



Northamptonshire
County Council

Northamptonshire Archaeology

Late Iron Age occupation and the emergence of
a Roman farming settlement at
Broadway Fields, Yaxley, Huntingdonshire

July - October 2005

Final report



Jim Brown

October 2008

Report 08/135

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OASIS REPORT FORM

PROJECT DETAILS		
Project name	Late Iron Age occupation and the emergence of a Roman farming settlement at Broadway Fields, Yaxley, Huntingdonshire, July-October 2005	
Short description (250 words maximum)	In 2005 excavation of Iron Age settlement and part of a Roman farming settlement took place in advance of development on 1.9ha of land at Broadway Fields, Yaxley, following earlier geophysical survey and trial excavation. A principal east to west bank and ditch had existed along the apex of the natural clay ridge with late Iron Age roundhouses close by. The boundary included an important crossing point that was in use until the 1st century AD. In the late 1st century the roundhouses were cleared. The Iron Age entrance was slighted and the former ditches were incorporated into a new enclosure design. A single roundhouse was built and a small short-lived pottery kiln produced basic storage vessels for use on the site. The land is likely to have been incorporated into a larger agrarian settlement by the mid-2nd century. Activity was defined by a large enclosure with a small cemetery along its western perimeter. A stone-roofed building was present with other timber framed structures close by and probably fulfilled a domestic function. During the 4th century habitation moved elsewhere and the land was reorganised to form a pattern of smaller enclosures. This indicated a major change in the agricultural economy of the estate and marked the final stage of development.	
Project type	Open area excavation	
Site status (none, NT, SAM etc)	None	
Previous work	Butler 2005, Taylor and Chapman 2005, Brown 2006	
Current Land use	Modern residential estate	
Future work (yes, no, unknown)	No	
Monument type/ period	Iron Age and Roman settlement	
Significant finds	Pottery, animal bone, querns, ceramic building materials, human remains, coins, brooches, ironwork and plant macro-fossils	
PROJECT LOCATION		
County	Huntingdonshire	
Site address (including postcode)	Broadway Fields, Yaxley	
Study area (sq.m or ha)	1.9 ha	
OS Easting and Northing	47690 23961	
Height OD	70m OD	
PROJECT CREATORS		
Organisation	Northamptonshire Archaeology	
Project brief originator	Andy Thomas, Cambridgeshire County Council	
Project Design originators	Adam Yates and Anthony Maull, Northamptonshire Archaeology	
Director/Supervisor	Jim Brown, Northamptonshire Archaeology	
Project Managers	Adam Yates and Anthony Maull, Northamptonshire Archaeology	
Sponsor or funding body	Taylor Woodrow	
PROJECT DATE		
Start date	July 2005	
End date	October 2005	
ARCHIVES		
	Location (Accession no.)	Content (eg pottery, animal bone etc)
Physical		Pottery, tile, animal bone, metal finds, querns, sample residues and human remains
Paper		Site context record, plans, section drawings, photographic record, finds drawings
Digital		Mapinfo digital plans and client interim report PDF
BIBLIOGRAPHY		
	Journal/monograph, published or forthcoming, or unpublished client report (NA report)	
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**LATE IRON AGE OCCUPATION AND
THE EMERGENCE OF A ROMAN FARMING SETTLEMENT AT
BROADWAY FIELDS, YAXLEY, HUNTINGDONSHIRE**

JULY-OCTOBER 2005

Final report

Abstract

In 2005 excavation of Iron Age settlement and part of a Roman farming settlement took place in advance of development on 1.9ha of land at Broadway Fields, Yaxley, following earlier geophysical survey and trial excavation.

A principal east to west bank and ditch had existed along the apex of the natural clay ridge with late Iron Age roundhouses close by. The boundary included an important crossing point that was in use until the 1st century AD.

In the late 1st century the roundhouses were cleared. The Iron Age entrance was slighted and the former ditches were incorporated into a new enclosure design. A single roundhouse was built and a small short-lived pottery kiln produced basic storage vessels for use on the site.

The land is likely to have been incorporated into a larger agrarian settlement by the mid-2nd century. Activity was defined by a large enclosure with a small cemetery along its western perimeter. A stone-roofed building was present with other timber framed structures close by and probably fulfilled a domestic function.

During the 4th century habitation moved elsewhere and the land was reorganised to form a pattern of smaller enclosures. This indicated a major change in the agricultural economy of the estate and marked the final stage of development.

1 INTRODUCTION

Geophysical survey and trial trench evaluation identified an Iron Age and Roman settlement at Broadway Fields, Yaxley in an area designated for new housing development (Fig 1: NGR TL 1910 9318). Cambridgeshire Archaeological Planning and Countryside Advice (CAPCA), in compliance with PPG16 and the archaeological policies of the authority, required that the impact of the development be mitigated through a programme of archaeological excavation and recording. Northamptonshire Archaeology (NA) was commissioned by Taylor Woodrow to undertake these works.

The work was conducted according to a project design compiled by Northamptonshire Archaeology to meet the requirements of the *Brief for Archaeological Investigation* issued by CAPCA and was approved by that authority (NA 2005; Thomas 2005). An assessment report and updated project design (UPD) was produced following the excavation and approved by CAPCA (Brown 2006). The UPD document formed the basis of further post-excavation work, the results of which are presented here.

The excavations covered an area of 1.9 ha and revealed the south-west portion of multi-phase enclosures that included settlement evidence for the transition between the Iron Age and Roman periods together with later developments. A modest farming settlement may have extended towards the north-east of the excavated area from the mid-2nd century and it is thought that this provided a focus for economic activity. The site was

partially obscured by remnant medieval furrows and had been severely truncated in places by modern ploughing. A smaller area to the south was excavated concurrently but revealed no Roman features.

This document comprises the final presentation of the results of the excavation and will form the basis of any future publication.

