

# A LATE IRON AGE ENCLOSURE AND A ROMAN DROVEWAY AND ENCLOSURES AT MAGNA PARK, MILTON KEYNES

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*Separate Iron Age and Roman settlements were excavated in advance of industrial development at Magna Park. A scatter of gullies and pits dated to the middle/late Iron Age were superseded in the late Iron Age, 1st century BC, by a square enclosure that remained in use to the mid-1st century AD. The enclosure was defined by a deep V-shaped ditch, and a shallower flat-bottomed outer ditch may have held a timber palisade enclosing the western half of the enclosure. At the south-east corner a complex sequence of structures probably marked successive refurbishments of a protected entrance. The overall form is comparable to the class of Wootton Hill-type enclosures. The interior contained numerous gullies and pits, including a drainage gully parallel to the lowest lying northern arm of the enclosure. No evidence for former roundhouses had survived, but the internal features and the ditch fills produced a substantial assemblage of late Iron Age pottery, including hand-built vessels and wheel-finished vessels spanning the early Roman transition. Early Roman activity was limited to a scatter of pits lying immediately outside the enclosure, some containing kiln lining, and this area was probably fully abandoned by around AD70. Nearly a kilometre to the north-east, a curving boundary ditch and a sparse scatter of other features were late Iron Age to early Roman in date, 1st century AD, but by the early 2nd century a new and more elaborate system of boundaries was introduced, comprising a broad droveway running into possible stock enclosures. An adjacent domestic enclosure, containing at least two round-houses, formed a low status native farmstead. A new enclosure, containing a rectangular timber building, had been constructed by the early to mid-3rd century, and the droveway was made narrower. These changes may have marked a shift from pastoral to arable domination of the agricultural economy, which rendered the broad droveway redundant. The enclosures had been abandoned by the end of the 3rd century AD. The activity at this site may have formed a subsidiary element of a broader farming estate attached to a higher status Roman centre 1.5km to the north-west at Broughton Manor Farm.*

## INTRODUCTION

Northamptonshire Archaeology (now MOLA Northampton) were commissioned by John Samuels Archaeological Consultants (subsequently CgMs Consulting), on behalf of Fen Farm Developments, to carry out archaeological evaluation across a proposed development now known as Magna Park, Milton Keynes (Fig 1). Geophysical survey identified a possible sub-rec-

tangular enclosure in the north-eastern part of the application area (Butler 2006), and trial trench evaluation confirmed the presence of the enclosure and a more extensive system of associated ditches, all dated to the Roman period (1st-3rd centuries AD) (Burrow 2006; Taylor 2006). Trial trench evaluation in the western part of the development area (Patenall 2007) examined a square enclosure identified in the geophysical survey, which was dated to the late Iron Age (early 1st century AD).

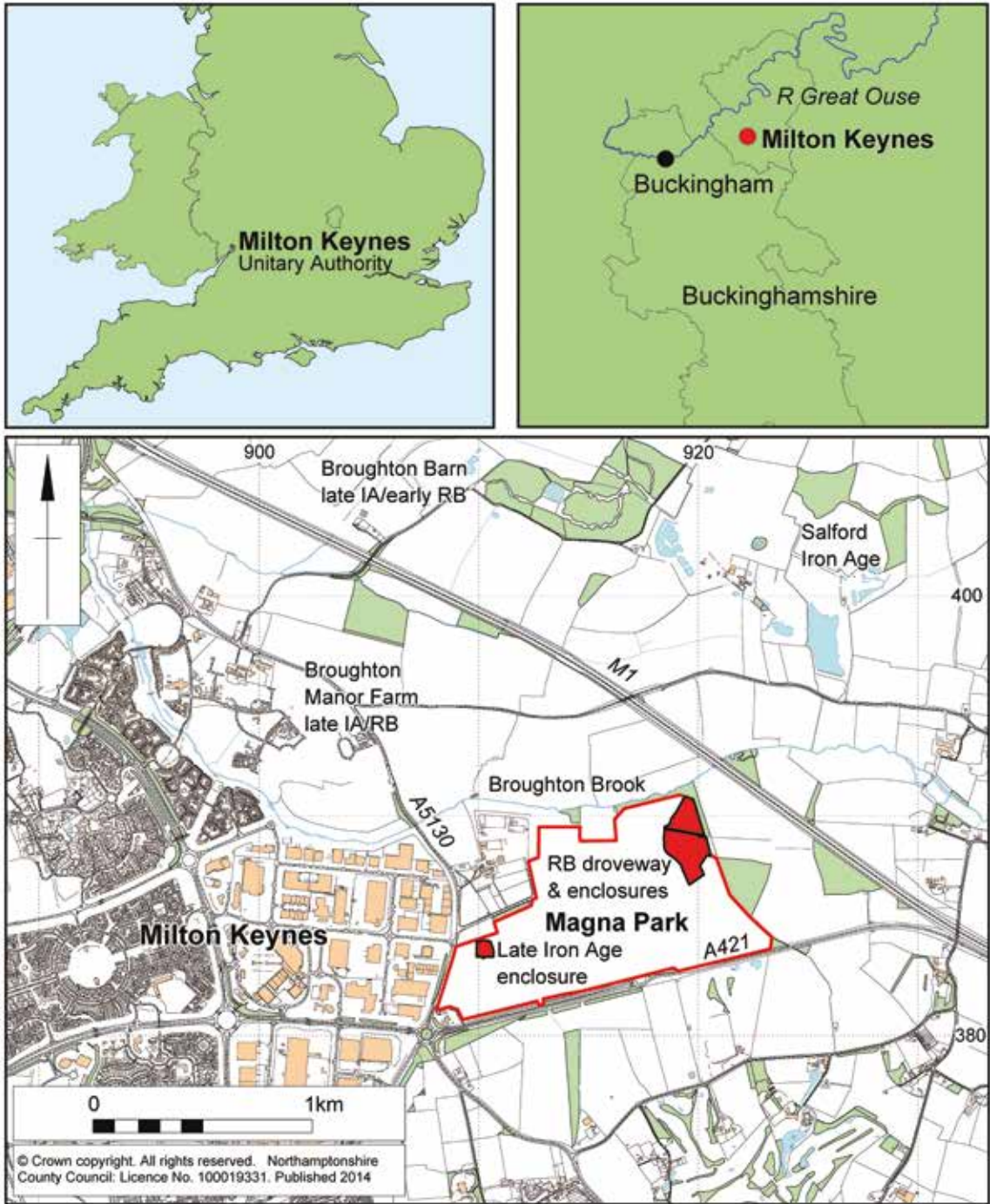


FIGURE 1 Site location, showing nearby Iron Age and Roman settlements

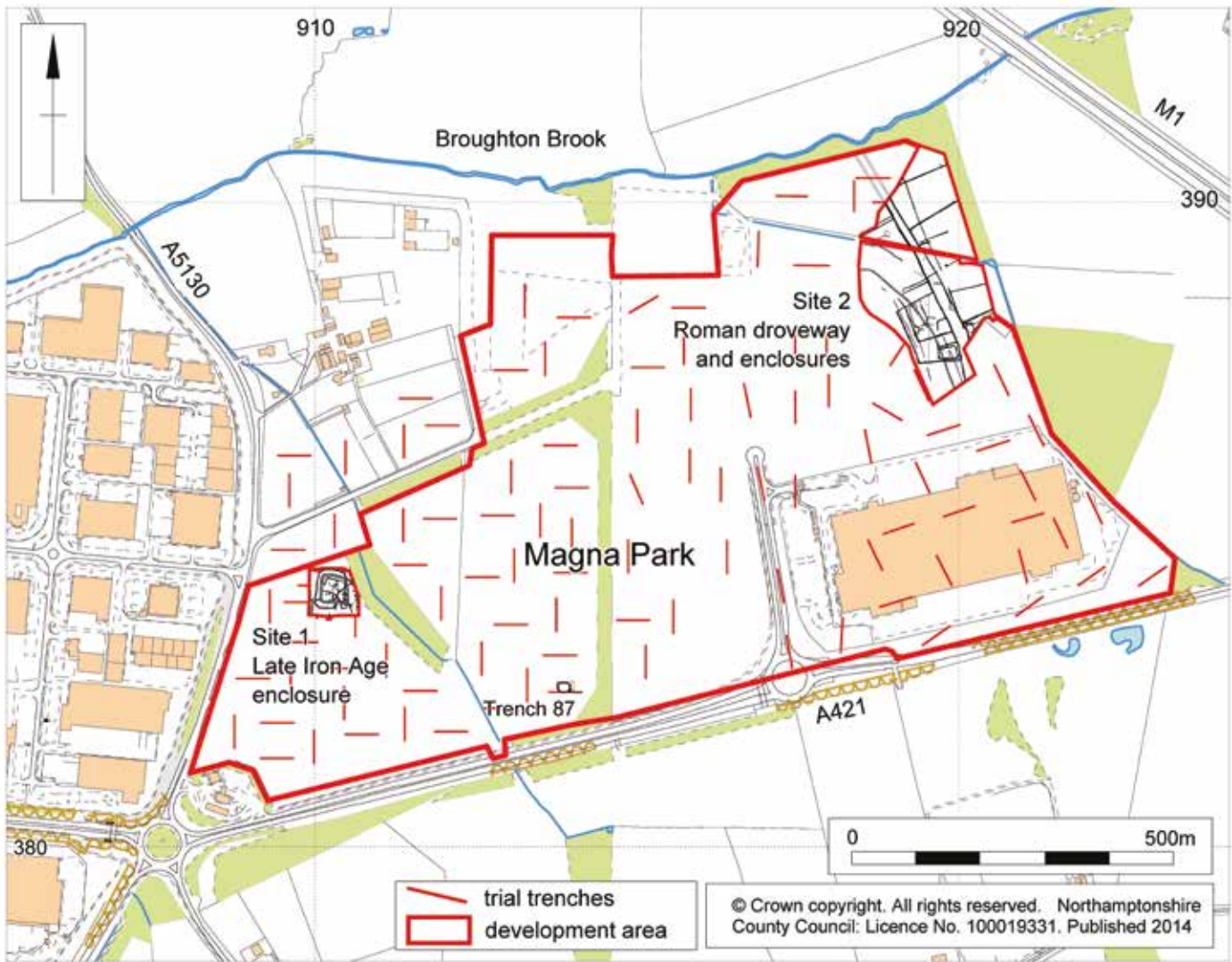


FIGURE 2 Magna Park, showing the excavated areas and the trial trenches

In addition, in the southern part of the development, there was a small oval enclosure, 21.0m long by 16.5m wide (Patenall 2007, 5 & fig 4). The ditch was 1.3m wide by 0.85m deep, with a V-shaped profile, but there was no entrance and no internal features and no finds. It seems likely that this was a minor element of either the late Iron Age or Roman landscape (Fig 2, trench 87).

Northamptonshire Archaeology was subsequently commissioned by CgMs Consulting for Fen Farm Developments to carry out two area excavations; Site 2, the Roman enclosure system (NGR SP 919 389), from November 2006 to March 2007 and Site 1, the late Iron Age enclosure, from April to June 2007 (NGR SP 910 384) (Figs 1 and 2).

Following excavation, assessment reports and updated project designs were produced for both sites (Mason 2008 and Taylor *et al* 2008), but after the economic recession further progress was delayed for some years. However, a client report describing both sites was completed in 2013–14 (Chapman *et al* 2014). This report is deposited online through the Archaeology Data Service (ADS, Grey Literature Library, MOLA Northampton). The site archive has been deposited with Buckinghamshire County Museum Service (Accession numbers: 2006.203 for the evaluation; and 2007.37 and 2007.71 for the two stages of excavation). The published report is an edited and much reduced version of the client report.

## TOPOGRAPHY AND GEOLOGY

The development site occupies an area *c.* 80ha on the east side of Milton Keynes, bounded to the south by the A421 Standing Way and to the west by the A5130. To the north and east were further arable fields, now also subject to development, with the M1 motorway a little further to the north-east (Fig 1).

The general topography of the surrounding area is one of low relief associated with Broughton Brook rising on the higher ground to the east around Salford, Bedfordshire, flowing westward immediately north of the development site, then turning north to join the river Ouzel, which also flows northwards to join the river Great Ouse north of Milton Keynes. The development site spans a low spur, rising to just over 70m aOD to the south, adjacent to the A421.

The geology comprises Glacial Till overlying Oxford Clay and Kellaway Beds (JSAC 2006, 3).

During excavation the ground conditions were at times very wet and on occasions the sites were partially flooded and the Roman site was even buried under snow. The field teams are to be congratulated for achieving so much despite the far from ideal conditions.

## CHRONOLOGICAL SEQUENCE

The broad chronology of the two sites is summarised below (Table 1).

### Neolithic and Bronze Age Activity

An earlier human presence was only recorded at Site 2 (Fig 16), and comprised a late Neolithic discoidal flint scraper, the butt end and part of the blade of a middle Bronze Age copper alloy dagger from a Roman ditch, and a single pit (Fig 16, 690) dated to the middle Bronze Age by a potsherd and an assemblage of decorated cylindrical loomweights, published previously in *Records of Bucks* (Chapman 2012).

### A Late Iron Age Enclosure (Site 1: 1st century BC to mid-1st century AD)

#### Introduction

Site 1 in the west lay on land sloping gently down from the south-west, at 68m aOD, to the north-east, at 67m aOD (Fig 1). The excavated area was roughly square, up to 77m north-south by up to 78m west-east, an area of 0.52ha (Fig 3). The initial area was extended to the north, to take in all of an outer ditch E1, and to the south to enable the full excavation of pit group PG2.

#### General Stratigraphy

The natural was patchy red-brown sandy gravel with frequent grey-blue veins of boulder clay, generally lying 0.40m below ground level. The gravels overlay tenacious clays and a band of very soft grey clay was exposed on the surface at the northern end of the site. The overlying subsoil, typically 0.20m thick, was firm brown-orange to olive-green clay with occasional small stones, sharply differentiated from the topsoil, but merging into the natural. The topsoil, 0.30-0.40m thick, was a friable grey-brown clay loam with occasional small stones.

Ploughed-out shadows of largely removed furrows, into which ceramic land drains had been

TABLE 1 Chronological development

<i>Period and phase</i>	<i>Site 1: Late Iron Age enclosure</i>	<i>Site 2: Bronze Age pit, Roman droeway and enclosures</i>
Late Neolithic/ early Bronze Age		Flint scraper
Middle Bronze Age		Pit with loomweights & potsherd. Residual copper alloy dagger fragment
Early Iron Age (6th-5th century BC?)	Rim sherd with incised decoration	
Middle/late Iron Age (2nd-1st century BC?)	Scattered pits and gullies	
Late Iron Age (1st century BC to mid-1st century AD)	Construction, use and modification of square enclosure	Curving boundary ditch
Early Roman (mid-1st to early 2nd century AD)	Pits south of enclosure kiln lining debris	Curving boundary ditch Sparse pottery deposition
Roman (early 2nd to mid-3rd century AD)	Abandoned	Broad droeway & domestic enclosure Pastoral farming dominant
Late Roman (mid to late 3rd century AD)		Narrow trackway and domestic enclosure Arable farming dominant
Roman (4th century AD)		Abandoned
Medieval/post-medieval/ modern	Ridge and furrow Arable landscape	Ridge and furrow Arable landscape

inserted, were aligned north-west to south-east. This ridge and furrow field system would have truncated the earlier features and as the furrows themselves had been largely removed, there had evidently been considerable truncation from recent ploughing. To the north, an iron duct containing an electricity cable was left undisturbed within an unexcavated baulk about 1.5m wide.

### ***Development of the Enclosure***

From the enclosure ditch E2, a rim sherd with incised line decoration on the upper body (see Fig 9, 1) may date to the early Iron Age, and this might suggest that some of the scattered pits and gullies lying to the east of the enclosure (Fig 3, G1/PG1) and perhaps some of the similar features, which were largely undated, in the area later encom-

passed by the ditched enclosure belonged to an early phase of activity.

However, some of the pits to the east, G1, produced pottery of probable middle/late Iron Age date, suggesting there was a phase of activity in the 2nd/early 1st century BC immediately preceding the construction of the enclosure. This included a discontinuous gully, G2, with a terminal to the south, G5, which may have formed a western boundary to this pre-enclosure activity. The fills of ditch G5 apparently included some pottery of early-mid 1st century AD date and fragments of kiln lining and kiln plate, but it is likely that this was actually from ditch G3/G4 with the sequence at the intersection with G5 misinterpreted during excavation.

The square enclosure dates to the late Iron Age, 1st century BC. Only the eastern arm, D3, of the



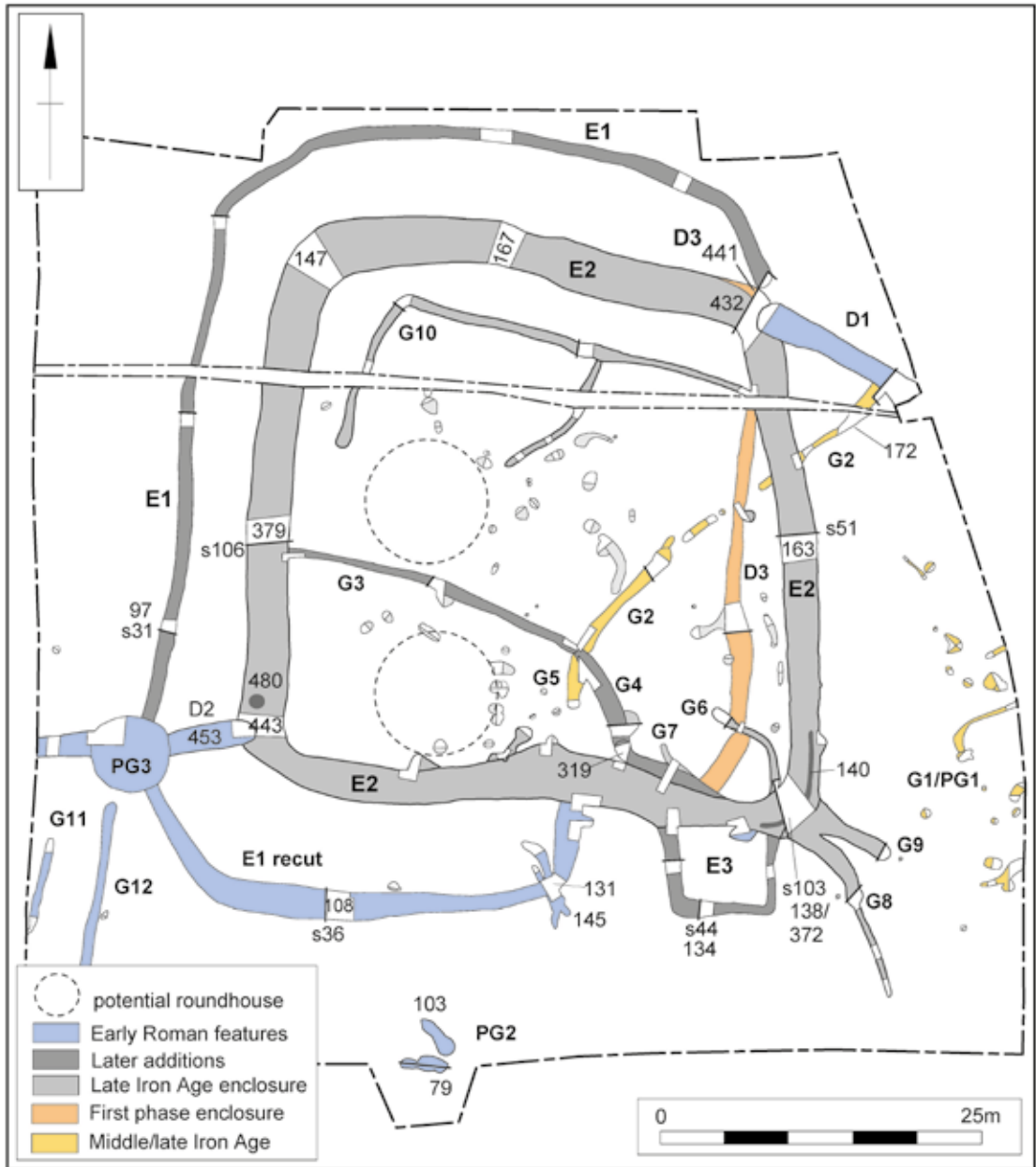


FIGURE 3 The Late Iron Age Enclosure (Site 1)

original enclosure survived. It had a U-shaped profile, 1.9m wide and up to 0.6m deep, and the fills contained only hand-built pottery, indicating that it had fallen out of use before the end of the 1st century BC.

