-walled (up to 9 mm) and show visible coil joins. A moderately large group accounting for only 17% of the assemblage by count but 42.9% by weight. Many sherds are from larger, thicker-walled vessels such as the jar from pit 1551 (Fig. 18.16). Most of the jars have barrel-shaped bodies with undifferentiated rims (e.g. Fig. 18.12, 18.14, 18.20, 18.24). One base from ditch 1504 has been reinforced during manufacture (Fig. 18.10) and one jar from ditch group 104 has been decorated with impressed ovals.

Sparse shelly ware (SH2): A black or orange ware with a soapy feel. The paste contains a sparse frequency of coarse shell up to 5mm. Occasional fragments of organic matter have been incorporated. Vessels tend to be thin-walled, mainly or exclusively, simple jar forms with undifferentiated rims (Fig. 19.3 and 19.7) although a later one has a rounded, thickened rim (Fig. 19.31). One rim has impressed crescent-shaped decoration on the upper edge and exterior (Fig. 19.26). Three sherds have external sooting. This ware is quite well represented accounting for 6.7% of the assemblage by count and 6.6% by weight.

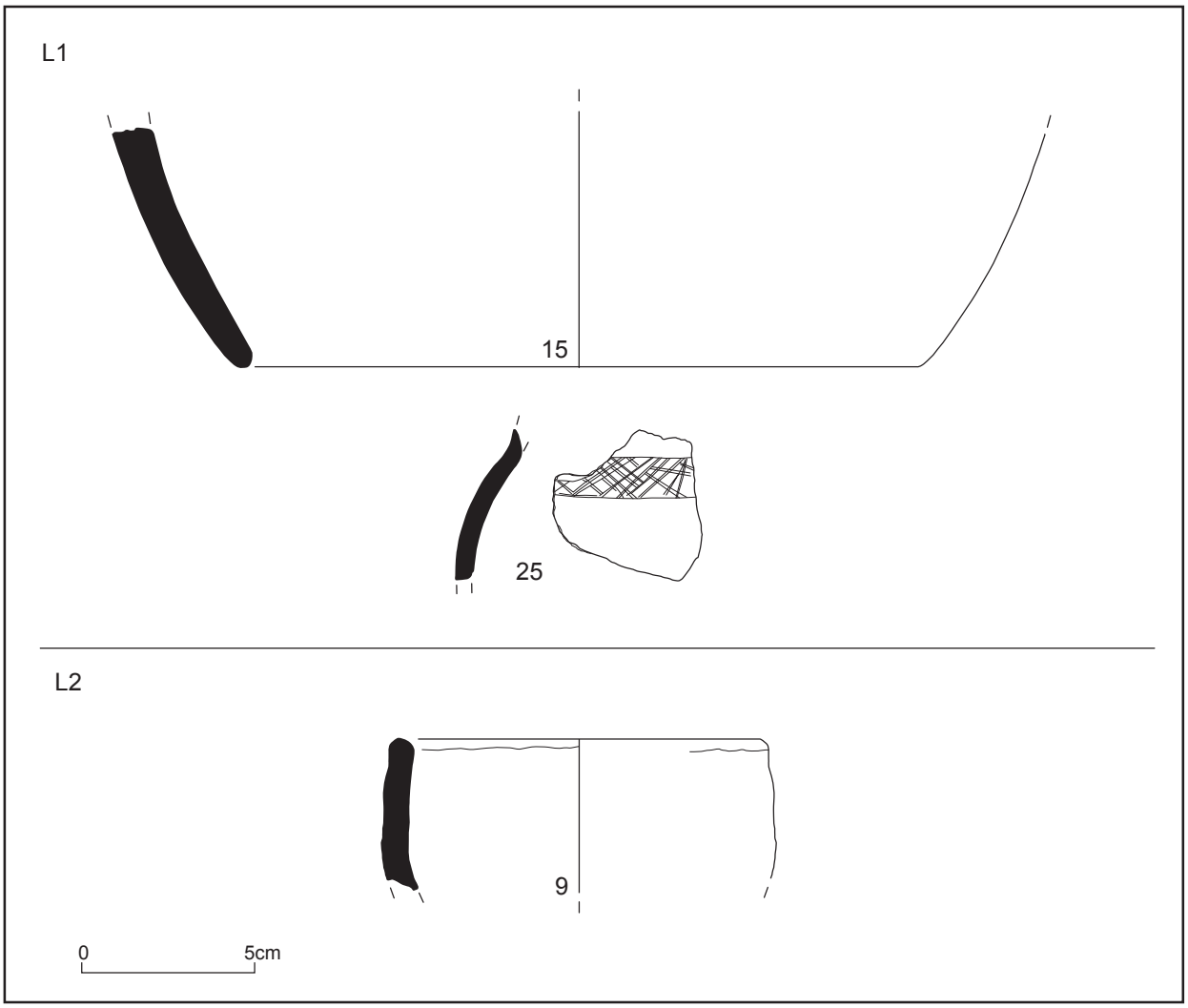

Figure 17: Examples of Oolite (L1) and Limestone Shell (L2) fabric type
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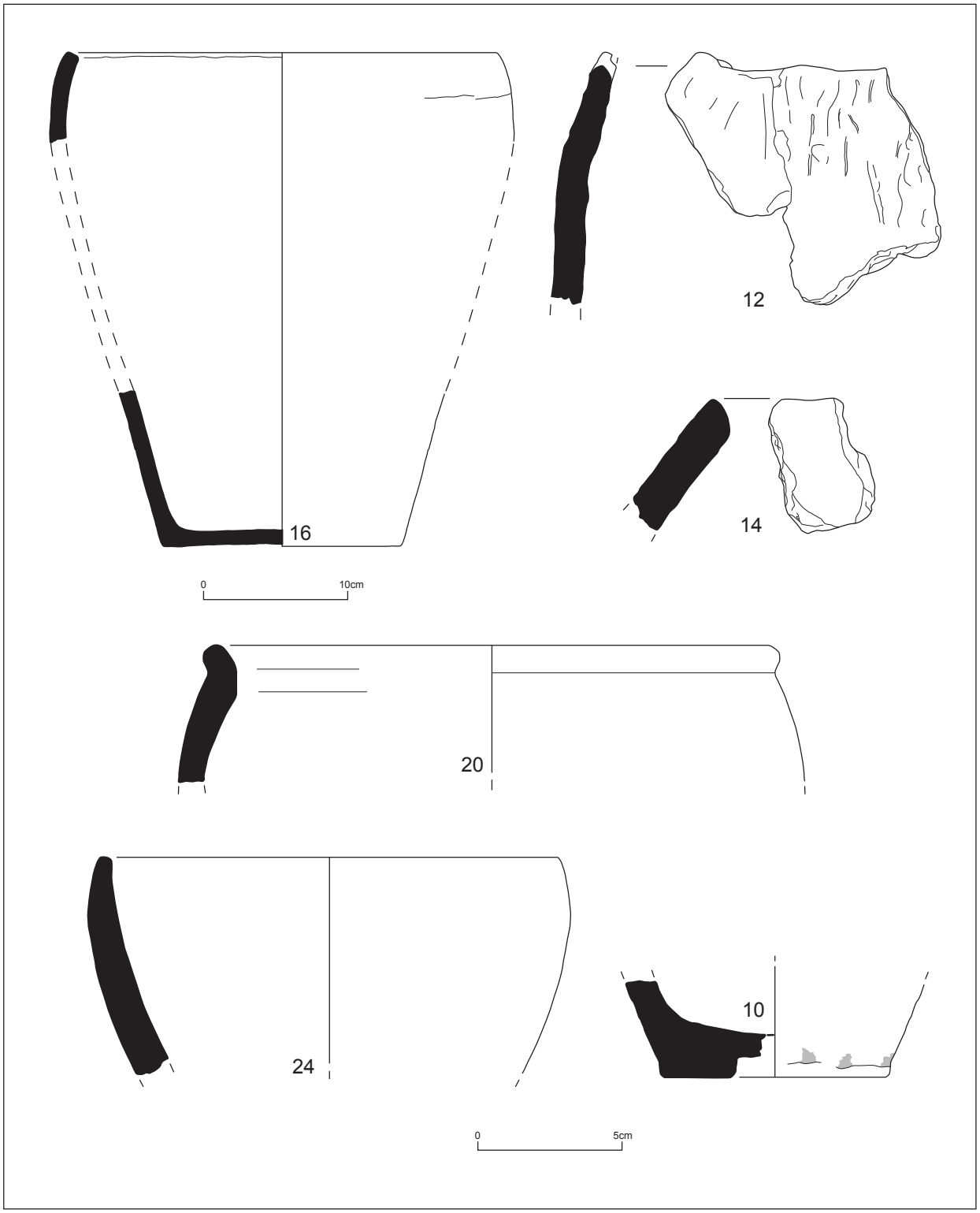

Figure 18: Examples of Sparse Shell and Limestone (SH1)
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Fine shell (SH3): A black ware containing a moderate frequency of very fine crushed shell, including small gastropods less than 1mm in size, accompanied by rare grains of fine, rounded, quartz. The shell is possibly from a fluvial rather than a fossil source and is represented by a single sherd from pit 1761.

Sandy ware with limestone (SALI): A dark brown ware with lighter brown exterior margins and a dark grey core. A fine, sandy textured, clay with a scatter of fine white specks. At x20 magnification the matrix contains a sparse scatter of fine, rounded, well-sorted quartz (less than 0.5mm), slightly facetted giving a sparkling quality. This is accompanied by a moderate frequency of fine calcareous matter including fine fossil shell of Jurassic source. A single sherd composed of this fabric was recovered from Dean Farm.

Palaeozoic limestone-tempered ware (MAL RE B) (Peacock 1968, Group B1): A distinctive limestone-tempered ware originating from the May Hill, Malvern Hills, or Woolhope Hills. The latter is suspected as the most likely source at present (Morris 2005a, 119). This is the most common fabric in the assemblage by sherd count at 48% but this is a reflection of the friable nature of the material as weight only accounts for 29.7%. Numerically the group is fairly evenly split between the different phases as a percentage of the assemblage of each phase, c. 43% in middle Iron Age phase (19.3% by weight), c. 49% in the later Iron Age phase (42.3% by weight) and 47% in Roman-British phase (21.63%

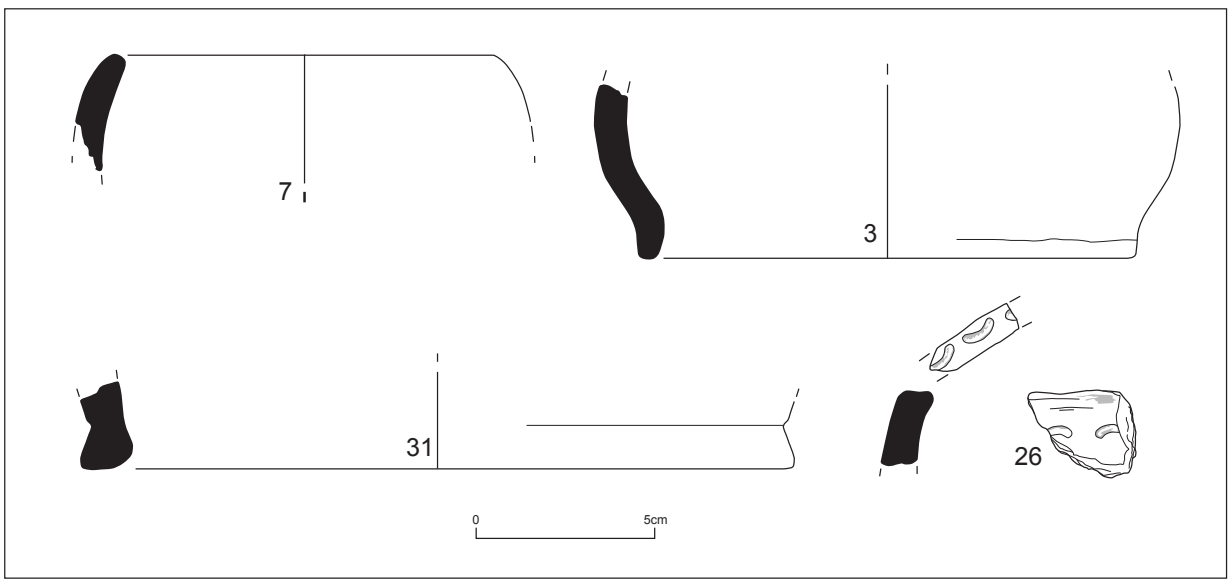

Figure 19: Examples of Sparse Shellyware
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by weight). Featured sherds include various jars with everted, bevelled or rolled rims (Fig. 20.1, 20.2, 20.11, 20.17, 20.22, and 20.29), rounded bowls, a flared rim burnished bowl (Fig, 20.27) and a jar or bowl, which is also burnished (Fig. 20.18). Other featured sherds of note include fragments of a countersunk handle from group G108, Phase 2 and one decorated vessel. The latter (Fig. 20.21) shows an incised wavy line, which is slightly irregular in execution. Some sherds show sooting or burning, notably sherds from pit 1384, whilst others have a vesicular interior where inclusions have leached out.

Palaeozoic limestone with clay pellets (MA4): A black ware with brown surfaces. The clay contains a moderate scatter of ill-sorted, dark, argillaceous pellets, which are 1mm or less in size. Also present is a common frequency of Palaeozoic limestone fragments and is represented by a single jar rim from pit 1384.

Malvernian rock-tempered ware (MAL RE A) (Peacock 1968, fabric Group A): A distinctive ware containing weathered fragments of metamorphic and igneous rocks which originate from the Malvern Hills. Vessels in this ware account for 19.6% by count, 12.8% by weight of the assemblage. Although sherds are well represented in middle Iron Age phase, which accounts for 7.9% by count (5.3% by weight), the bulk of this ware features in Later Iron Age contexts, 30.6% (22.5% weight) with just 2.6% (8.5% weight) from Romano-British contexts. Vessels are mainly jar forms (Fig. 21.6, 21.28). Three sherds are decorated, one small piece from 1444 with faint incised diagonal lines, one with 'duck-stamps' (Fig. 21.4) and one vessel, a jar or bowl with impressed 'maggot-type' impressions (Fig. 21.6). One sherd from pit 1384 has a perforation through the wall.

Malvernian rock (MA2): A single sherd of oxidised ware with a sparse frequency of Malvernian rock fragments, 1.0mm and less in size accompanied by a distinctive light scatter of round, dark orange, ferruginous grains/ clay pellets. The sherd derives from a decorated bowl (Fig. 22.19) which was recovered from ditch 1433.

Sandstone (MA3): Black, orange-brown or brown in colour, some sherds possessed a burnished finish. The clay contains a sparse mixed temper with occasional organic matter, sandstone, quartzite, quartz sand and calcareous inclusions, all of which are generally less than 1.0mm in size. One sherd, a rim from 1151 has lid seating (Fig. 22.8). Also present is a bowl decorated with two lines of stab marks (Fig. 22.5) and a countersunk handle. This is a moderately small group accounting for 2.8% of the assemblage.

Sandy ware (SA1): An oxidised ware with a rough texture, which contains a moderate frequency of well-sorted, rounded quartz sand in finely micaceous clay. The quartz is less than 0.5mm in size and is accompanied by rare, red, angular and rounded ferruginous grains up to 3.0mm. SA1 comprises less than 1% of the assemblage.