Acknowledgements

The project was sponsored by Taylor Woodrow. It was approved and monitored by Andy Thomas and Kasia Gdaniec. The project was led by Anthony Maull, Adam Yates and Jim Brown. Fieldwork was directed by Jim Brown and the staff were supervised by Adrian Burrow. The fieldwork was conducted by Mark Holmes, Rob Smith, Hale Moharmzadeh, Drew Smith, David Haynes, Peter Haynes, Alexa Lea, Leon field, Jim Burke and Nathan Flavell. Metal detecting was undertaken by Steve Critchley who also advised on the geology of the site. The report was written and edited by Jim Brown with final comments made by Andy Chapman and Steve Parry. Illustrations were compiled by Richard Watts, Jacqueline Harding, Carol Simmonds and Pat Walsh. Northamptonshire Archaeology thanks all of its specialists named in the report for their contributions. Paul Blinkhorn kindly advised on the two sherds of Saxon pottery. Don Mackreth advised on the brooches. Dr. Philip Armitage wishes to thank Ian Baxter for the useful and informative discussion concerning Iron Age domestic cats. Ian Meadows offers his thanks to Prof. William Manning for their discussion of Roman ironwork.

2 BACKGROUND

2.1 Topography and geology by Jim Brown and Steve Critchley

The village of Yaxley is situated approximately 6km south of Peterborough. It lies on a low peninsula to the south of the River Nene that overlooks the fenland to the south and east. The peninsula is relatively low at c20m above Ordnance Datum in the vicinity of the church and slopes gently away to the north, east and south. It forms a broad natural plateau along the course of the peninsula ridge, with the land falling away swiftly on either side onto well drained slopes. Topographically, its position is not dissimilar to the Roman farmstead at Glapthorn Road, Oundle in Northamptonshire, which was set upon a broad plateau within a loop of the River Nene (Maull and Masters 2005, 50). At Haddon the core of Iron Age and Romano-British settlement was situated upon a slope between the 23-28m contour to take maximum advantage of a range of agricultural conditions (Hinman 2003, 3).

The site was located to the north of The Broadway, a road connecting Yaxley with Farcet to the north-east. The site was bounded on the west by a housing estate and to the north by arable fields, marked only by the change in ground cover. A line of trees extended 110m into the field, parallel to the alignment of the road. The site was flat, situated at the apex of the natural ridge, comprising abandoned waste ground covered in rough vegetation. Geotechnical test-pits and archaeological trial trenches had already been excavated on the site during earlier surveys (Taylor and Chapman 2005).

The soils on the site are of the Hanslope Association, comprising slowly permeable calcareous clayey soils with some slowly permeable non-calcareous clayey soils (SSEW 1983). The solid geology comprises mudstones and clays of the Jurassic Oxford Clay Formation which are overlain by mid-Pleistocene glacial lake sediments and glacial tills (British Geological Survey 1995). The superficial deposits belong to two distinct formations. The older is a series of clays, silts and sands deposited in an ice dammed

fluvial channel during the onset of the Anglian glaciation. Later the advancing ice sheets buried these lake sediments with a thick layer of glacial till that was exposed over the whole excavation area. In most exposures they were seen to comprise stiff light grey to light brown clays with a high clast content of chalk, flint, limestone, derived Jurassic fossils and sandstone with some igneous and metamorphic rock types also present. Periglacial processes during the late Pleistocene Devensian glaciation greatly affected the older Anglian tills, producing a range of extensive ground ice features, dominantly ice wedges and polygons. Evidence of these remained in the excavations as orange brown silty sands and fine gravel filled casts.

2.2 Archaeological background

The proposed development area was the subject of a Desk-based Assessment (Watt 2002).

Prehistoric

A single known prehistoric findspot was recorded for a Palaeolithic handaxe from 'Yaxley Yard' (01410-MC[273]819). Unprovenanced Palaeolithic and Mesolithic flints "from Farcet" are in the Peterborough Museum (Accession Nos L1174-5 and 1177-8). A single site on the gravel island between Farcet fen and Yaxley fen, 4.5km to the east, yielded a range of flint artefacts of Neolithic date, with some items of the Mesolithic and Bronze Age also present (Hall 1992, 19, fig 10). Bronze Age remains comprising two barrows and a possible burnt mound also lie upon this island (Hall 1992, 22, fig 10). In contrast, both Yaxley and Farcet fens lacked prehistoric settlement. There were no recorded instances of Iron Age sites in Yaxley or Farcet fens (Hall 1992, 22).

Iron Age to Roman

The Roman town of *Durobrivae* was located upon Ermine Street close to the present village of Water Newton and 7.5km due north-west of the site (Fig 1). *Durobrivae* was a flourishing and successful small town and would have been the hub for a variety of contemporary farms, burial grounds and industrial sites. Information on the extent to which it affected the prosperity of the local region is limited, as little excavation has taken place within *Durobrivae* itself and few wealthy villa sites have been identified and investigated in the area (Hinman 2003, 6). Local sites in the immediate vicinity that would have benefited from its presence include Alwalton, Wansford, Helpston, Haddon, Orton Hall Farm, Orton Longueville, Longthorpe and Lynch Farm. The site at Yaxley adds to this growing corpus of sites and draws heavily upon the Roman pottery studies from Orton Hall Farm (Perrin 1999).

On the basis of the known sites from the Cambridgeshire Heritage Environment Record (CHER), there was a high potential at Yaxley especially for the survival of Roman remains in the form of settlement or craft industry, given its proximity to Ermine Street (Watt 2002, 6). The results of aerial photograph interpretation for the site were unable to confirm this idea, possibly due to the unresponsive clay soils (APS 2002, 2).

The CHER records eight Roman sites within a 1km search radius of the site. The nearest was located 500m to the north-east of the excavated area and comprised finds of Roman pottery (01353 -MC[273]740). There were records of two Roman pottery kiln sites located 700m to the south of the excavated area at Hog Fen close and at Cow Bridge Farm (11686-MC[273]3736; 01628-MCB2083). Finds were also located at these places (01418-MC[273]818; 00996-MC[273]255). A Roman burial was encountered in 1906 in Farcet fen at a location roughly 1km to the north-east, it was reported to have been buried beneath a stone slab 1.8m long by 0.75m wide (Hall 1992, 22).

Geophysical survey in 2005 identified a range of anomalies concentrated in the northern part of the development area. These were examined during the trial trench evaluation which revealed evidence for Iron Age and Roman settlement features within an area of extensive occupation spanning the 1st to 4th centuries. The main focus of the activity was at the northern end of the proposed development area whilst the southern part of the development area was largely devoid of archaeology.