Perhaps after a relatively short time, a new and much deeper ditch was provided, E2, replacing three arms of the original circuit along with an eastwards realignment of the eastern arm. The final enclosure measured 39m north-south and

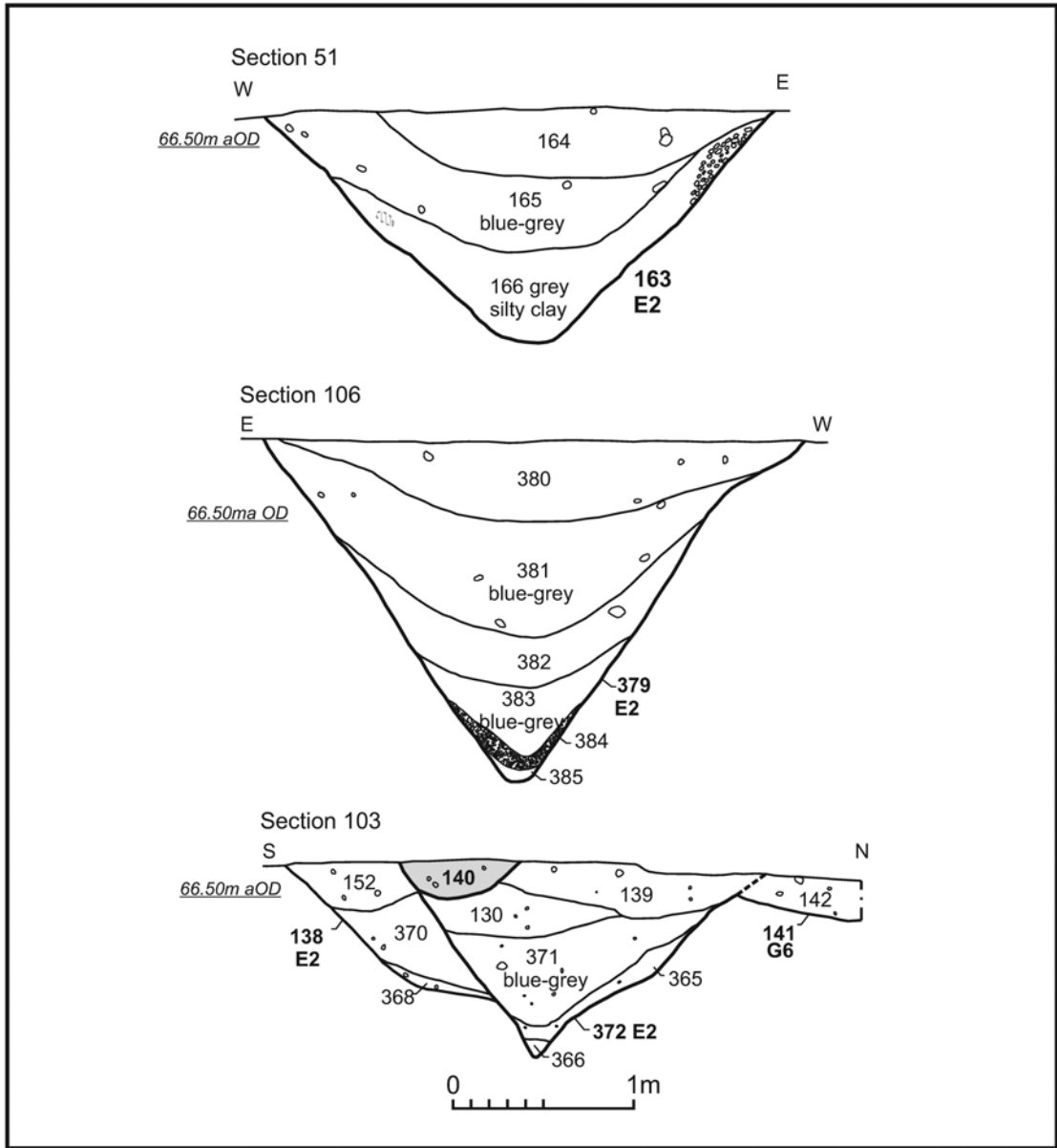


FIGURE 4 Sections of the main enclosure ditch, E2

east-west, enclosing an area of 0.14ha. This enclosure was in use until the mid-1st century AD. The substantial pottery assemblage from the ditch fills includes hand-built vessels of the 1st century BC, and much wheel-finished or wheel-made pottery of the early to mid-1st century AD.

The new enclosure ditch was up to 3.9m wide

and 1.9m deep, and the lack of erosion on the steep-sided V-shaped profile indicates that it silted rapidly (Fig 4, Sections 51, 106 and 103). Given the underlying clay natural, the ditch would have been seasonally flooded and permanently wet; uncharred seeds of both wetland and dryland plants had survived in both the primary and secondary

fills. The blue-grey colour of many of the primary and secondary fills is also an indication that the ditch was waterlogged and producing gleyed silts, formed in anaerobic conditions (Figs 5 and 6).

There was no surviving entrance causeway, but it is suggested that the complex palimpsest of features at the south-east corner were related to successive elaborate entrances. The ditch must either have been bridged and/or causeways had been removed when the entrance was slightly repositioned. The exceptional narrowness of the ditch at this point provides support for this argument, but the low level of excavation in this area leaves the details unclear and there are insufficient stratigraphic relationships to establish a full sequence of events. However, it is suggested that within the enclosure a pair of curvilinear gullies, G7 and G8, enclosing an area 8m long and from 4.0-5.5m wide, flanked the internal approach to an entrance at the eastern end of the southern arm. A similar arrangement has been seen on an Iron Age enclosure at the Long Dole, DIRFT (Davenport International Rail Freight Terminal), Northamptonshire (Chapman *in* Masefield *et al* 2015, 29–32, fig. 2.15).

The only recut section of enclosure ditch E2 was at this south-east corner, supporting the suggestion that the entrance area underwent episodes of remodelling. An early ditch, 138, up to 0.80m deep, survived to the south while the recut, ditch 372, had a V-shaped profile, 2.40m wide by 1.35m deep (Fig 4, S103), shallower than elsewhere on the ditch circuit. The fills here produced one of the larger groups of kiln lining.

Also at this south-east corner, two lengths of gully, G8 and G9, steadily diverged south-eastwards, flanking the eastern side of the external approach to the entrance (Fig 3). Pottery from the terminals was dated to the early 1st century AD.

The external rectangular sub-enclosure E3, 6.5m wide by 5.0m long, may have been related to a later entrance, probably dating to the early to mid-1st century AD, and located slightly to the west of its predecessor. The slots might have held a rectangular timber fore-building, protecting the entrance, although the V-shaped profile of the slot does not support this suggestion (Fig 7, S.44, ditch 134). This sub-enclosure/structure was probably contemporary with the enclosing of the western half of the enclosure with a slot, E1, set 4.0m to 7.0m beyond the enclosure ditch. Along the southern arm

this ditch turned northwards to meet the enclosure ditch just to the west of sub-enclosure E3, with both extending a similar distance out from the enclosure ditch (Fig 3). To the north and west the outer slot E1 was consistently steep-sided, with a flat base, 0.5-0.7m wide (Fig 7, S.31, ditch 97). There were no surviving indications in the fill that it had ever held timbers, but the profile would be consistent with the provision of an encircling timber palisade, perhaps later systematically dismantled. Given that the enclosure ditch was seasonally flooded and probably permanently wet, the palisade may have had the purely, or additional practical function of preventing livestock from falling into the ditch.

At the north-east corner the outer slot terminated just short of the enclosure ditch, close to a ditch terminal, D1, 2.20m wide and 0.50m deep, containing pottery of the early to mid-1st century AD. This ditch length cut the fills of the main enclosure ditch, indicating that it was a very late addition, and continued eastwards beyond the limit of excavation. At the opposing south-western corner, there was a similar ditch, D2, with its terminal cutting the enclosure ditch and continuing westwards beyond the limit of excavation (Fig 3).

Within the enclosure, on the northern lower lying side, a gully, G10, ran parallel to the enclosure ditch, with a western arm extending 12m to the south, while to the east it ran to the eastern arm of the enclosure ditch. A curvilinear gully ran from the central area of the enclosure to meet the northern arm of G10. The 3.5m-wide space between the enclosure ditch and the gully was too narrow for an internal bank of any significant height, but the feature might have been a drainage gully along the inner edge of a low bank that flanked at least the northern arm and part of the western arm of the enclosure. The fills of this gully contained only hand-built pottery, so it had probably fallen out of use by the end of the 1st century BC.

A similar drainage gully lay along the lower lying part of the Wootton Hill Farm enclosure in Northampton, although there the space between gully and ditch was broader, at 5m, but still only enough for a relatively low bank (Jackson 1989, fig 5 and Jackson 2010, fig 6.6).

In the southern part of the enclosure, a curving gully (G3/G4) cut off the south-western corner, forming an area 25m long and up to 15m wide. Similar internal sub-divisions are seen at many small Iron Age enclosures and are usually interpreted as





FIGURE 5 Enclosure E2, north-west corner, ditch 147, inner edge to left

FIGURE 6 Enclosure E2, north arm, ditch 167, showing the blue-grey secondary fill



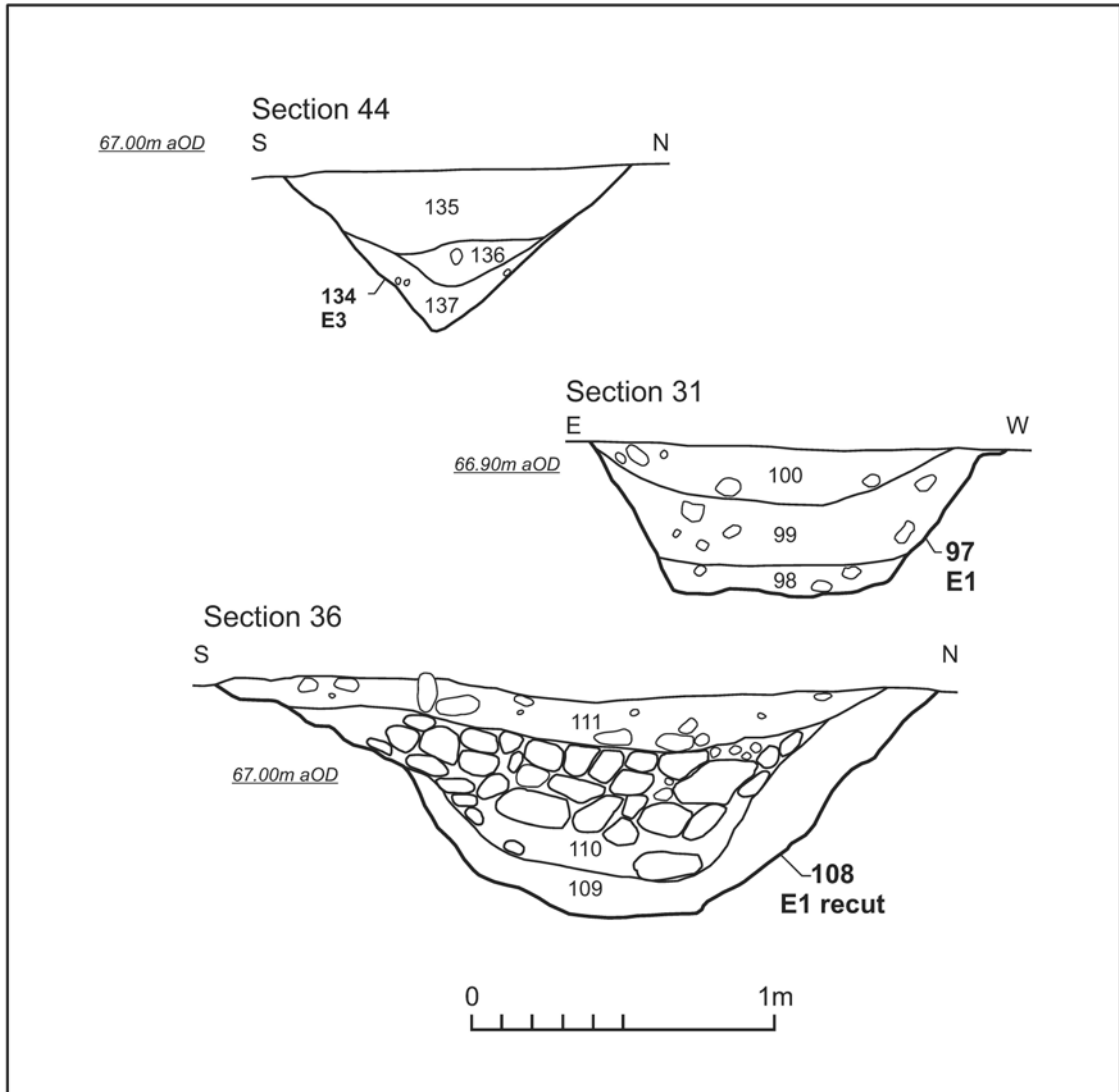


FIGURE 7 Sections of the entrance structure, E3, the outer ditch, E1, and a late recut of E1

stock folds. The ditch fills produced wheel-finished pottery dating to the early 1st century AD.

Many of the scatter of minor gullies and pits across the interior contained pottery dating to the 1st century AD, indicating that they were contemporary with the use of the enclosure. There are few other clues to the exact usage of the internal space, although the quantities of domestic debris from the enclosure ditch would suggest that it was a settlement enclosure. The presence of at least one round-

house would be expected but there are few physical traces surviving. Ironically, the best candidates for paired doorposts lay towards the eastern end of the enclosed area in the south-west corner, interpreted as a possible stock fold. Here there were two pits, each recut, where timber door posts would have formed doorways 3.5m and 2.0m wide, successively. It would be possible for these to have been the doorposts of an eastern entrance to a roundhouse 10m in diameter, just fitting the space between the enclo-

sure, E2, and the sub-division ditch, G3.

Alternatively, a roundhouse up to 10m in diameter could have occupied the space between the two southward running arms of the drainage ditch, G10, and the sub-enclosure to the south, G3. There was also space for one or more smaller ancillary structures in the north-eastern corner of the enclosure. However, lacking hard evidence, this is purely conjectural.

### **Early Roman activity (mid to late 1st century AD)**

Pottery from the enclosure ditch often comprised mixed deposits of both hand-built late Iron Age and wheel-finished pottery of early-mid 1st century AD date, the largest quantities coming from the blue-grey upper secondary fills and further material from the final fills. Animal bone from the main domesticates and a deer bone also came from upper secondary and final fills of the ditch. This suggests that the domestic function of the enclosure had ceased at or shortly after the Roman Conquest, and there was probably an episode of levelling and backfilling incorporating domestic debris.

The early Roman activity occurred only across the southern end of enclosure E2 and the area to the south of this enclosure, perhaps as an episode of

localised industrial activity. Fragments of fired clay kiln lining weighing 981g came from western arm of enclosure E2, ditch 379, and a group weighing 444g came from the junction of enclosure ditch E2 and ditch D2 to the south-west. Along the southern arm of the enclosure, the upper ditch fills all included small quantities of kiln lining. A shallow gully, 140, belonging to the final phase of early Roman activity, was cut into the ditch fills around the south-east corner for a length of 10m (Fig 4, S.103), and was only recognisable because of the distinctive fill of dark grey ashy clay loam which contained pottery, animal bone and a quantity of kiln lining. A pit, 480, in the top of the enclosure ditch at the south-west corner, was *c* 0.75m in diameter, and the burnt fill contained pottery of early-mid 1st century AD date and kiln lining.

The southern arm of the outer ditch/slot, the possible palisade, E1, was extensively recut and enlarged at this time. In the single section excavated across the main length of this ditch (Fig 7, S.36, ditch 108 and Fig 8), the secondary fill contained quantities of large rounded cobbles, fragments of fired clay kiln lining and early Roman pottery, while a fragment of a puddingstone quern came from one of a pair of gullies that intersected this ditch to the east (Fig 3). The fills of a pit group



FIGURE 8 Late recut of enclosure E1, south arm, ditch 108, with the fill containing large cobbles

to the south of this, PG2, were also characterised by the presence of cobbles, often burnt, fragments of kiln lining and early Roman pottery, including a collared flagon dated to AD 50–70, the latest datable pottery from the site (Fig 13, 19). To the west, a large circular pit (PG3), 6.0m in diameter but only 0.5m deep, containing more early Roman pottery and another fragment of puddingstone quern and a pair of nearby linear gullies, G11 and G12, are also dated to this final phase of activity.

The presence of kiln lining in features cutting the largely filled enclosure ditch suggests that pottery manufacturing was a common activity only during the final usage of this area in the early Roman period, when the enclosure was redundant with its ditch largely silted up. This activity was also focused within the southern end of the enclosure and further south. There were no kiln remains *in situ* within the excavated area, but this evidence could either have been lost to later ploughing or lay a little further to the south, perhaps beyond the southernmost recorded features, pit group PG2.

## THE IRON AGE AND ROMAN POTTERY

by Rob Perrin

The pottery assemblage comprised 3197 sherds, weighing 44,828g. The assessment and bulk quantification was carried out by Ed McSloy of Cotswold Archaeology (McSloy 2009), and this work was incorporated into the final overview of the assemblage.

McSloy used the fabric series compiled for Northamptonshire by MacRobert and Aird (Perrin 2006, 85, table 4.28) as the basis for recording the fabrics, with the addition of some extra fabrics for the Iron Age (Table 2).

### Fabric and Form

Table 3 shows the amounts and percentages of each fabric. The Iron Age fabrics account for around 15–20% of the total and comprise coarse shell-tempered, grogged or quartz-sand-tempered fabrics. Standard grogged wares (Fabric A) in the ‘Belgic’ tradition (Thompson 1982) are by far the most numerous, with general shell-tempered wares (Fabric B) forming the next largest group. The amount of ‘Romanised’ reduced and oxidised wares is very low.

The Iron Age vessels are usually hand-built,

TABLE 2 Pottery fabrics

<i>Fabric</i>	<i>Description</i>
IAFSH	Iron Age fine shell
IAG	Iron Age grogged
IAGS	Iron Age grog with shell
IAQ	Iron Age quartz
IAQSH	Iron Age quartz with shell
IASH	Iron Age shell
A	Belgic Standard grogged
AB	Belgic Grog with shell
AC	Belgic Grog with quartz
B	General shell-tempered
C	Unclassified reduced
C6	Grey with black surfaces
D	Unclassified oxidised
D6	Verulamium region white-ware
SILT	Silty wares

rounded/globular-bodied, slack-shouldered or neckless, barrel-shaped jars (Fig 9, 1, 2 & 4). Most are undecorated, but one rim sherd shows an unusual incised geometrical motif (Fig 9, 1). This style of decoration is usually seen on vessels of the early Iron Age, which may suggest an early Iron Age presence in the immediate vicinity, perhaps within the scattered pits of group G1/PG1 (A Chapman pers comm). One late vessel has shallow fingertip impressions on the neck (Fig 11, 10), and there are examples of vertical scoring. Pedestal and lug-handled vessels are also represented.

A number of these vessels can be specifically assigned to the late Iron Age (1st century BC), particularly the burnished bowl in a dark-grey fabric (Fig 9, 3). The form of this vessel seems to have more in common with the ‘saucepan’ pot tradition of Wessex, rather than the late Iron Age globular burnished bowls that occur to the immediate north, in the Nene valley (A Chapman pers comm).

The range of ‘Belgic’ grogged ware forms is relatively restricted, with necked jars/bowls (Fig 11, 11 and Fig 13, 16) and carinated bowls/cups being most common (Fig 13, 18). The more elaborately cordoned forms which can characterise late Belgic groups are absent.