Sandy ware (SA2): A very finely micaceous fabric with brown surfaces and a dark grey core. A fine paste with rare visible inclusions but occasional fossil shell, bryozoa (1-2mm) and some organic matter can be observed. Less than 1% of the assemblage is composed of SA2

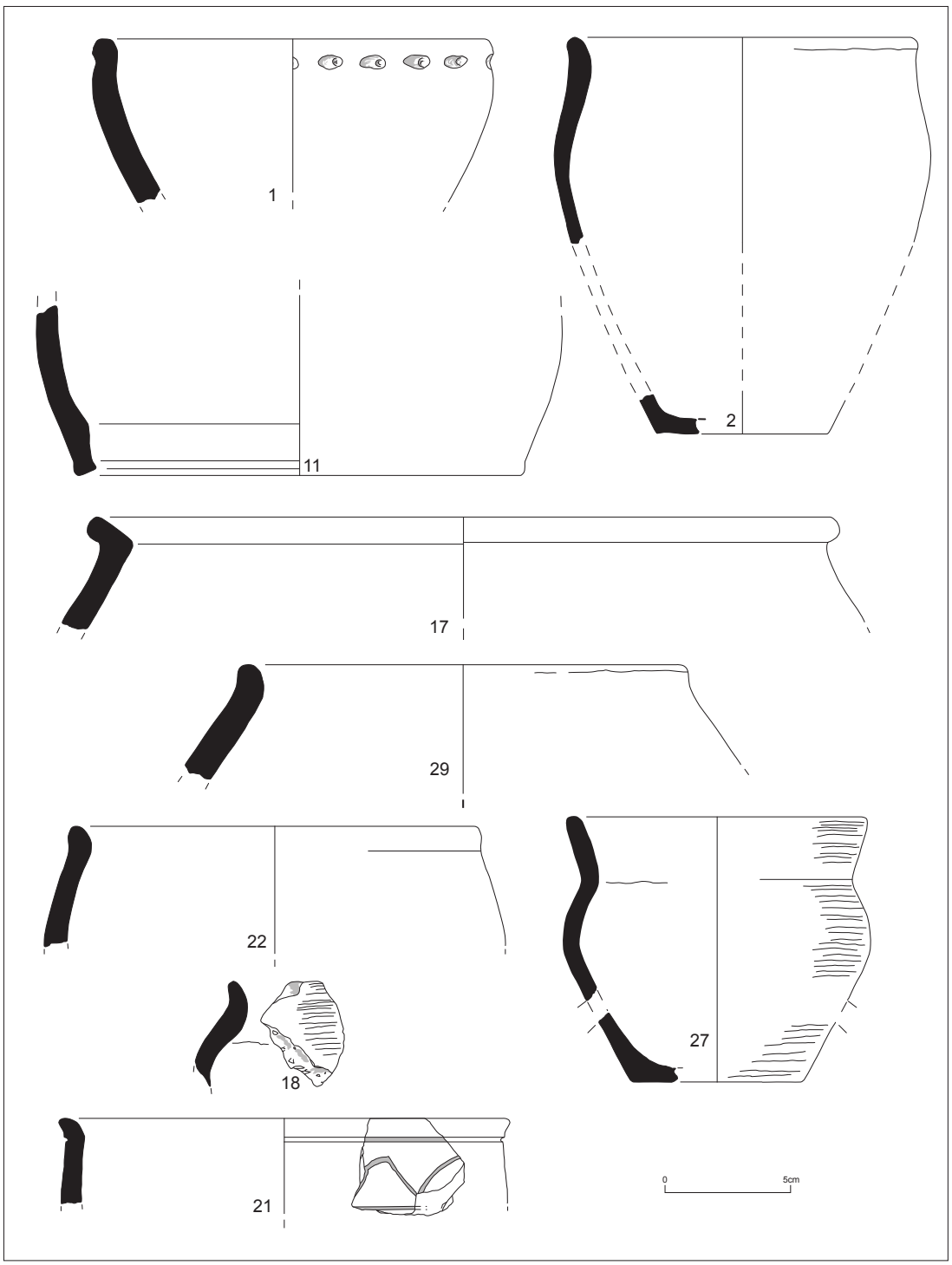

Figure 20: Palaeozoic Limestone-tempered examples
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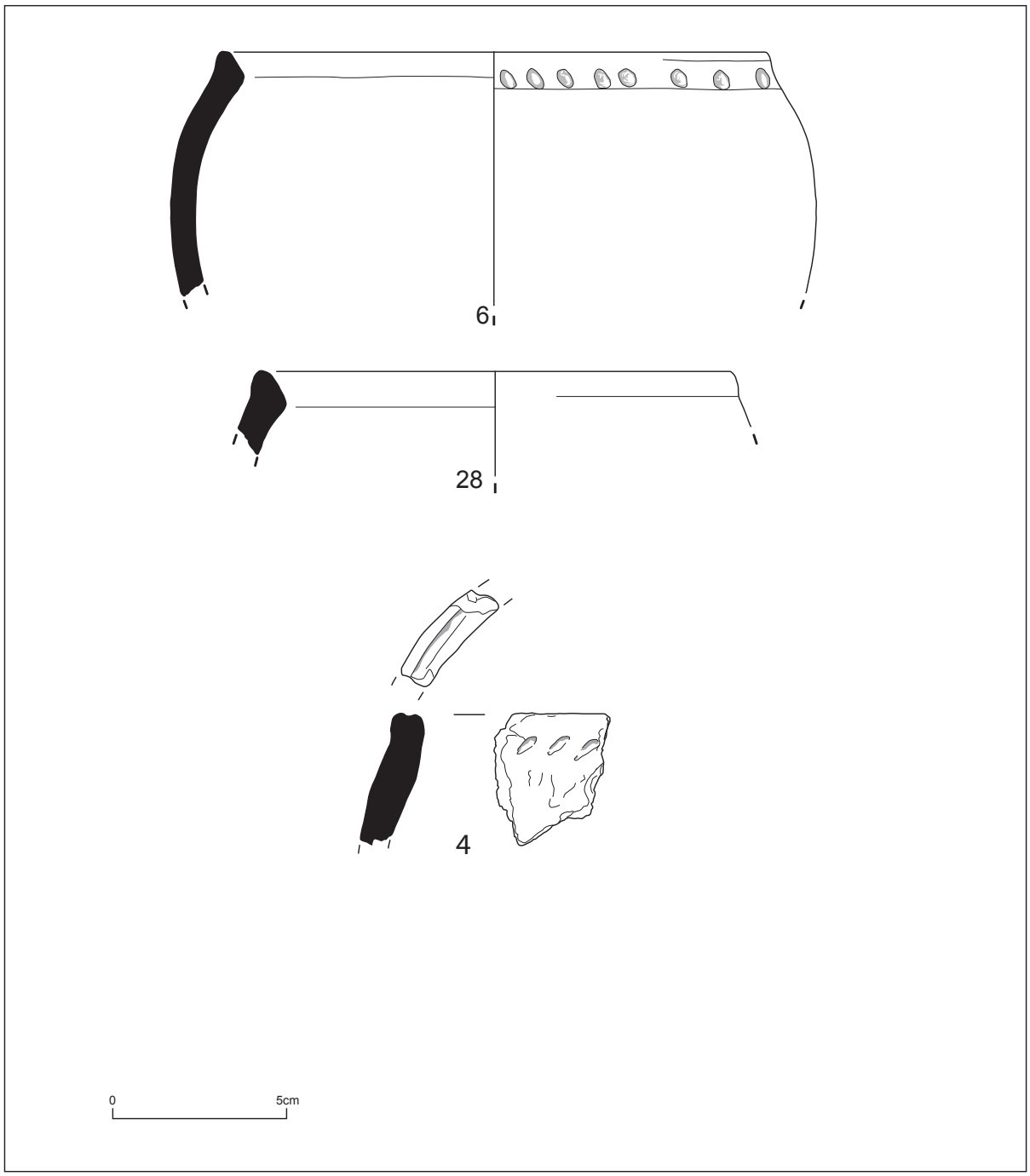

Figure 21: Malverian Rock-tempered examples
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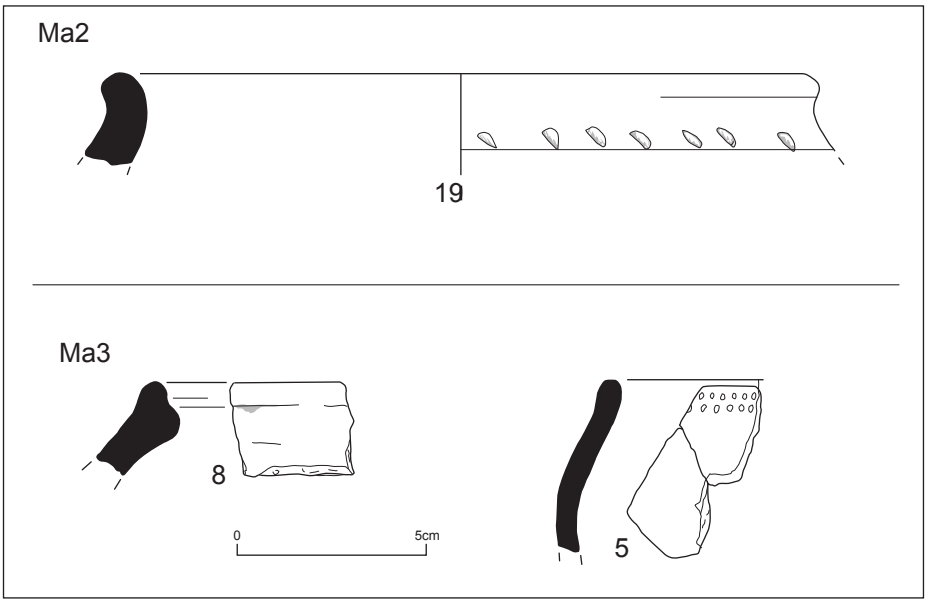

Figure 22: Malverian Rock-tempered (MA2) and Sandstone (MA3) examples
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Sandy ware (SA3): A moderately hard, fine sandy ware with black surfaces and a dark brownish-black core. At magnification x20 the paste contains a common frequency of fine, well-sorted, quartz and rounded grains of glauconite, less than 0.5mm with rare red grains of iron. A small group of just three sherds, two of which are burnished, are assigned to SA3 ware.

Ferruginous ware (FE1): A very finely micaceous, fine textured clay with a dark grey exterior, grey core and red-brown interior surface. The clay contains a sparse frequency of coarse ironstone with grains up to 4-5mm in size. A distinct but rare fabric is represented by a single bodysherd.

Grog-tempered ware (GR) (Gloucester type fabric (TF) 2C): Handmade large jars dating from the early 1st century AD continuing into the early Roman period. Represented by a single sherd from ditch 1629, which was identified as a Romano-British context.

South Gaulish samian: Five much worn sherds some with no surviving surface slip. One sherd is probably from dish whilst a flange fragment is probably from cup. Four sherds came from Romano-British ditches, and one, presumably intrusive, from mid Iron Age ditch 1855 (Group 109).

Severn Valley ware (oxidised) (SVW OX) (Tomber and Dore 1998, 148-9): A total 37 sherds of SVW OX were recorded largely from Romano-British ditches. Five small sherds were recovered from middle Iron Age ditch 1855 (Group 109) and six from Later Iron Age

ditches (Groups 103, 105). The only sherds assigned to this pottery ware are a tankard and a simple everted rim jar.

Severn Valley ware (reduced) (SVW RE) (Gloucester TF 17): Three sherds of organic (charcoal)-tempered grey ware, a 1st century AD variant of the Severn Valley industry were recovered. One sherd came from a Romano-British ditch and two sherds from middle Iron Age ditch 1855 (Group 109).

Dorset black burnished ware (DOR BB1) (Tomber and Dore 1998, 127): A single bowl basesherd ware recovered from a Romano-British ditch 1087.

Forms and decoration

The range of forms present is quite limited. Many of the shelly or Jurassic limestone wares feature as barrel-shaped or ovoid jars with undifferentiated rims similar to Conderton type R1 (Morris 2005a, fig. 36). The distinction between bowls and jars is difficult to determine in many cases although it is likely that many of the decorated sherds, or those with a burnished finish, may be bowls rather than jars (e.g. Figs. 17.9, 19.3, 20.27, and 22.5). Vessels in fabric MAL RE B show more development in rim form, with slightly rolled, everted, or bevelled forms and were more frequently burnished. One vessel from 1846 (Fig. 20.11) has an internal concave moulding and inward slanting rim perhaps to take a lid. A second lid-seated jar occurred in fabric MA3 (Fig. 22.8).

In terms of size, the measurable vessel rim diameters ranged from 110mm up to 300mm. Just two vessels fell into the maximum size of 300mm including the large jar SF9 (Fig. 18.16). A total of twelve vessels fell into the 200-280mm range, twenty-four vessels between 140-190mm and seven vessels in the 110-130mm. The larger vessels were probably used for storage whilst those falling into the middle range performed a cooking/serving function. The small bowl/beaker with a flaring rim and burnished finish (Fig. 20.27) may have served as an individual drinking vessel. Several vessels showed external sooting or internal burning from use and a small number of sherds had internal limescale from holding or heating water.

In total ten vessels showed some form of decoration, seven of which consisted of impressed or stamped decoration (Figs. 19.26, 20.1, 21.4-6, 22.5, and 22.19), one of fine diagonal lines, perhaps infilling (not illustrated), one incised criss-cross lines, and one undulating line (Fig. 20.21). A similar vessel to the latter is illustrated from Conderton (Morris 2005a, fig. 38). In all but one case the stamped decoration was placed just below the outer rim face. One sherd had stamped decoration on the upper rim surface (Fig. 19.26). The stamped shapes can be paralleled at many sites (cf for example, Peacock 1968; Evesham (Edwards and Hurst 2000); Conderton (Morris 2005a, fig 38); Gilder's Paddock, Bishop's Cleeve (Parry 1999, figs 7-9) and Bank Farm, Dumbleton (McSloy 2006, fig 24).

Phasing and site distribution

Dating the assemblage is quite problematic at present as dating Middle-Late Iron Age pottery in Gloucestershire is still rather approximate. It is anticipated that this will be better understood with the publication of the much larger Beckford assemblage. A further problem with Dean Farm is the size of many of the groups. As noted by Morris (2005a, 136) any ceramic phasing has to be based on an established minimum quantity of material, which in the case of Conderton assemblage was taken to be 25 sherds.

The Dean Farm assemblage does not appear to include the type of vessels one might expect in the earlier Iron Age, for example there are no carinated or angular forms, flared rim or hammer rim vessels of the type found at sites like Crickley Hill (Elsdon 1994). Also the use of finger depressions or finger nail impressions as a decorative technique is absent although at Crickley Hill the introduction of incised decoration seems to date back to the Early Iron Age.

At the other end of the later prehistoric spectrum it is well established that the Malvernian industry continued with little evident technological change into the early Roman period. At most sites in Gloucestershire where there is a late Iron Age-early Roman transition there is clear evidence of an increasing presence of grog-tempered wares from the early 1st century AD along with Palaeozoic limestone-tempered wares, which continue from an earlier phase. The Dean Farm assemblage has a single grog-tempered sherd (Glos type fabric 2C) but a moderately large quantity of Palaeozoic limestone tempered ware. It also seems to lack the 'proto' Severn Valley wares which feature on some sites in the locality in this Late Iron Age-early Roman transition phase.

Middle Iron Age

Table 2 shows the distribution of the defined wares against the main site phasing. Features allocated to the Middle Iron Age produced some 1028 sherds weighing 120.5kg. These were dominated by three fabrics: two shelly wares (SH1 and SH2) and Palaeozoic limestone-tempered ware (MAL RE B). Fourteen stratigraphic groups produced pottery but only five of these produced in excess of 25 sherds (Groups 104, 106, 107, 109 and 110). In addition, pit 1203 produced some 40 sherds.

The sites at Conderton (Morris 2005a), Aston Mill Farm, Kemerton (Dinn and Evans 1990) and Beckford (forthcoming) have been subjected to ceramic phasing based on the relative proportions of local (Jurassic series material) versus regional (Malvernian and Woolhope series) wares. Table 3 breaks down the six middle Iron Age groups from this site into these two, local and regional, groups. If this method of phasing has chronological validity and is not determined geographically, then pit 1203 and group 106 appears to be the earliest by far (corresponding to Beckford phases A and B). This is followed by group 107, with quite a change reflected in groups 104, 109 and 110 which appear the more recent and broadly comparable to Beckford phase D (Dinn and Evans 1990, 34). Three radiocarbon dates have been obtained for this phase, one of 300 BC for Group 107, one of 250 BC for Group 111, and pit 1384 yielded a radiocarbon date of 330 BC. An earlier radiocarbon date recovered from the Late Iron Age (see below) may in fact correspond with the earlier activity suggested by Group 106 and pit 1203.

The activity within the main ditched enclosure may also be quite early although the assemblages are small. Two ring-gullies (G115 and G116), and a cluster of postholes (G117), produced small assemblages of 21, 13 and 6 sherds respectively. These assemblages are composed of a mixture of local and regional materials with sherds of fabrics SH2, SA1 and MAL RE A.

A total of 41 other features allocated to the Middle Iron Age phase produced pottery, a mixture of ditches, pits and a posthole. Only one feature (pit 1551) produced in excess of 25 sherds, but these pieces were largely from a single large jar although this was in fabric, SH1, again suggesting a potentially early date.

Later Iron Age

Features allocated to this phase yielded a total 1213 sherds weighing 9356 g. Compared to the previous phase the proportion of shelly ware has considerably decreased to just 13.5% (count) and 31% (weight). Palaeozoic limestone-tempered wares (MAL RE B) feature at about the same level, at 49.3% (42.3% weight), but Malvernian rock-tempered wares have increased to become the second most common fabric by count at 30.6% but only 22.5% weight.

Two of the ditch groups allocated to this phase yielded statistically valid pottery assemblages along with three pits (see Table 3). The remaining 267 sherds were distributed across some 30 ditch groups, gullies or pits. Groups 103, 105 and pits 1370 and 1384 show broadly similar proportions of local regional wares as Middle Iron Age groups 104 and 110. By contrast pits 1436 and 1700 yielded largely regional wares and thus on the ceramic phasing criteria should be seen as later in the sequence. This somewhat contradicts the radiocarbon date obtained from a potsherd from the upper pit fill of 1700 which came out as 410 BC suggesting it was probably redeposited. However, if this is the case then perhaps the site has slightly earlier origins back to latest phase of the Early Iron Age. This would also directly compare with the earliest occupation phases at Beckford (E. Morris pers. comm.).

Romano-British

Features allocated to this phase produced a total 127 sherds of pottery weighing 744.5 g. The proportion of MAL RE B is quite similar to the Later Iron Age phase, numerically accounting for 47% of the assemblage by count. However, this only accounts for 21.6% by weight indicating a higher level of fragmentation and thus potential residuality. Severn Valley wares are the second most common component accounting for 21.4% by count.