From the evaluation it was concluded that Yaxley was probably the site of a small Roman rural settlement, possibly close to a modest farmstead or villa (Going 1997, 38; Taylor and Chapman 2005, 21-22). The presence of imported pottery wares indicated portable wealth alluding to the presence of a building of some status (Going and Plouviez 2000, 19). The nearby location of probable pottery kilns suggested that this was an area of industry. The dominance of spelt wheat from sieved samples mirrored other assemblages from the fens and indicated the agricultural productivity of the area (Murphy 1997, 42). The site provided a possible pattern of enclosure that with more environmental evidence could enhance the understanding of the rural economy and any possible changes over the 2nd to 4th centuries. As this was the first site of Iron Age and Romano-British activity to indicate such potential in the area in association with the local pottery kilns recorded at Hog Fen and Cow Bridge Farm, it was considered a site of regional importance (Taylor and Chapman 2005, 22).

An assessment of the material and stratigraphic data retrieved during the 2005 excavation provided provisional dating and phasing for features that formed the basis of the post-excavation analysis (Brown 2006).

Medieval

The study of the surrounding fen indicates that use of the upland would have been extensive (Hall 1992). During the medieval period areas of marginal and often marshy ground were often granted as endowments to the church. Ramsey Marsh was no exception, and in the 10th century the abbeys at Ramsey and Thorney held shared rights over the land (Hall 1992, 22). In 1224 it was agreed that Thorney Abbey would hold the portion towards Yaxley and Farcet, free of claim. The village of Yaxley was an inland port of consequence where goods were unloaded for transport by road further up the Nene Valley throughout the Middle Ages until the mid-17th century (Hall 1992, 22). The River Nene and Yaxley Brook were canalised via Conquest Lode and Yaxley Lode. Their banks were sufficiently high to allow erection of buildings which would have included dwellings, landing stages, fisheries, toll houses and a wealth of other structures. The fen itself was sufficiently well drained to allow the extension of the medieval open fields with its characteristic ridge and furrow, although much of this has been destroyed by modern ploughing.

3 OBJECTIVES

The main aim of the archaeological excavation, as defined in the *Brief* was to “*preserve the archaeological evidence contained within the site by record and to attempt a reconstruction of the history and use of the site*” (Thomas 2005). This highlighted a research agenda for the site following priorities and considerations published within the regional research agenda (Brown and Glazebrook 2000). Subsequent agreed fieldwork objectives were established during the project design and applied during the excavation which are summarised here;

- Identifying, characterising, recording and dating, by means of archaeological excavation, all features exposed within the application area and providing detailed information on the presence/absence, area of extent, depth of burial and

degree of survival of the deposits and features exposed, to form the basis of the written, illustrative, digital and photographic record that is the archive for all archaeological works undertaken.

- Retrieving sufficient material evidence in the form of artefact and faunal assemblages, supplemented with environmental samples, to inform interpretations of the site within the context of the agricultural, domestic and industrial activities that may have been on the site and their relationship with the surrounding landscape.
- Keeping CAPCA informed of new archaeological developments as they arose during excavation for the purposes of monitoring and provision for strategic discussion as work proceeded.

Detail retrieved from the geophysical survey and trial trench evaluation was used to guide and inform the investigation of the archaeological features.

The specific research priorities of the project, as outlined in the *Brief* issued by CAPCA, follow the research frameworks for the Eastern Counties (Glazebrook 1997; Brown and Glazebrook 2000).

Iron Age

- Investigate the nature and morphology of Iron Age activity on the site and contribute to an understanding of the character of Iron Age settlement in Huntingdonshire.
- Use the material evidence in the form of artefact and faunal assemblages, supplemented with environmental samples, to contribute to an understanding of the economy of Iron Age settlement in Huntingdonshire.

Iron Age to Roman transition

- Examine evidence for the continuity of land use from the Iron Age to the Roman period.

Roman

- Examine the impact of Romanisation on existing patterns of land use.
- Investigate the nature and morphology of Roman settlement and contribute to an understanding of the character of Roman rural settlement in Huntingdonshire with particular attention to Roman building materials and the location of potentially plough damaged structures.
- Use the material evidence in the form of artefact and faunal assemblages, supplemented with environmental samples, to contribute to an understanding of the economy of Roman rural settlement in Huntingdonshire.

General

- Produce a model of the landscape and its transformation resulting from settlement and natural changes from the evidence available through appropriate environmental techniques.

- Place the known inhumation in the context of land use development, identifying any additional burials that may contribute to an understanding of burial practises in Iron Age and Roman Huntingdonshire.
- Examine evidence for industrial activity through the excavation of kilns, ovens and other features associated with processing raw materials. In the case of ceramics, the Roman industries of the Nene valley must be used as the primary reference.
- Contribute to an understanding of the development of land use and its impact on the environment in Huntingdonshire, placing all of the available evidence within the context of the regional landscape.

In light of the assessment the broad scope of research remained unchanged. Statements are possible for the characterisation of the site, placing it within the context of the regional landscape and contributing significantly to the understanding of the development of land use in Huntingdonshire through examining the period of occupation at Yaxley. In view of the results of the fieldwork and subsequent specialist assessment of materials recovered from the site, the following revisions were agreed for the research objectives (Brown 2006):

Roman

- Specific attention to Roman building materials is not possible due to the insufficient quantity of material available.

General

- Excavations identified a single dismantled kiln on the site, probably for domestic pottery production. Insufficient structural elements of the kiln survived to provide a detailed study. Statements are limited to the examination of the pottery.
- Evidence for craft activities was limited to the dismantled kiln [506], some evidence for horn working amongst the animal bone and tools associated with metalworking and woodworking. Statements are limited to activities visible in the artefact assemblages.
- The quantity of ecofacts present within environmental samples was low and allowed basic conclusions to be drawn. This contributed to research on the faunal assemblages but a detailed study of arable cultivation and its impact on the ecology of the landscape was not possible.

4 METHODOLOGY

The total area of excavation occupied 1.9ha (Fig 2). Work proceeded in a staged programme over four areas allowing for the release of land to the developers and ensuring that construction works could proceed without undue delay. Each excavation area was under the sole possession of the archaeological contractor during archaeological works. Access to these areas was limited to machinery necessary for archaeological purposes. During the archaeological works these areas were fenced off to prevent accidental transgressions and trespass. Upon completion of the archaeological works each area was handed back to the developer with the agreement of CAPCA.