The shell-tempered vessels mainly comprise channel-rimmed jars, with many having oblique

TABLE 3 Quantification of pottery fabrics

<i>Fabric</i>	<i>Description</i>	<i>Sherds</i>	<i>%</i>	<i>Wt (g)</i>	<i>%</i>	<i>EVE</i>	<i>%</i>
IAFSH	Iron Age fine shell	7	–	99	–	–	–
IAG	Iron Age grogged	192	6	3713	8.3	2.35	13.6
IAGSH	Iron Age grog with shell	30	1	832	1.9	–	–
IAQ	Iron Age quartz	50	1.5	979	2.2	0.34	2
IAQSH	Iron Age quartz with shell	2	–	38	–	0.04	–
IASH	Iron Age shell	185	5.8	1941	4.3	0.09	5.2
A	Belgic Standard grogged	2137	66.8	28193	62.9	8.55	49.6
AB	Belgic Grog with shell	4	–	456	1	0.14	0.8
AC	Belgic Grog with quartz	116	3.6	1790	4	1.87	10.9
B	General shell-tempered	409	12.8	6302	14.1	2.17	12.6
C	Unclassified reduced	31	1	259	0.6	0.15	0.9
C6	Grey with black surfaces	24	0.7	30	–	0.19	1.1
D	Unclassified oxidised	5	–	54	–	0.11	0.6
D6	Verulamium region whiteware	2	–	96	–	0.42	2.4
SILT	Silty wares	3	–	46	–	–	–
Total		3197		44828		17.23	

finger nail slashes to the outer part of the rim (Fig 12, 14–15). The channel-rimmed jar is a well-known type and is particularly common along the Ouse Valley with the slashed rim variant seemingly a post-Conquest type (Friendship-Taylor 1999, 13), although one example was manufactured within the Iron Age pottery tradition in a hand-built shelly fabric with a barrel-shaped form (Fig 12, 13), and seems likely to be pre-Conquest in date (A Chapman pers comm). However, the majority of the examples show manufacturing technologies of the late Iron Age/early Roman pottery tradition.

The two flagon sherds may be from the same vessel, a collared type (Fig 13, 19) with a date within the 50s or 60sAD (Davies *et al* 1994, 41).

### Sources

The pottery is almost certainly mostly of local manufacture, although the collared flagon is a Verulamium region product.

The pottery fabrics and forms show a clear date range and sequence but the assemblages, especially the latest phase, were mixed. This is because there were no sealed groups, with the enclosure ditches having been open throughout their use.

The pits provide more coherent assemblages, but these groups are generally quite small and therefore of limited use.

The amount of pottery recovered from features belonging to the earliest phase is small, 6%, with about 20% from the early to mid-1st century AD, and 70% from the mid to late 1st century AD (Table 4). The high value for the latest phase is not surprising as it reflects the presence of earlier material with some of the deposits, particularly the upper fills of the enclosure ditch, E2, deriving from a mixture of clearance debris associated with the abandonment of the enclosure and pottery contemporary with the final usage of the area following the Roman Conquest.

The small number in the Iron Age phase reflects the low overall pottery total and the small number of features that contained only Iron Age pottery. The limited form range is typical of the Iron Age. A lot of Iron Age pottery occurred as residual material in the later periods.

Around a quarter of all vessels were in the early to mid-1st century AD contexts comprising largely jars and bowls but including at least one beaker/jar. The largest number of vessels and the widest range

TABLE 4 Quantification of pottery by period

<i>Group</i>	<i>Sherd</i>	<i>%</i>	<i>Weight (g)</i>	<i>%</i>	<i>EVE</i>	<i>%</i>
Middle/late Iron Age	197	6.2	1622	3.6	0.42	2.4
Early/mid-1st century AD	631	19.7	7783	17.4	3.84	22.3
Mid/late 1st century AD	2232	69.8	34384	76.7	12.59	73.1
ungrouped	137	4.3	1026	2.3	3.80	2.2
Total	3197		44828		17.23	

TABLE 5 Quantification of pottery by feature group, early to mid-1st century AD

<i>Group</i>	<i>Sherds</i>	<i>%</i>	<i>Wt (g)</i>	<i>%</i>	<i>EVE</i>	<i>%</i>
D3	46	7.3	890	11.4	0.14	3.6
E1	258	40.9	3378	43.4	2.50	65.1
G3	151	23.9	1695	21.8	0.82	21.4
G4	101	16.0	1486	19.1	0.04	1
(G5)	75	11.9	334	4.3	0.34	8.9
Total	631		7783		3.84	

of forms occur in the mid to late 1st century AD phase, including beakers, dishes/lids and a flagon, the only regional import, as well as much residual material from the earlier periods.

#### ***Middle/late Iron Age***

Gully/pit group G/PG1 and gully G2 contained 197 sherds weighing 1.6kg, 49 in the Iron Age fabrics and 148 in Belgic A, AC and B.

#### ***Early to mid-1st century AD***

Enclosure ditch E1, ditch D3 and gully G3/G4, containing around a fifth of the total site assemblage, 631 sherds, weighing 7.9kg (Table 5). The external enclosure ditch E1 and the internal gully G3/G4 account for the majority of sherds in similar amounts. The material attributed to an early gully G5 (Table 5), was from around the intersection with G3/G4, and is actually from the later rather than the earlier feature.

Grogged and shell-gritted wares comprise around 90% of the total assemblage. The amount of residual Iron Age pottery is very low, and the first 'Romanised' reduced wares appear.

Enclosure ditch E1 has all fabrics other than unclassified reduced, including Iron Age, which

also occurs in gully G4, both of which are near to early features. Grogged wares are present, and form the largest component in all features bar gully G3/G4 where shell-gritted ware predominates. 'Romanised' reduced wares occur mainly in the external ditches particularly the southern recut of E1, with just one sherd in gully G4 at its intersection with G5.

The recorded forms are jars or jar/bowls bar two grogged ware bowls and a reduced ware beaker or jar, which has a hole drilled for a repair. Two-thirds are in grogged ware and another fifth in shell-gritted ware. Just over half are from enclosure ditch E1 which also has the vessels other than jars or jar/bowls.

#### ***Iron Age hand-built pottery residual in features dated mid to late 1st century AD (Fig 9)***

- 1 Vertical sides, flat-topped rim, body has unusual incised decoration forming a geometric pattern. Fabric IAQ. Dark greyish-brown to greyish-brown. Enclosure E2, fill (381), ditch 379
- 2 Barrel-shaped, simple rounded rim, faint near horizontal scoring on body, rim diameter 120mm. Fabric IAG. Dark greyish-brown. Enclosure E2, fill (445), ditch 443



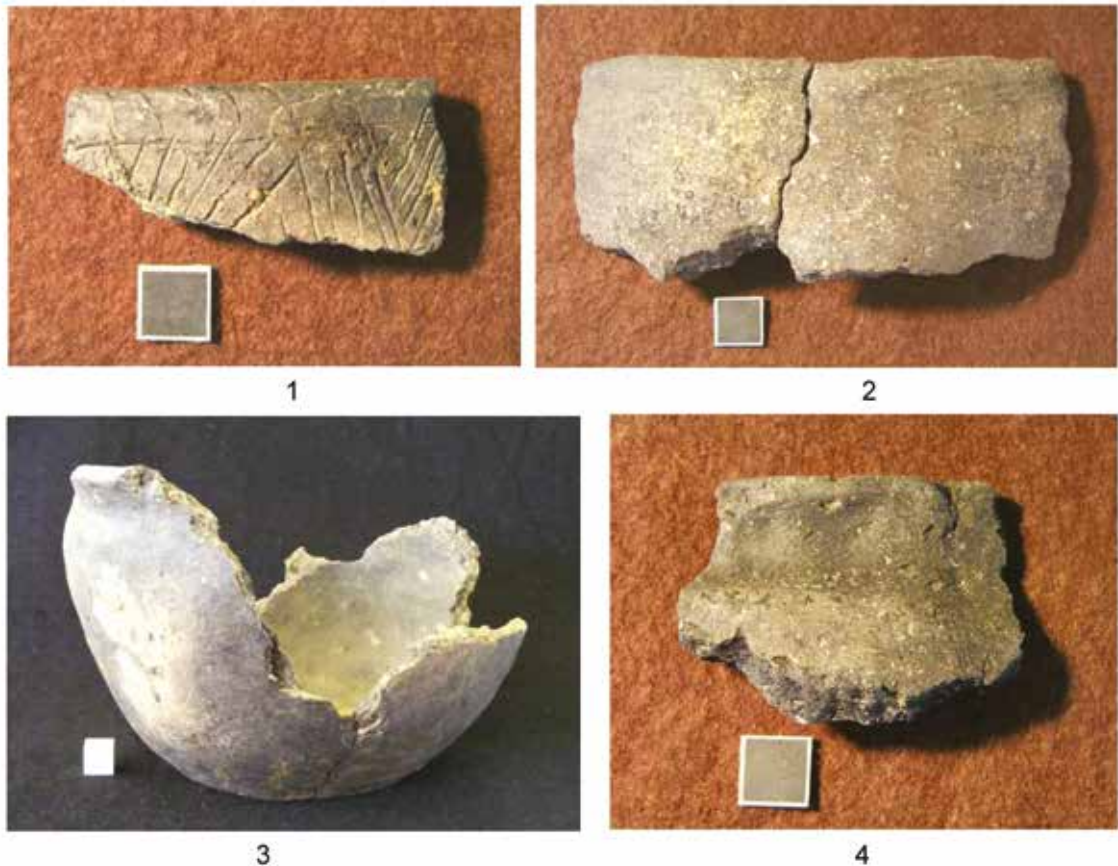


FIGURE 9 Iron Age hand-built pottery (1-4) residual in features dated mid to late 1st century AD (scale 10mm)

- 3 Bowl, flat base, burnished surface, shallow neck, rounded rim, base diameter 86mm, height 105mm, rim diameter 165mm; similar to 'saucepan pot' tradition of southern England (Wessex). Late Iron Age (1st century BC) Dark greyish-brown Fabric IAG. Enclosure D2, fill (458), ditch 453
- 4 Shouldered bowl, shallow fingertip impressions on neck, below rounded rim. Dark greyish-brown. Fabric IASH. Enclosure E2, fill (320), gully 319, G4
- 6 Large thick-walled globular jar, splayed channel-rim. Fabric B. Enclosure E1, fill (132), ditch 131
- 7 Globular bowl, abrupt angle at base of neck, rim diameter 220mm. Fabric A. Group G2, fill (173) gully 172

**Mid to late 1st century AD**

This phase comprises enclosure ditches E2 and E3, ditches D1 and D3, gullies G6-G12, and pit groups PG2 and PG3, containing around three-quarters of the total site assemblage.

Where E3 abuts the enclosure ditch E2 it was difficult to differentiate the fills of the respective ditches. There is relatively little pottery from ditch D2, enclosure ditch E3 and E2/E3, gullies G8, G11 and G12 and pit group PG3. Most of the pottery in gullies G6 and G10 is from single vessels and there

*Late Iron Age wheel-finished pottery from features dated early to mid-1st century AD (Fig 10)*

- 5 Small bowl, wheel finished, incised decoration, burnished shoulder, rim diameter 120mm. Fabric A. Enclosure E1, fills (109 & 110), ditch 108



FIGURE 10 Late Iron Age wheel-finished pottery (5-7) from features dated early to mid-1st century AD (scale 10mm)

was no pottery in gullies G7 and G9. Enclosure ditch E2 contained over half of the pottery (21.7kg) and a joining ditch D1 another 8%. Pit group PG2 contained an appreciable amount of pottery (4.2kg). The southern arm of the outer enclosure ditch E1 also contained material of this phase.

The grogged and shell-gritted wares comprise around three-quarters of the total assemblage and there are more 'Romanised' reduced and oxidised wares, as well as the only regional import from Verulamium (fabric D6). The quantity of late Iron Age pottery is high, possibly representing a mixture of residual pottery and survivals in use.

The majority are jars or jar/bowls but various other forms also occur. The pit group PG2 also

contained the Verulamium region flagon (Fig 13, 19) and a reduced ware dish or bowl (Fig 13, 18), while enclosure ditch E2 contained grogged ware beaker/jars and bowls in Iron Age and shell-gritted fabrics. Ditch D1 had a dish or lid in an Iron Age fabric and gully G10 contained a grogged ware beaker or jar. Two vessels have perforated bases (Fig 13, 17).

*Late Iron Age (8-10) and late Iron Age/early Roman pottery (11-12) from features dated mid to late 1st century AD (Fig 11)*

8 Shouldered bowl, hand-built with concave neck and everted rounded rim, rim diameter 160mm, base diameter 110mm, height c125mm. Late

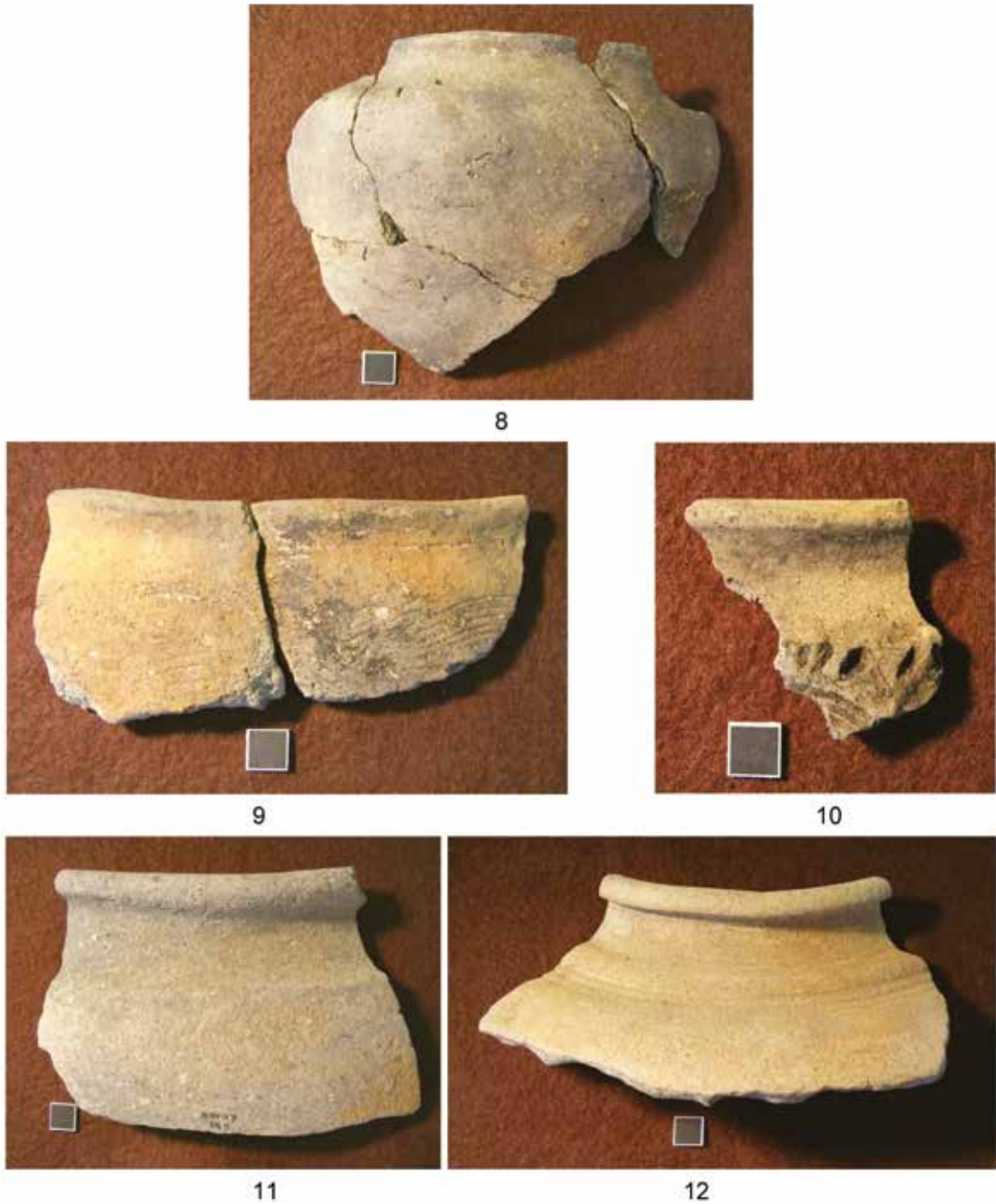


FIGURE 11 Late Iron Age (8-10) and late Iron Age/early Roman pottery (11-12) from features dated mid to late 1st century AD (scale 10mm)

- Iron Age (1st century BC). Fabric IAG. Grey to greyish-brown. Enclosure E2, fill (150), ditch 138 (recut 372)
- 9 Open slightly globular bowl, with combed decoration, rim diameter 250mm (early 1st century AD). Fabric A. Light red with a grey core. Enclosure E2, fill (381), ditch 379
- 10 Rim and decorated body. Fabric A. Light brown with a grey core and light grey internal surface. Enclosure E2, fill (165), ditch 163
- 11 Large globular jar, rim diameter 310mm. Fabric A with some fine shell. Grey to greyish-brown. Enclosure E2, fill (140), ditch 138
- 12 Large jar. Fabric A. Light brown with a dark grey core. Group G6, fill (270), ditch terminal 269

*Late Iron Age/early Roman channel-rim jars (13-15) from features dated mid to late 1st century AD (Fig 12)*

- 13 Barrel shaped jar, channel rim with diagonal incised rim. Iron Age style potting but early 1st century AD by form. Fabric B. Dark reddish-brown to reddish-yellow. Enclosure E2, fill (170), ditch 167
- 14 Small globular bowl, channel rim, combed decoration. Fabric B. Very dark grey with a weak red internal surface. Group PG2, fill (105), pit 103
- 15 Channel rim with diagonal incisions. Fabric B. Dark greyish-brown with a reddish-brown internal surface. Enclosure E2, fill (381), ditch 379

*Early Roman pottery (16-19) from features dated mid to late 1st century AD (Fig 13)*

- 16 Necked bowl with single cordon. Fabric A. Reddish-yellow to dark greyish-brown with a grey core. Enclosure E2, fill (381), ditch 379
- 17 Perforated base. Fabric A. Reddish-yellow with a grey core. Enclosure E2, fill (434), ditch 432
- 18 Carinated bowl, faintly incised lattice decoration on body. Fabric A. Light grey with a dark grey core and light brown core edges. Group PG2, fill (105), pit 103
- 19 Flagon rim. Fabric D6White. Group PG2, fill (80), pit 79

**Comparative Material, Dating and Occupation Characteristics**

Fabrics, forms and other characteristics compare to material from the wider south-east Midlands

region and from the Milton Keynes area. There are close affinities with the large middle/late Iron Age group from Pennyland (Knight 1993a), and Iron Age and Roman pottery from Hartigans (Knight 1993b; Marney 1993), Wavendon Gate (Elsdon 1996; Parminter 1996), Saffron Gardens, Bletchley (Waugh *et al* 1975, 379–86, 392–9) and Bancroft (Knight 1994, figs 204–5; Marney 1994a figs 210, 212, 215–22, 224; 1994b figs 227–40, 243, 245, 247). Marney's (1989, 7–16) Groups 1-3 from Walton, Cotton Valley and Constantine Way respectively also share many of the Magna Park forms, as do a number of Northamptonshire site assemblages examined by Friendship-Taylor (1999), including Aldwinckle (figs 23-4), Camp Hill (fig 34), Duston I (figs 38-9), Hardingstone (figs 50-4), Moulton Park (figs 61-4), Rushden (figs 78-86) and Weekley (figs 102–04).

The earliest material present consists of quantities of hand-built pottery in the middle Iron Age tradition, but includes a number of vessels that can be specifically dated to the late Iron Age (1st century BC). However, the majority of the material is wheel-finished. This includes a range of channel-rim jars, some in shelly fabrics and manufactured within the Iron Age potting tradition while others are in the newer traditions, and there is also a variety of large storage jar forms. These all probably date to the early to mid-1st century AD, perhaps *c* AD25–70/80, thus spanning the late Iron Age to Roman transition. Many of the vessels show evidence of sooting or burning, two have perforated bases and another has what appears to be a repair hole. There are no indications of specialist use or 'high-status' activity within the assemblage, such as might be inferred from fine wares, continental imports or local copies.