Group 109, a recut of ditch group 108, produced nine early Roman sherds dating from the Neronian to early 2nd century. Further pottery dating to this phase was recovered from Group 118. A number of other Iron Age ditches produced Roman wares, often as single sherds, from the upper fills (1087, 1108, 1186, 1146, 1629 and 1689). Ditch 1186 produced a sherd of South Gaulish samian, Severn Valley ware and MAL RE B; whilst ditch 1629 produced Severn Valley ware, the grog-tempered sherd, MAL RE B and Middle Iron Age shelly ware. The oxidised Seven Valley wares are quite developed suggesting a

		Site phasing	Middle Iron Age				Later Iron Age				Romano-British			
	Fabric	**Description**	**No**	**No %**	**Wt**	**Wt %**	**No**	**No %**	**Wt**	**Wt %**	**No**	**No%**	**Wt**	**Wt%**
Iron Age	CA1	calcite tempered	8	0.8	46	0.4	10	0.8	73	0.8	1	0.9	38	5.9
	L1	oolitic limestone	26	2.5	304	2.5	4	0.3	33	0.4	3	2.6	13	2.0
	L2	Jurassic limestone and shell	24	2.3	451	3.7	7	0.6	28	0.3	0	0.0	0	0.0
	L3	Jurassic limestone and mixed fossiliferous	0	0.0	0	0.0	8	0.7	44	0.5	0	0.0	0	0.0
	SH1	coarse shell and limestone	246	23.9	6651	55.2	140	11.5	2657	28.4	9	7.7	71	11.0
	SH2	sparse coarse fossil shell	122	11.9	1128	9.4	24	2.0	240	2.6	8	6.8	47	7.3
	SH3	fine shell	1	0.1	10	0.1	0	0.0	0	0.0	0	0.0	0	0.0
	MAL RE B	Palaeozoic-limestone tempered	448	43.5	2327	19.4	598	49.2	3959	42.3	55	47.0	139.5	21.6
	MA4	Palaeozoic limestone and dark pellets	0	0.0	0	0.0	1	0.1	18	0.2	0	0.0	0	0.0
	SALI	sandy with limestone	0	0.0	0	0.0	1	0.1	24	0.3	0	0.0	0	0.0
	MAL RE A	Malvernian rock-tempered	81	7.9	635	5.3	371	30.6	2109	22.5	3	2.4	55	8.5
	MA2	Malvernian rock and iron pellets	0	0.0	0	0.0	1	0.1	17	0.2	0	0.0	0	0.0
	MA3	mixed inclusions with sandstone	44	4.3	259	2.1	22	1.8	86	0.9	0	0.0	0	0.0
	SA1	micaceous sandy	12	1.2	103	0.9	1	0.1	3	0.0	1	0.9	9	1.4
	SA2	very fine micaceous sandy	4	0.4	16	0.1	5	0.4	14	0.1	3	2.4	43	6.7
	SA3	glauconitic sandy	1	0.1	29	0.2	1	0.1	6	0.1	0	0.0	0	0.0
	FE1	ferruginous ware	0	0.0	0	0.0	1	0.1	4	0.0	0	0.0	0	0.0
	OO	unidentified crumbs	2	0.2	1	0.0	11	0.9	14	0.1	1	0.9	1	0.2
LIA-ERO	GR	grog-tempered (Glos TF 2C)	0	0.0	0	0.0	0	0.0	0	0.0	1	0.9	19	2.9
Roman	BW/GW	reduced black/grey wares	1	0.1	3	0.0	1	0.1	7	0.1	0	0.0	0	0.0
	DOR BB1	Dorset black burnished ware	0	0.0	0	0.0	0	0.0	0	0.0	1	0.9	31	4.8
	SG SAM	South Gaulish samian	1	0.1	4	0.0	0	0.0	0	0.0	4	3.4	55	8.5
	SVW RE	Severn Valley ware (reduced)	2	0.2	68	0.6	0	0.0	0	0.0	1	0.9	14	2.2
	SVW OX	Severn Valley ware (oxidised)	5	0.5	16	0.1	6	0.5	20	0.2	25	21.4	99	15.4
	MAL RO	Roman Malvernian	0	0.0	0	0.0	0	0.0	0	0.0	1	0.9	10	1.6
TOTAL			**1028**	**100.0**	**12051**	**100.0**	**1213**	**100.0**	**9356**	**100.0**	**117**	**100.0**	**644.5**	**100.0**

Table 2: Distribution of the defined wares against the main site phasing

date perhaps towards the end of the 1st century AD. The Dorset black burnished ware bowl is more likely to have arrived in the first half of the 2nd century AD. This raises the question of a possible ceramic hiatus between this group of Roman material and the preceding Iron Age wares perhaps reflecting an abandonment of the site in the earlier 1st century AD. The absence of early Severn Valley wares, more grog-tempered ware and the presence of tubby Malvernian jars support this suggestion.

Grave 1328 (HB1) produced two small sherds of residual pottery of Iron Age date from the grave fill. No pottery was recovered from grave 1571 (HB2).

		Local		**Regional**		**Roman**		**Radiocarbon date**
Middle	Groups	No %	Wt %	No %	Wt %	No %	Wt %	
Iron Age	106	96	94.2	4	5.8	0	0	
	pit 1203	77.5	89.3	22.5	10.7	0	0	
	107	40.4	60.5	59.6	39.5	0	0	300 BC
	110	16	18.2	84	81.8	0	0	
	104	13.3	7.7	86.7	92.3	0	0	
	109	5.2	14.3	79.8	72.7	9.6	13	
	pit 1384	19.2	24	80.8	76	0	0	330 BC
Later	105	26.8	53	72.4	46.5	0.7	0.5	
Iron Age	pit 1370	17.5	20.6	82.5	79.4	0	0	
	103	17.4	34.5	81.7	65	1	0.4	
	pit 1700	2.3	0.7	97.7	99.3	0	0	410 BC
	pit 1436	2	1.6	98	98.4	0	0	
	108	29.8	39.6	66.7	66.5	3.5	6.9	

Table 3: Breakdown the Middle and later Iron Age groups from this site into these two groups (local and regional)

Fired clay and briquetage

Approximately 37 fragments of probable briquetage are present weighing 255g. The pieces are very fragmentary and, with the exception of three pieces, in an organic-tempered fabric equating with Conderton fabric 2 (Morris 2005a, 119). Two pieces are in a finer material, and one more tentative piece in a coarser, sandy fabric. Most of the fragments are thus likely to have come from the Droitwich salt springs. There were no rim or base fragments.

In addition, a modest assemblage of 112 fragments of fired clay weighing 587g was recovered. The pieces are very fragmentary and largely of amorphous shape with the exception of one fragment from ditch group G107. This fragment had a finger pressed surface and a flat upper surface which suggests this may have been the lining to a structure.

Conclusions and regional comparisons

Published pottery data from Middle-Late Iron Age sites in this region has until recently been lacking and the ability to date small assemblages has often proved problematical. Table 4 compares the main ware groups from this excavation with other available quantified sites from the immediate area: Aston Mill Farm, Kemerton (Dinn and Evans 1990), Gilders Paddock (Parry 1999), Bishop's Cleeve (Parry 1999), Conderton (Morris 2005a), and Childwickham (Timby 2004). Where relevant, the figures have been adjusted to exclude briquetage. It should be noted that the figures represent the whole assemblages and that this may mask any slightly different chronological trends in the individual fabrics. Further afield other probably comparable sites have been excavated at Birdlip (Parry 1998), Highgate House (Mudd et al 1999) and Guiting Power (Vallender 2005).

Gilder's Paddock, Bishops's Cleeve is geographically the closest site to Dean Farm and the earliest activity here comprised ditches and pits dating to the Middle Iron Age. This was succeeded by Roman occupation and burials dated to the 2nd-4th century AD. At Gilders Paddock, the Iron Age assemblage is dominated by three fabrics: Malvernian rock-tempered ware (MAL RE A) (13.1% count), Palaeozoic limestone-tempered ware (MAL RE B) 48.2% and Jurassic limestone and fossil shell ware 37.9%. At Dean Farm, MAL RE B is the dominant overall fabric by count at 47.8% by count, but the limestone and shelly wares form the dominant group by weight at 53.6%. This suggests this assemblage is less well preserved. This may be a direct result of recutting the ditches and redistributing material or a longer chronology. The higher percentage of what is probably the earliest fabric group may well suggest that, although broadly contemporary, this site has slightly earlier origins. Both sites show little evidence of Late Iron Age-early Roman activity. A slightly different picture is shown by the Conderton data. The hillfort at Conderton located just to the north of Beckford, produced an assemblage comprising 45.4% MAL RE A, only 20% MAL RE B and 28.8% limestone and/or fossil shelly wares. Here, again, there appears to be occupation contemporary with nearby Beckford (ceramic phases A/B-D).

Aston Mill Farm, Kemerton also north of Beckford and west of Conderton shows a slightly different profile with MAL RE A dominating at 41% (count) followed by limestone and shelly wares at 21.4% (count) and MAL RE B at 18.1% (count) (9% weight). Grog-tempered wares are far more prominent here at 11.5%. At Aston Mill the focus of activity appears to be in the Middle Iron Age with intermittent activity through to the early Roman period and beyond.

Childswickham, north-east of Beckford located further towards Broadway was occupied from the Mid-Late Iron Age through to the later Roman period. The earlier assemblage only comprised some 76 sherds provisionally dated to the Mid-Late Iron Age. This group is probably later than this site. In terms of composition it is dominated by MAL RE B at 57.6% followed by MAL RE A at 15.7% and the shelly/limestone wares a minor component at 7%. Grog-tempered wares account for 14% reflective of the later Iron Age-early Roman use of the site.

On the edge of the Cotswold escarpment middle Iron Age farmstead-type settlements have been excavated at Birdlip (Parry 1998), Highgate House, Cowley (Mudd et al. 1999), Guiting Power (Marshall 2007) and Guiting Manor Farm (Vallender 2005). Pottery data is available for the first two sites and Guiting Manor Farm. At Birdlip the Middle Iron Age phase (Phase 1) pottery assemblage comprised 86% (count) Jurassic limestone and fossil shell-tempered wares and 10% MAL RE B. This phase had two associated radiocarbon dates falling in between the 4th and 2nd centuries BC (Parry 1998, 86). In the succeeding later Iron Age phase Jurassic wares had considerably declined and MAL REB accounted for 60% of the total assemblage accompanied by various other wares. At Highgate House radiocarbon dates suggested occupation in the 3rd to 4th centuries BC (Mudd 1999, 533). Here the pottery was also dominated by two wares: Jurassic limestone wares at 36.3% (49.3% weight) and MAL RE B at 59.5% (41.9% wt), placing it broadly within the same percentages as Gilder's Paddock and this site. At the site at Guiting Manor Farm, dated to the end of the Middle Iron Age, 43.6% of the pottery comprised Jurassic limestone or shelly ware and 52.8% MAL RE B (Morris 2005b).

	Dean Farm		Aston Mill		Gilder's Paddock		Childswickham		Conderton		Highgate House		Birdlip (phase 1)		Guiting Power	
Description	No %	Wt %	No %	Wt %	No %	Wt %	No %	Wt %	No %	Wt %	No %	Wt %	No %	Wt %	No %	Wt %
calcite tempered	0.8	0.7	0.0	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Jurassic limestone/ shell/ sand	3.1	4.3	4.5	3.7	37.9*	44.2*	1.6	1.9	5.3	6.7	36.3	49.3	86.0*	90.0*	22.0	24.0
Fossil shell	23.7	49.3	16.9	24.7	0.0	0.0	5.4	4.4	23.4	21.6	0.7	2.0	0.0	0.0	21.6	30.8
Fossil shell and grog	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Palaeozoic-limestone tempered	47.8	29.7	18.2	9.5	48.3	46.3	57.6	73.4	20.2	17.2	59.5	41.9	14.0	10.0	52.8	43.9
Malvernian rock-tempered	19.6	12.9	41.0	43.8	13.1	7.9	15.7	10.1	45.4	49.5	1.4	1.2	0.0	0.0	0.0	0.0
mixed inclusions with sandstone	2.8	1.6	0.0	0.0	0.0	0.0	0.5	0.1	0.0	0.0	0.0	0.0	0.0	0.0	3.3	1.3
sandy	1.2	1.0	2.5	2.0	0.6	1.4	1.3	1.3	1.6	1.4	0.3	0.2	0.0	0.0	0.2	0.0
quartz and clay pellets	0.0	0.0	0.4	0.4	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ferruginous ware	0.0	0.0	1.6	1.2	0.0	0.0	0	0.0	0.1	0.1	0.3	1.3	0.0	0.0	0.0	0.0
grog	0.0	0.1	11.5	13.7	0.0	0.0	14	7.8	0.1	0.1	1.4	3.9	0.0	0.0	0.0	0.0
mudstone	0.0	0.0	1.5	0.3	0.1	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
organic	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0
micaceous silty	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	3.4	3.1	0.0	0.0	0.0	0.0	0.0	0.0
Miscellaneous prehistoric	0.8	0.1	1.9	0.6	0.0	0.0	3.8	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL	**99.8**	**99.7**	**100.0**	**100.0**	**62.0**	**55.6**	**99.9**	**100**	**99.8**	**100.0**	**99.9**	**99.8**	**14.0**	**10.0**	**99.9**	**100.0**

Table 4: Comparison of the main ware groups from this site with other available quantified sites from the immediate area: Aston Mill Farm, Kemerton (Dinn and Evans 1990), Gilders Paddock, Bishop's Cleeve (Hancocks 1999), Conderton (Morris 2005a), and Childwickham (Timby 2004)

Catalogue of illustrated sherds (Figs. 17 to 22)

Fig. 17

9. Small jar or bowl. Fabric: L2. Ditch 1504 (1506), Group 111. Phase 2
15. Rim from a barrel-shaped jar with an internally bevelled face. Oxidised exterior, pale brown interior. Fabric: L1. Pit 1127 (1128), Phase 2
25. Bodysherd decorated with a zone of incised cross-cross lines. Fabric: L1. Pit 1203. Phase 3

Fig. 18

10. Base which has been reinforced with additional clay during manufacture. Blackened interior. Fabric: SH1. Ditch 1504 (1506), Group 111. Phase 2
12. Large barrel-shaped jar with an undifferentiated rim. Red-brown interior and black sooted exterior. Fabric: SH1. Ditch 1461 (1460), Phase 2
14. Rim from a large barrel-shaped jar. Smoothed exterior. Fabric SH1: Pit 1127 (1128), Phase 2
16. Several fragmented sherds from a large complete jar. Red-brown in colour. Fabric: SH1. Pit 1551 (1549), SF 9, Phase 2
20. Barrel-shaped jar with a slightly beaded rim. Dark brownish-black in colour with a smoothed, sooted exterior. Fabric: SH1. Ditch 1444 (1446), Group 105, Phase 1b.
24. Jar with an undifferentiated rim. Fabric: SH1. Pit 1203 (1210), Phase 1b.

Fig. 19

3. Globular bowl. Black with a burnished exterior surface. Fabric: MAL RE B. Ditch 1715 (1716), Group 106, Phase 2
7. Barrel-shaped jar. Dark grey exterior, red-brown interior. Fabric: SH2. Ditch 1147 (1151), Group 110, Phase 2
26. Rimsherd slightly internally expanded. Impressed decoration in the form of rounded crescents on the upper rim surface and exterior. Fabric: SH2. Pit 1390 (1391), Phase 3
31. Wide-mouthed jar with a slightly thickened rim. Fabric: SH2. Ditch 1629 (1633), Group 109, Phase 4

Fig. 20

1. Jar decorated with a line of oval impressions deeper at one end suggesting use of a stick. Brown in colour. Fabric: SH1. Ditch 1051 (1052), Group 104, Phase 2.
2. Jar with a smoothed black exterior and red-brown interior. Fabric: MAL RE B. Ditch 1174 (1173) Group 104, Phase 2
11. Jar with a concave inner face. Black in colour with vesicular surfaces. Fabric: MAL RE B, Gully 1846 (1845), Phase 2
17. Wide-mouthed jar with an expanded, internally bevelled rim. Fabric: MAL REB. Ditch 1378 (1377), Group 103, Phase 3.

18. Rounded bowl or jar, black in colour with a burnished finish. Fabric: MAL RE B. Ditch 1433 (1435), Group 103, Phase 3.

21. Jar/bowl with a small rim defined by an external grooved. Incised, slightly irregular arc decoration. Dark greyish-brown in colour. Fabric: MAL RE B. Ditch 1444 (1446), Group 105, Phase 3

22. Wide-mouthed jar. Burnished exterior. Fabric: MAL RE B. Ditch 1444 (1446), Group 105, Phase 3

27. Several sherds rim from a small jar/ bowl with a flaring rim. Burnished exterior. Fabric: MAL RE B. Pit 1370 (1369), Phase 3

29. Wide-mouthed jar with a black exterior and dark red-brown interior. Fabric: MAL RE B. Pit 1436 (1439), Phase 3

Fig. 21

4. Jar with impressed 'duck-stamped' decoration and a groove on the upper rim surface. Fabric: MAL RE A. Ditch 1717 (1718), Group 107, Phase 2

6. Bowl or jar with a line of oval impressions below the rim. Fabric: MAL RE A. Ditch 1147 (1151), Group 110, Phase 2.

28. Jar with a slightly bevelled internal rim face. Fabric: MAL RE A. Pit 1531 (1532), Phase 3

Fig. 22

5. Rim from a bowl, black in colour with a smoothed, burnished exterior surface decorated with two lines of small stabs below the rim. Fabric: MA3. Ditch terminal 1366 (1361). Group 107, Phase 2

8. Lid-seated jar. Dark grey to red-brown exterior, lighter interior, Fabric: MA3. Ditch 1147 (1151), Group 110, Phase 2

19. Wide-mouthed jar with an everted rim. Oxidised in colour. Single line of impressed decoration below the rim. Fabric: MA2. Ditch 1433 (1435), Group 103, Phase 3.

Animal Bone
Matilda Holmes

A total of 3010 fragments of animal bone were recovered, of which 43% were identified to species (Table 5). Cattle and sheep/goat were the dominant species within the assemblage, although horse and pig bones were also present in significant numbers. Other species (dog, wild bird and red deer) were found in smaller numbers. The bones were fragmentary, although their condition was good to fair. A significant amount of metrical, fusion, tooth wear and eruption data was obtained from the remains. A high proportion (88%) of the bones which were identified to species can be divided into the main chronological periods (Table 5). Each of the main phases exhibited similar proportions of gnawing (11%), butchery (7-8%) and burning (2%). Gnawed bones suggest that they were accessible to dog or other animals, rather than being deposited straight after use, and burning and butchery indicates that some processing of the bones took place, most likely as a result of food preparation. The frequency of identifiable animal bones from both the Middle Iron Age and the Later Iron Age allows detailed comparisons to be made, however, the assemblages dating to the Roman and medieval periods are too small to warrant further interpretation.