The topsoil, subsoil and non-structural medieval furrows were removed under continuous archaeological supervision using a 360° tracked mechanical excavator fitted with a toothless ditching bucket to reveal significant archaeological remains (Plate 1). The topsoil was stacked separately from the subsoil and other deposits outside the working area using dump trucks. Movement of machinery during site preparation was conducted in such a manner as to avoid impact on the archaeology.

The excavation area was cleaned sufficiently to enhance the definition of features. A general pre-excavation site plan of all archaeological features was made using Leica System 1200 GPS surveying equipment and was related to the Ordnance Survey National Grid. This was supplemented by conventional hand drawn plans at scale 1:100. All archaeological deposits and artefacts encountered during the course of excavation were recorded. Recording methodology followed the standard NA context recording system with context sheets, cross-referenced to scale plans, section drawings and photographs, both in 35mm black and white, and on colour slides. Deposits were described on *pro-forma* context sheets to include measured and descriptive details of the context, its relationships, interpretation and a checklist of associated finds. The record was supplemented by direct annotations of the site general plan as required. All levels were related to Ordnance Survey Datum with significant structures or areas of complex stratigraphy planned in greater detail at scale 1:10. Sections of sampled features were drawn at scale 1:10 or 1:20, as appropriate and related to Ordnance Survey Datum. A representative sample of all exposed archaeological features was excavated, with basal deposits of all sectioned features investigated where it was safe to do so. No hand excavation proceeded below safe working limits after initial sampling to 1.5m depth and in the case of large pit features the agreement of CAPCA was sought for further excavation to the full extent of the feature using a machine.

All discrete features were sampled to no less than 50% of the whole, burials and features of particular interest were 100% excavated. In general, linear features were sampled to determine their function and date with interventions placed at terminals and midsections where secure contexts could be defined. Intersections were excavated where the relationships were not clear in plan. Artefacts and soil samples were collected by hand. Hand spoil and the surface of archaeological features were scanned with a metal detector to ensure maximum finds retrieval from secure contexts.

The palaeo-environmental potential of the site was reviewed by Dr Helen Keeley, freelance paleoenvironmental consultant, during the excavations (Keeley 2005). Samples were taken from specific industrial features such as kilns and hearths, and from organic/waterlogged deposits with a potential for the recovery of charcoal and carbonised plant remains following her recommendations. Samples were only taken from secure and uncontaminated contexts. A minimum of 40 litres was taken for flotation in each case.

5 SUMMARY OF EXCAVATION RESULTS

5.1 Summary of site development

The initial overview of the site was an elaborate network of interconnected ditches and other features (Fig 2). Initial spot dates were uncertain due to the nature of the coarsewares (Fawcett 2006). These coarsewares have subsequently been examined in detail and the dating revised to produce a more secure chronology.

Table 1: Site development

An Iron Age linear boundary, entranceway and associated settlement (1st century BC to late 1st century AD)	Enclosures and roundhouses extended along a natural clay ridge in direct association with a principal east to west boundary ditch. The ditches were expanded to incorporate a substantial entranceway and this coincided with the relocation of the dwellings elsewhere (Figs 3-4).
Early Roman continuity and change, the emergence of a new land pattern (late 1st to mid-2nd centuries)	The earlier enclosures were modified and extended to the north, the former settlement entrance was deliberately slighted. A roundhouse and a pottery kiln were built, and a single burial was interred (Fig 5).
The Roman farming settlement (mid-2nd to 3rd centuries)	A large rectangular enclosure with subdivisions replaced the earlier ditches. Ceramic and stone building materials indicated the presence of a key building. Posthole groups indicated minor structures, perhaps dwellings. A small cemetery was aligned on the western boundary. A large watering hole lay to the south (Figs 6-7).
The late Roman enclosure pattern (4th century)	A new layout of small irregular enclosures was introduced replacing former buildings. Faunal remains and charred plant remains indicated a mixed agricultural economy dominated by cattle and cereal production (Fig 8).
Post-Roman, medieval and post-medieval (5th century onwards)	There was very little evidence for activity on the site until the land came under open field cultivation during the medieval period. Ridge and furrow was probably existent upon the site until the 19th to 20th centuries (Fig 9).

5.2 The Iron Age linear boundary, entranceway and associated settlement (1st century BC to late 1st century AD) (Fig 3)

Pottery for this period indicated activity dating from the middle and later Iron Age through to the early to mid-1st century AD. The occupation was not necessarily continuous, since a greater concentration and complexity of early features would have been expected. Many middle Iron Age fabrics are known to carry a chronological overlap with the later Iron Age period. The site is likely to have begun with a low intensity of activity, gaining greater momentum into the later period. Sufficient pottery was recovered to suggest that occupation of the site began far earlier than at Haddon (Hinman 2003, 18). The extent of activity was similar but there were more dwellings present at Yaxley and whilst the dwellings were probably for a small family unit, few of the main structures are likely to have been contemporary. Pottery indicates that they were abandoned before the late 1st century AD.

The principal boundary

The most prominent feature on the site was boundary [273] measuring 173m long and aligned east to west, following the apex of the natural clay ridge (Fig 3). The boundary was not a single continuous ditch and included a break for a crossing point that was c12.5m wide. It was sectioned at regular intervals to examine its relationships with adjoining and overlying features. The three most rewarding sections were equally spaced at points where there were minimal additional features that might confuse the relationships of the ditch cuts (Figs 3 and 10, S110, S333, S367; Plate 2). Pottery spot

dates were able to establish the period for each of the principal cuts (Fawcett 2006). At the west end of the ditch there was no evidence for reuse of boundary [273] beyond the Iron Age, whilst at the east end it had been reused throughout the Roman periods of occupation to the extent that few of the original Iron Age deposits survived. Section S367 showed a distinct relationship at the junction with an early ditch [716] from which 11 sherds of Iron Age pottery were recovered including the fragments of a slack-shouldered jar (Fig 10; Fig 12, 8). Although the Iron Age fills of boundary [273] had been removed at this point, the junction indicated that it would have been of equivalent size. By comparison the undisturbed ditch section, S110, was 1.76m wide by 0.64m deep, and was the latest in a sequence of four shallower Iron Age cuts, c0.12-0.34m deep, at that point of the boundary (Fig 10). Section S333 showed partial survival at 0.86m depth and section S367 demonstrated complete truncation by Roman features at 0.98m depth. Considering the evidence across the site for truncation by modern ploughing the original ditches may have been much larger. Beyond the limit of excavation it was clear that there are likely to be further contemporary enclosures connected to this axial ditch beyond the excavated area. This was a long-lived feature that continued to be visible as a ditch and earthwork, well into the Roman period.