**KILN LINING**  
*by Pat Chapman*

The 154 fragments of fired clay, weighing 5.5kg, are predominantly pieces of kiln lining comprising some large flat pieces 20-60mm thick, roughly-shaped with surviving straight edges, which are probably kiln plates, along with other smaller pieces and fragments. The fabric is very hard and occasionally granular, indicative of having been subjected to high temperatures and is generally





13



14



15

FIGURE 12 Late Iron Age/early Roman channel-rim jars (13-15) from features dated mid to late 1st century AD (scale 10mm)



FIGURE 13 Early Roman pottery (16-19) from features dated mid to late 1st century AD (scale 10mm)

reddish-orange to brown with black cores, or black surfaces. There are no kiln bars.

The kiln lining was mainly concentrated around the south-eastern entrance area, 500g, and the southern end of the enclosure, both in the interior and outside to the south, in the recut of enclosure ditch E1 and pit group PG2. The largest quantities are 981g, from western enclosure E2 ditch, 379, and 973g from gully G3/G4 at the intersection with early gully G5.

#### A METAL FIND by Tora Hylton

A decorated terminal from a Roman copper alloy armlet came from the base of a furrow. It comprises a parallel-sided strip, 38mm (broken) by 18mm wide, ornamented with a central panel of incised chevrons giving the impression of plating. The terminal is decorated with two transverse rows of ring-and-dot, flanked by single rows of short incisions (Fig 14). Generally armlets of this type come from late-1st to early 2nd-century AD deposits.





FIGURE 14 Decorated terminal of an early Roman copper alloy armlet (*scale 10mm*)

QUERNS

*by Andy Chapman*

Two fragments are from Hertfordshire Puddingstone querns, comprising largely rounded flint pebbles, 5mm to 40mm in diameter, in a light grey matrix. Hertfordshire Puddingstone querns occur in early Roman contexts (Watts 2002, 32), although some French puddingstone querns were imported

into the southern England and East Anglia prior to the Roman Conquest (Peacock 2013, 158–161).

The smaller piece, up to 105mm in diameter, from the circumference of an upper or runner stone, has rounded edges from secondary damage but retains part of a heavily worn surface. It comes from a small gully, 145, intersecting with the southern arm of the late outer ditch system E1.

The larger piece comprises *c.*20% of a lower stone at least 250mm in diameter. Part of the convex grinding surface survives along with part of a conical central spindle socket, 50mm deep. The outer edges have been subject to much secondary damage, but a small part of the outer circumference probably survives. This stone came from the large pit PG3 beyond the south-west corner of the main enclosure, which belongs with the final phase of activity.

ANIMAL BONE

*by Matilda Holmes*

This site is of interest given the continuity between late Iron Age and early Roman periods, but the sample sizes are too small for detailed analysis, although some effort will be made to

TABLE 6 Animal species represented by period, total fragment count (hand collected)

<i>Species identified</i>	<i>middle-late Iron Age</i>	<i>Early-mid 1st century AD</i>	<i>mid 1st century AD</i>	<i>mid-late 1st century AD</i>
Cattle	50	82	26	34
Sheep/goat	14	25	8	14
Sheep	1	–	–	–
Goat	–	1	–	–
Pig	1	11	–	2
Horse	6	6	3	4
Dog	1	2	–	2
Red Deer	1	2	–	1
<b>Total</b>	<b>74</b>	<b>129</b>	<b>37</b>	<b>57</b>
Large mammal	91	129	34	64
Large mammal ribs	13	3	–	1
Medium mammal	8	37	5	3
Medium mammal ribs	4	–	–	2
Unidentified mammal	46	52	–	50
<b>Total</b>	<b>236</b>	<b>354</b>	<b>76</b>	<b>177</b>

characterise the assemblages by the major phase groups (Table 6).

### **Taphonomy and Condition**

Bones were generally in good to fair condition, although very friable. Bones from the middle/late Iron Age were in a better state of preservation than those from later periods, possibly subject to less post-deposition disturbance, given the lower occurrence of breakage. There was a very low incidence of gnawed bone from middle-late Iron Age features when compared to an increasing number through time. Delayed deposition or re-deposition was evident by the higher proportion of loose teeth to those remaining in mandibles. A far greater ratio can be observed in the middle/late Iron Age, suggesting that enough time passed for the tough connective tissue holding teeth in place to break down and teeth to fall out before either being deposited, or disturbed *in situ*. This may indicate that mandibles were treated differently to long bones in the Iron Age, and not buried as quickly as other waste. The high fragmentation of bones and increasing incidences of butchery implies some form of processing took place prior to disposal.

### **Carcass Representation and Butchery**

In all periods bones from all parts of cattle carcasses were present and, although in smaller numbers, the same was generally true for sheep/goat, indicating that complete animals were disposed of on site, with no evidence for the redistribution of carcass parts off site. In all periods, a dearth of vertebrae suggests that these were discarded in another place at a particular stage in the butchery process. Horses were only represented by teeth and lower limb bones (metapodials and phalanges) in all but the mid-late 1st century, when forelimbs were also recorded. This may imply that horse carcasses were deposited elsewhere following skinning, the head and lower legs being attached to the skin and disposed of on site.

Butchery was largely limited to cattle limb bones, with disarticulation and skinning in the middle-late Iron Age, and disarticulation and processing the carcass into smaller joints in subsequent periods. Of particular note were a horse radius, mid-late 1st century AD, whose distal end had been chopped through and a cattle tibia, mid-1st century AD, with a shave mark typical of

Romanised filleting (Maltby 2010, 38). Occasional butchery marks were recorded on pig and sheep/goat bones, which is fairly typical as the larger cattle carcass would require more processing, with heavier cleavers than those of smaller animals.

No associated bone groups were recorded, and there were no deposits of industrial, craft or butchery waste. Changes in the frequency of butchery from the mid-1st century AD, and the identification of filleting on a single bone implies that there was some Roman influence on the processing of carcasses from this phase.

### **Species Representation and Diet**

In all periods cattle bones predominate, becoming more common with time. Sheep/goat are the next most often recorded, of which both sheep and goat were positively identified. Pig remains were relatively uncommon, although in greatest quantities from the early-mid 1st-century AD assemblage. Horses were present in low numbers in all periods, as were dog and red deer. Only in the mid-late 1st century AD were deer remains possibly indicative of direct contact with the animal through hunting, represented by a single maxillary tooth. In the early periods only antler fragments were present, which could have been recovered from shed antler.

Species diversity was very low, with no bird or fish recovered. This is perhaps not surprising given the small size of the assemblage, but may indicate that hunting was not widespread as a means of procurement. From this sample of bones, the diet of the population associated with the settlement would largely have centred on beef, with some lamb and pork also contributing. The presence of a butchered horse radius in the mid-late 1st century AD may indicate that horse meat was also consumed, although this was not widespread in Roman culture (Simoons 1994, 187).

### **The Assemblage**

#### *Cattle*

In the middle-late Iron Age there was no evidence for cattle being culled prior to skeletal maturity at 4 years of age, suggesting that a number were still alive into old age, over 7 years. In the early-mid 1st century AD fusion and tooth wear indicate that animals were culled prior to reaching 18 months, at prime meat age, as well as at maturity,

consistent with the remainder of bones being fused. More tooth wear was present in the mid-late 1st century AD, one neonatal animal died at around 18-30 months, the remainder being adult and the remaining late fusing bones fused. When taken together, this indicates a cattle economy based largely on secondary products, milk and/or traction, with more evidence for culls of younger animals specifically for meat in the early-mid 1st century AD.

#### *Sheep/goat*

Although there were fewer sheep bones to compare, there was consistent evidence for animals to be older with time. In the middle-late Iron Age there was no evidence for animals over one year of age, in the early-mid 1st century AD all were culled prior to reaching three years, yet in the mid-late 1st century AD all bones were fused, consistent with the presence of a mandible, from an animal 4-6 years of age. A neonatal tibia was also recorded in this phase. In the two early periods this implies that sheep were of prime importance for their meat, yet were considered more valuable for secondary products such as wool and milk in the later phase.

#### *Pigs, Horse, Dog*

All pigs were apparently culled prior to reaching 24 months, consistent with their primary use for meat. All horse bones were fused. A young dog died prior to 18 months of age in the mid-late Iron Age.

#### **Summary**

By the end of the Iron Age cattle were used for meat and secondary products, and sheep for their meat, trends which are consistent with other contemporary sites in the area (Hambleton 1999). It is likely that animals were culled, processed and disposed of on site in all periods, with evidence for cattle and sheep being bred in the vicinity of the site from neonatal animals recorded in the mid-late 1st century AD.

However, there was some indication for changes that occurred around the time of the Roman Conquest. Although the relative quantities of cattle, sheep and pig were consistent with those from other Iron Age sites in the region (Hambleton 1999, 59), increasing proportions of cattle related to the Roman occupation have been observed at many settlements (King 1984, 193) and this, combined

with the observation of a Roman filleting mark in the mid-1st century AD suggests the adoption by the local population of aspects of Roman butchery and diet.

#### **CHARRED PLANT REMAINS**

*by Val Fryer*

Cereal grains/chaff, seeds of common weeds and wetland plants and tree/shrub macrofossils were present throughout, although mostly at very low densities. Preservation was poor to moderate, with a high density of the charred grains being severely puffed and distorted, probably as a result of combustion at very high temperatures.

Charred oat (*Avena sp.*), barley (*Hordeum sp.*), including a single asymmetrical lateral grain of six-row barley (*H. vulgare*) and wheat (*Triticum sp.*) grains were recorded, although rarely as more than one grain within an assemblage. A single spelt wheat (*T. spelta*) glume base was noted.

Charred seeds of common field weeds were present at a very low density within four assemblages. Taxa noted included brome (*Bromus sp.*), black bindweed (*Fallopia convolvulus*), persicaria (*Persicaria maculosa/lapathifolia*), dock (*Rumex sp.*) and scentless mayweed (*Tripleurospermum inodorum*). A single charred sedge (*Carex sp.*) nutlet was recorded.

De-watered seeds of weeds, wetland/aquatic plants and tree/shrub species occurred at a slightly higher density, all from either the primary or secondary fills of the main enclosure ditch E2. Dry-land taxa within these assemblages included musk thistle (*Carduus sp.*), thistle (*Cirsium sp.*) and stinging nettle (*Urtica dioica*), whilst the presence of seeds of gipsy wort (*Lycopus europaeus*), pond weed (*Potamogeton sp.*), water crowfoot (*Ranunculus subg. Batrachium*) and horned pond weed (*Zannichellia sp.*) indicate that the ditches held standing water. De-watered elderberry (*Sambucus nigra*) seeds were abundant within one sample and a single sloe (*Prunus spinosa*) fruit stone was present.

Charcoal fragments were present at a low to moderate density throughout. Other plant macrofossils were generally rare, although the de-watered assemblages did contain a high density of root/stem fragments, pieces of twig and moss fronds. Possible fragments of charred heather (*Ericaceae*) stem were noted in one assemblage.

## Conclusions

The low density of material noted within the charred assemblages is almost certainly derived from small quantities of either scattered or wind-blown refuse of probable domestic origin. Cereals appear to have been utilised by the occupants of the site, although the low density of chaff and weed seeds within the assemblages may indicate that the grain was not processed locally. However, it should be noted that the high temperatures to which the material was obviously subjected may have destroyed these more delicate plant remains. It is, perhaps, more likely that the cereal needs of the site were met by imported batches of semi-cleaned grain.

The de-watered assemblages from the main enclosure ditch indicate that it was reasonably well maintained, with only a minimal growth of colonising weeds on the banks and little or no shrubby overgrowth. The ditch was at least seasonally waterfilled and at least constantly quite muddy and stagnant, permanently waterlogged and anaerobic until the time of excavation, as otherwise the uncharred remains would not have survived.

## THE ROMAN DROVEWAY AND ENCLOSURES (SITE 2)

Site 2 lay in the north-eastern corner of the development area, immediately south of Broughton Brook, on a slight slope dropping from *c.*65.0m aOD in the south to *c.* 64.0m aOD in the north (Fig 2). The excavated area extended 415m north-south and up to 190m east-west, a total area of 4.8ha, and was divided in two by a drainage channel and field boundary running east-west (Fig 15). Geophysical survey (Butler 2006) identified ridge and furrow in the southern area of the site suggesting that it had been given over to agriculture by the later medieval period, if not earlier.

A series of recent ceramic field drains were present and in the north-eastern area the ground level had been elevated with deposits of clay and rubble: this presumably related to levelling up for the exhibition ground that formerly occupied the site.

### An Early Boundary Ditch (1st to early 2nd centuries AD)

A long curving boundary ditch, D1, probably functioned as a land boundary throughout the 1st century AD (Fig 16). The ditch was up to 3.0m

wide and 0.9m deep with a U-shaped profile. The eroded upper edges indicated that the ditch had been open and silting over a long period of time (Fig 17, S.91 ditch 292).

A parallel curving ditch, D4, 38m to the north, with a V-shaped profile, 1.15m wide and 0.55m deep, as well as a line of postholes continuing on this same alignment further to the east, may have formed a broad droveway with a funnelled approach from the east, possibly for herding animals from a more open landscape to the east towards a corral or stock yard to the west, beyond the excavated area. There was no indication of settlement in the immediate vicinity, although small amounts of early Roman pottery were recovered as residual finds in other later contexts.

### Roman Droveway and Enclosures (early 2nd to early/mid-3rd centuries AD)

The early boundary was probably still extant in the early 2nd century AD, and it at least partly influenced the alignment of a new broad droveway, D2 (Fig 18). The western droveway ditch was up to 1.80m wide by 0.40-0.70m deep (Fig 17, S.245, ditch 808), while the eastern ditch was less substantial. To the south the droveway lay east of and ran parallel to the earlier boundary, although to the north it continued northward rather than swinging westward. An early enclosure to the west, defined by ditch D5, still showed respect for the previous boundary system and included a small oval enclosure, structure S3 (Fig 19).

Oval structure S3 measured 10.0m north to south by 4.5m east to west. There was a broad opening to the east, 6m wide, with three pits irregularly-placed across the opening. Given the oval form and the absence of evidence for any internal structure, it may have functioned as a small pen or stock fold. A Belgic grogged ware platter came from the gully.

This early enclosure was soon replaced by transverse boundaries that defined a field or paddock, 100m long, alongside the droveway. To the north, a pair of ditches defined a narrow track/droveway, 4m wide, set at right-angles to the main droveway. A lead-glazed globular beaker came from ditch 772 to the north.

To the south the broad droveway was blocked by a cross ditch, 15, with a corner opening to the east suggesting that it was used for stock control. To the immediate south the droveway may have opened

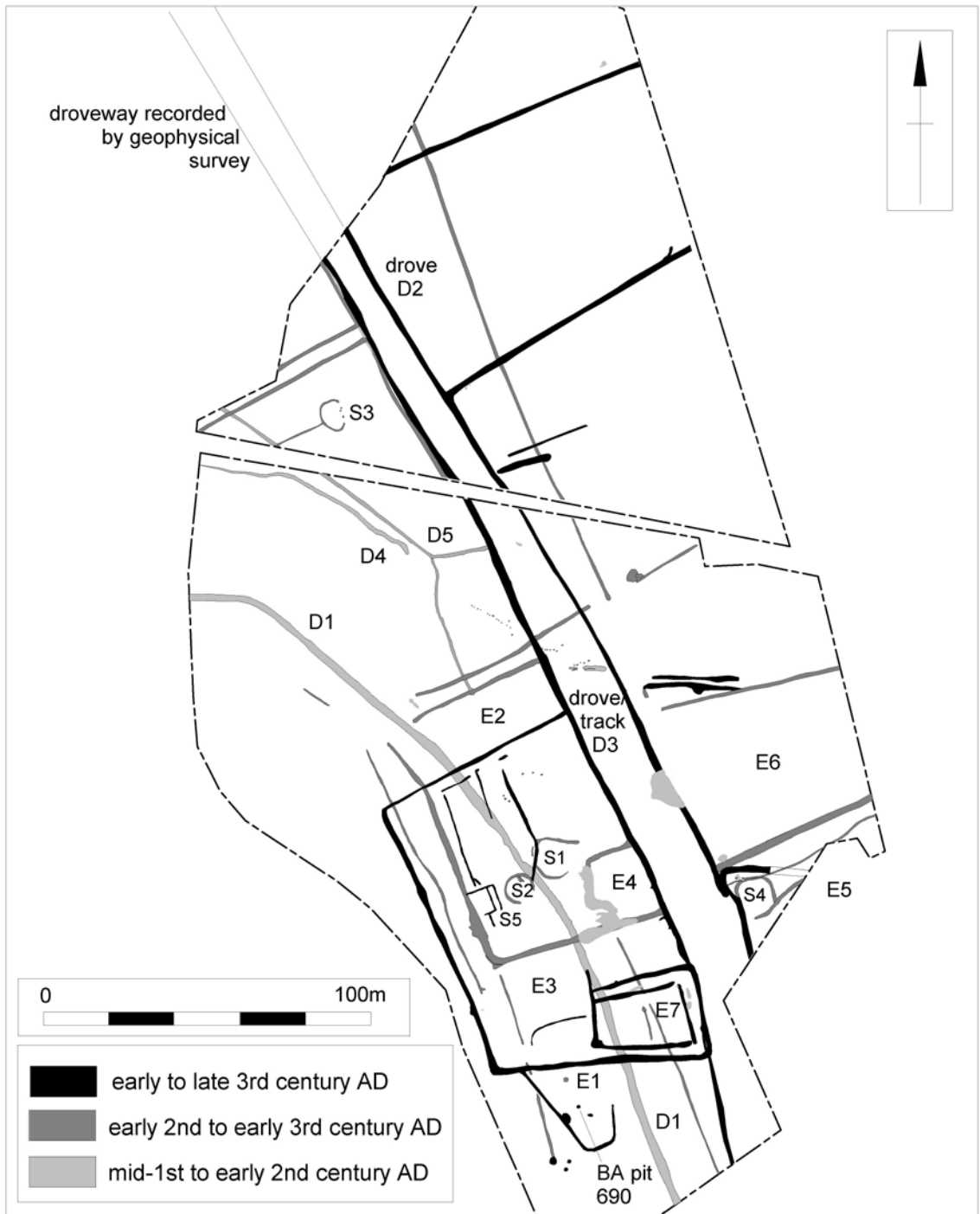


FIGURE 15 The Roman droveway and enclosures

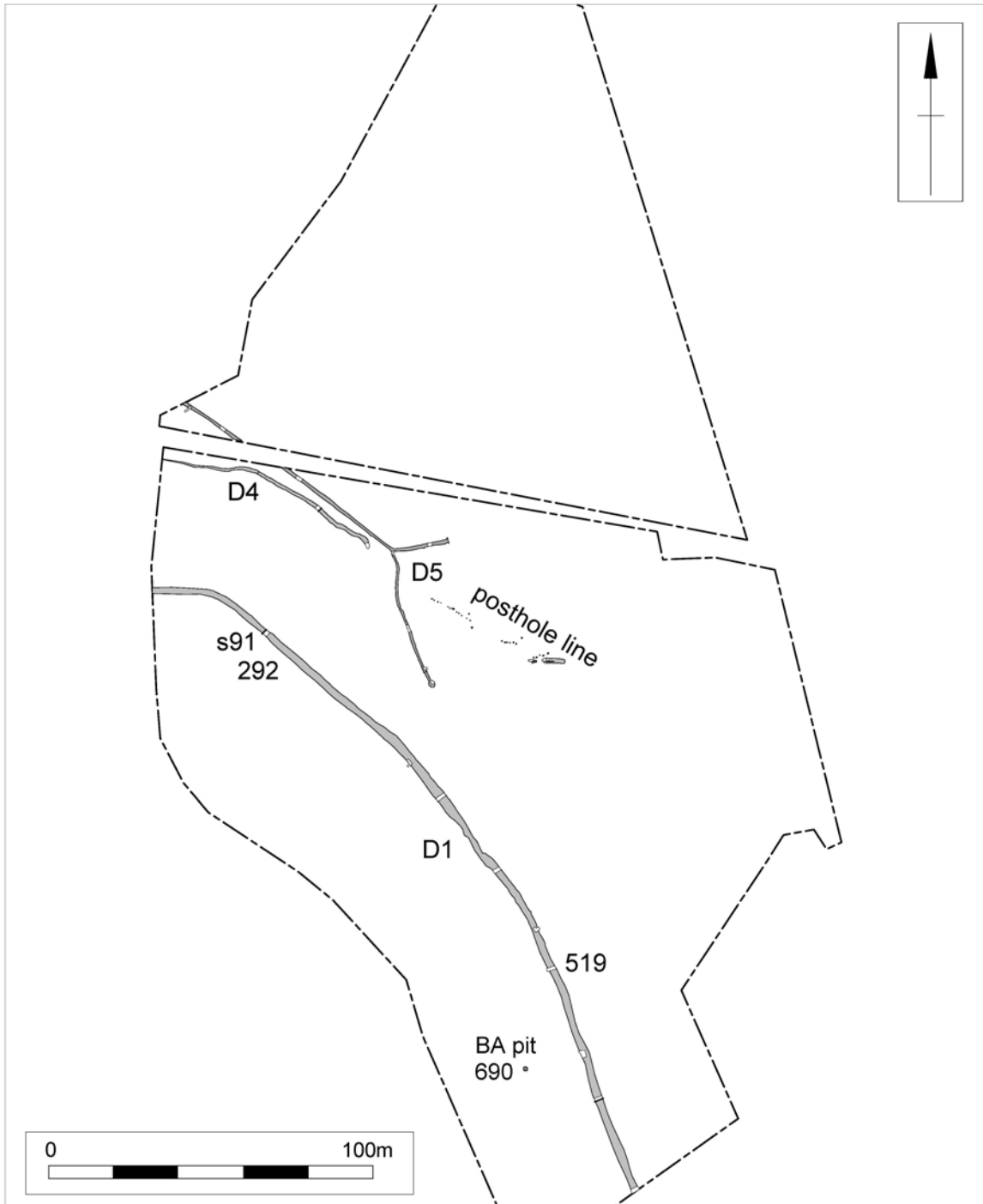


FIGURE 16 Late Iron Age/early Roman boundary (1st to early 2nd centuries AD)