Fragment Representation and Butchery

A count of anatomical elements from the major domesticates (cattle, sheep/goat, pig and horse) in the Middle and Late Iron Age phases was carried out (Table 6). All parts of the body were recovered, suggesting that animals were killed and processed on site. There were fewer vertebra, skull and foot fragments than may be expected if the whole carcass had been deposited. However, the skull is very fragile and easily fragmented to make recognition difficult and foot bones (phalanges) are often poorly recovered, particularly those from smaller animals (Payne 1975). The majority of bones were from the mandible and meat bearing bones, which is not an unusual pattern. Mandible fragments are the most dense bones in the carcass, so survive well and are easily recognisable, and the preponderance of limb bones is typical of food refuse.

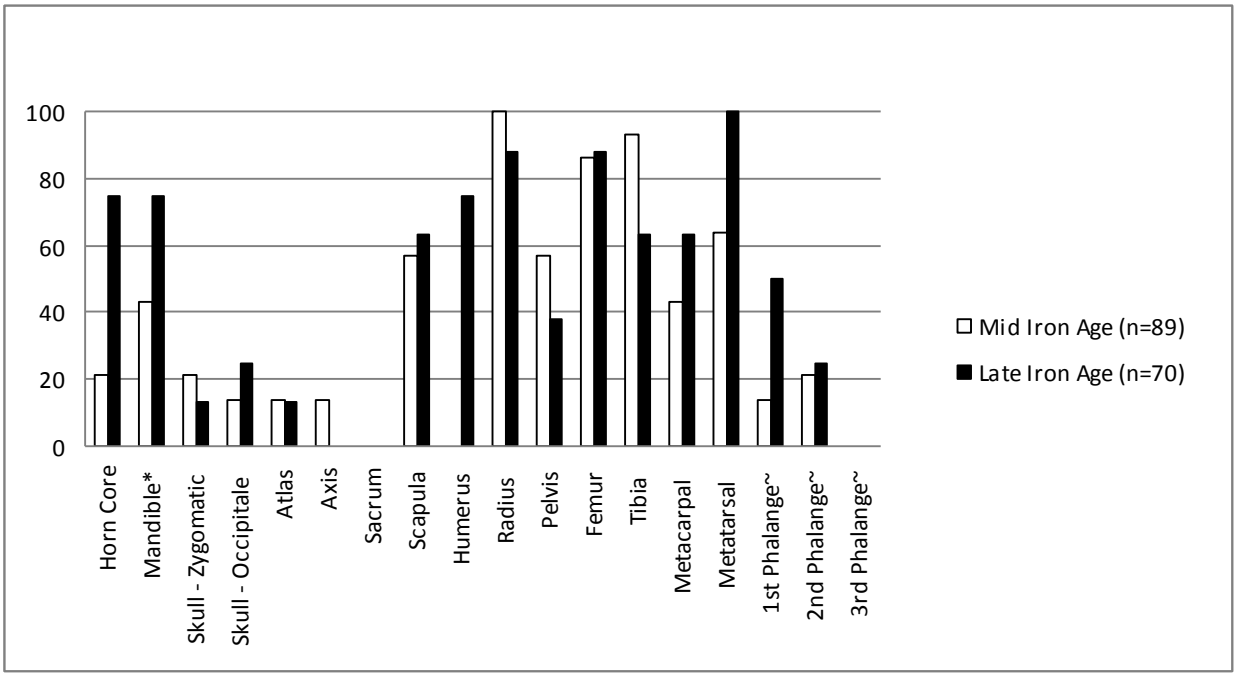
A comparison of fragments from various parts of the carcass for each of the main domestic species from the Middle Iron Age and Late Iron Age was carried out. Proportions of cattle elements were similar between phases, with a majority of meat bearing bones present (Fig. 23), although two significant differences can be noted. The first, a greater proportion of horn core fragments from the later phase, may imply that polled animals were kept in the earlier phase. No direct evidence of this was found and it would be very unusual, although polled species have been recovered from Watkins Farm, Oxfordshire (Wilson and Allison 1990), alternatively, they may have been deposited elsewhere if the horn itself was utilised. Secondly, no humerus epiphyses were recovered from the earlier phase, however, humerus shaft fragments were present from a number of contexts, suggesting that they were not subject to differential deposition.

The sheep/goat assemblage also consists largely of meat bearing long bones, with a consistently high proportion of well preserved mandibles in both the Middle and Late Iron Age periods (Fig. 24). Unfortunately the pig assemblage was too small to illustrate,

	Phases						
Species	2	%	3	%	4	5	undated
Cattle	226	44	220	42	50	2	70
Sheep / Goat	197	39	221	42	28	3	73
Pig	33	6	22	4	2	1	3
Horse	50	10	59	11	10	0	12
Dog	5	1	4	1	1	0	3
Red Deer	0		0		1	0	1
Passerine	0		0		1	0	0
Total Identified	511		526		93	6	162
Unidentified Large Mammal	335		304		104	1	76
Unidentified Medium Mammal	172		179		52	3	51
Unidentified Mammal	154		136		76	0	60
Unidentified Bird	1		0		0	0	3
Total	1173		1145		325	10	352

Phase	**2 - Mid Iron Age**				**3 - Later Iron Age**			
Element	cattle	Sheep	Pig	Horse	Cattle	Sheep	Pig	Horse
Horn Core^	3	3			6	1		
Mandible*	5	16	4	1	7	16	2	1
Skull - Zygomatic	3				1			
Skull - Occipitale~	2	2			4		2	
Atlas~	2	2		2	2			
Axis~	2							
Sacrum~				2	2			
Scapula	8	1	1		5		1	4
Humerus		2	1		6	3		1
Radius	14	3	1	3	7		1	5
Pelvis	8			2	3	3		6
Femur	12		1	5	7	1		2
Tibia	13	2		4	5	3		1
Metacarpal	6	3		5	5			1
Metatarsal	9	4		8	8	1		2
1st Phalange~	2	2		1	4			1
2nd Phalange~	3	1			2			
3rd Phalange~		1						
TOTAL	92	42	8	33	74	28	6	24
* includes mandibles with cheek teeth								
~ elements adjusted for frequency in the body - phalanges x0.5, occipitale, atlas, axis and sacrum x2 ^ horn cores with frontal skull attached								

Table 5: Species Represented (fragment count) (Top)
Table 6: Element Representation (restricted count) (Bottom)



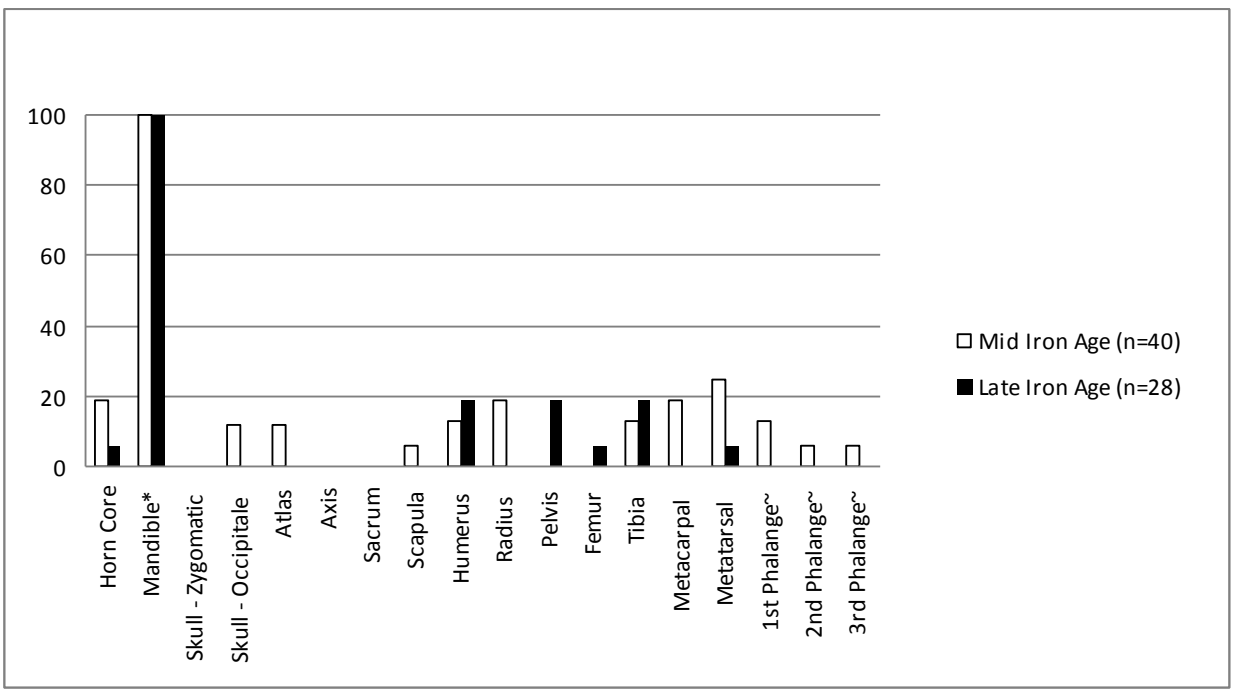


Figure 23: Comparison of cattle elements from Phases 2 (Middle Iron Age) and 3 (Later Iron Age) (Top)
Figure 24: Comparison of sheep/goat elements from Phases 2 (Middle Iron Age) and 3 (Later Iron Age) (Bottom)

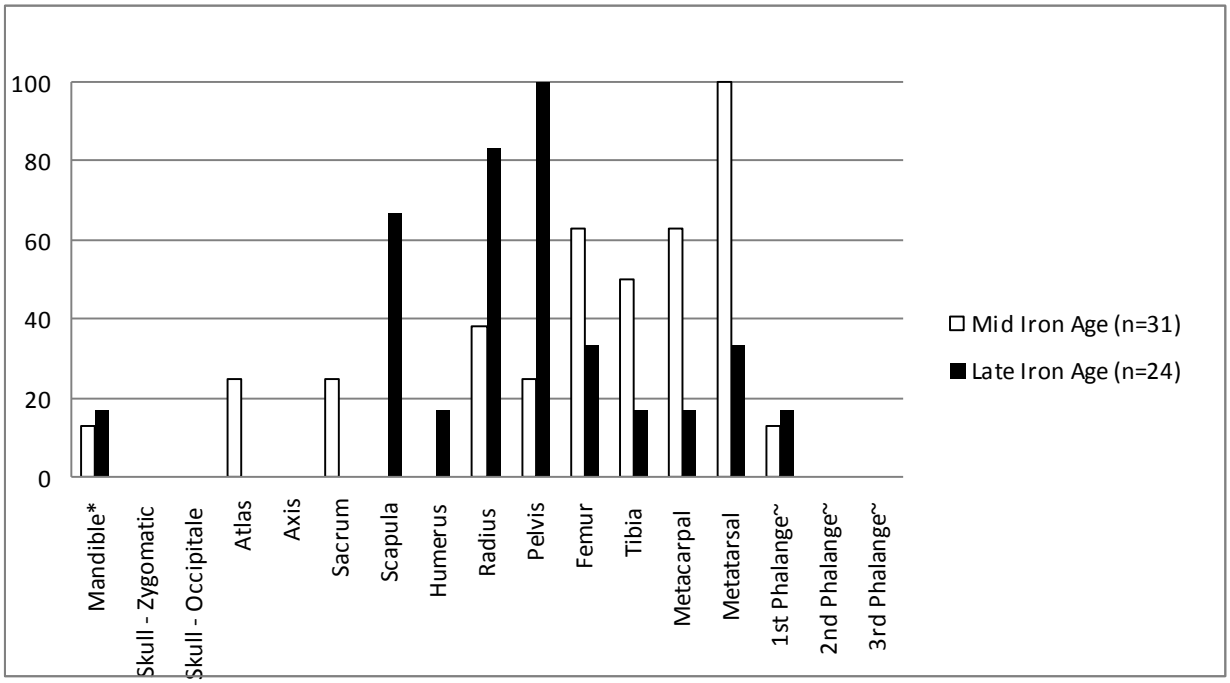


Figure 25: Comparison of sheep/goat elements from Phases 2 (Middle Iron Age) and 3 (Later Iron Age)
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although it was strongly biased in favour of mandible and upper limb bones. A chart was plotted for horse fragments (Fig. 25), which also suggests a greater number of long bones, and very few from the head, vertebral column or feet. The proportion of long bone fragments appears to shift between phases – in the Middle Iron Age they tend towards the hind limbs, and in the later period they are more often from the front legs.

Butchery marks were found on the bones of cattle, sheep / goat, pig and horse (Table 7). They were of two main types – cut marks made by a fine blade, and heavier blows from a chopper type implement. Such techniques are typical methods of skinning, disarticulating and jointing the carcass. The cattle assemblage exhibited the greatest frequency of butchery marks, so will be considered further as shown in Table 7 where they are classed as to type of mark – cut (k) or chop (ch); then the chop marks are noted by position on the bone – proximal (prox), distal (dist) or shaft (sh) and vertical (!) or horizontal (-). Although the sample is small, it appears that a knife like implement was more commonly used in the Later Iron Age, and that jointing of the carcass was more often applied to the distal ends of long bones in that phase, too. The only evidence for butchery of the proximal end of bones came from the Middle Iron Age.

	Mid Iron Age								**Later Iron Age**							
	k	ch	prox !	prox -	sh !	sh -	dist !	dist -	k	ch	prox !	prox -	sh !	sh -	dist !	dist -
Scapula	1	1	1													
Humerus		7				4		3	2	2				1		1
Radius	1	5	2		1	2			1	2				2		
Metacarpal																
Phalanges									1							
Pelvis	1									2				2		
Femur																
Tibia	1	6		1	2	3			1	3				1		2
Calcaneus	1								1	1						1
Astragalus	1								2	2			1			1
Metatarsal		1			1				1	3			1	2		
Mandible									1	1				1 ramus		
Total	6	20	3	1	4	9	0	3	10	16	0	0	2	9	0	5

k- knife cut; ch- chop; prox- proximal; dist- distal; -- transverse direction; !- longitudinal direction

Table 7: Cattle Butchery Marks

Spatial Analysis

A large amount of work has been carried out by Wilson (1996) on the spatial patterning of bones within archaeological settlements. He noted that bones from smaller animals (sheep and pig) were more often found near to the centre of the settlement or, most notably from the immediate vicinity of houses. In the case of Iron Age settlements they were common around hearths and in eaves gullies, where they had been swept during routine cleaning of living areas. Larger bones (those from horse and cattle) were likely to be discarded away from habitation areas, being more inconvenient in size and not so easily swept aside. He also suggested that larger animals were more likely to be butchered away from the main living areas, and smaller animals butchered nearer the living and cooking areas. Spatial analysis of bone from this site suggests that the majority of bones were deposited within ditches (Table 8). The pattern of deposition was also similar in both the Middle and Late Iron Age, although more notable in the earlier period, where larger fragments (those from cattle, horse and unidentified large fragments) were more common in ditch contexts, and smaller fragments (from sheep, pig and unidentified small fragments) more often found in pits. These patterns are not unusual, as ditches are more common at the edge of the settlement, pits being more central, and go some way towards the trends noted by Wilson (year). The assemblage was further examined in light of these findings by plotting the concentrations of smaller fragments as a percentage of all fragments (small and large) from each context in the two periods.

Mid Iron Age	Ditch	%	Gully	%	Pit	%	Post Hole	Total
Cattle	153	68	32	14	39	17	1	225
Horse	37	74	4	8	9	18		50
Large Fragments	230	69	49	15	53	10	3	335
Sheep / Goat	119	61	15	8	61	31	1	196
Pig	17	53	4	13	11	34		32
Medium Fragments	103	60	17	10	48	28	3	171
Dog	5	100						5
Human	2	100						2
Total	666		121		221		8	
Later Iron Age	Ditch	%	Gully	Pit	%	Total		
Cattle	146	70	7	57	27	210		
Horse	48	83		10	17	58		
Large Fragments	238	79	1	63	21	302		
Sheep / Goat	149	68	9	61	28	219		
Pig	16	89		2	11	18		
Medium Fragments	115	65		61	35	176		
Dog	3	75		1	25	4		
Human				1	100	1		
Total	715		17	256				

Table 8: Deposition by feature

Middle Iron Age
The lowest and, indeed, greatest concentrations of smaller fragments were recovered from the substantial enclosure ditches of groups G101, G107, G110, and G111, waterhole 1573 and more shallow stock enclosure ditches of groups G102, G104 and G113. This pattern is in keeping with Wilson's (1996) conclusions that larger fragments were more likely to be deposited on the periphery of a site, which is further exemplified by the greatest concentrations of smaller fragments retrieved from features within the double enclosure associated with roundhouses G115 and G116, suggesting that these features were at the centre of the site. Two anomalous areas with high concentrations of smaller fragments were noted in the ditches of group G106, interpreted as a stock enclosure, and in the ditch terminals of groups G101, G104, G107 and G113. Concentrations of presumed non food species (dog) were also mapped. Of the three contexts containing dog bones, two were within group G106. The similarities of group G106 with the central habitation areas (groups G115 and G116) may indicate that domestic activities also took place in the vicinity of G106.

Late Iron Age
Results from the Late Iron Age period were similar to the Middle Iron Age, where the lowest concentrations of smaller fragments were found in the boundary ditches of groups G100 and G108, waterhole 1573 and the western aspect of the large enclosure group G103. Also in keeping with trends noted in the previous phase were larger numbers of smaller fragments from internal features of the large enclosure group G108, and the ditch terminals of this group. There was also a concentration of smaller fragments in the eastern half of the rectangular enclosure group G103, the features therein and in the ditches of group G105.

In a change to the pattern noted in the previous phase, the majority of non food species were found on the periphery of the site, in contexts within boundary ditches.

Species Representation and Diet
Table 5 shows the species represented by the assemblage. The main domesticates (cattle, sheep/ goat, pig, horse and dog) were identified in all phases, with the addition of red deer and a small passerine bird in Roman period. Proportions of all species were consistent between the Middle and Late Iron Age with a slight increase in sheep numbers to a decrease in cattle and pig, although the sample size and difference are both too small for this to be a significant change. By the Roman period there was certainly greater species diversity, particularly notable for such a small assemblage, which may be expected to produce fewer species counts than the earlier, larger assemblages (Grayson 1979). The species in question were represented by a fragment of red deer antler which may have been shed and does not in itself indicate that red deer were killed and eaten and a leg bone from a small bird which again does not preclude it from being an accidental inclusion.