The entrance to the settlement

Enclosures were arranged to the north and south sides of the principal boundary [273] embellishing the overall design into a substantial entranceway (Fig 4). Enclosure E2 was located on the north side of boundary [273]. It encompassed an area of c0.169ha, including the area of a trackway connecting the enclosures in a reverse “S” bend. The Iron Age individual would have arrived at the principal boundary from the north-west via Enclosure E1, which may have been a wider trackway measuring 27.8m wide, rather than an enclosure in its own right. Their passage would then have been guided through Enclosure E2 by a sinuous 7m wide track, passing into the eastern chamber of Enclosure E2. This area was defined by ditches [417], which measured 1.47m wide by 0.56m deep, and [295], which measured 1.1m wide by 0.35m deep. The individual’s progress would then have followed the return of the “S” bend via a second trackway, c9m wide, bringing them in front of the opening of ring ditch [337] before finally granting access to the south side of the principal boundary. A single rim sherd of late Bronze Age post-Deverel Rimbury plainware pottery found in the fill of ditch [295] was certainly residual. The southern terminus of the ditch contained two cuts and produced elements from three vessels of note including a barrel-shaped jar, slack-shouldered jar and a rounded/globular jar or bowl (Fig 11, 4 and 6; Fig 12, 10)

This entrance controlled movement across the boundary. Ring ditch [337] defined a small semi-circular coral, c8.25m wide. It measured 1.3m wide by 0.4m deep and contained parts of a large, slack shouldered jar (Fig 11, 3). Three postholes formed a line from the southern terminal towards the centre, indicating a partition. This halved its access on the west side so that a 4.6m wide opening faced into the main entrance. Whilst the coral did not have the typically south-east facing of a roundhouse, it was large enough to be used as a pen or to contain a small ancillary structure. Its function does not appear to have been domestic. It may have served as a point of welcome, or more sinisterly a guard or checkpoint. No remains were present to suggest a structure such as a watchtower or shelter and its use as an animal pen could have been equally possible.

Roundhouse R1

Roundhouse R1 was situated closest to the entranceway (Fig 4). The ring gully comprised a full circuit cut by later Roman ditches and was 100% excavated where secure contexts were present. It was not quite circular in plan, having a slightly ovoid appearance. It measured c10.4m in diameter and the ring gully measured 0.56m wide by 0.17m deep. The ring gully contained 32 sherds of early to mid-1st century AD pottery

including “Belgic” type material and comb-decorated vessels. It had an entrance on the east side that was 3.1m wide. At the entrance were four postholes forming a small rectangular porch with corners set at 2.5m by 1m distance apart. Inside the roundhouse was a fifth posthole which may also have been part of the porch. In front of the entrance were a series of postholes, pits and gullies, possibly marking the positions of windbreaks and wattle fences. Four of these postholes formed a small line leading from the entrance to the end of one of the three gullies. The gully curved from the entrance to lead south and was parallel to a second gully. Although this arrangement was modified slightly, it served the same purpose by providing a general partition from the prevailing east wind and retaining a level of privacy independent of the principal settlement. This roundhouse exhibited the kind of intensive activity that would be expected of a domestic dwelling.

Roundhouses R2-R3

Roundhouse R2 abutted the north side of boundary [273]. It was *c*11m in diameter with a single cut ring gully measuring 0.57m wide by 0.19m deep that was 100% excavated. The entrance would probably have been on the south-east side, as is usual, but the whole of the east side of the ring gully was absent, truncated by the ditch [417]. A single shallow pit lay within the interior containing a few animal bone fragments. It may have been a dwelling or an ancillary structure with a limited period of use and its survival was fragmentary at best.

Roundhouse R3 was located outside the main concentration of Iron Age activity on the north side of boundary [273]. It was *c*9m in diameter with a single cut ring gully measuring 0.85m wide by 0.23m deep. The full circuit was present which was 100% excavated. It had an entrance on the south-east side that was 4m wide. Both terminals had been disturbed by late Roman features and this accounted for the presence of *Triticum spelta* L. glume bases amongst the samples (Sample 40). No postholes were evident within the interior and it did not possess associated pits or postholes like Roundhouses R1 and R4. Overall this indicated a low level of activity. The presence of 24 sherds of wheel-thrown grog-tempered pottery in the Roundhouse R3 drip gully places this structure in the early part of the 1st century AD.

Roundhouse R4 and its enclosure

Focused to the south-west of the site were ditches, pits and the drip gullies of Roundhouse R4. The features formed a minor rectangular Enclosure E3, similar to a homestead garden, which was clearly connected to ditches from the west and lay on the south side of boundary [273]. Enclosure E3 covered an area *c*0.155ha in size. The ditch on its north side formed part of the principal boundary [273] and was recut on several occasions (Fig 10, S110). Its deepest profile was 1.76m wide by 0.64m deep. On its west side ditch [60] measured 1.98m wide by 0.5m deep and was the latest of three cuts. Roundhouse R4 lay inside this distribution, whilst Roundhouse R1 lay outside, adjacent to the crossing point of boundary [273]. The most substantial portions of the enclosure were the ditches on the north and west sides. Boundaries to the south and east were far less substantial comprising short sections of gullies, some of them slightly irregular in plan and with postholes located at intervals, suggestive of upright supports for wattle fence lines, windbreaks, or minor timber frames. Pit [16], in the south-west portion of Enclosure E3, provided some environmental evidence for the disposal of waste, possibly in a semi-grassland environment (Sample 1). This pit also produced a round shouldered jar similar to an early Iron Age example from Werrington. Minimal activity was present to the north of boundary [273].