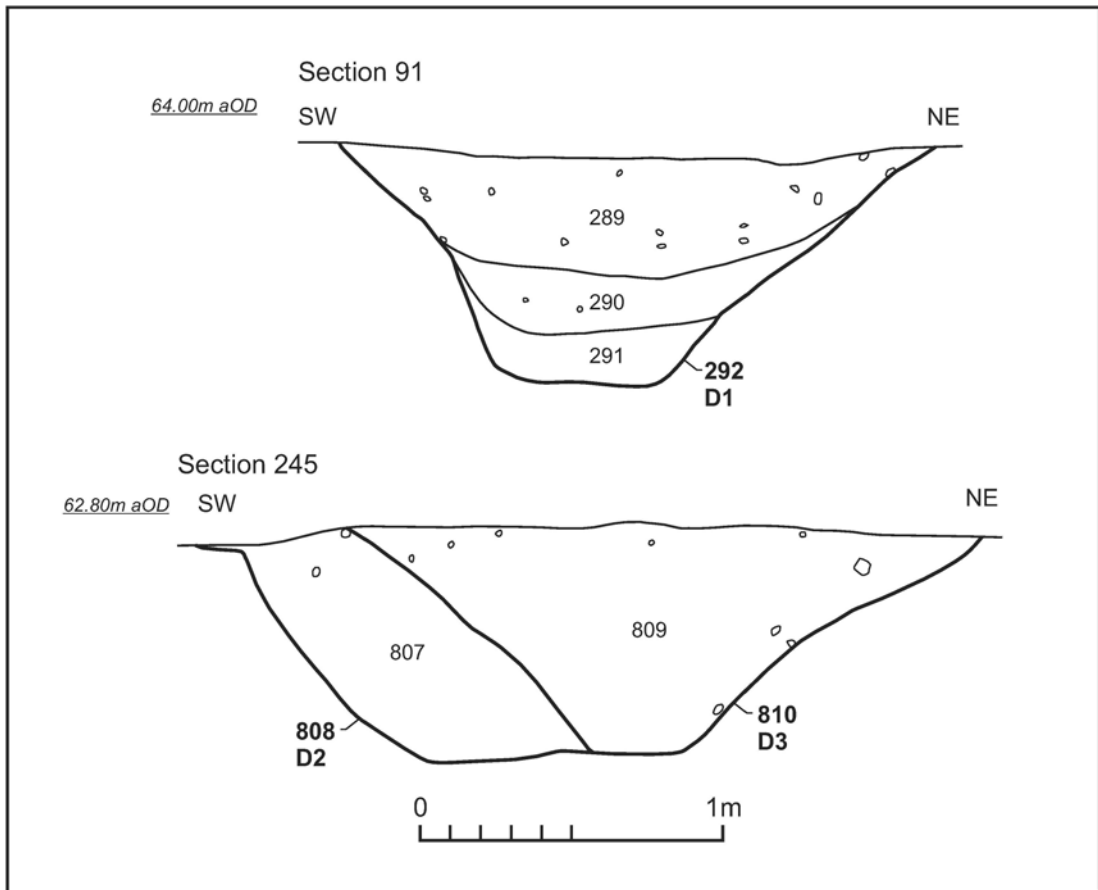


FIGURE 17 Sections of boundary ditch D and drove-way ditches D2/D3

into a stock yard, with a domestic enclosure to the west, E2, containing two roundhouses and a sub-enclosure. There was another possible stock enclosure to the east, E6, and the north-east corner of another possible domestic enclosure, E5, lay largely beyond the excavated area. This arrangement suggests that the economy was focussed on pastoral farming, perhaps involving the management of quite large herds of cattle and/or flocks of sheep.

#### Enclosure E2

On the western side of the drove-way, enclosure E2 was 85m long and 50m wide, enclosing 0.4ha (1.0 acre), with a broad entrance in the north-west corner and narrow trackways alongside the northern and western arms (Fig 20). The enclosure ditches were 1.10-2.20m wide and up to 1.10m

deep. The western ditch included the only coin found, a *dupondius* dating to the late 2nd century AD.

Within the northern half of the enclosure there was just a small central cluster of six small and shallow pits, perhaps suggesting use as a stock corral. A samian bowl dated AD120-190 came from pit 454 (Fig 29, 4).

In the southern half of the enclosure were two roundhouses. The principal domestic roundhouse, S1, was enclosed by a ring ditch with an internal diameter of 11m, so the roundhouse would have been c.9m in diameter. Pottery of 2nd century AD date came from the northern terminal. There were no internal features. Ancillary roundhouse S2 was 7.5m in diameter for a small roundhouse of c.5.5-6.0m diameter, with a south-east facing entrance, 5.3m wide. The gully fills produced small

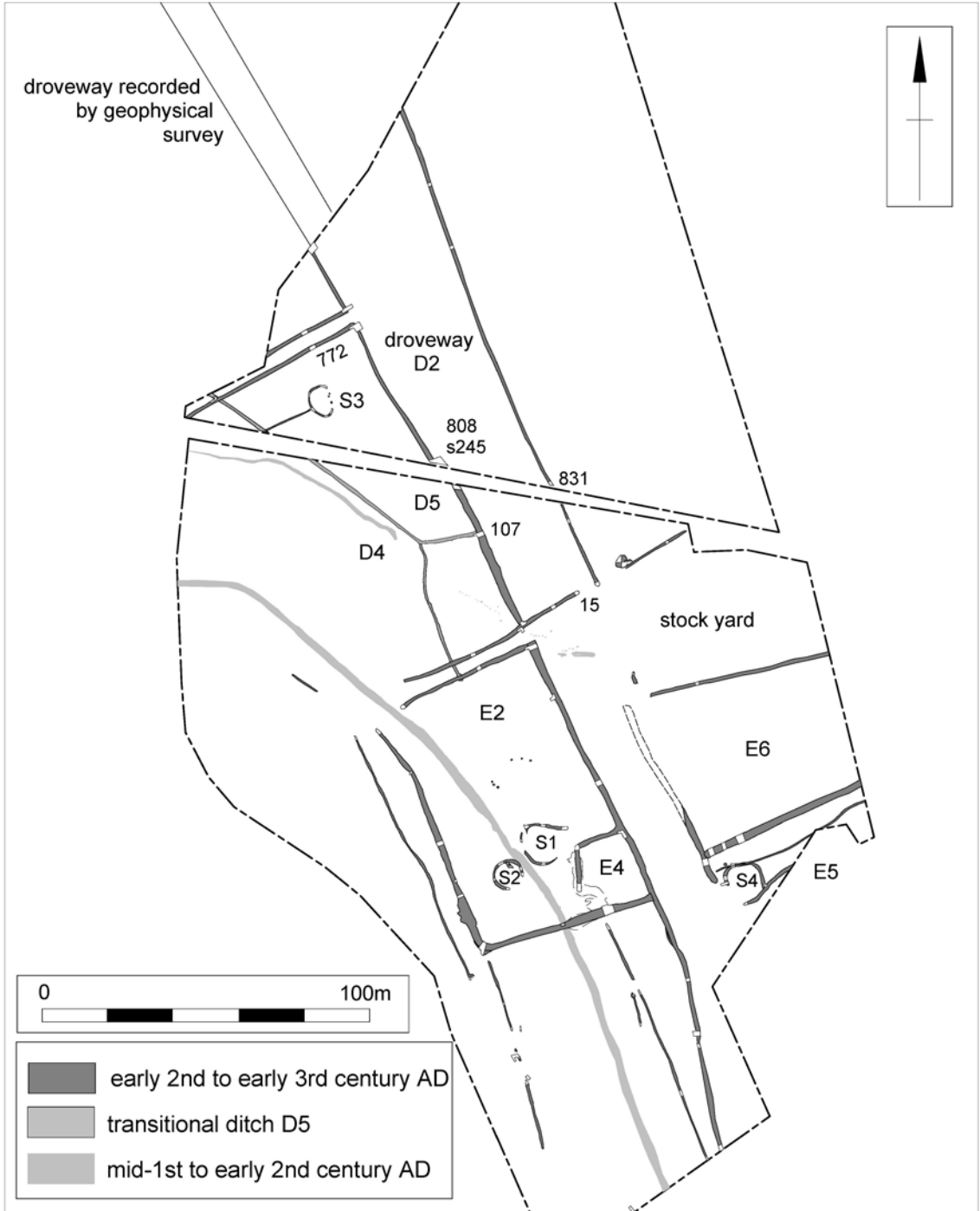


FIGURE 18 Roman droveway and enclosures (2nd to mid-3rd centuries AD)



FIGURE 19 Oval enclosure S3, looking west

quantities of scattered hearth waste and fired clay and pottery dating to the 2nd to 3rd centuries AD.

An L-shaped ditch, 1.35m wide and 0.60m deep, in the south-eastern corner of enclosure E2, formed a square sub-enclosure, E4, 21m long by 19m wide, with an entrance 7.0m wide. The ditch contained pottery of 2nd to 3rd century AD date, and the southern terminal also included a fragment of rotary quern (SF9). The western arm, the entrance area and the adjacent southern arm of enclosure E2, were overlain by an extensive spread of soft dark greyish-black silty clay, up to 0.25m thick, 190/225 (Fig 26, S.70) and 520/521 containing much domestic debris including a large quantity of pottery of 2nd to 3rd century AD date and three millstone fragments (SF4, 8, 10), perhaps deposited when this enclosure was abandoned and the structures levelled, prior to being replaced by a new enclosure, E3, relocated a little further to the south, as discussed below, but probably also mixed with domestic debris contemporary with the later enclosure E3. The final layer in ditch 230 was of cobbles and gravel in grey-black clay, perhaps an attempt to consolidate the surface (Fig 21).

#### *A Stock Yard and Enclosure E6*

Immediately south of the blocked droveaway was a probable open stock yard, at least 35m wide and widening to the east for at least 60m, used for gathering animals brought along the droveaway from the north (Fig 20). The enclosure to the south, E6, 53m long and in excess of 60m wide, probably also functioned as part of this stock control system.

The complex area in the south-eastern corner of the site comprised a palimpsest of intercut ditches from both the 2nd century (Fig 26, S.88, Phase 3) and 3rd centuries AD (Fig 26, S.88, Phase 4), and may have formed the northern end of another domestic enclosure, E5, as much domestic debris came from this sequence of ditch fills, especially in the later usage. The northern arm of the ditch, up to 2.0m wide by 1.0m deep (Fig 22), contained an Oxford whiteware mortaria (Fig 28, 3). The ditch terminated to the west, adjacent to the droveaway ditch, which terminated a little to the south, with enclosure/structure S4, opening onto the droveaway (Fig 20).

The sub-square structure, S4, comprised a series of curving ditches/gullies, with elements on

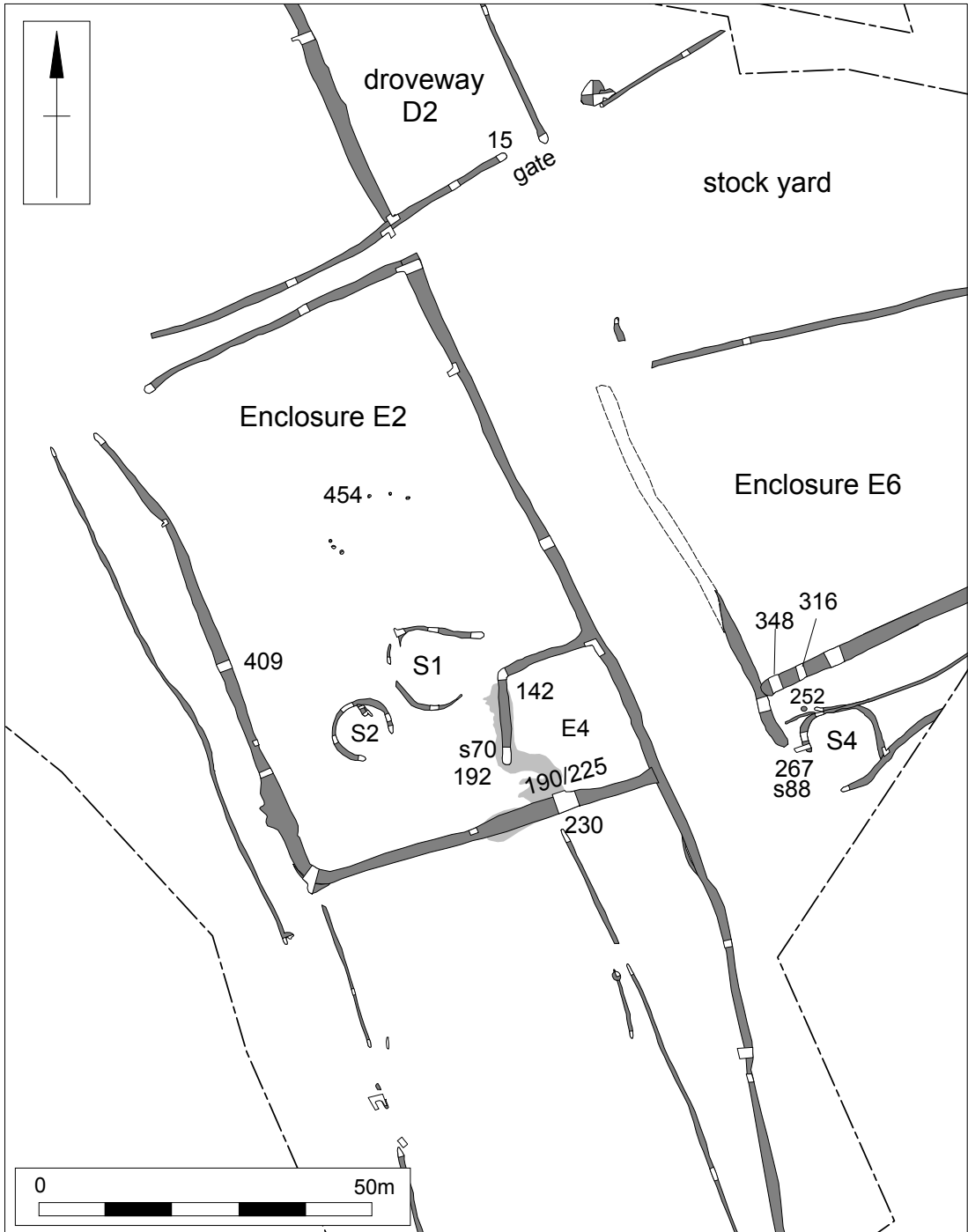


FIGURE 20 Enclosure E2 with roundhouses S1 and S2



FIGURE 21 Layer of cobbles in ditch 230 adjacent to enclosure E4

the northern and southern sides also continuing further eastwards. The enclosed area was 11.5m in diameter and there was an opening, 7m wide, to the south-west. There was no indication of the presence of a roundhouse, although the quantities of domestic debris suggest that a domestic focus probably lay close by.

### **Roman Trackway and Enclosure (early/mid to late 3rd century AD)**

#### *The Trackway*

By the mid-3rd century AD a new eastern ditch had been introduced, reducing the broad drove to a much narrower drove or trackway, D3, with the stock control measures removed so that it became a continuous through road (Fig 23). Geophysical survey recorded the continuation of the drove for a further 85m to the north, approaching Broughton Brook; its course and extent further south is unknown. The eastern ditch was up to 2.20m wide and 0.50m deep, in the north the fill of mainly blue-grey clay indicates it was typically water-

logged, while the western ditch, up to 2.0m wide and 0.75m deep, was not (Fig 17, S.245, ditch 810).

#### *Enclosure E3*

The existing domestic enclosure E2 was replaced by a new and larger enclosure, E3, overlapping its predecessor but centred a little further to the south. Enclosure E3 was 110m long by 68m wide, with no obvious entrance, enclosing 0.61ha (1.5 acres) (Fig 24). A handle from a silvered copper-alloy spoon came from the northern arm.

The roundhouses were replaced by a rectangular timber-framed house, S5. Only the timber slots of a single room survived. These defined three walls of a room, c.7.0m long by 5.5m wide, with the western wall trench lost in the fills of the earlier enclosure ditch, and a narrow corridor/veranda, 1.5m wide, on the eastern side. It is possible that the surviving room was merely the northern wing of a simple strip building, of a basic winged corridor plan form, with the central rooms and the southern wing all lost.

The north-western corner of the enclosure was



FIGURE 22 Ditch 316, enclosures E5/E6, looking west

divided from the remainder by a curving ditch which contained fragments of a copper-alloy bracelet and a local copy of a black burnished ware type bowl (Fig 29, 6). Within this enclosed area there were lengths of shallow linear gullies running north-south and parallel to the northern arm of the enclosure. This may have been a garden or a horticultural plot adjacent to the house.

In the south-eastern corner of the enclosure there was again a sub-enclosure, E7, 27m long by 13m wide, with a narrow entrance, 1.0m wide, in the north-east corner. A subsidiary ditch along the northern side formed a narrow trackway encircling three sides of the enclosure, which may suggest it served as some form of stock corral.

Enclosure E1, attached to the southern arm of the main enclosure, was 30m long and a minimum of 8m wide at the southern end, with an opening 15m wide to the east (Figs 23 and 24). Pairs of pits inside and outside enclosure E1 may have held posts for timber frames for functional purpose.

#### *Other Enclosures*

To the north, two substantial linear ditches, 65m apart and perpendicular to the eastern droveway

ditch, formed an enclosure or paddock. The enclosure or paddock E6 to the east of enclosure E3 was also remodelled. A broad soil-filled hollow, 197, extending across the boundary ditch may make a late eroded entrance, indicating that stock management was still part of the farming regime throughout the life of the settlement.