Proportions of species were within the ranges described by Hambleton (1999) in her synthesis of faunal assemblages from the British Iron Age, both for sites in the region and from enclosed settlement site types. However, the ranges are wide, and there does

not appear to be a standard regional trend or site type, other than to suggest that economies were based on a subsistence regime, of which cattle and sheep were most important and pig less so, though they were still a consistent presence on all sites. This is reflected in species proportions from Farmoor, Oxfordshire (Wilson 1979), Watkins Farm, Oxfordshire (Wilson and Allison 1990), Mingies Ditch, Oxfordshire (Wilson and Bramwell 1993), Groundwell Farm, Wiltshire (Coy 1982) and Ashville Trading Estate, Oxfordshire (Wilson et al 1978), which vary widely in species proportions as shown in Table 9.

	Mingies Ditch	Groundwell Farm	Ashville Trading Estate	Watkins Farm	Farmoor	Dean Farm
Cattle (%NISP)	30	15	29	35	42	43
Sheep / Goat (%NISP)	52	47	58	37	31	41
Pig (%NISP)	6	35	9	8	8	5
Horse (%NISP)	12	3	4	20	20	11
Total Number	1741	2935	1252	1158	167	1028

Table 9: Inter-Site Comparison of Species Proportions (% of NISP)
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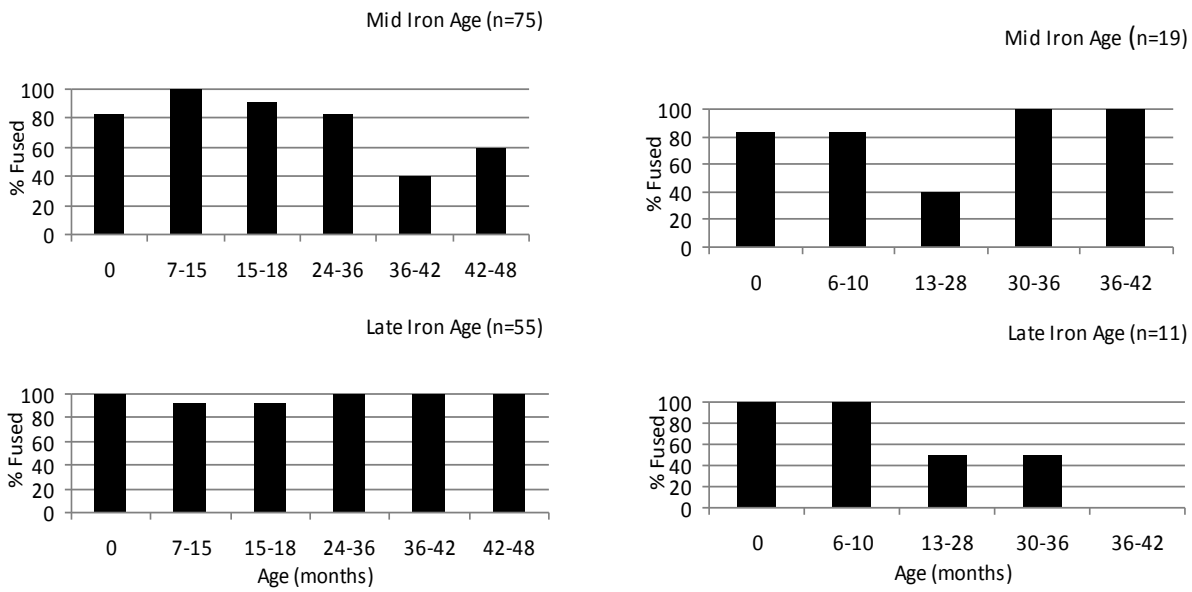

Figures 26 and 27: Cattle fusion data (left) and Sheep/Goat fusion data (right) for Phases 2 (Middle Iron Age) and Phase 3 (Later Iron Age)
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Animal Husbandry

Cattle

There was a substantial amount of epiphyseal fusion data from both the Middle and Late Iron Age assemblages, but very little tooth wear or eruption. Based on the epiphyseal fusion data (Fig. 26) and tooth wear (Fig. 29), there is evidence for neonatal cattle in the earlier period and later period, respectively. This evidence indicates that cattle were bred on or near the site. A small number of animals in the Middle Iron Age appear to have been steadily culled from 15 months of age until a rather larger cull occurred at around 36 months, a significant number were still alive into maturity. This was reflected in the tooth wear data, where the majority of animals died as adults.

In the Late Iron Age, a different mortality profile can be identified consisting mainly of mature animals, with a small number of cattle that died between 7 and 18 months, a pattern which is again reflected in the tooth wear data.

Similar profiles are noted at Ashville Trading Estate and Watkins Farm. These profiles are typical of animals kept for secondary products (traction or milk), with the surplus culled for meat. It is unlikely that animals were used for dairy production, as there was no evidence for a large number of young cattle that died in the first year, a pattern which would be typical of milk production (Noddle 1990). Instead, it is likely that it represents an economy based on a compromise between meat and power. In the later phase, it may be that the economy was more heavily determined by arable production, which may be reflected in the location of pathologies in this phase that occurred on a centro-quartile (hock bone), femur and distal metacarpal in the form of bone deterioration, eburnation on the articular surface and bone growths, respectively. All are indicative of osteoarthritis derived from the stress placed on the joints which may occur as a result of an animal's working life or, alternatively, from natural wear and tear particularly given the aged population.

A number of shoulder heights were calculated using indices by Fock (1966) and Matolocsi (1970). Heights were similar in both phases and were well within the limits of Iron Age cattle in general (Wilson 1978).

Sheep / Goat
Both sheep and goats were identified in the Middle Iron Age assemblage, in a ratio of 11:1, and although 14 fragments of sheep bones were positively identified from the Late Iron Age, no goat remains were accounted for. Although less fusion data was present for sheep and goat (Fig. 27) than in the cattle assemblage, more tooth wear evidence was available (Fig. 30). The overall sample was too small for reliable trends to be noted, although some broad patterns can be summarised. There was evidence for neonatal sheep in the earlier phase, but not in the later phase. Also in the earlier phase, there were a number of animals which died in the first 10 months, and then a large cull of animals in their second year. After this animals were kept alive into maturity. A similar trend was noted in the tooth wear data, although the greatest cull comes slightly later, at stage E (Hambleton 1999), when animals were between 2 and 3 years of age.

A similar pattern is suggested for the later phase. Although there was no evidence for animals dying before the first year, the fusion data indicates a large cull at 13-28 months as in the previous phase, but instead of the remainder of the population being mature, a similar large cull was evident in the third year, with only a few animals living into older age. These patterns are indicative of animals that were killed for meat in the first two or three years of life, allowing for small scale fleece production, with a few older animals, perhaps used as breeding stock, or as long term wool providers.

Pig
There was very little data from the pig assemblage. There was no evidence for animals living over one year of age, which is not unusual, as pigs were often killed before reaching maturity, being of little use for secondary products. Only one measurement of a proximal radius was taken from a Late Iron Age context. When compared with the wild boar data available (Payne and Bull 1988) it was notably smaller, suggesting that the pigs on this site were a domesticated species.

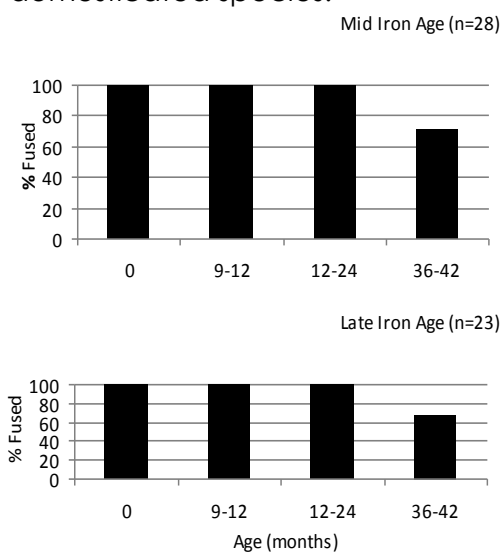

Figure 28: Horse fusion data for Phases 2 and 3
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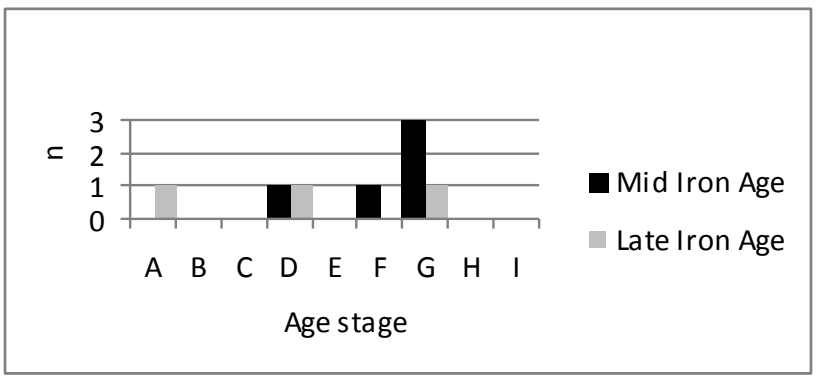
Horse

There was a fairly large amount of fusion data from the horse assemblage (Fig. 28), which was similar for both periods. Horses appear to be alive until 2 years of age, when a fairly large proportion died, leaving only c.65% alive into adulthood. This suggests that horses were predominantly important for secondary uses such as riding and traction, the earlier cull may have been of animal's surplus to requirement.

Wither heights were calculated from complete long bones using indices by Kiesewalter (1888), suggesting that ponies were present of around 12.2 hands high (1.25–1.30m) in phase 1a, with slightly larger animals of 12.2–13.2 hands high (1.27–1.38m) in phase 1b. All these animals were within the ranges noted at Ashville Trading Estate (Wilson et al 1978).



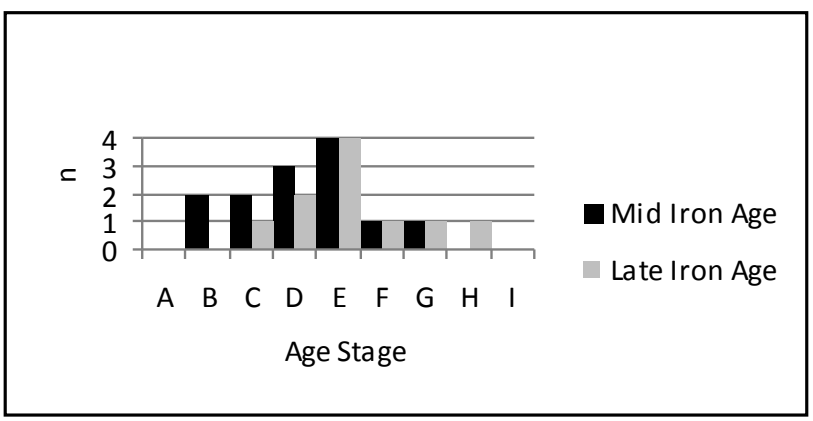


Figure 29:Cattle toothware for Phases 2 and 3 (Top)
Figure 30: Sheep and goat toothware for Phases 2 and 3 (Bottom)

Human Remains
Megan Brickley

Quantification and Preservation
Two adult individuals were recovered as relatively complete (50-75%) articulated burials (HB1 and HB2; Figs. 15 and 16; Plates 11 to 13). In both cases the bone was very fragmented, and this severely limited the amount of metric data that could be recorded. Although very broken, in general the surface of the bone was well preserved, meaning that is was possible to properly assess all possible pathological changes that may have been present.

In addition to these two articulated individuals, several other pieces of human bone were recovered during the excavation. One was part of a right distal adult humerus and was recovered with HB2. Analysis of bone present in the two articulated burials confirmed that this piece of humerus did not come from either HB1 or HB2, and must have come from a third adult buried in the area. A second additional piece of bone was a fragment of possible human rib from a juvenile placed in the child category (3-12 years, Buikstra and Ubelaker 1994). In addition, one fragment of tibia, femur and premolar were also recovered. The femur was fused at the distal end indicating it came from an individual over 14-20 years of age. It had also been gnawed by a dog. The tooth may have been the result of accidental loss.

Radiocarbon dates obtained for the two articulated individuals suggests HB1 as early Roman (1795 BP – 155 AD) and HB2 Late Roman (1615 BP – 335 AD). It is likely that burials took place at this site over a number of years and the number of burials made was much larger that the two articulated individuals excavated. These two individuals were in a fairly fragmented condition, probably due to medieval agricultural activity, and it is likely that many of the other burials had been truncated by such activity. The burials may have originally been part of a small rural cemetery, and the presence of a possible fragment of bone from a child may supports this suggestion.

Demography
The fragmented nature of the bone, particularly of bones such as the ribs and pelvis, severely limited the number of skeletal areas that were available for age and sex determination. HB1 was identified as an older adult and a probable male. Sex determination was undertaken using the features of the skull, as set out in Buikstra and Ubelaker (1994, 20) and the sub-pubic concavity of the left pubic bone, which was the only pelvic feature recommended by Buikstra and Ubelaker (1994) available for recording. Part of the left pubic symphysis and auricular surface were available for analysis and some pieces of cranial suture, all of which indicated the individual was an older adult. Osteoarthritis, which has a range of causes, but is strongly age related (Rogers and Waldron 1995), was also present. Using all the available information the age category 'older adult' (50+ years) was suggested.

The demographic information recorded for HB2 was more limited. Only cranial features were available for the determination of sex. All the features that were recorded were

strongly suggestive of a male individual. The only skeletal feature that could be recorded that might assist with the determination of age at death, were the cranial sutures. Fragmentation of the skull made systematic recording of suture fusion impossible to undertake within the limited time available. No un-fused skeletal elements were present so this individual was an adult when they died. The state of fusion observed in the cranial sutures suggested against a young adult (as did the presence of osteoarthritis at a number of joints). However, it was not possible to estimate the age of this individual with any certainty.

Normal Variation

All the long bones present in both individuals were large and robust, with strong muscle attachments, supporting the suggestion that these individuals were male. None of the long bones could be measured in HB1, and it was only possible to obtain one long bone length measurement for HB2 (the right tibia). A stature estimate of HB2 produced a figure of 164.6cm +/- 3.37cm. Mean male stature for this period is reported to be slightly higher at 169.0cm (Roberts and Cox 2003, 163).

Abnormal variation

A number of skeletal elements belonging to HB1 were affected by osteoarthritis (OA). Osteoarthritis was recorded using the criteria set out by Rogers and Waldron (1995). Severe osteoarthritis was recorded in both hips, the femoral heads were deformed, severely pitted and eburnated, and the acetabuli had a similar appearance (Plate 14). Originally there would have been a considerable amount of osteophyte development around the joint margins, but post-mortem damage meant that much of this had been lost. Osteoarthritis was present in the left shoulder and, eburnation of the acromion was recorded.

One possible well-healed rib fracture of the middle-shaft of a rib was also present in HB1. The rib with the healed fracture was from the middle-section of the thorax, the most commonly affected group of ribs in relation to fracture. It was not possible to determine the side that the rib was from or the rib number. Rib fractures have a number of possible causes and, these are discussed in more detail by Brickley (2006), but in the case of an isolated well-healed fracture of the middle shaft, an accident is probably one of the most likely causes.

HB2 also had skeletal changes linked to OA, which was present on a number of joints in the spine including the odontoid peg. This individual had considerable ante-mortem tooth loss, particularly in the maxilla (upper jaw). In both individuals the teeth that were present showed quite a high degree of wear, and moderate calculus deposits were also present. Many of the teeth present had dental calculus present, and 60% of the teeth present were affected. This is slightly higher than levels recorded at other Romano-British sites, where levels of dental calculus have been reported to range from 13.2%-58.5% (Roberts and Cox 2003, 132). High levels of ante-mortem tooth loss in these individuals, particularly HB2 produced a true prevalence rate of 47%. This would suggest a diet of fairly coarse and unrefined foods was being eaten and dental hygiene, if practiced, was fairly crude.

Plate 14: Right femoral head and acetabulum from HB 1. The femoral head displays a marked deformity and the subchondral bone on both the femoral head and acetabulum are eroded
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No evidence of trauma that had occurred around the time of death (peri-mortem) was recorded. Although the skeletons were damaged and fragmented it is unlikely that such damage was present, making it unlikely that these two individuals were anomalous burials. The range and levels of pathology recorded are typical of the types found in community burial grounds, further supporting the idea that these two individuals were buried in the burial ground of a small rural settlement.

Plate 15: Grey vesicular slag recovered from the site
© Staffordshire University

Industrial residues
Anthony Swiss

A total of 2.22 kg of slag material was recovered from 25 contexts across the site dating to the Middle and Late Iron Age (Phases 2 and 3) and 3 from Romano-British contexts (Phase 4). 'Iron Age Grey' comprised the majority of the recovered material. This enigmatic material is invariably lightweight, greyish in colour, consistently vesicular in nature, often friable, and regularly has a glassy appearance upon fracture (Plate 15).

Similar material from excavations at the Conoco Site at Killingholme, Lincolnshire (Swiss and McDonnell 2001) has been studied in detail, with analysis concluding that apart from one small piece of iron working slag, it was impossible to allocate the rest of the assemblage to any particular pyrotechnical process, except one that involved relatively high temperatures. Experimental work demonstrated that the Killingholme residue had a melting temperature of c. 1200°C, which was too high for it to have been produced in a limekiln or a cremation. It is possible that it was formed during the accidental or deliberate burning of house structures, or during the production of glass.