The ditches formed partial or incomplete segments that suggested an open area of land to the south-east of the site, with boundary [273] forming the limit on its northern side, and Roundhouses R1 and R4 close to the entrance. Many of the small features in the

area were closely associated with the roundhouses and activity near to the boundary entrance tended to suggest that they had an important role. Roundhouse R4 was distinctly separate from Roundhouse R1, which was positioned to dominate the crossing point of boundary [273]. Roundhouse R4 took advantage of the settlement entrance more subtly and was set back away from it, within Enclosure E3. The distinction indicated that these roundhouses were the key dwellings but that they appear to have held different roles in the occupation of the site and probably different levels of status. By comparison Roundhouses R2-R3 exhibited no evidence for domestic activity and even in Roundhouses R1 and R4 there were no overt signs of occupation spreads or concentrations of pottery within the feature groups. The situation of Roundhouses R2-R3 to the north of boundary [273] relegates their importance to the lower order of buildings as associated postholes and pits were confined to the occupation of the southern area.

Roundhouse R4 was rebuilt on at least one occasion. It comprised two ring gullies slightly offset from one another. The first build was fairly substantial and had an incomplete circuit comprising three portions that together enclosed a roughly circular area $c11.68\text{m}$ in diameter. Two portions lay on the northern side of the roundhouse visible as elongated pits of comparable size, $c6.5\text{m}$ long by 1m wide by 0.36m deep. These pits were located within patches of natural clay and may have provided the material for clay daub as well as serving as drainage gullies. The third portion lay on the south side forming an arc that was 12m along the circumference and measured 0.65m wide by 0.19m deep. Where the entrance might be expected on the east side were four postholes forming a small rectangular porch with corners set at 3m by 1m distance apart. The rebuild was a full circuit and was 100% excavated. It was well formed, but generally oval, measuring $c10.5\text{m}$ in diameter from north to south and $c10\text{m}$ in diameter from east to west. The ring gully was 0.42m wide by 0.1m deep. It had an entrance on the east side that was 4m wide. Inside the roundhouse were four postholes with no particular arrangement and a small pit. The pit contained daub perhaps used as a preparation pit during construction. A lime coating was noted as a residue upon the daub recovered. The distribution of smaller features in front of the roundhouse indicated a potential route between the subdivisions of Enclosure E3, much like a pathway leading from the settlement entrance to the roundhouse. Their function was probably a mixture of activities including wattle fences, wind breaks and timber frames used for various domestic activities from crafts through to cooking. Given the intense activity within its locality this structure was certainly a dwelling.

Movement of the roundhouses away from the entrance

Together, ditches [295] and [417] formed the principal elements of embellishment and formalisation of the entranceway that was created to channel access across boundary [273]. It revised the initial land partition to retain exclusivity between north and south and channelled access using substantial ditches. The construction of the ditches would indicate a significant change of status to this part of the site, increasing the importance of boundary [273] between two areas which may have constituted different domains, either of land use or control and linked through the entranceway. Indications that the dwellings by the entrance were in use extended into the 1st century AD, drawn from the multiple scored decoration of the later sequence pottery and their occurrence alongside wheel-thrown grog-tempered vessels of the early to mid-1st century AD. Abandonment of the dwellings before the late 1st century AD was probable as there was a total absence of these pottery sherds in the later contexts. The pattern shows expansion, although the focus of that expansion is likely to have been part of a pattern of late Iron Age reorganisation extending beyond the excavated area to the south or west. Roundhouse R4 was partitioned off by ditch [295] either increasing its segregation and privacy or indicating that it was no longer present. Similarly, the new entrance arrangement was channelled across the footprint of Roundhouse R1 which may have

been abandoned by this time. Roundhouse R2 was demolished in the restructured development and Roundhouse R3 was cut off from its contemporaries by ditch [417] suggesting its disuse. In all cases the expansion of the boundary entrance may have coincided with the disuse of the dwellings. This was a change in site behaviour from domestic agrarian activities at the entranceway with a fairly informal thoroughfare, towards non-domestic activities with formalised controlled access and substantial partitions, hinting at statements of power and control.

5.3 Early Roman continuity and change, the emergence of a new land pattern (late 1st to mid-2nd centuries) (Fig 5)

A large sub-rectangular enclosure was established on the northern side of the site, seemingly an extension and reorganisation of surviving ditches from the early 1st century (Fig 5). Despite the apparent loss of most of the buildings, boundary [273] remained as a landscape division, although the entrance was severely altered. Pottery from ditch [769] provided evidence for recutting at this time (Fig 10, S333). The ditch became incorporated into Enclosure E4 extending north of the boundary and earlier enclosures were no longer part of the entrance arrangement. The frequency of late 1st to mid-2nd century pottery was lower than would be expected given the activity present and indicated that habitation was significantly less intense. Enclosure E4 was occupied by a single roundhouse (R5), pottery kiln [506], burial [1506] and small scale cultivation.

Removal of the Iron Age entrance and “placed deposits”

Enclosure E4 encompassed an area c0.28ha in size forming part of an occupation area for a roundhouse (R5). Ditch [509] measured 1.5m wide by 0.35m deep and was badly truncated. Parts of the Iron Age enclosures were modified into the new plan as fragments of the former boundary were retained or removed to create the new layout. Ditches [509] and [285] were excavated to form the north and west sides of Enclosure E4, the southern terminus of which deliberately cut across the former access track to the Iron Age settlement and the crossing point of boundary [273]. This diverted the access to connect into the new enclosures and reflects deliberate slighting of the Iron Age settlement entrance, a statement of change in both land use and control. The late 1st to mid-2nd century access track was itself blocked off later on by ditch [474] leaving a single crossing point between the ditch terminus [308] and that of ditch [769]. The modified entrance ditch [308] produced some of the more interesting late 1st to early 2nd century jar forms (Fig 13, 12-13).

The east side of Enclosure E4 was recut by a ditch extending to the north, part of a larger outfield system. Morphological growth of the ditches suggested that the process of growth encroached towards the north and east, a distribution that included Enclosure E5. Given the new arrangement of the entrance across boundary [273], the partial retention of early to mid-1st century ditches and the reduced activity in the south of the excavated area, boundary [273] had fallen significantly in importance. The western edge of Enclosure E4 was an important designation that was perpetuated thereafter and marks a significant change from the original axial boundary. Further evidence of this change of emphasis on the importance and nature of the boundary crossing came from pit [329].