To the south there was intense domestic activity at the north-west corner of the southernmost enclosure, E5. A new northern boundary turned southwards to form the eastern boundary to the droveway, 399 and recut 397 (Fig 26, S.88). To the east a parallel ditch, 283 contained a distinctive primary fill (282) of grey-black organic silts, which contained dumped organic debris including quantities of charred cereals and chaff (Figs 24, 25 and 26, S.88, phase 4). An overlying deposit, 268, contained pottery, fragments of millstone and quern and the complete (broken) bottom stone of a rotary quern (SFs 17-22 and 28), presumably from a nearby animal-powered mill (Fig 27). The evidence suggests that this enclosure was a focus for the storage and milling of grain. This episode of deposition may have marked the clearance and abandonment of activity within enclosure E5.



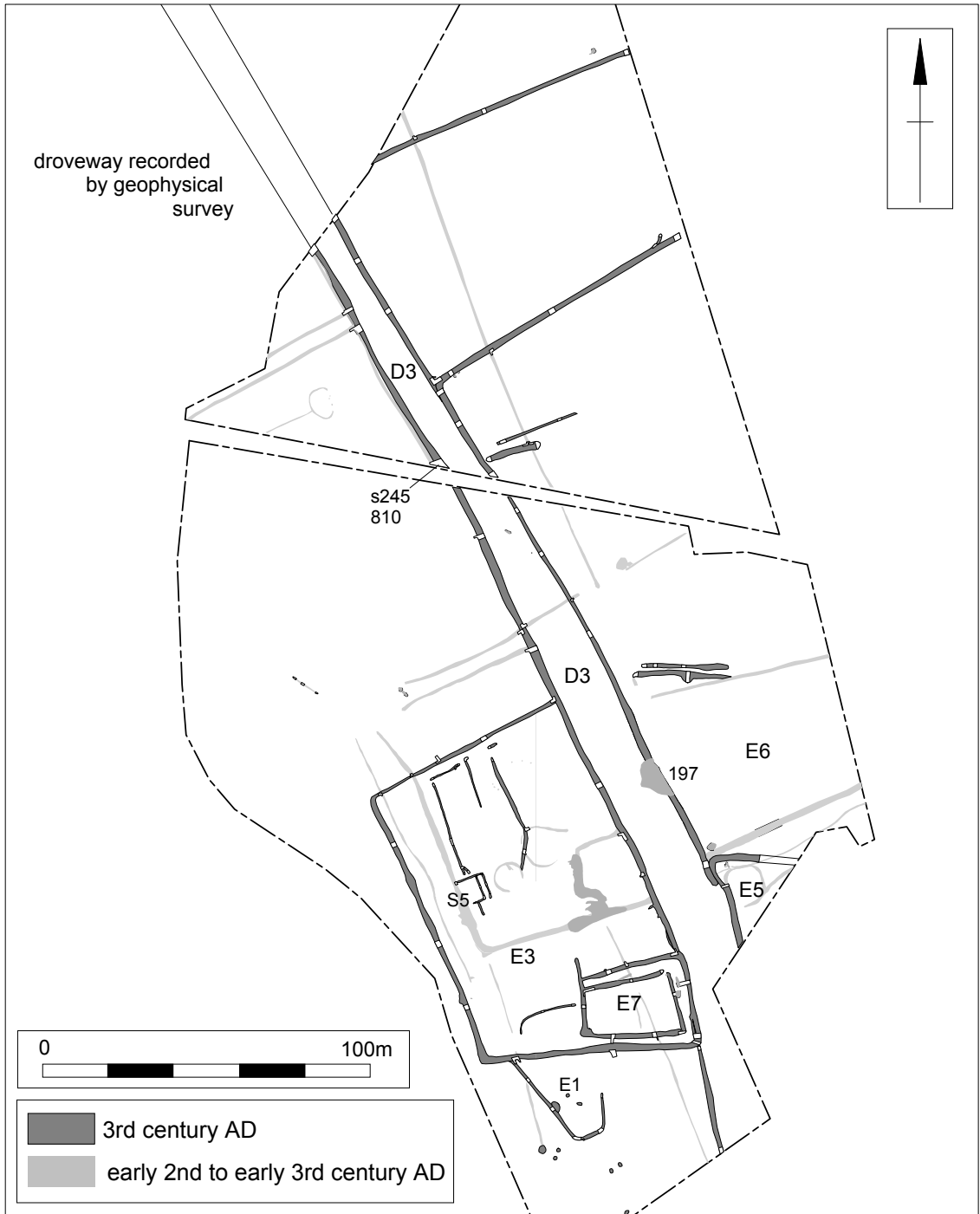


FIGURE 23 Roman droeway and enclosures (mid to late 3rd century AD)

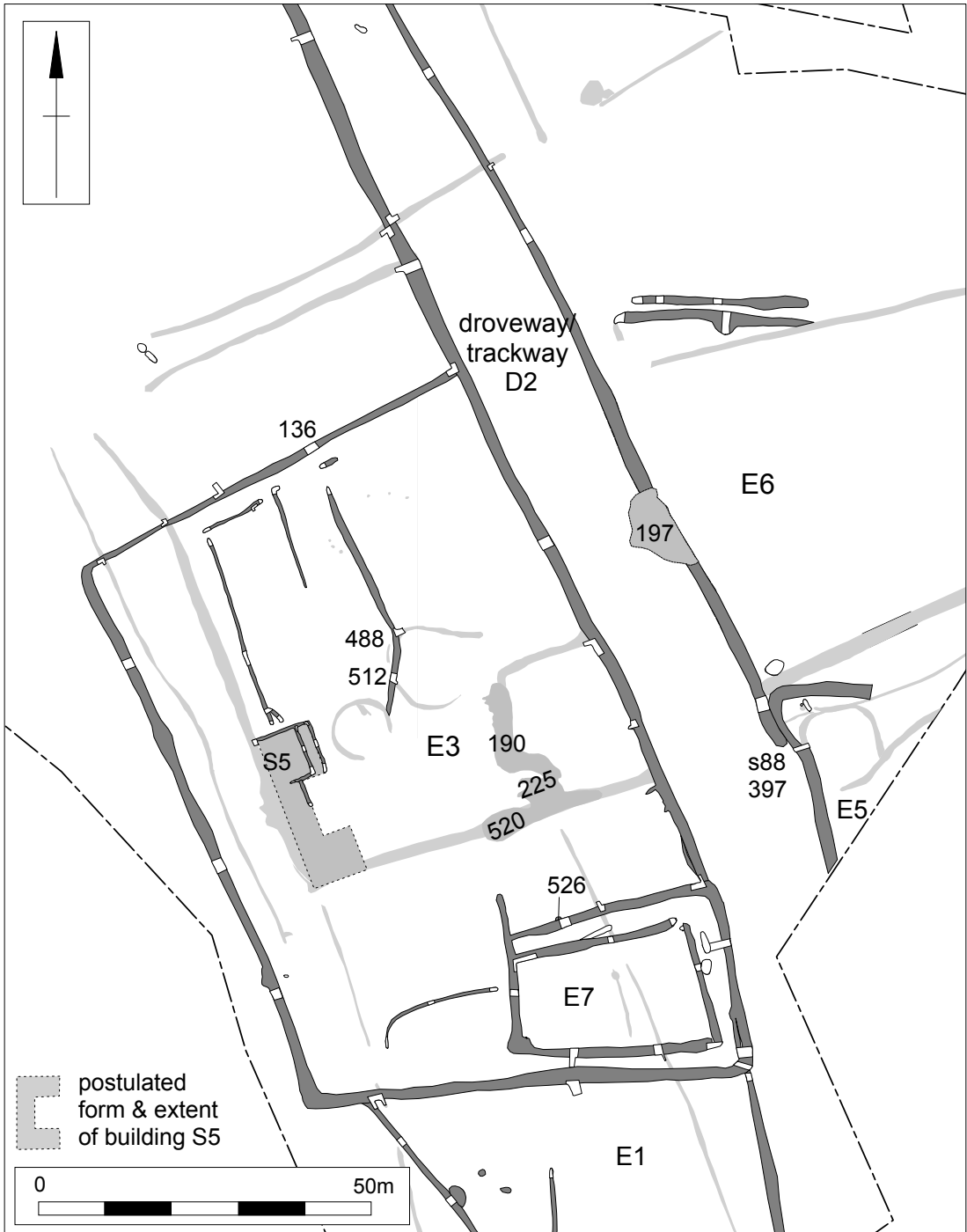


FIGURE 24 Enclosure E3



FIGURE 25 Ditch complex at north-west corner of enclosure E5, Section 88, looking north

FIGURE 26 Sections showing enclosure E4 overlain by layer 190 and the intercut ditches at north-west corner of enclosure E5

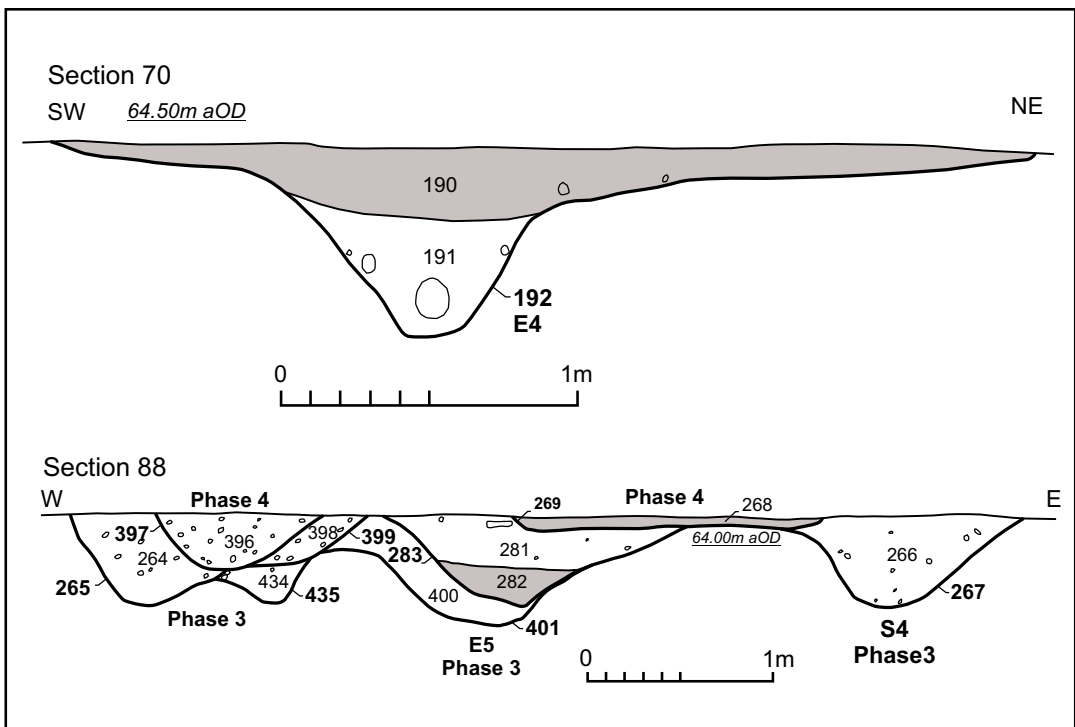




FIGURE 27 Broken rotary quern (q) in deposit 268/269, enclosure E5

The conversion in the 3rd century AD of the broad droveaway and the stock control measures to a simple trackway, and the dumping of charred cereals and chaff in one group of ditches, associated with millstones from an animal-powered mill suggests that the balance of the economy had shifted away from pastoral towards arable farming. This new phase of agricultural may have dominated use of the site through the rest of the 3rd century AD, but by the end of the century the enclosures had been abandoned.

#### THE ROMAN POTTERY

*By Ed McSloy*

The pottery assemblage comprised 627 sherds, weighing 12.03kg (11.70 EVE) (Table 8). The condition of the pottery tended to be poor. Loss of surfaces was extensive due to the local soils and abrasion. Certain fabrics, including Soft Pink Grogged fabric 2, and oxidised fabrics 17 and 18b, were more susceptible, typically resulting in powdery surfaces. Leaching of calcareous inclusions is common with shelly fabrics and also would seem to be the result of the soil conditions. Average

sherd weight is nonetheless reasonably high for a Roman assemblage at 19.2g.

Pottery came from 109 individual contexts, mainly the fills of enclosure, boundary and droveaway ditches. The largest context group are 73 sherds from layer (190), probably dumped occupation debris from the roundhouses within Enclosure E2. Most context groups consist of ten or fewer sherds.

Fabric nomenclature is adapted from that developed by Marney (1989) and utilised for most subsequent publications of pottery from the Milton Keynes area. Fabrics are in addition matched against the National Roman Fabric Reference Collection codes (Tomber & Dore 1998), with relevant concordances (Table 7).

#### *Assemblage Composition*

A small proportion of the assemblage (10% by count) consists of wheel-thrown, grog-tempered 'Belgic' types (fabrics 45/46/46qr), in this region characterising the early 1st century AD. The larger part of the assemblage consists of Romano-British coarsewares originating from local or relatively local sources, of which shell-tempered wares (fabric 1), sandy reduced wares (fabrics 3 and 9)

and soft pink grog-tempered wares (fabric 2) are most numerous.

Shell-tempered wares may derive from a variety of local sources, which may include the kilns at Harrold, north Bedfordshire (Brown 1994). Hooked-rim jar forms and large flanged bowl forms which characterise the 4th-century Harrold repertoire are absent. Sandy reduced wares, fabrics 3 and 9, are almost certainly local in origin (Marney 1989). Soft pink grog-tempered wares are well represented (Table 8). The local origin for this ware type is clear from its abundance in Milton Keynes area (Booth & Green 1989; Marney 1989, 649).

Greyware fabric 14 and oxidised type 17, both of which likely originate in the Upper Nene valley, close to Northampton (Johnson 1969), are the most abundant regional ware types. Further non-local material comprises predominantly specialist wares (mortaria) and fineware fabrics. The latter comprise Lower Nene Valley colour-coated wares and self-coloured fabric 18b, probably from the same source. Mortaria occur as products from the Verulamium region, Mancetter/Hartshill and most numerous Oxfordshire. A notable find, from 2nd-century trackway gully 772 (north of Structure S3), is a lead-glazed (fabric 13a) globular/bag-shaped beaker. Lead-glazed wares were produced in a number of centres in Britain before the mid-2nd century AD (Arthur 1978). The fabric and decorative motifs are consistent with Arthur's south-east English group, possibly produced in the Staines area, west of London.

### Forms

A platter is the only non-jar form identifiable among the 'Belgic' grogged fabrics.

Forms predominantly comprise utilitarian vessel types in the common coarseware types, mostly medium or narrow-mouthed jars (47.1% of total EVEs). Most are necked forms evolving from Belgic vessels. In addition, there is one example of a channel-rimmed jar, a form similarly derived from the native tradition (Friendship-Taylor 1999). Large diameter storage jars (6.3% of EVEs) occur only in shell-tempered or pink grogged fabrics (Fig 28, 1 & 2).

Open forms occur primarily in sandy reduced wares (fabrics 3, 9, 14) and comprise dishes (12.2%) and bowls (4%) derived from Black-Burnished type wares. Bowls of characteristic necked form (Booth

& Green 1989) are most common form among pink grogged fabric 2 and represent 4.1% of total EVEs. Mortaria represent 6% of EVEs, with identifiable forms all flanged Oxfordshire types: M17/M18 and M22 (Young 1977) (Fig 28, 3). Strainer-bowls occur as body sherds in local reduced fabric 9.

A small number of bowls (2.6% of EVEs) including reeded-rim, hemispherical flanged and samian-inspired (Drag. 36) forms occur in oxidised fabrics (fabrics 17, 4g and 18b) and might be described as tableware types. The dominant regional fineware type, Lower Nene Valley colour-coated ware, occurs as beakers (4.9% of EVEs) and a single 'Castor box' (0.5% EVEs).

### Samian

*by P V Webster*

Imported continental pottery was restricted to a small group of samian (Table 9). The range of forms is limited, with the dish/bowl range Drag 18/31 to Drag 31 predominating (Fig 29, 4 & 5). Overall the date range is between the late 1st and late 2nd centuries AD.

### Chronology

Dating on ceramic grounds was hampered by typically small context groups and, to a degree, by the conservatism which characterises Romano-British coarsewares. The samian provides good dating markers, although much of this material may be residual. Further date markers were provided by regional finewares and mortaria. Quantities of soft-pink grog tempered wares provide useful dating: this type is not considered to occur before the later 2nd century (Marney 1989, 174–5), and is most abundant during the 3rd century. Notable absences among later groups are Oxfordshire colour-coated wares, a type commonly seen in the region within deposits dating after *c* AD 240/70.

### *1st to early 2nd centuries AD*

Small quantities of pottery were associated with the earliest features. Belgic type wares, fabrics 45, 46/46qu, all likely to date to the 1st century AD, occur in ditch D4, and is residual in the ditches of enclosure E2. Pottery included a carinated, reeded-rim bowl in Verulamium region whiteware dateable before *c*.AD 150. Samian was not recovered, but residual South Gaulish material in later deposits attests to activity of comparable date in the vicinity.

TABLE 7 Quantification of pottery fabrics

<i>Source</i>	<i>Description</i>	<i>MK fabric</i>	<i>NRFC*</i>	<i>Sherds</i>	<i>%</i>	<i>Weight (g)</i>	<i>Rim EVEs</i>
Local†	Grog	46	–	44	7.0	963	0.25
	Grog with shell	45	–	6	<1	294	–
	Grog with quartz	46qr	–	13	2.1	330	–
	Shell-tempered	1	–	165	26.3	3905	3.06
	Local grey sandy	9	–	135	21.0	1502	2.04
	Local black sandy	3	–	39	6.2	984	0.91
	Pink grogged	2	PNK GT	60	9.6	1004	0.74
Local/ uncertain	Grey with white slip	9	–	1	<1	10	–
	Grey with oxidised surfaces	9	–	7	1.1	233	0.10
	oxidised with white slip	41	–	1	<1	6	–
Regional	Upper Nene grey	14	–	52	8.3	750	1.61
	Upper Nene oxidised	17	–	14	2.2	146	0.30
	?Upper Nene white	18	–	7	1.1	51	0.09
	Oxford whiteware (mortaria)	4a	OXF WH	13	2.1	1120	0.70
	Lower Nene grey	12	–	2	<1	74	0.09
	Lower Nene valley CC	6	LNVCC	22	3.5	242	0.81
	Lower Nene valley white/cream	18b	–	15	2.4	62	–
	Veru. Region white	4g	VER WH	2	<1	64	0.06
	Mancetter/Hartshill	4ec	MAH WH	1	<1	30	–
	South-East English lead-glazed	13a	SOB GL	9	1.4	14	0.10
Continental	Central Gaul samian	20	LEZ SA/ LMV SA	13	2.2	191	0.62
	East Gaul samian	20	–	1	<1	10	–
	South Gaul samian	20	LGF SA	5	<1	44	0.22
Total				627		12029	11.70

**Early 2nd to 3rd centuries AD**

The intensified activity is reflected in larger quantities of pottery deriving particularly from within enclosure E2. A wide dating span is indicated: a small group of earlier material including 1st-century AD grog-tempered wares and a lead-glazed vessel which must pre-date c.AD 125/140 were associated with structure S3

and adjacent trackway ditch 772.

Much of the remaining pottery is somewhat later, the majority certainly dating after the mid/ later 2nd century AD, indicated in most instances by pink grogged ware occurring in all larger groups associated with this phase. Reduced wares comprise a mix of local (fabrics 3 and 9), and Upper Nene valley greywares.