The possible exceptions in the Dean Farm assemblage are two small pieces of residue; one from posthole 1260 (roundhouse G116, Middle Iron Age) and one from ditch 1560 (G110, Middle Iron Age). The piece from 1260 is small and dark grey in colour and has several inclusions in its fabric, possibly quartz. Unfortunately it is too small to be diagnostic of formation process, although it does have the appearance of a small piece of tap-slag from the smelting of iron ore. The slag from 1560 is a small piece of reddish brown material. The morphology of this material suggests that it may have been fluid at some point and the colour is certainly suggestive of it being associated with ironworking.

PALAEOENVIRONMENTAL EVIDENCE

Plant Macrofossils

Rosalind McKenna and Val Fryer

Thirty nine bulk samples from the site were submitted for plant macrofossil assessment (Tables 10 and 11). These samples were bulk floated and the flots were collected in a 500 micron mesh sieve. As some samples were seen to contain waterlogged macrofossils, these assemblages were stored in water prior to sorting. The remaining assemblages were dried. Both flots and wet retents were scanned under a binocular microscope at magnifications up to x 16. Modern contaminants including fibrous and woody roots, seeds and arthropod remains were common within the charred assemblages, but appeared not to be present within the waterlogged deposits. On the basis of this initial assessment, three samples (samples 2, 23 and 32 – see Table 12) were selected for full analysis and were processed using methods described by Kenward et al. (1980). The plant remains were extracted by means of a 'washover' to concentrate the lighter, organic fraction. The washovers consisted mainly of uncharred material (preserved by anoxic waterlogging). The volumes of this and of the heavier mineral fraction were measured, and the components of both fractions recorded whilst wet. The washovers were stored wet and the residues dried

Inspection of the washovers was carried out and the nature of the plant material and other components were recorded after re-sieving into convenient fractions (usually 10mm, 4mm, 2mm, 1mm and 0.3mm). A three-point semi-quantitative scale of abundance was used, from '1' – one or a few specimens (less than an estimated six per kg of raw sediment) to '3' – abundant remains (many specimens per kg, or a major component of the matrix). Data were recorded on paper and subsequently on a personal computer using a Microsoft Access database. For technical reasons the convention 'sp.(p)' to denote that more than one species was or may have been present, is used throughout, even where only one specimen of the taxon was recorded (and thus only one species could have been present). For plant remains, 'cf.' is used to indicate an attempted identification of fossil specimens. Nomenclature used in this report follows Stace (1997).

Key to Tables

x = 1 – 10 specimens xx = 10 – 100 specimens xxx = 100+ specimens

w = waterlogged tf = testa fragment m = mineral replaced
b = burnt

WH = Waterhole

Sample No.	**32**	**15**	**24**	**33**	**34**	**3**	**22**	**6**	**7**	**17**
Context No.	**1825**	**1410**	**1620**	**1409**	**1515**	**1173**	**1526**	**1208**	**1246**	**1246**
Feature No.	**1824**	**1408**	**1619**	**1408**	**1511**	**1174**	**1525**	**1209**	**1247**	**1247**
Group No. / Type	**Pit**	**107**	**107**	**107**	**107**	**104**	**106**	**111**	**113**	**113**
Phase	**1**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**
Cereals										
Avena sp. (grains)										
(awn frags.)										
Hordeum sp. (grains)						x			x	x
Triticum sp. (grains)				x		x			x	
(spikelet bases)										
(rachis internodes)										
(glume bases)						x			x	
T. spelta L. (glume bases)					x		x		x	x
Cereal indet. (grains)						x	x			x
Herbs										
Apiaceae indet.	xw									
Aphanes arvensis L.										
Asteraceae indet.										
Atriplex sp.	xw			x						
Brassicaceae indet.										
Bromus sp.				x				x	x	
Carduus sp.					x					
Chenopodium album L.									x	
Chenopdiaceae indet.										

Table 10: Macrofossil assessment for Phases 1 and 2

4	5	9	31	13	35	36	10	11	16	20	21	25
1204	1220	1276	1276	1347	1514	1513	1266	1264	1190	1575	1577	1598
1203	1218	1275	1275	1346	1511	1511	1265	1263	1189	1573	1573	1597
Pit	Pit	116	116	Pit	107	107	116	116	116	WH	WH	115
2	2	2	2	2	2	2	2	2	2	2	2	2
	x	x										
		x										
x		x	xcf									x
x	xx	x	x						x			
							x					
x												
x		x					x		x		x	
	xx	x	x				x					
	x										xw	
	x											
	x	x	x				xcf					
											xw	
	x											
											xw	

Cirsium sp.	xw										
C. ficifolium Sm.	xw										
Fabaceae indet.							x				
Fallopia convolvulus (L.)A.Love											
Fumaria officinalis L.											
Galium aparine L.						x					
G. aparine L.											
Hyoscyamus niger L.											
Lamium sp.			xw								
Malva sp.											
Onorpordum acanthium L.											
Papaver dubium L.											
Persicaria maculosa/ lapathifolia									x		
Plantago major L.											
Large Poaceae indet.											
Small Poaceae indet.							x		x	x	
Polygonum aviculare L.											
Polygonaceae indet.											
Potentilla anserina L.											
Prunella vulgaris L.	xw										
Ranunculus acris/repens/bulbosus	xw										
Rorippa sp.			xw								
Rumex sp.	xw			xcf			x		x		
Sheradia arvensis L.											
Solanum nigrum L.	xxw										
Sonchus asper (L.) Hill											
Stellaria graminea L.	xw										
Stellaria media (L.)Vill											
S. oleraceus L.											
S. media (L.)Vill.	xw										
Taraxacum sp.											

Table 10: Macrofossil assessment for Phases 1 and 2

											xw	
											xw	
	x		x									
	x		x									
	x	x										
											xw	
											xw	
											xw	
											xcfw	
											xw	
	x											
	x											
											xw	
	x										xxw	
											xw	
	x	x										
											xw	
											xxw	

Torilis japonica (Houtt) DC										
Urtica dioica L.	xw		xw							
U. urens L.										
Vicia/Lathyrus sp.	xw					x	x			
Wetland/aquatic plants										
Montia fontana L.										
Oenanthe aquatica (L.) Poiret										
Ranunculus subg. *Batrachium* DC A.Gray	xw									
Zannichellia sp.										
Tree/shrub macrofossils										
Crataegus monogyna Jacq.	xxw									
Prunus sp. (fruit stone frags.)		x								
Rubus sect. Glandulosus (Wimmer & Grab)	xw									
Rosa sp. (fruits)	xw									
(seeds)	xw									
Sambucus nigra L.	xw									
Other plant macrofossils		xx								
Charcoal <2mm	x	x		xxx	xx	xxx	x	x	xxx	xxx
Charcoal >2mm		x		xx		x	x	x	x	xx
Charred root/stem				x		x			x	
Mineral replaced root channels	xxx		xxx							
Waterlogged root/stem			xxx							
Indet.seeds				x		x				
Indet.culm nodes										
Indet.fruits	xxw									
Indet.leaf frags.	xw									
Indet.thorns (Prunus type)	xw									

Table 10: Macrofossil assessment for Phases 1 and 2

											xcfw	
											xw	
x	x					xcf						
xxx	xx	xx	xx	xx	xx	xx	xx	xx	x	x	x	x
xx	xx	x	x		x	x	x	x			x	x
	x	x					x					
x											xxx	
	x	x										
	x											x

(Rosa type)	xw									
Wood frags.>2mm	xxw									
Wood frags.>10mm	xw									
Indet.twigs	xxw		xxw							
Molluscs										
Open country species										
Helicidae indet.				x						
Oxychillus sp.										
Pupilla muscorum				x						
Vallonia pulchella										
Vallonia sp.				x						x
V. *costata*	x									
V. *excentrica*										
Woodland/shade loving species										
Oxychillus sp.										
Catholic species										
Cochlicopa sp.										
Trichia hispida group										
Marsh species										
Vertigo sp.										
Freshwater obligate species										
Anisus leucostoma										
Lymnaea sp.										x
L.peregra										x
Pisidium sp.										xx
Animal macrofossils										
Bone		x		x						
Cledoceran ephippia	xw									
Marine mollusc shell frags.			x							
Ostracods										x
Small mammal/amphibian bone										

Table 10: Macrofossil assessment for Phases 1 and 2
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											x	
	xb											x
	xb		x					x	x			x
											xw	
											x	
											x	
	x					x						

Waterlogged arthropods	xx		x							
Small coal frags.										
Vitrified material										
Burnt/fired clay										
Other materials										
Black porous 'cokey' material				x		x	x	x	x	
Black tarry material				x	x	x	x		x	x
Burnt/fired clay							xx			
Small coal frags.		x			x		x		x	

Table 10: Macrofossil assessment for Phases 1 and 2
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											x	
x	x	x	xx	x		x	x	x	x		x	x
	x	x		xx	x		x	x	x			x
			x							x		xx
		x		xx	x							x

Sample No.	**30**	**23**	**38**	**39**	**14**	**28**	**26**
Context No.	**1046**	**1615**	**1519**	**1520**	**1369**	**1121**	**1648**
Feature No.	**1049**	**1602**	**1516**	**1516**	**1370**	**1123**	**1644**
Group No.	**103**	**108**	**108**	**108**	**Pit**	**103**	**Pit**
Phase	**3**	**3**	**3**	**3**	**3**	**3**	**3**
Cereals							
Avena sp. (grains)							
(awn frags.)							
Hordeum sp. (grains)							
Triticum sp. (grains)			xcf		xcf		x
(spikelet bases)							x
(rachis internodes)							
(glume bases)							
T. spelta L. (glume bases)						x	x
Cereal indet. (grains)	x		x	xcf	x	x	x
Herbs							
Apiaceae indet.							
Aphanes arvensis L.							
Asteraceae indet.							
Atriplex sp.		xxw					
Brassicaceae indet.							
Bromus sp.		xcf				xcf	xx
Carduus sp.		xw					
Chenopodium album L.							
Chenopdiaceae indet.							x
Cirsium sp.		xw					
C. ficifolium Sm.							
Fabaceae indet.							x
Fallopia convolvulus (L.) A.Love							
Fumaria officinalis L.		xw					
Galium aparine L.					x xm	x	
G. aparine L.							
Hyoscyamus niger L.		xw					
Lamium sp.							
Malva sp.		xw					
Onorpordum acanthium L.							

Table 11: Macrofossil assessment for Phases 3 and 4

	1	**27**	**2**	**12**	**19**	**37**	**18**	**8**	**29**
	1121	**1079**	**1116**	**1329**	**1572**	**1517**	**1567**	**1268**	**1222**
	1123	**1075**	**1111**	**1328**	**1571**	**1725**	**1568**	**1267**	**1221**
	103	**103**	**108**	**Grave**	**Grave**	**109**	**Pit**	**Pit**	**Pit**
	3	**3**	**3**	**4**	**4**	**4**	**/**	**/**	**/**
				xcf	x		xcf		
	x	xcf		x			xcf	x	
								x	
									x
	x						x		
		xcf	xw	x					
				x	x		x		x
			xw						
			xw						
			xxw						
								xcf	
			xw						
			xxxw						
			xw						
			xxw						
			xcftfw						
			xw						
			xw						
			xxw						
			xcfw						

Papaver dubium L.		xw					
Persicaria maculosa/lapathifolia							
Plantago major L.							
Large Poaceae indet.							
Small Poaceae indet.		xw					
Polygonum aviculare L.							
Polygonaceae indet.	x						
Potentilla anserina L.							
Prunella vulgaris L.							
Ranunculus acris/repens/bulbosus		xw					
Rorippa sp.							
Rumex sp.	xcf	xxxw					x
Sheradia arvensis L.							
Solanum nigrum L.							
Sonchus asper (L.) Hill		xw					
Stellaria graminea L.		xw					
Stellaria media (L.)Vill							
S. oleraceus L.							
S. media (L.)Vill.		xxxw					
Taraxacum sp.							
Torilis japonica (Houtt)DC		xcfw					
Urtica dioica L.		xxxw					
U. urens L.		xw					
Vicia/Lathyrus sp.			xcf				
Wetland/aquatic plants							
Montia fontana L.							x
Oenanthe aquatica (L.)Poiret							
Ranunculus subg. *Batrachium* DC A.Gray		xw					
Zannichellia sp.							
Tree/shrub macrofossils							
Crataegus monogyna Jacq.							
Prunus sp. (fruit stone frags.)							
Rubus sect. Glandulosus (Wimmer & Grab)		xw					

Table 11: Macrofossil assessment for Phases 3 and 4

			xw						
			xw						
								x	
			xxw						x
			xw						
			xw						
			xw						
		x	xw						
			xxw						
			xw						
			xw						
			xw						
			xcfw						
			xcfw						
			xw						
			xw						

Rosa sp. (fruits)							
(seeds)							
Sambucus nigra L.							
Other plant macrofossils							
Charcoal <2mm	xxx	xx	x	xx	xx	xx	xx
Charcoal >2mm	x	x	x	xx		x	
Charred root/stem							
Mineral replaced root channels							
Waterlogged root/stem		xxx					
Indet.seeds						x	
Indet.culm nodes							
Indet.fruits							
Indet.leaf frags.							
Indet.thorns (Prunus type)							
(Rosa type)							
Wood frags.>2mm							
Wood frags.>10mm							
Indet.twigs							
Molluscs							
Open country species							
Helicidae indet.							
Oxychillus sp.							
Pupilla muscorum							
Vallonia pulchella							
Vallonia sp.						x	
V. *costata*							
V. *excentrica*							
Woodland/shade loving species							
Oxychillus sp.							
Catholic species							
Cochlicopa sp.							
Trichia hispida group							
Marsh species							
Vertigo sp.							
Freshwater obligate species							

Table 11: Macrofossil assessment for Phases 3 and 4

	xx	xx	x	xx	xx	x	xx	x	xx
	xx	xx		x			x		x
		x					x		
			xxx						
			x						
							xx		
							x		
							x		
							xcf		
							x		
					x		xx		
							x		

Anisus leucostoma							
Lymnaea sp.		x				x	
L.peregra							
Pisidium sp.				x			
Animal macrofossils							
Bone						x	
Cledoceran ephippia		x		x			
Marine mollusc shell frags.							
Ostracods		x					
Small mammal/amphibian bone				x			
Waterlogged arthropods		xx					
Small coal frags.							
Vitrified material							
Burnt/fired clay							
Other materials							
Black porous 'cokey' material	x			x	x	xx	xx
Black tarry material					x	x	x
Burnt/fired clay				x			x
Small coal frags.			x				x

Table 11: Macrofossil assessment for Phases 3 and 4

	xx						x		
			x				x		
				x	x				x
			xxx						
			xxx						
			x						
			xx						
	x	x			x		x	x	x
	x	x		xx	x		xx		xx
				x	x				xx
	x	x		x			x	x	x

Taxon	Common Name	SN. 2 (1116) G108 Phase 3	SN. 23 (1615) G108 Phase 3	SN. 32 (1825) Phase 1	Habitat
Ranunculus subg. *Batrachium* DC A. Gray	water crowfoot	*	*	*	Wet places
Ranunculus acris/ repens/ bulbosus	meadow/ creeping/ bulbous buttercup	-	*	*	Meadows, pastures
Papaver dubium L.	long head poppy	*	*	-	Arable land, waste places
Fumaria officinalis L.	common fumitory	-	*	-	Cultivated grounds
Rorippa sp(p).	yellow cress	*	-	-	Moist ground. By ponds, ditches, streams
Stellaria sp(p).	chickweed	*	-	*	Waste places, open ground
Stellaria media (L.) Vill	chickweed	-	***	*	Cultivated ground, waste places
Stellaria graminea L.	lesser stichwort	*	*	-	Woods, heaths, grassland
Chenopodium album L.	fat hen	***	-	-	Waste places, cultivated land
Chenopodium ficifolium Sm.	fig leaved goosefoot	-	-	-	Waste ground, arable land
Atriplex sp(p).	orache	**	**	*	Disturbed ground, waste places
Malva sp(p).	mallow	**	*	-	Waste/ grassy places
Rubus sect. *Glandulosus* (Wimmer and Grab)		-	*	*	Woodland
Potentilla anserina L.	silverweed	*	-	-	Waste places, roadsides, damp pastures
Aphanes arvensis L.	parsley pirt	*	-	-	Arable land, grass places
Rosa sp(p) Fruits	rose	-	*	*	Woods, hedges
Rosa sp(p) Seeds	rose	-	*	*	Woods, hedges
Crataegus monogyna Jacq.	hawthorn	-	-	**	Scrub, woods and hedges
Torolis Japonica (Houtt) DC	upright hedge parsley	*	*	-	Hedges, grassy places
Oenanthe aquatica (L.) Poiret	fine leaved water dropwort	*	-	-	In slow flowing or stagnant water
Polygonum aviculare L.	knotgrass	-	-	*	Waste places, arable land
Fallopia convovulus (L.)A.Love	black bindweed	*	-	-	Waste places, arable land
Rumex sp(p).	dock / sorrel	*	***	*	Grassland, cultivated land open land
Urtica urens L.	common nettle	-	*	-	Waste places, cultivated ground
Urtica dioica L.	stinging nettle	-	***	*	Woods, grassy places, fens
Hyoscyamus niger L.	henbane	*	*	-	Disturbed ground
Solanum nigrum L.	black nightshade	-	-	**	Waste places

Prunella vulgaris L.	self heal	-	-	*	Grassland, waste places, wood clearings
Lamium sp(p).	henbit / dead nettle	*	-	-	Cultivated / waste ground
Plantago Major L.	great plantain	*	-	-	Cultivated grounds, open habitats
Carduus sp(p).	thistles	***	*	-	Wayside, waste places
Cirisium sp(p).	thistles	**	*	*	Grassland, arable land, wood
Cf. *Onorpordum acanthium* L.	scotch thistle, cotton thistle	*	-	-	Fields, roadsides, waste places
Sonchus asper (L.) Hill	spiny milk or Sow thistle	**	*	-	Waste places, cultivated soil
Sonchus oleraceus L.	milk or sow thistle	*	-	-	Waste places, waysides
Taraxacum sp(p).	dandelion	*	-	-	Waste places, marshes
Bromus sp(p).	brome grass	-	*	-	Grassland
Triticum sp(p).	wheat	*	-	-	Cultivated land
Poaceae indet.	grass	**	*	-	Grassland
Apiaceae	-	-	-	*	Varied
Asteraceae	-	*	-	-	Varied

Table 12: Key plant macrofossil remains from three selected samples. The order and nomenclature of identi ed plant taxa follow Clapham et al. (1952)

Table 10: Macrofossil assessment for Phases 1 and 2

Beetle (Coleoptera)
Emma Tetlow

Ten samples (Table 13) were processed using the standard method of paraffin flotation as outlined in Kenward et al. (1980). This paraffin flot was then sorted and identified where possible under a low powered binocular microscope at x10 magnification. The system for "scanning" faunas as outlined by Kenward et al. (1985) was followed and hence the results presented here so be regarded as preliminary.