Pit [329] was cut into the top of the former Iron Age ditch [295] at the point where both the new and old entranceways crossed over boundary [273] (Plate 3). Freshwater molluscs from the fill of pit [329] suggested that there was some semi-permanent standing water in features on the site which would have been expected of major boundaries (Samples 6 and 8). The latest pottery from pit [329] was of the mid- to late 1st and early 2nd centuries. Substantial fragments of two high quality querns, which

were deliberately burnt and broken, were found in the pit and many other finds were residual from the underlying early to mid-1st century ditch. They may indicate that a possible “placed deposit”, including a near complete barrel-shaped scored ware jar (Fig 11, 4), had been deliberately removed from the entrance terminus of the ditch.

Roundhouse R5 and associated features

Roundhouse R5 was c12.5m in diameter with a single cut ring gully measuring 0.29m wide by 0.07m deep. The feature was a trace survival at best such that most of the south side was absent, including any evidence for the entrance. There was a break in the north-east side facing into the Enclosure E4, but the level of truncation made its likelihood as an entrance doubtful. No postholes were evident within the interior. One pit [478] lay within its northern perimeter. It measured 1.11m wide by 0.26m deep with shallow sides and a fairly flat base. It contained both pottery and bone, together with a fairly substantial quantity of charcoal (Sample 29). The roundhouse may have been a dwelling or an ancillary structure with a limited period of use.

Nearby within Enclosure E4 was a scatter of pits. Pits [456] and [458] produced pottery distinctive of this period including a carinated necked jar (Fig 14, 22). Pit [456] also produced several marsh/freshwater slum species of mollusc (Sample 33). In this instance they may be residual and indicative of the general environment as the pit was not particularly large or long lived. Pit [442] contained the buried remains of a horse. It is likely that Enclosure E4 lay at the western edge of a much larger agricultural regime. The expansion falls in line with a marked increase in cattle on site in the late 1st century to provide manure and traction. Pottery spot dates from the Roundhouse R5 drip gullies indicated that this structure may have been contemporary with the enclosure (Fawcett 2006). Another feature to allude to activities taking place within the enclosure was a small short-lived pottery kiln [506], the wasters of which were found in the surrounding enclosure ditch. It may have served to provide basic storage and transportation vessels for the inhabitants of the roundhouse.

Pottery kiln [506]

The remains of the dismantled kiln lay within a foundation pit abutting the central east side of Enclosure E4. It seems to have been a small kiln, perhaps used only briefly before it was demolished. It is likely that this kiln was the source for wasters comprising bloated and blistered pottery sherds from pits [458] and [329], and from ditch [509]. The type of kiln furniture found in the vicinity is typical of the Late La Tene-derived “Belgic” surface-built kiln found in the Nene and Ouse valleys until the turn of the 1st to 2nd centuries (Swann 1984, 68, fig VIII). The deposition of the kiln bars, however, were widely scattered through contemporary and later contexts clouding the dating for associated features and highlighting significant disturbance in later Roman periods which dispersed the material around the site. Examination of the environmental residues from four contexts within the kiln fill produced minimal charred seed materials or charcoal, and although waste agricultural processing materials may have been used for kindling it seems likely the kiln was swept clean after its final firing (Samples 22, 24-26).

The burial from the evaluation

A single burial [1506] was recovered during the evaluation works from Trench 15 (Taylor and Chapman 2005, fig 9). On the basis of its position and alignment it may have been the earliest burial on the site and formed no part of the larger groups. It was located within the perimeter of Enclosure E4, aligned north-west to south-east, parallel to ditch [509] on its east side. The head lay at the north-west end of the grave cut and the individual was buried in a supine position.

Osteological analysis of the human remains was conducted during the evaluation (Hepburn 2005). The individual was a young adult ?female aged 15-20 years based upon degrees of epiphyseal fusion and the width of the sciatic notch but the fragmentary nature of the pelvis and skull means that this conclusion should be regarded with caution. More extensive study was not considered possible due to the meagre level of preservation in its overall fragmentary plough-damaged state.

5.4 The Roman farming settlement (mid-2nd to 3rd centuries) (Fig 6)

This period was dominated by an entirely new arrangement of features, a stark and sudden change in the nature of the archaeology (Fig 6). The overall impression was one of a busy and thriving community that was part of, and may have served, a much larger and more affluent farming settlement extending to the north-east. The principal feature was a large ditch, [144], that enclosed the west and south sides of the focal area forming a largely open plan Enclosure E6. The activity within the excavated area included posthole alignments and small structural fragments indicating several buildings, a substantial compacted stone surface [427] for a stone-roofed building and short gullies or brush drains [444, 480, 503]. Features extending beyond the excavated area indicated continuing ditches and posthole groups to the north and east. Burials were aligned along the inside of the west perimeter and also in a small group on its outer west side. Further burials almost certainly remain along this boundary to the north of the excavated area. Little activity lay outside of Enclosure E6. There was a drainage ditch [67] extending south to meet a large hollow, believed to have been a pond [75]. A small number of pits lay nearby and an isolated burial (SK14) thought to have been a victim of meningitis had been buried separately from the main group.

The settlement boundary

The portion of Enclosure E6 that lay within the excavated area covered c0.863ha and represented the south-west corner of a much larger landscape division than the excavation area covered. The main boundary ditch, [144, 327], had a generally consistent width of up to 2m and a depth of c0.8-1.5m. Stratigraphic relationships with ditch [67], draining from a stone-roofed building (S1) to pond [75], indicated that the boundary was established after the buildings in the settlement had been established. Its character highlighted the extreme importance of the settlement boundary during the mid-2nd to 3rd centuries and the presence of early colour-coated pottery forms indicated its use until the middle years of the 3rd century. This was consistent with SF107, a bronze Claudius II Gothicus coin dated cAD268-270, from the principal fill. A number of other coins of 4th century date were recovered by metal-detector and were all surface finds in the vicinity of the southern ditch line. They are attributed to the late Roman infilling of the remaining ditch. A large variety of mixed mollusc species from shade loving, open country and marsh/freshwater slum habitats indicated a well balanced local environment (Sample 10). The west side retained the general limit of activity that was consistent with the extent marked by the post-Iron Age ditch [509, 285], although this had been extended by an additional 15m (Fig 5). The practise of burial at the edge of settlement along this perimeter became an established feature of the period. The south side of Enclosure E6 re-used the alignment of boundary [273] which had been the key boundary during the Iron Age, although it had lost some of its status in the later part of the 1st century with the creation of new enclosures (Fig 3). The creation of Enclosure E6 subsumed the area occupied by those enclosures, all of which appeared to have gone out of use and were replaced with a large open plan scheme. Boundary [273] regained some of its former importance, as now it was once more the principal boundary for much of its course. That it represented a convenient perimeter supports the notion that an earthwork still remained. For the most part this represented a significant re-

establishment of the enclosure pattern that emphasised a new focus of occupation to the north-east.