TABLE 8 Pottery fabrics quantification by period

<i>Fabric</i>	<i>Mid 1<sup>st</sup>-early 2nd centuries AD</i>			<i>Early 2nd-early 3rd centuries AD</i>			<i>3rd century AD</i>		
	<i>No</i>	<i>Wt (g)</i>	<i>EVE</i>	<i>No</i>	<i>Wt (g)</i>	<i>EVE</i>	<i>No</i>	<i>Wt (g)</i>	<i>EVE</i>
Grog (46)	3	14	–	15	226	0.10	24	700	0.16
Grog with shell (45)	–	–	–	6	294	–	–	–	–
Grog with quartz (46qr)	4	122	–	4	32	–	3	138	–
Shell-tempered (1)	4	70	0.10	91	2156	2.03	60	1309	0.72
Local grey (9)	18	98	0.11	51	654	1.19	56	620	0.69
Local black sandy (3)	2	24	–	16	394	0.38	15	528	0.53
Pink grogged (2)	–	–	–	30	652	0.46	22	302	0.28
Grey with white slip	–	–	–	–	–	–	1	10	–
Grey with oxid surfaces	–	–	–	2	190	10	1	4	–
Oxidised with white slip (41)	–	–	–	1	6	–	–	–	–
Upper Nene grey (14)	–	–	–	30	548	1.30	18	170	0.20
Upper Nene oxid (17)	–	–	–	11	132	0.30	3	14	–
Upper Nene? coarse white (18)	–	–	–	2	8	–	4	37	0.09
Oxon white mortaria (4a)	–	–	–	4	146	0.32	8	914	0.38
Lower Nene grey (12)	–	–	–	1	32	–	1	42	0.09
Lower Nene C-C (6)	–	–	–	21	234	0.75	1	8	0.06
?Lower Nene colour white/cream (18b)	–	–	–	5	28	–	10	34	–
Veru. Reg white (4g)	1	30	0.06	–	–	–	–	–	–
Mancetter/Hartshill mortaria (4ec)	–	–	–	–	–	–	1	30	–
SE English glazed (13a)	–	–	–	9	14	0.10	–	–	–
Cent Gaulish sam (20)	–	–	–	5	142	0.46	3	25	–
South Gaulish sam (20)	–	–	–	1	18	0.09	2	23	0.12
East Gaulish sam (20)	–	–	–	1	10	–	–	–	–
Totals	32	358	0.27	306	5916	7.58	233	4908	3.32

Roundhouses S1 and S2 produced small groups, consistent with a late 2nd to 3rd century AD date. Pit 454 in enclosure E2 produced approximately one half of a Central Gaulish samian (Drag. 36) bowl dateable *c* AD 120–190 (Fig 29, 4).

Structure S4, in Enclosure E5, to the east, included sherds from an indented and scale-applied

Lower Nene colour-coated ware beaker (as Howe *et al* 1980, 39), dateable to the mid or later 3rd century.

Larger groups are confined to enclosures E2 and E4. A substantial portion from a Lower Nene valley colour-coated ware indented beaker, its form suggesting mid or later 3rd century AD dating (as

TABLE 9 Samian by form/region, quantities by number of vessels/rim EVE

<i>Form (generic)</i>	<i>Form</i>	<i>Central Gaul</i>	<i>South Gaul</i>	<i>East Gaul</i>	<i>Total</i>
Plain dish/bowl	Drag.18/31	2/0.18	–	–	<b>2/0.18</b>
	Drag.18/31r	1/0.05	1/0.12	–	<b>2/0.17</b>
	Drag.31	1/-	–	–	<b>1/-</b>
	Drag.31R	1/-	–	–	<b>1/-</b>
	Curle 23	–	1/0.09	–	<b>1/0.09</b>
	Drag.36	2/0.35	–	–	<b>2/0.35</b>
	unid. bowl	2/-	–	–	<b>2/-</b>
	unid. dish	–	1/0.01	–	<b>1/0.01</b>
Plain cup	Drag.33	–	–	1/-	<b>1/-</b>
Dec. bowl	Drag.37	1/0.04	–	–	<b>1/-</b>
<i>Unid.</i>	unid.	3/-	2/-	–	<b>5/-</b>

Howe *et al* 1980, 39/40) came from ditch 409.

Broadly similar dating is indicated for common eastern arm ditches of enclosures E2/E4, the fills of which produced the largest groups from the site. One group comprised 105 sherds/2445g, including roughly equal quantities of shelly, sandy reduced and pink grogged coarsewares. Oxidised wares including hemispherical flanged bowl and a Drag. 36 bowl copy support a date in the 3rd century AD; Oxfordshire whiteware mortaria (Young forms M18 and M22), and a Lower Nene colour-coated ware conical flanged bowl suggest dating in the second half of the 3rd century AD. A similar date is indicated by a substantially complete shell-tempered ware jar from ditch 230, a form reminiscent of late-style Black Burnished ware cooking pots.

#### **Mid to late 3rd century AD**

Quantities of pottery are significantly reduced. Context groups are typically very small, none exceeding 35 sherds, making assessment of dating frequently difficult or arbitrary.

The few chronological indicators support dating consistent with later material from the previous period. The bulk of pottery consists of shell-tempered, pink-grogged and sandy reduced wares in broadly equivalent proportions to those from the earliest period.

Enclosure E5 ditch 348 produced 3rd-century AD forms including local black sandy copies of Black Burnished ware type flat, grooved rim bowl (Fig 29, 6) and an Oxfordshire mortarium of a variant form of Young's form M17 (Fig 28, 3). A vessel of equivalent type was also present in gully 512, Enclosure E3.

#### **Summary**

There is limited evidence for activity through the 1st century AD apparent from the contemporary deposits and residual pottery in later contexts. The main peak of activity on the site, based on the ceramic evidence, would seem to be between the later 2nd and the mid/late 3rd centuries AD. Differences between material from these periods are not apparent, suggesting that the relative dating sequence is confined within a narrow chronological span. Specific evidence for activity in the 4th century AD is entirely lacking from the pottery assemblage.

#### **Catalogue of Illustrated Pottery (Figs 28-29)**

- 1 Rims of large storage jars, Fabrics 1 & 2, & 2 rim diameters 340mm & 400mm, fill (251) of posthole 252, north of S4; fill (525) of posthole 526, by northernmost ditch of E7
- 3 Oxford whiteware mortaria, with flange, Fabric 4a, 350mm diameter, variant of form



M17 (Young 1977, 72), 2nd-3rd centuries AD, fill (347) ditch 348, E5

- 4 Samian bowl (Drag 36), 200mm diameter, Central Gaulish *c* AD 120–190, 2nd-3rd centuries AD, E2, pit 454
- 5 Samian plate with footring and ring of roulet-

ting, (Drag 31R), Central Gaulish, 2nd-3rd centuries AD, E2, deposit 190 over E4

- 6 Bowl, Black Burnished ware type copy, flat grooved rim bowl, Local black sandy (fabric 3), Rim diameter 160mm, 2nd-3rd centuries AD, fill (510) gully 512, E3

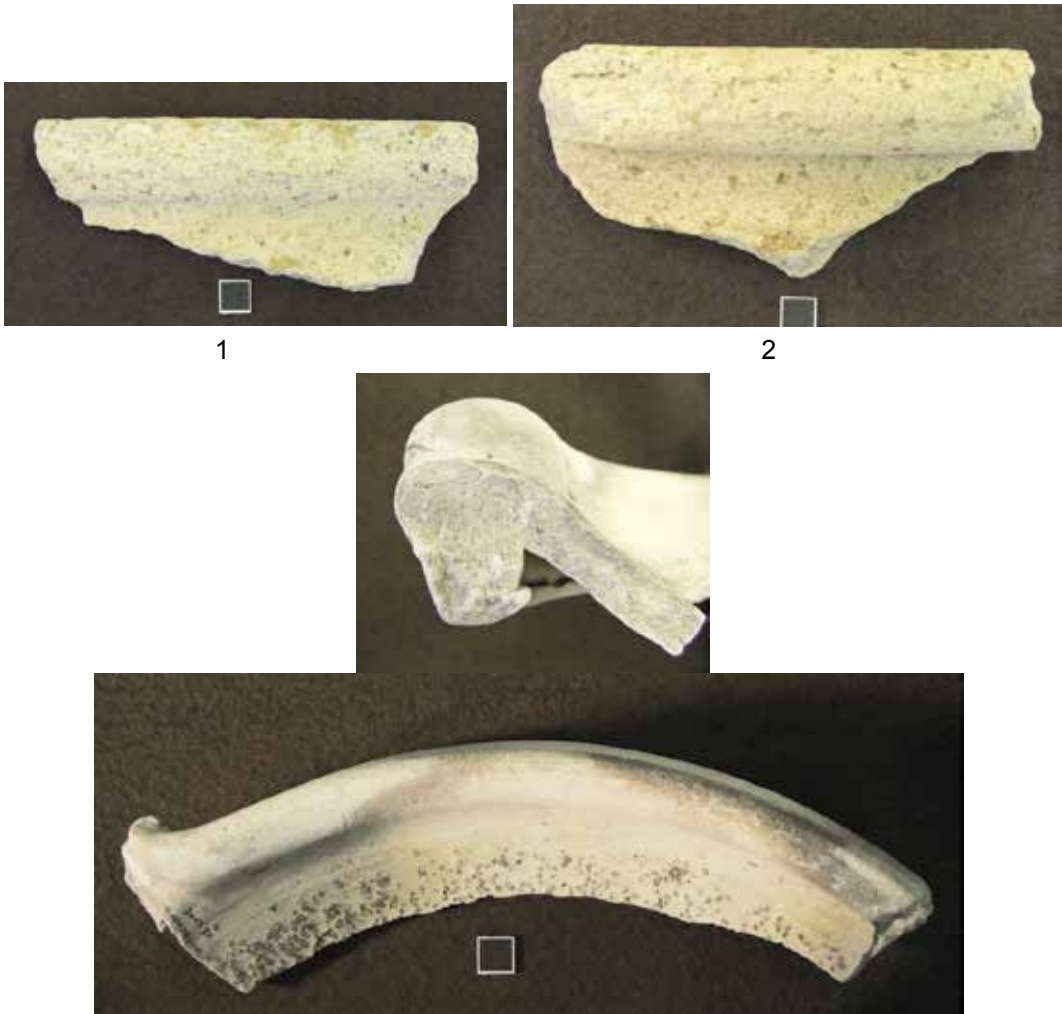


FIGURE 28 Roman pottery (1-3)

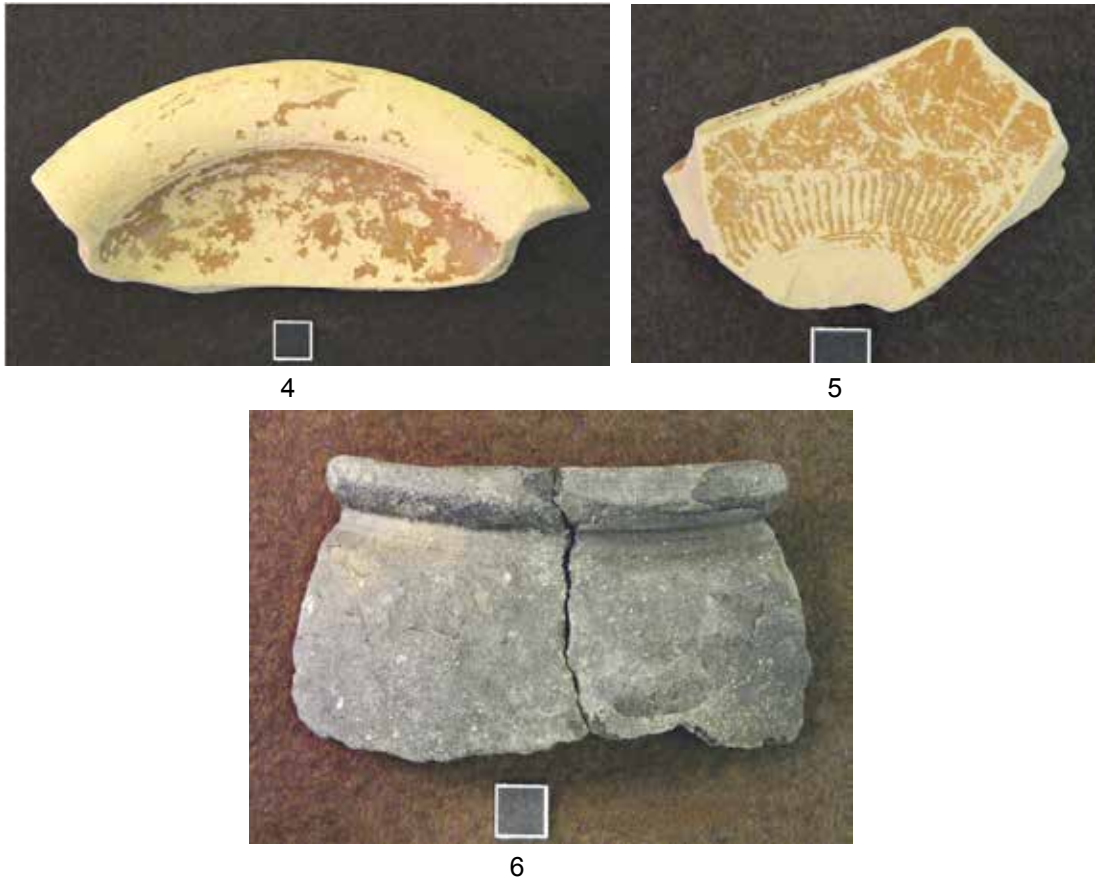


FIGURE 29 Roman pottery (4-6)

### BUILDING MATERIALS by Pat Chapman

There are three Roman roof tile sherds and 23 fragments of fired clay. A rectangular slab of limestone from layer 268, of 3rd century date, by S4, has no perforation so this may be from a wall.

### QUERNS AND MILLSTONES by Andy Chapman

Ten fragments of worked stone come from millstones and rotary querns from only two locations (Table 10). Two fragments of millstone come from ditches 142 and 192, enclosure E4, and a further two pieces from the occupation layer (190) above the same ditch of 2nd-3rd century date.

The other six pieces, two from millstones and four from rotary querns, are from a deposit (268) associated with the ring ditch S4 on the opposite side of the driveway to enclosure E2 (Fig 26, S.88). This deposit also contained an irregular fragment of lava, presumably imported from the Eifel region of Germany. This stone had only a small surviving worked area, suggesting that it came from a grinding stone rather than a quern, perhaps a reused quern.

### Geology

There are six pieces of Millstone Grit, five from millstones, and the upper stone of a flat rotary quern. Presumably, either the stones themselves or the raw material was imported the considerable distance from the Peak District of Derbyshire.

Four pieces are in conglomerate sandstone,

TABLE 10 The querns and millstones

<i>Context Geology</i>	<i>Dimensions (mm)</i>	<i>Diam (mm)</i>	<i>Comments</i>
<b><i>190 occupation layer above ditch 192 small enclosure E4, near roundhouse S1</i></b>			
(SF8) Fine sandstone (Millstone Grit)	160x125 (5%) 35-47mm thick	>550	Upper millstone, small fragment, concentric grooves on grinding surface
(SF10) Medium sandstone (Millstone Grit)	240x130 (5%) 48-53mm thick	>480	Upper millstone, irregular fragment. Lines of dimples on upper surface. Concentric grooves on grinding surface
<b><i>141/142 ditch at corner of small enclosure E4</i></b>			
(SF4) Coarse sandstone (Millstone Grit)	280x240 (c 10 %) 57-50mm thick	800	Upper millstone, with circumference. Dimpled tooling top face. Worn grinding surface, with concentric grooves
<b><i>191/192 ditch terminal small enclosure E4</i></b>			
(SF9) Fine sandstone (Millstone Grit)	205x120 (< 10%) 28-36mm thick	c450	Upper stone, flat rotary quern. Small, close dimples on upper surface, well-worn grinding surface
<b><i>268/269 shallow deposit, east of droeway by S4</i></b>			
(SF28) Coarse sandstone (Millstone Grit)	340x320 (c 25%) 50-70mm thick	> 680	Lower millstone. Eye 80mm diam Outer edge missing. Well worn, some pecked tool marks just survive (Fig 30).
(SF17) Coarse sandstone (Millstone Grit)	350x140x55	c.800	Rectangular block probably reused from millstone. Curved end from original circumference
(SF18) Old Red Sandstone Forest of Dean	(20%) 50-90mm thick Spindle socket c30mm diam	500	Bottom stone, rotary quern Uneven bottom, finely dimpled grinding surface
(SF19) Old Red Sandstone Forest of Dean	Complete (100%) 35-80mm thick Spindle socket	400	Complete (fractured) bottom stone, rotary quern. Slight central dome. Well-worn grinding surface, shallowly concentric grooving (Fig 31)
(SF20) Old Red Sandstone Forest of Dean	300x200 (30%) 70-100mm thick	c.450	Bottom stone, rotary quern Length of circumference, domed, spindle socket missing. Probably same stone as SF21
(SF21) Old Red Sandstone Forest of Dean	200x190 (10%) 40-80mm thick	c.450	Bottom stone, rotary quern. Fragment of circumference, domed. Probably same as SF20
(SF22) Lava	280x110x65	—	Irregular fragment, not from a quern. Remnant of curved surface suggests that it may have been a mortar/grinding stone

with a light grey to white matrix containing dense quartz and other pebble inclusions of around 5-10mm diameter and sparse larger pebble inclusions measuring 10-40mm in diameter, which is characteristic of the Old Red Sandstone from the Forest of Dean. These are from bottom stones of rotary querns.

### Millstones

The millstones are identified by a combination of thickness and, when measureable, the large diameters of the stones, which would have been too large to be turned by hand and are presumably from animal-powered mills.

A single piece comprises *c.*25% of a bottom millstone (SF28) (Fig 30). This stone is 70mm thick at the centre, where there an aperture, 80mm in diameter, to allow a drive shaft to pass through the stone, indicating the use of an underdrive (Watts 2002, 57–62). The stone becomes progressively thinner, to 50mm, and it was evidently more than 680mm in diameter, but the circumference is missing. The grinding surface is well worn but retains a few faint dimpled tool marks.

Three pieces come from upper or runner stones. One of these (SF4) is from a stone 800mm in diameter. On the runner stones the upper surface is

undulating and contains dimpled tool marks, while the grinding surfaces are well worn with concentric grooves. The central eye does not survive on any of these stones.

A further large piece of Millstone Grit must have come from a millstone, and a curved end suggests the stone was 800mm in diameter, but the piece has been reworked into a rectangular block for some secondary use.

### Querns

Four pieces in Old Red Sandstone come from bottom stones of rotary querns. There is a complete, but broken, bottom stone (SF19), 400mm in diameter, with a slightly convex grinding surface and a slightly domed centre, with faint worn concentric grooves (Fig 31). It is 35mm thick at the circumference and 80mm thick at the centre, where there is a spindle socket, 30mm diameter, which penetrates through the entire width of the stone. The other bottom stones are 450mm (SF20 & 21) and 500mm (SF18) in diameter, with convex grinding surfaces. They are 100mm and 90mm thick at the centre and one (SF18) retains part of a spindle socket 30mm in diameter which also penetrates through the entire width of the stone. They are 40-50mm thick at the circumference.



FIGURE 30 Fragment from Roman millstone (SF28), layer 268/269 (scale 50mm)



FIGURE 31 Bottom stone of rotary quern (SF19), layer 268/269 (scale 50mm)

Only a single fragment comes from an upper stone (SF9), in fine-grained sandstone, probably Millstone Grit, which comes from the circumference of a stone 450mm in diameter and 36mm thick. The upper surface has dimpled tool marks, like the millstones, and the grinding surface is well worn.

## ROMAN METALWORK

by Tora Hylton

Seventeen individually recorded finds were concentrated in the southern half of the site, predominantly in the fills of boundary ditches and spreads of 2nd to 3rd century AD date.

### Copper Alloy

A copper alloy 'collar' and a disc with surface ferrous deposits came from spread 225 over 2nd-3rd century internal enclosure E4.

From domestic enclosure E3, gully 488 (3rd century AD), were joining fragments from a plain tapered armlet, and a twisted handle from a silvered copper alloy spoon still with a vestige of the bowl came from the northern ditch 136.

A complete penannular brooch from the droeway ditch by Enclosure E5 (3rd century AD) was manufactured from a solid circular-sectioned ring with flattened terminals coiled at 90 degrees to the ring (see Fowler's Type C, 1960) (Fig 32). The damaged pin has a circular cross-section, tapering to a point, above which there is a small hump. Such brooches are relatively common from 1st-century AD deposits, but were in use from the 1st-3rd centuries AD (Corney 1999).