Pollen assessments
Tom Hill

The majority of the samples collected were minerogenic sediments with low organic content which reduced the potential for pollen preservation. Several contexts had higher organic content and were considered suitable for pollen assessment (Table 13).

Pollen preparation followed standard techniques including KOH digestion, HF treatment and acetylation (Moore et al., 1991). At least 125 total land pollen grains (TLP) excluding aquatics and spores were counted for each sample. However, pollen concentrations were very low in almost all samples and full counts were not possible.

Context	Phase (Group)	Coleopteran	Pollen	Description
1121	3 (G103)		+	Fill of ditch 1123. Grey-brown silty clay
1173	2 (G104)		+	Fill of ditch 1174. Dark brown-grey clity clay
1208	2 (G111)	+		Grey-brown silty clay middle fill of ditch 1209. 0.24m thick
1513	2 (G107)	+		Fill of 1511. Mid grey-brown silt with gravel. 0.35m thick.
1514	2 (G107)	+		Fill of 1511. Mid orange-brown silty sand. Possible re-deposited natural. 0.30m thick
1515	2 (G107)	+		Primary fill of 1511. Mid brown-orange silty sand with gravel deposited during/ soon after 1511 was cut. 0.20m thick
1517	4 (G109)	+		Fill of 1725. Mid brown-grey silt with frequent gravel inclusions. 0.50m thick
1519	3 (G108)	+		Fill of 1516. Mid orange-brown clayey silt. Possible alluvial in origin (flood?). 0.20m thick
1520	3 (G108)	+		Fill of 1516. Grey silty clay 0.30m thick
1567	3		+	Fill of pit 1568. Dark grey-brown sandy silt with distinct charcoal remains
1575	3	+		Fill of 1573. Blue-brown clayey sandy silt . Waterlogged. 0.30m thick
1577	2	+	+	Clay lining at base of 1573. Blue clay, waterlogged with preserved wood/ branches surviving. 0.35m thick
1620	2 (G107)		+	Primary fill of ditch 1619. Blue-grey clay with charcoal flecks and fragments of wood
1825	1	+	+	Primary fill of 1824. Dark grey clayey silt. 0.75m thick

Table 13: Details of contexts assessed for coleopteran and pollen

Results

Rosalind McKenna, Emma Tetlow, Tom Hill and Ben Gearey

Plant macrofossils

Cereal grains/chaff, seeds of common weeds and wetland plants, and tree/shrub macrofossils were recorded at varying densities from all but five samples. Preservation was extremely variable; macrofossils within the waterlogged assemblages were mostly very robust, although some were somewhat misshapen. Material from the charred assemblages appear to have been subjected to high temperatures, as many of the grains were severely enlarged and distorted. A proportion of the charred material was also abraded and fragmented, possibly as a result of post-depositional disturbance during the re-cutting of various features.

Charred oat (*Avena* sp.), barley (*Hordeum* sp.) and wheat (*Triticum* sp.) grains were present at a low density within many of the samples. Wheat, largely comprising elongated 'drop-form' grains typical of spelt (*Triticum spelta*), occurred most frequently along with rare spelt glume bases. Waterlogged spelt glumes were noted within sample 2. Charred weed seeds were rare, although sample 5 appeared to contain a small deposit of cereal processing waste including seeds of orache (*Atriplex* sp.), brome (*Bromus* sp.), fat-hen (*Chenopodium album*), black bindweed (*Fallopia convolvulus*), goosegrass (*Galium aparine*), knotgrass (*Polygonum aviculare*), dock (*Rumex* sp.) and vetch/vetchling (*Vicia/Lathyrus* sp.). The waterlogged assemblages contained a higher density of seeds, with ruderal, grassland and segetal species being recorded within all 4 of the main waterlogged features (samples 2, 21, 23 and 32). These 4 samples also contained wetland/aquatic and tree/shrub macrofossils including seeds of water crowfoot (*Ranunculus subg. Batrachium*) and pond-weed (*Zannichellia* sp.), bramble (*Rubus Glandulosus*) and elderberry (*Sambucus nigra*) 'pips' and fruits of hawthorn (*Crataegus monogyna*) and rose type (*Rosa* sp.). Small charcoal fragments were recorded from all but one sample (24). Pieces of waterlogged root/stem were abundant within the waterlogged assemblages alongside indeterminate fruits, leaves, thorns and twigs.

Molluscs, animal macrofossils and other remains

Although specific sieving for molluscan remains was not undertaken, shells (including one burnt specimen) were noted at a very low density within 13 of the assemblages. Most specimens, particularly those within the waterlogged assemblages, were fragmented and abraded and were probably contemporary with the contexts from which the samples were taken. However, some shells within the charred assemblages retained excellent surface detail and pigmentation, and it is assumed that these may be intrusive within the archaeological horizon. Cladoceran ephippia, ostracods and waterlogged arthropod remains were moderately abundant within samples 2 and 21 but otherwise, animal macrofossils were very rare. The fragments of a black porous and tarry material, which were recorded within most assemblages, are probable residues of the combustion of organic remains at very high temperatures.

Coleoptera

The taxonomy used for the Coleoptera (beetles) follows that of Lucht (1987). The numbers of individuals present is estimated using the following scale: * =1-2 individuals, ** = 2-5 individuals, *** = 5-10 individuals, **** = 10+ individuals. Seven of the samples produced no interpretable material. Contexts 1514, 1515, 1517 and 1519 contained the fossilised remains of Ammonites and Gryphea spp., commonly known as 'Devils Toenails'. Cleeve Hill, which lies 1.5km to the east of Bishops Cleeve is composed of fossiliferous Jurassic limestone, rich in both genera. It seems highly likely that these contexts are composed of weathered bedrock and are either previously undisturbed or reworked natural. Three contexts (1515, 1577 and 1825; Table 14) contained interpretative material. Context 1515 contained a single well-preserved sclerite and context 1577 produced a small, well-preserved assemblage. The most productive sample was 1825 from which a large, well-preserved and diverse assemblage was recovered.

Context no.	**1515**	**1577**	**1825**
Phase	**2**	**2**	**1**
COLEOPTERA			
Carabidae			
Nebria brevicollis (F.)			***
Bembidion spp.			**
Trechus quadristriatus (Schrk.)/*striatulus* Putzeys.		**	**
Amara aenea (Geer.)			***
Amara spp.		*	***
Dytiscidae			
Hydroporous spp.			**
Agabus spp.			****
Hydraenidae			
Hydraena spp.		**	***
Octhebius minimus (F.)			**
Octhebius spp.			***
Limnebius spp.			***
Helophorus spp.		****	*****
Hydrophilidae			
Cercyon spp.		**	****
Megasternum boletophagum (Marsh.)			**
Cryptopleurum minutum (F.)			***
Hydrobius fuscipes Leach			**
Chaetarthria seminulum (Hbst.)			*
Histeridae			
Hister spp.			***
Silphidae			
Silpha spp.			**

Table 14: Beetle remains from Bishop's Cleeve

Staphylinidae			
Lesteva spp.			***
Omalium spp.			**
Trogophloeus spp.			**
Oxytelus rugosus (F.)			***
Stenus spp.			*
Philonthus spp.			***
Lathrobium spp.			***
Quedius spp.		*	
Xantholinus spp.			***
Tachyporus spp.			**
Aleocharinae gen. & spp. Indet.		*	***
Dryopidae			
Dryops spp.			*
Cantharidae			
Cantharis spp.			***
Elateridae			
Agriotes spp.		**	****
Adelocera murina (L.)			**
Athous spp.		**	****
Nitidulidae			
Brachyterus urticae (F.)			**
Cryptophagidae			
Atomaria spp.		*	
Lathridiidae			
Corticaria spp.			***
Anobiidae			
Grynobius planus (F.)			**
Ptinidae			
Tipnus unicolor (Pill.Mitt.)			**
Ptinus fur (L.)			**
Scarabaeidae			
Geotrupes spp.			***
Onthophagus spp.			**
Oxymous silvestris (Scop.)			**
Aphodius sphacelatus (Panz.) or *Aphodius prodromus* (Brahm.)			***
Aphodus granarius (L.)			***
Aphodius spp.	*		*****
Phyllopertha horticola (L.)			*
Chrysomelidae			
Chaetocnema concinna (Marsh.)			**
Chaetocnema spp.			**
Phyllotraeta spp.			***
Curculionidae			
Apion spp.			**
Sitona spp.		*	**

THE PHASES

Phase 1

Pit 1824 (sample 32) was deep enough to contain a waterlogged assemblage (Table 10). Radiocarbon dating was also obtained from twig fragments extracted from the waterlogged fill (1825), dating this context to the Middle to Late Bronze Age, 3080 ± 35 BP (1430-1260 cal. yrs BC; SUERC-17650). The assemblage represents a range of habitats, but grassland taxa including *Solanum* (nighshade), *Cirsium* (thistles) and *Prunella* (self-heal) are well represented. The remains of *Crataegus* (hawthorn), *Rosa* (rose) and some sort of 'fruit' stone suggest some scrub and/or woodland was located in close proximity to the pit.

The majority of insect taxa in context 1825 are suggestive of relatively dry, open grassland; possibly pasture, with ephemeral, muddy pools and evidence for scrubby woodland. Wholly aquatic taxa and species associated with dung and decomposing material are present in the assemblage. The *Elateridae*, *Agriotes* spp. and *Adelocera murina* and the *Cantharidae* all suggest open grassland (Koch 1989a, 1989b, 1992). Further indicators of this type of habitat are the *Carabidae, Trechus quadristriatus* and *Amaea aenea*, which are found on dry open ground with short vegetation (Lindroth 1974). The large number of *Scarabaeidae* or 'dung beetles' in these samples indicates the presence of large herbivores. Other species found with damp, rotting material, include the *Staphylinid*, *Oxytelus rugosus* and the *Hydrophilid Megasternum boletophagum* (Hansen 1987). A second *Hydrophilidae, Cryptopleurum minutum* and the *Histeridae* are found amongst decomposing materials, dung and carrion (Hansen 1987, Koch 1989a).

Further taxa which suggest pasture and disturbed grassland include the *Curculionidae* family *Apion* spp., which are found on docks/sorrels (*Rume*x spp.), the *chrysomelid*, *Chaetocnema concinna* which is found on knotgrasses (*Polygonum* spp.) and the *nitidulid Brachypterus urticae*, which is exclusively found on nettles (*Urtica* spp.) (Koch 1989b, 1992). A large number of hygrophilous and aquatic taxa including members of the *Hydraena* family, which are indicative of muddy ephemeral pools (Hansen 1987), are encountered in abundance in this sample. Wholly aquatic taxa are also present in relatively large numbers. The *Dytiscidae*, or predacious diving beetles *Hydroporus* spp. and *Agabus* spp., dominate the aquatic component and require deeper, more permanent water bodies, as does the *Hydrophilid Hydrobius fuscipes* which is mainly found in well vegetated, stagnant, standing water (Hansen 1987). There is evidence for woodland, the *Elaterid Athous* are found at the margins of scrubby woodland, whilst the anobid *Grynobius planus* is a pest of a variety of deciduous trees (Koch 1989a, Hyman 1992).

Trees and shrubs account for 57% of total land pollen (TLP) with Fagus recorded at 18% TLP, alongside *Corylus avellana*-type (hazel), *Hedera helix* (ivy), *Alnus* (alder), *Quercus* (oak), *Betula* (birch) and *Fraxinus* (ash). Herbs accounted for 43%, with *Poaceae*, *Plantago lanceolata* (ribwort plantain), *Asteraceae* (daisy family), *Lactuceae* undiff. and *Chenopodiaceae*. A single *Cerealia*-type grain was also encountered.

G104, 106, 111, 113 and 107
All the above groups produced very low density assemblages, largely comprising charcoal, porous and cokey residues and occasional grains, chaff and weed seeds. There is no apparent evidence for any deliberate deposition of material; it appears far more likely that the remains are derived from scattered detritus, which either accidentally became incorporated within the ditch fills (in the form of aeolian refuse) or was re-deposited during the multiple re-digging of features during the Middle and Late Iron Age periods. Although sparse, the assemblages do appear to indicate that grain (particularly wheat) was of some importance throughout the whole period of occupation. Group 107 represents the earliest phase (possibly Middle Iron Age) of the main enclosure ditch surrounding the farmstead. Plant macrofossils are extremely rare, and it would appear that the ditches were well maintained. There is no evidence whatsoever for the deposition of even small amounts of charred refuse, and the remains which are recorded are almost certainly accidental inclusions within the ditch fills.

Waterhole 1573 – context 1577 (sample 21)
The waterlogged assemblage within sample 21 is closely paralleled by material from the ditch group fills dating to this phase, although it bears little or no relation to the fill of Phase 1 pit 1824 (see above) which lies only 15m to the south. The insect remains are suggestive of a relatively dry, open grassland landscape, possibly used for pasture, with ephemeral, muddy pools and evidence of scrubby woodland. The *Elateridae* or 'click beetle' *Agriotes* spp. and the *Curculionidae Sitona* spp. are all associated with open grassland, with the latter taxa commonly found on vetches (*Vicia* spp.), clovers (*Trifolium* spp.) and other nitrogen fixing vegetation such as gorse (*Ulex* spp.) (Koch 1989a, 1992). The *Carabidae Trechus quadristriatus* and the *Amara* spp. are found on dry open ground with short vegetation (Lindroth 1974). A further genus of elaterids, *Athous* spp, is found in grassland and at the margins of woodland in a variety of deciduous trees (Koch 1989a).The hygrophilous component is relatively small and is confined to species associated with muddy, seasonal pools and damp ground and includes the *Hydraendiae Octhebius* spp. and Limnebius spp. Several of the aquatic *Cercyon* spp. associated with damp decaying organic matter (Hansen 1987).

Context 1577 was found to contain too few pollen grains for a reliable assessment, although grains of *Poaceae* (wild grasses), *Lactuceae* undiff. (dandelions etc.), *Chenopodiaceae* (fat hen family), *Centaurea cyanus* (cornflower) and *Cerealia*-type (cereals) were encountered.

Phase 3

G108

This group represents the first re-cut of the south-eastern corner of the enclosure ditch, possibly during the Later Iron Age. The re-cut was slightly deeper than the original ditch and as a result several waterlogged assemblages were recovered. In sample 2 (ditch 1111, western section of the enclosure ditch G108) there was a wide range of plant remains, mostly weeds and charred wheat grains although mostly present in small numbers. Overall, the remains represent a range of habitats and ecological groupings, but the most dominant habitats represented are places of waste, woodland and cultivated ground. Seeds/fruits are abundant, and the composition of the assemblage appears to indicate that the ditch was at least semi-permanently filled with water and probably had grassy banks supporting a limited range of larger weeds including thistles (*Cirsium* sp.) and dead-nettles (*Lamium* sp.). The absence of scrub macrofossils or seeds of weeds such as nettles may suggest that the ditch sides were well maintained. In addition, the occurrence of seeds of segetal species including orache, fat-hen, knotgrass and sow-thistles (*Sonchus asper*) probably indicates cultivated land was present nearby. There were a few taxa typical of wetland habitats, notably water crowfoot (*Ranunculus Subgenus Batrachium*) and fine leaved water dropwort (*Oenanthe aquatica*) which indicate that the ditch was at least occasionally waterlogged.

One very unusual occurrence within the assemblage are the large seeds of cotton thistle (*Onorpordum acanthium*), a plant whose status as a native species is debated. Although most specimens are crushed, the seeds closely resemble modern reference specimens, and unless it can be proved that the material is intrusive with the context, this may be a very early record of the plant in the UK.

In sample 23 (eastern section of enclosure ditch G108), the plant remains are broadly similar to those in sample number 2 (as discussed above). There is more evidence of cultivated land through species such as long headed poppy (*Papaver dubium*), common fumitory (*Fumaria officinalis*) and chickweed (*Stellaria media*), which may show a change in land use or farming practices at the site. There is also less evidence of damp ground and standing water, which may indicate that the ditch was less waterlogged at this location. The presence of nettles (*Urtica urens* and *Urtica dioica*) suggests that the banks of the ditch were overgrown, and therefore perhaps not maintained to the same extent as others around the settlement.

Phase 4

Group 109

A single sample (37) dates from the second re-cut of the enclosure ditch during the first century A.D. The assemblage contains only a few small fragments of charcoal, and may indicate that this area was no longer a focus of activity during the early Roman period.

EVOLUTION OF AN ENCLOSED SETTLEMENT: DICUSSION

Overview

The geophysical survey, evaluation and excavation at Dean Farm, Bishop's Cleeve, Gloucestershire adds to our understanding of the occupation of the landscape and activity within the area. The stratigraphically secure waterlogged assemblage recovered from pit 1824 dating to the Middle-Late Bronze Age allows landscape reconstruction to be undertaken; a period which we still have much to understand, especially in this region. The main focus of activity across the site dates to the Middle Iron Age and represents an important part of the occupation and chronological settlement of this part of Gloucestershire. As Moore (2007) notes, apart from Frocester (Price 2000) and Beckford (forthcoming), there is a distinct lack of published archaeological sites which illustrate continuous occupation from the Middle to Late Iron Age. Activity at this site continued into the later Iron Age before the probable abandonment of the settlement in the 1st century AD, with the site being incorporated into large field systems.

Form, Function and Regional Settlement Patterns

Cropmark evidence is seen throughout the Cotswolds and the Severn Valley and throw light on Prehistoric settlement patterns, especially enclosed settlements less than 1ha in (Moore 2007), within a landscape which also contains a number of hillforts of varying sizes (Holbrook and Jurica 2006). With an increase in published archaeological data across the Cotswolds and Severn and Avon Valleys in recent years (refs needed), this region should no longer be seen as the 'impoverished neighbour to Wessex and the South East of England' (Moore 2007; 42) but rather as a unique area of distinctive patterns of settlement and chronology. The role of hillforts within the wider landscape is still open to interpretation and debate. Historically hillforts have been labelled as central places, top of a social hierarchy and home of the elite classes (Saville 1984, Darvill 1987, Thomas 2005). Like elsewhere in Britain, there is very little evidence to support this statement when studying the archaeological evidence from this region. Morris (1994) argues that there appears to be very little difference in pottery types and distribution between hillforts and lowland settlement sites, this immediately questions the hierarchical approach outlined above. The hillfort at Conderton (Morris 2005a) for example probably only supported a small number of occupants, certainly no more than the enclosed settlement at Dean Farm. Holbrook and Jurica (2006) have argued that perhaps multiple ditches around settlements – such as Dean Farm – may represent sites of higher status.

Hingley (1984) proposed a further model for prehistoric settlement in the Upper Thames Valley, Oxfordshire, based around the hypothesis that each individual enclosed settlement site was independent and self sustainable, both socially and economically, from its neighbours. It seems unlikely that this model is suitable when considering the Iron Age settlements of the Severn Valley. As discussed below, Dean Farm represents one of several settlement sites in Bishops Cleeve forming a dense region of archaeological

activity from the Middle Iron Age onwards. This region is mirrored by other areas of intense activity across the Severn Valley including Bredon Hill (Bellamy 2001), Dumbleton (Coleman and Hancocks, forthcoming) and Stanton (Marshall 1990) in Worcestershire and Birdlip and Guiting (Holbrook and Jurica 2006) in Gloucestershire. It is unlikely that a model of individual settlement isolation and independence would fit such areas of intense and localised occupation. It seems more likely that these regions, such as Bishops Cleeve, represent large communities of Iron Age populations which settle within certain areas and progressively shift across the landscape within their local environs. It is also conceivable that dense clusters of settlements within small geographical areas represent individual and to some extent independent groups of occupants or families, but evidence from Dean Farm clearly indicates that this settlement most probably did not follow an arable agricultural system (as identified at the other sites immediately to the south) and therefore trade and exchange would be prolific.

Local Landscape Context

Previous work in Bishop's Cleeve has demonstrated a long history of settlement and activity (Figs. 31 and 32). On a local level several substantial settlement sites have been excavated in recent years including Stoke Road (Langdon 1997, Enright and Langdon 1998, Enright and Watts 2002), Cleeve Hall (King and Langdon 1999), Gilder's Paddock (Parry 1999), both sides of Church Road (Parry 1993, Cullen and Hancocks 2008; Lovell et al 2008,) and Home Farm (Barber and Walker 1995; 1998). It seems probable that the Middle Iron Age activity on both sides of Church Road and the remains at Gilder's Paddock can be integrated to form one settlement complex. Church Road (north) also includes sparse Early Bronze Age activity. Church Road (south) shows a possible hiatus in the early Roman period with subsequent Roman activity dating from the mid-later 2nd-4th century AD continuing in to the Saxon period. Occupation at Stoke Road was mainly medieval with some late Roman activity whilst that at Home Farm dates from the later 1st-early 2nd century through until at least the later 4th century AD. Occupation at Cleeve Hall is also Roman and later in date.

The environment

The programme of palaeoenvironmental work on assemblages across this site has allowed comprehensive landscape reconstruction to be undertaken. Radiocarbon dating indicates that the accumulation of fill 1825 occurred in the Mid-Late Bronze Age (3080 ± 35 BP, 1430-1260 cal. yrs BC; SUERC-17650). Although the overall preservation of pollen grains from Iron Age features was poor (limiting somewhat the potential for reliable interpretation), the pollen assemblage from 1825 (Phase 1) was better preserved and provides some evidence for the Bronze Age environment of the site. The range of herbs, including ribwort plantain, dandelions and fat hen, indicate the presence of grassy meadow but there is also some evidence for scrubby hazel-ash woodland whilst the abundance of *Fagus* indicates the close proximity of beech woodland. The large pollen grains of *Fagus* are not common in fossil contexts due to its relatively low pollen productivity (Andersen, 1970). In addition, it flowers intermittently and the heavy pollen grains tend to fall on the woodland floor very locally (Geisecke et al., 2007). This therefore suggests the presence of beech trees in the immediate vicinity of the site. Beech may establish itself after periods of woodland disturbance and is a potential indicator of the colonisation of

areas which were initially cleared by human activity (resulting from increased pressure on environmental resources during the Bronze Age due to population growth) and were then abandoned as this tree was able to compete strongly with oak during periods of woodland regeneration (Birks 1986). Alternatively, given the archaeological context, other pathways of deposition in the pit are possible; such as pollen grains adhering to material being deliberately or accidentally incorporated into the pit fill.

The environmental evidence identified from the pollen assessment is further reinforced by the analysis of the plant macrofossils and Coleoptera remains from context 1825. The plant macrofossils suggest the presence of grassland and perhaps scrubby woodland. The beetle assemblages include the Elateridae, Cantharidae and Carabidae families, all of which suggest a landscape of open grassland with low growing vegetation (Tetlow, 2006) as well as beetle indicators for scrubby woodland (but do not directly attest the presence of beech).

During the Iron Age, the plant macrofossil assemblages generally suggest open grassland habitats in close proximity to the sampling sites with evidence for some patchy or distant scrub/woodland. The presence of aquatic taxa imply that the enclosure ditches were water filled and some areas of the ditches were maintained, perhaps being allowed to become more overgrown as time progressed.

Agriculture and Subsistence

No evidence for cultivated cereal grains were identified within pit 1824 (Phase 1, Bronze Age). Although evidence for cultivated wheat was identified from a single Bronze Age feature excavated at Church Road (Lovell at el 2004), the presence of spelt wheat and stinking mayweed (introduced to Britain during the Iron Age/Romano-British periods) in the deposit casts doubt over the phasing of this feature.

As identified from numerous other excavations of Iron Age and Romano-British settlement sites such as Danebury (Campbell 2000) and Birdlip (Dobney and Jacques 1998), spelt wheat (*Triticum* sp.) was the most common cultivated cereal grain within the macrofossil assemblage. However, the relatively few wheat grains would seem to imply that cultivation and/or processing of cereals was not a primary function of the site. It is thus possible that the low quantities of cereal may reflect a farmstead with a predominantly pastoral economy, with the occupants of the site relying on grain imported from elsewhere (although it is probable that taphonomic processes may have affected the survival of charred plant material). Stevens (1996) has suggested that during the Iron Age, crops such as wheat were most probably exchanged over long distances, although other sites in Bishop's Cleeve, including Church Road (Lovell at el 2004) and Gilder's Paddock (Parry 1999), produced environmental evidence (former) or artefacts (latter) which suggests significant levels of crop cultivation in the Iron Age.

Evidence for pastoral activity at Dean Farm is seen in the large number of Scarabaeidae or 'dung beetles'. As the animal bone assemblage demonstrates, during the Iron Age it is likely that cattle, sheep and pigs were bred on or near the site and slaughtered and processed at the settlement. Cattle were probably important for traction, which formed

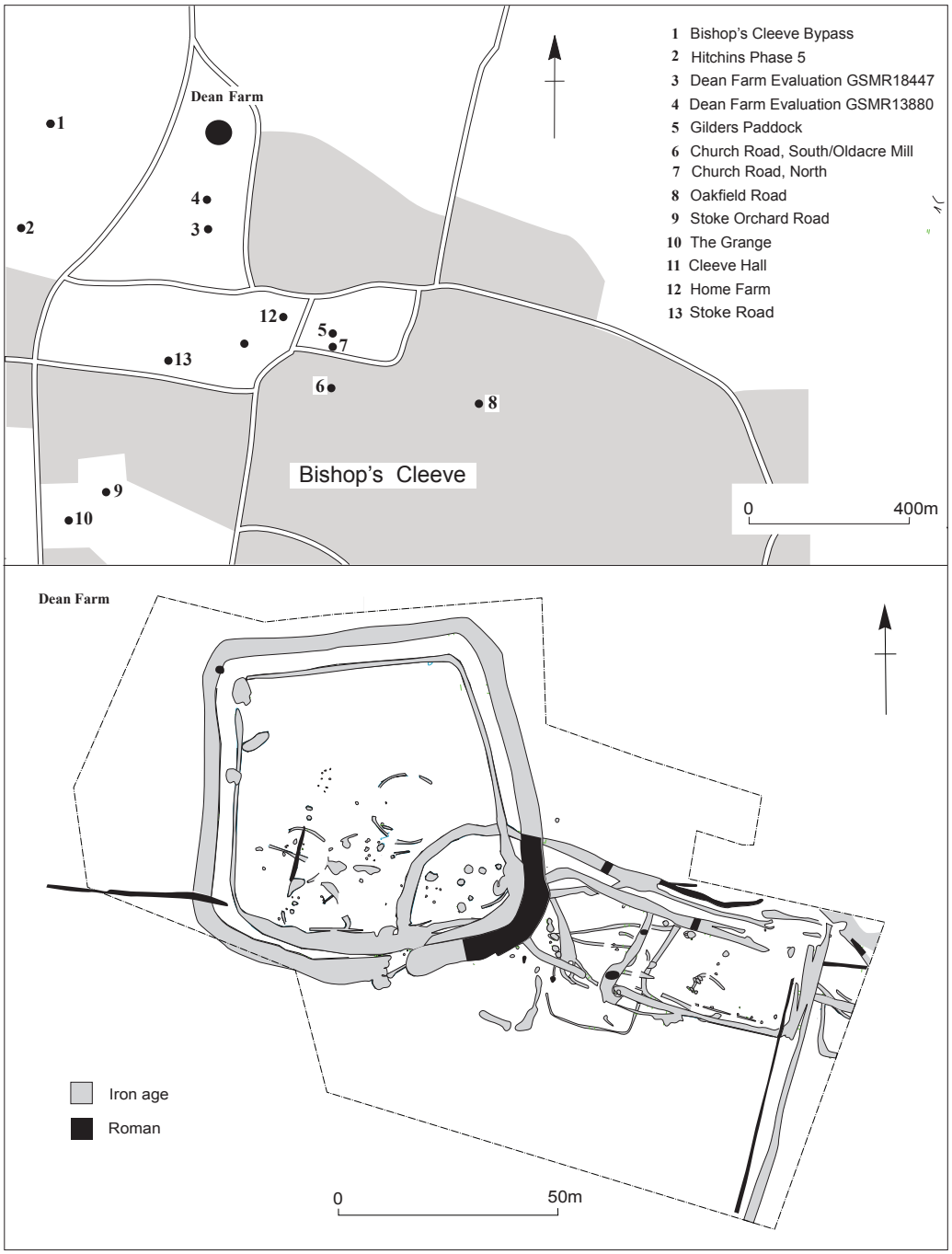

Figure 31: The location of all of the sites mentioned in the text that are close to Dean Farm, Bishop's Cleeve (top) and the remains found at Dean Farm which date to the Iron Age and Roman periods (bottom)
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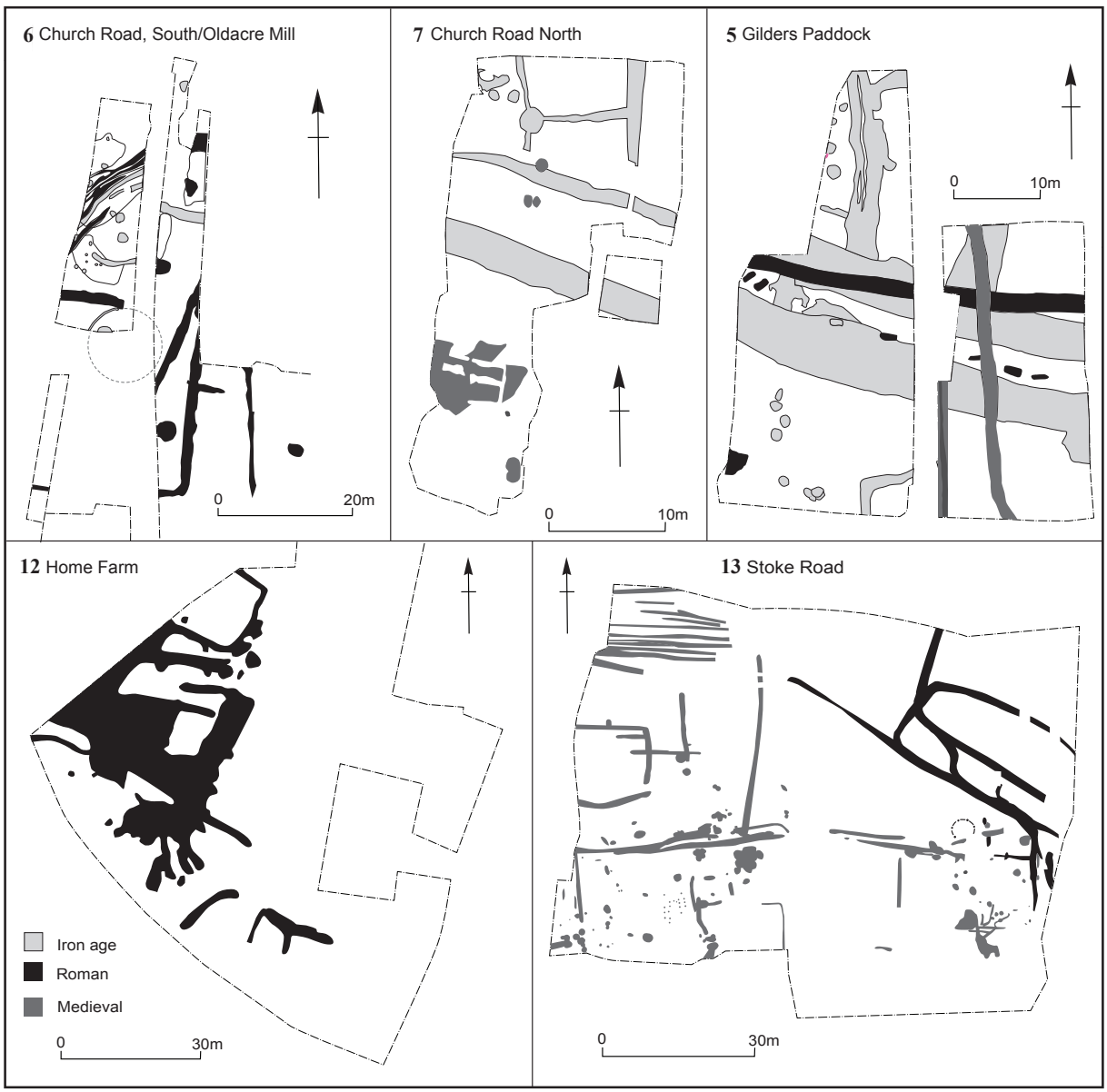

Figure 32: An illustrative overview of the Iron Age and Roman remains found at Church Road north and south, Gilder's Paddock, Home Farm, and Stoke Road
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an important part of a mixed economy, and sheep for wool production. There was no evidence for horses being bred on the site, and it may be that these animals were traded, or produced away from the site. Cattle, sheep, horse and pig were ultimately slaughtered for meat, and these species were probably the main, if not only, source of meat as no other species were evident, although they were recovered from later phases. Dogs would have been present at the settlement, although there was no evidence that they were eaten, probably being important for stock management and guarding.

The bones from all stages of processing – slaughter, butchery and food waste – were probably deposited together, although there seems to be some spatial patterning indicating central and periphery settlement areas. In a change to the pattern noted in the Middle Iron Age, for the later Iron Age the majority of evidence for non food species were found on the periphery of the site in contexts within boundary ditches. Also during the later Iron Age, a different mortality profile can be identified consisting mainly of mature animals, with a small number of cattle that died between 7 and 18 months, a pattern which is again reflected in the tooth wear data. This suggests a change in the use of these species which resulted in a longer lifespan, such as the need for power and traction to work the fields.

Death and Burial

No evidence was identified at this site to assess attitudes of death and burial practices in either the Bronze or Iron Age periods. Two human inhumations were excavated dating to the Romano-British period (HB1; 1795 BP–155 AD) and HB2; 1615 BP–335 AD). HB 1 was placed within the grave cut in an extended position whilst HB 2 was crouched. In Late Iron Age Gloucestershire, there was a localised tradition of crouched burial (Holbrook 2003). Crouched burials dating to the Romano-British occur sporadically in the archaeological record for Gloucestershire including Henbury (Russell 1983) and Hucclecote (Philpott and Reese 1993) and most probably represent a survival or continuity of local traditions. To some extent this contradicts other ceramic and stratigraphic data from this site with suggests that settlement on this site most likely ceased in the 1st century AD. It seems likely that the main Romano-British occupation sites were situated to the south, attested to by the substantial Roman features identified at Home Farm (Barber and Walker 1998), Cleeve Hall (Enright and Watts 2002) and Gilder's Paddock (Parry 1999). Excavations at the latter site also identified seven extended human inhumations.

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