### Iron

Nine iron objects were recovered including four undiagnostic fragments. Four structural nails, up to 90mm long, were most probably for structural use. Two large iron objects, one a probable knife blade, are from the spread (190) over small enclosure E4.

A large drop-hinge staple for supporting a substantial door or a gate came from the fill (106) of the west droeway D2, ditch 107. The pointed staple is 115mm long, with a square section up to 20mm thick, the circular-sectioned pivot is c 30mm long and 18mm in diameter.



FIGURE 32 Penannular copper alloy brooch (scale 10mm)

### Lead

Part of a lead object came from boundary ditch D1, 519. Sheet lead off-cuts were recovered from layer (268) by enclosure E5.

### COIN

by Ian Meadows

The only coin is a worn *dupondius* from enclosure E2, ditch 409. The obverse bears the distinct outline of a head with hair in a bun, the location of which would suggest Faustina Junior rather than any of the other Flavian or Antonine empresses. The reverse is illegible. The worn state would reflect this coin's long circulation beyond its minting date in the third quarter of the 2nd century AD.

### ANIMAL BONE

by Matilda Holmes

All the animal bones were hand collected. The bones were in mixed condition and fragmentary. The majority (43) of those whose condition was recorded were in fair to bad condition, although a small number (16) were in very good or good condition. A large number of fragments (196) could

be refitted to make sixteen larger pieces, although this includes 47 fragments from a shattered horse mandible. Most of this breakage appears to have occurred post-deposition but prior to excavation.

Taphonomic factors affecting the material included one fragment that had been burnt, three showed signs of canid gnawing and five had been affected by butchery methods.

### Description of Assemblage

Table 11 shows the species fragment count. Although the sample is small, of the 228 fragments recorded only 82 were identified to species, due to the poor condition of the material. Larger species predominate (horse and cattle), a trend reflected in the numbers of unidentified fragments.

There is a limited amount of metrical and ageing data (bone fusion, tooth wear and eruption), but the sample of bones is too small to speculate on husbandry, diet or economy.

### CHARRED PLANT REMAINS by Val Fryer

Modern fibrous and woody root fragments were a major contaminant within most of the assemblages.

Cereal grains and chaff and/or seeds of common weed plants were present at mostly very low densi-

ties although two samples (20 and 23) contained very high densities of material (Table 12). Preservation was generally moderate to good although some macrofossils did appear much abraded, possibly as a result of prolonged exposure prior to burial or subsequent disturbance.

Oat (*Avena sp.*), barley (*Hordeum sp.*) and wheat (*Triticum sp.*) grains were recorded, with wheat being predominant throughout. Most wheat grains were of an elongated 'drop-form' shape typical of spelt (*T. spelta*) and spelt glume bases were abundant within samples 20 and 23. A single bread wheat (*T. aestivum/compactum*) type rachis node was also recorded from sample 20.

Seeds of common corn field weeds were present within six of the assemblages. Taxa noted included stinking mayweed (*Anthemis cotula*), a common plant of heavy clay soils, brome (*Bromus sp.*), cornflower (*Centaurea sp.*), black bindweed (*Fallopia convolvulus*) and dock (*Rumex sp.*). A single sedge (*Carex sp.*) nutlet was noted within the assemblage from sample 20.

Charcoal fragments were present throughout, although rarely at a high density. A small number of shells of terrestrial and freshwater molluscs were recorded within two of the ditch samples (including 23), the freshwater specimens possibly indicating that the ditches were at least seasonally wet or water-filled.

TABLE 11 Animal species representation (fragment count)

Species	centuries AD		
	1st- early 2nd	early 2nd- early 3rd	mid-late 3rd
Cattle	1	30	16
Sheep / Goat	–	9	–
Pig	–	1	2
Horse	1	5	17
Red deer	–	1	–
Total identified	2	46	35
Unident large mammal	14	42	58
Unident medium mammal	–	1	2
Unident mammal	1	11	18
Overall total	17	100	113



**1st to early 2nd century AD**

Only small charcoal fragments.

**2nd and 3rd centuries AD**

The majority of the assemblages appear to be composed of low densities of scattered or wind-blown refuse of possible domestic origin. The exception is the presence of grains, weed seeds and a high density of cereal chaff within samples 20 and 23 (Table 12). These samples come from a distinctive deposit of black organic silts, which were present in the upper secondary fills of the ditch around the north-west corner of 3rd-century enclosure E5. This deposit largely comprised charred cereal-processing debris.

**Conclusions**

The majority of the assemblages appear to be composed of small amounts of scattered or wind-blown detritus of uncertain origin.

Two soil samples, 20 and 23, from the southern end of droeway ditch D3 contained quantities of cereal processing debris. As this was the only instance of such material, it is perhaps problematic whether it is indicative of on-site cereal processing or was derived from spent fuel, with the cereal requirements of the occupants being met by imported batches of semi-cleaned or prime grain. The material within samples 20 and 23 could be derived from the final cleaning of imported grain prior to consumption, although cereal processing waste does appear to have been traded for use as kindling or fuel during the Roman period. It is also relevant that the ditch containing these deposits was overlain by a soil horizon containing several fragments from rotary querns and millstones. Perhaps the deposition of both charred grain and querns in this one area denotes the nearby presence of an area devoted to grain storage and processing.

**CHARCOAL**

by Rowena Gale

A small assemblage of charcoal was selected for assessment from primary or single contexts containing Roman pottery of 1st-3rd centuries AD date. Four of the five samples came from ditches, while the fifth included material from a spread. The samples were all extremely small, and only three produced material worthy of description and

TABLE 12 Quantification of plant macrofossils

<i>Sample No</i>	20	23
	255/	282/
<i>Fill/cut</i>	257	283
	<i>Ditch east of droeway (near S3)</i>	
<i>Feature type</i>		
<b>Cereals</b>		
<i>Avena</i> sp. (grains)	x	x
<i>Hordeum</i> sp. (grains)	x	xcf
<i>Triticum</i> sp. (grains)	xxx	xxx
(glume bases)	xxx	xxx
(spikelet bases)	xxx	xx
(rachis internodes)	xxx	x
<i>T. spelta</i> L. (glume bases)	xxxx	xxxx
(spikelet forks)	x	x
<i>T. aestivum/compactum</i> type (rachis nodes)	x	x
Cereal indet. (grains)	xxx	x
(awn frags.)	xx	x
(detached sprouts)	xx	
<b>Herbs</b>		
<i>Agrostemma githago</i> L.	xtf	–
<i>Anthemis cotula</i> L.	–	–
<i>Atriplex</i> sp.	x	–
<i>Bromus</i> sp.	x	X
<i>Centaurea</i> sp.	x	X
Chenopodiaceae indet.	–	X
<i>Cirsium</i> sp.	x	–
Fabaceae indet.	x	–
<i>Fallopia convolvulus</i> L.(A.Love)	x	X
Small Poaceae indet.	–	–
Large Poaceae indet.	x	–
<i>Rumex</i> sp.	–	X
<i>Tripleurospermum inodorum</i> (L.) Schultz-Bip	–	–
<b>Wetland plants</b>		
<i>Carex</i> sp.	x	–
<b>Other plant macrofossils</b>		
Charcoal	x	x
<b>Sample volume (litres)</b>	<b>10</b>	<b>20</b>
<b>Volume of flot (litres)</b>	<b>0.2</b>	<b>&lt;0.1</b>
<b>% flot sorted</b>	<b>50%</b>	<b>100%</b>

Quantity: x = 1-10 specimens; xx = 10-50 specimens; xxx 50-100 specimens; xxxx = 100+ specimens: cf = compare; tf = testa fragment; b = burnt



discussion, as the others contained uncarbonised material likely to be modern and intrusive. The charcoal mostly consisted of tiny pieces of very friable material. In view of the minimal material present, all viable charcoal was examined.

### 1st to early 2nd century AD

Boundary ditch D1 contained tiny fragments of charcoal, mostly unsuitable for identification, but one was possibly from the hawthorn/ Sorbus group (*Pomoideae*).

### 2nd and 3rd centuries AD

From a probable spread of occupation debris overlying the ditches at the south-east corner of enclosure E2 and Enclosure E4, 13 very friable fragments were examined and named as a member of the hawthorn/Sorbus group (*Pomoideae*). The charcoal consisted entirely of narrow roundwood and it is probable that several pieces originated from a single stem. The source of the material is unknown but clearly related to an activity undertaken within the enclosure.

The sample from driveway ditch D3 included small fragments of charcoal from oak (*Quercus sp.*) and willow (*Salix sp.*) or poplar (*Populus sp.*).

### Discussion

Owing to the paucity of charcoal available and the poor condition of the material examined, the data obtained is very limited. Apart from noting that oak, a member of the hawthorn group and willow/poplar grew in the locality, it is not possible to comment further on the character of the environment.

### DISCUSSION

by Andy Chapman

Through the early development of Milton Keynes in the 1970s and 1980s, archaeology was covered by the archaeology unit attached to the Milton Keynes Development Corporation, while the recent wave of new development has been covered by the work of numerous commercial archaeological organisations. As a result, for the Iron Age and Roman periods the Milton Keynes area must now be one of the most intensively examined landscapes in England. Once the results of the many recent excavations become available, it should be possible

for someone to provide a detailed synthesis of the changing pattern of settlement in terms of form, function and status, from the middle Iron Age through to the end of the Roman period. Magna Park makes a further small contribution to this palimpsest.

### The Iron Age Enclosure

For present purposes the most useful direct comparisons are to the immediately local sites (Fig 1). Of particular relevance is the Iron Age and Roman settlement at Broughton Manor Farm/Brooklands, lying to the north-west on the opposing slopes of Broughton Brook (Atkins *et al* 2014). In the Roman period at least, these sites may have been closely connected, with Magna Park perhaps an outlying farm to an estate centre at Broughton Manor Farm, as will be discussed below.

Magna Park is on low lying ground adjacent to Broughton Brook and the surrounding terrain for some kilometres is one of low relief, dotted with activity from the Bronze Age onward. As is generally the case, there is limited evidence of early Iron Age activity, although in the broader landscape there is the notable early Iron Age post-built roundhouse, perhaps the precursor to the Iron Age shrine and Roman mausoleum complex at Bancroft Roman villa (Williams & Zeepvat 1994).

In the broader landscape, on the higher ground 3.5-4.0km to the south there is Danesborough hill-fort, at 150m aOD on Aspley Heath, which may have served as the local tribal centre for this area, including the Magna Park late Iron Age enclosure.

At Magna Park, activity on a significant scale may only have begun in the 2nd century BC, but there was a substantial middle to late Iron Age settlement at the neighbouring site to the north, Broughton Manor Farm/Brooklands, another further afield at Salford Quarry, Bedfordshire (Dawson 2005), and further late Iron Age enclosures at Broughton Barn Quarry (Chapman 2009).

The Magna Park enclosure can be classified as a Wootton Hill-type enclosure, as it shows similarities in size and structure to Wootton Hill Farm, Northampton (Jackson 1989), the type site for this English Heritage monument class. They are defined as small, deep-ditched enclosures with defended/protected entrances, dating to the late Iron Age. At Wootton Hill Farm the enclosure was also square and of similar size, measuring 35m across in comparison to 39m at Magna Park, and

at Wootton Hall Farm a short length of curving gully and a pair of substantial post-pits defined the presence of a single roundhouse, 10m in diameter. A gully of sub-rectangular plan formed a stock enclosure in the adjacent corner, and to complete a set of comparable internal elements, there was also a drainage gully along the lower lying side of the enclosure (Fig 33).

While we can classify Magna Park as a Wootton Hill-style enclosure, this does little on its own to explain the nature and function of the site. Wootton Hill Farm itself was seen by the excavator, Dennis Jackson (1989), as forming part of an outlying defensive system for the nearby Hunsbury hillfort, rather than having a purely domestic function. Such a role does not seem appropriate for the Magna Park enclosure, which appears to have been a family farmstead, probably containing a single principal roundhouse and perhaps one or more ancillary buildings, although apart from a pair of recut pits that might have held doorposts there were no surviving traces.

There is limited environmental evidence for life associated with the enclosure, but the site economy may have involved a mixed pastoral and arable regime. There is too little evidence to determine the balance of pastoral to arable, although the lack of charred cereals and chaff, and the lack of any Iron Age querns may indicate that pastoral agriculture was dominant, with the need for cereals met by imported batches of semi-cleaned grain.

The limited animal bone assemblage included all the main domesticates, cattle, sheep/goat, pig, horse and dog. There was also some red deer, but the late Iron Age material was probably from collected shed antlers for craft manufacturing, while a single tooth from an early Roman deposit might suggest hunting. The age of death of the cattle indicates a late Iron Age economy based largely on secondary products, milk and/or traction, with many animals retained to an advanced age, although the later deposits show increasing evidence for culls of some younger animals, specifically for meat, towards the mid-1st century AD. In contrast, sheep were initially of prime importance for their meat, but later deposits indicate a later age at death indicating a growing value for secondary products such as wool and milk.

Fragments of fired clay kiln lining and kiln plate from the southern part of the enclosure and features to the south indicate that some pottery was

manufactured nearby, perhaps beginning prior to the Roman Conquest and then continuing into the final phase of use in the mid-later 1st century AD, and therefore contemporary with the emerging more extensive activity to the north-east at Site 2. By this time the enclosure was redundant and its ditches were silted up.

With the main focus of domestic occupation having moved elsewhere, perhaps to Site 2 to the north-east, the final phase of less intense activity, largely conducted outside of the main ditch circuit, was focused on industrial activity, at least including pottery manufacture, perhaps as outlying subsidiary activity at a distance from the new domestic focus.

### **The Roman Droeway and Enclosures**

The use of the late Iron Age enclosure, Site 1, would certainly have overlapped with the curving boundary ditch to the north-east, and while there was no evidence for significant occupation at Site 2 at this time, there was a sparse scatter of pottery dated to the 1st century AD. It is suggested that the curving ditch was primarily a land boundary, although at one end a parallel ditch and fence line indicate that it may also have been utilised as a droeway for stock control. Perhaps seasonal roundups of animals otherwise left to graze in an open landscape.

In the Roman period the local focus was the Roman town of *Magiovinium* on Watling Street, the modern A5, which lay 5.5km to the south-west, where the river Ouzel crossed Watling Street, and also the point on Watling Street closest to Magna Park. This is the likely market centre for products produced at Magna Park. There could have been direct trade with the more important villa estate centres such as Bancroft, but this lay a little further away, 9km to the west, close to the river Great Ouse.

By the early 2nd century AD the Iron Age boundary had been replaced by a new boundary and droeway. To the south the new boundary was on a parallel alignment, but to the north the Roman droeway continued northwards to the very edge of Broughton Brook. This suggests that while the existing boundary was respected to the south, to the north there was a major change, perhaps related to a change of land tenure.

It seems likely that the droeway continued to the north of the stream, which opens the possi-

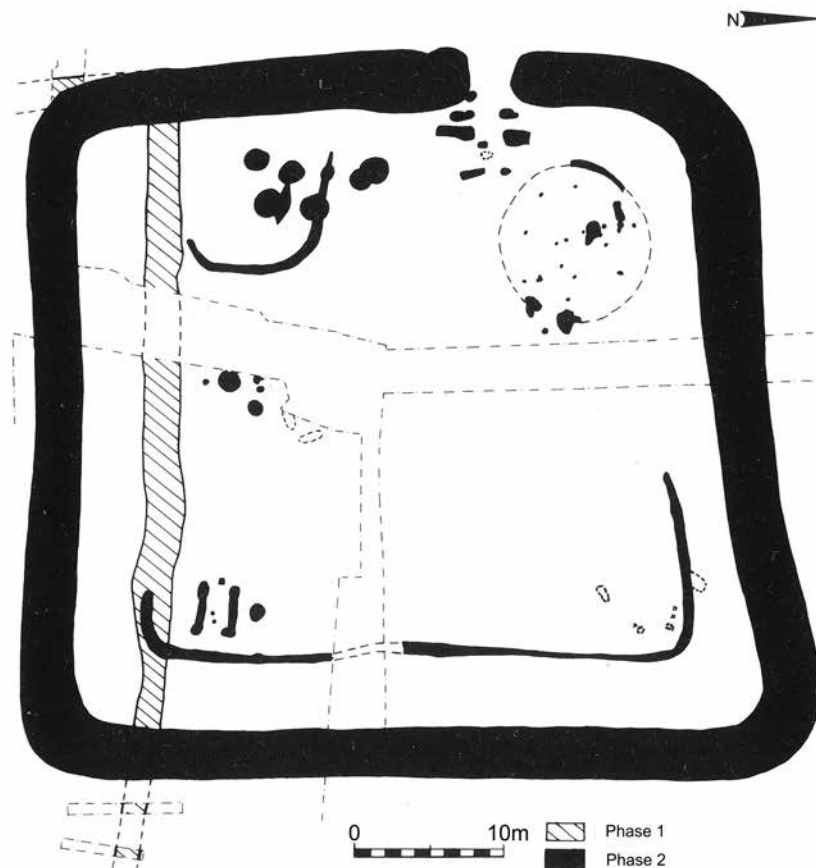


FIGURE 33 The Wootton Hill Farm enclosure, Northampton (from Jackson 1989)

bility that there was a direct physical link between the Magna Park and the contemporary settlement at Broughton Manor Farm. At that site, through the Roman period a trackway ran eastwards and could have met the Magna Park droveway to the north-west of Magna Park. It is even possible that they formed a single trackway.

The Iron Age and Roman settlement at Broughton Manor Farm was evidently more substantial and of higher status than the settlement at Magna Park (Atkins *et al* 2014).

In the middle Iron Age there was an open settlement, later at least partially enclosed, that contained some 20 roundhouses. In the late Iron Age there was a shift to a new but probably smaller farmstead settlement set within a rectangular ditched enclosure, but considerably larger than the enclosure at Magna Park. From the early 1st

century to the early 2nd century AD one corner of the Broughton Manor Farm enclosure was given over to a cemetery which contained cremation burials accompanied by imported pottery and glass vessels, indicating a level of wealth not seen at Magna Park.

The farmstead continued to prosper through the Roman period, and stone-built or at least stone-footed buildings had appeared by the middle of the 2nd century AD, when the occupants of the enclosure at Magna Park were still occupying timber roundhouses. It is possible that the native occupants of the roundhouse at Magna Park were serving an estate centred on the Broughton Manor Farm complex. In the 2nd century AD the purpose of the settlement seems clear, with the broad droveway blocked to the south, with a gateway leading to a large stock yard and stock enclosure,

indicating that it was a specialised pastoral farm, set up for handling livestock in some quantities.

It has been suggested that Broughton Manor Farm also specialised in pastoral farming, both cattle and perhaps trading in horses as well (Atkins *et al* 2014).

By the early/mid-3rd century, however, the whole system was re-modelled and the broad droeway became a narrow droeway/trackway and a through road. In the new domestic enclosure the inhabitants were more Romanised, now living in a timber-framed house, perhaps with a simple winged corridor plan. In the south-east corner of the site late ditch deposits and perhaps clearance debris produced quantities of charred grain and chaff, with the ditch in the corner of the enclosure perhaps used as a convenient dump for a prolonged period. In addition, the final dumped deposit contained fragments of millstones, indicating the provision of an animal-powered mill, suggesting that flour was being produced on a scale beyond the needs of the occupants of the adjacent enclosure and perhaps supplying other parts of the estate and maybe even a surplus for market. It would appear that the physical remodelling of the settlement was a direct result of the need to shift from a pastoral to an arable regime.

By the end of the 3rd century AD the entire settlement was abandoned, although at Broughton Manor Farm occupation was to continue until the late 4th century or even the early 5th century AD. The reason for abandonment is unknown, but it may be that arable farming on these low lying heavy clays, frequently wet and often waterlogged in winter, may have rapidly led to soil exhaustion and decreasing yields, with this settlement perhaps abandoned in favour of those on the lighter gravel terraces.

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