Areas of activity within the settlement

The main focus of activity lay in the western portion of Enclosure E6. It was distinctly noticeable that settlement extended no further east than the north to south line of ditch [343]. Land to the east of this ditch was undeveloped in the mid-2nd to 3rd centuries and seems likely to have been used as agricultural land within the main enclosure perimeter. Ditch [343] was a fairly minor boundary, measuring 0.5m wide by 0.3m deep, but the distribution of features was clear (Fig 6).

Within the enclosure there were four main concentrations of activity. These areas comprised ditches and postholes (P1-P3) representing structures at the northern edge of the excavation, concentrated activity around compacted stone surface [427] towards the centre of the excavation, a small sub-enclosure in the south-west corner of the area (E7) and burial activity along the western perimeter. In addition three gullies lay on a north-west to south-east alignment [444, 480, 503]. The gullies were of comparable size each measuring c0.38m wide by c0.1m deep, and given their relative shallow depth and parallel alignment they may have been brush drains for cultivation. It was from one of these, [480], that the bones of a swallow were recovered. The gullies do not appear to have formed part of any of the feature groups identified in plan and lay within a small area of Enclosure E6 that lacked other feature concentrations. It is plausible that this may have been open ground used for small scale domestic cultivation for foodstuffs such as vegetables or kitchen herbs.

Timber frame structures

Located adjacent to the northern limit of excavation were three groups of postholes set within a distinct pattern of boundary ditches (Fig 7). Posthole group P1 was arranged in a rectangular pattern, whilst groups P2 and P3 formed short lines of uprights set out at 1.6-2m intervals and containing occasional stone packing. Most were circular, with steep sides and either flat or slightly rounded bases.

Group P1 formed a rectangular shaped structure extending outside the limit of excavation to the north (Plate 4). It was 10.6m long where exposed comprising eight postholes on that side and aligned with drainage gullies to the north-east. Each posthole varied slightly in size within a general range from 0.3-0.5m diameter by 0.12-0.14m deep. Group P1 was the most likely candidate to have been part of a building. That buildings existed in the vicinity is supported by the presence of the swallow bones found in nearby gully [480]. Full examination was limited by the extent of the development. It may have been an ancillary building, which would be in keeping with its location close to the periphery of the settlement but a domestic function seems probable given the proximity of human burials and substantial domestic pottery scatters. Posthole [532] produced part of an elaborately cordoned carinated bowl or cup (Fig 13, 17). The building alignment with neighbouring ditches suggests that there are small enclosures on its east side relating directly to this structure. Ceramic building materials recovered from the vicinity represented the largest grouping of roofing tile in far better condition than elsewhere and included fragments with coloured slip from ditch [571]. The likelihood was that this material originated from the same structure. There was no associated hearth or building material to consolidate the view of these structures as domestic dwellings.

Group P2 comprised seven postholes in a line from east to west that was 9.6m long. They measured in the range of 0.3-0.38m in diameter by 0.05-0.09m deep. Group P3 comprised four postholes in a line from north-east to south-west that was 5.2m long. They measured in the range of 0.41-0.56m in diameter by 0.19-0.2m deep with stone

packing present. These arrangements may represent structural supports for less substantial structures, the outer sills and walls of which did not survive. It is also possible they are fragments of fence lines given that group P2 appeared to form part of a curved boundary comprising two short gullies, two pits and the postholes (Fig 7). They may also have been horticultural features like trellis supports for creeping plants such as grape, hop or blackberry but this is not evident from environmental sampling.

A stone-roofed building

In the central part of the excavation lay a dense concentration of stone (S1), measuring 10m long by 8m wide. The stone was embedded into the natural clay and formed a level surface [427]. It comprised mainly pebble flint with a white cortex coat and dark blue-black interior. A mixture of brown, grey and red frost-cracked flints were also mixed into the horizon. The surface formed a cobble layer, with individual stones measuring up to 100mm by 90mm by 50mm in size. Whilst the stone was abundant, it was clearly worn and patchy in places. Cut into the stones on the eastern side was a line of five postholes (P4) aligned north-east to south-west and set at approximately 2m intervals. They were not dissimilar to posthole groups P2 and P3, measuring in a range from 0.27-0.59m in diameter by 0.19-0.22m deep. Sealing the stone surface was firm black silty clay (426) that formed a partial spread from the overflow of nearby ditches and is likely to represent an abandonment deposit. Substantial quantities of pottery, ceramic building material and Collyweston-type slate roof tile lay within this spread. There was also a piece of box flue tile from the nearby ditch [429] and fired clay from pit [423]. Although much of the pottery was residual early 2nd century material the presence of a good quantity of later 2nd and 3rd century sherds provided a firm date. It also included a rare example of a cheese press, a samian bowl imitating a Dragendorff 36 type with barbotine tails and a poultry feeder (Fig 14, 23 and 25). On this basis it is possible that the flint cobble surface and postholes are the degraded remains of a stone-roofed structure, the walls subsequently robbed and truncated in later periods. Despite its stone roof it does not appear to have been very large and given the absence of evidence for the walls, the foundations would have been shallow indeed. A substantial quantity of tablewares, including over half of the samian from the site, indicated that it was likely to be for domestic purposes despite the absence of hearths or other structural features to consolidate the view. The stone-roofed building may have served as a utilitarian structure providing a focal point for some of the inhabitants or as a higher status dwelling. It was located to the south of the open area containing brush drains [444, 480, 503] and separated from other structures to the north of this as indicated by posthole group P1, probably a structure of lower magnitude than the stone-roofed building.

An infield enclosure

A rectangular area in the south-west corner of the settlement was bounded by ditches [349], [482] and the settlement enclosure ditch, [144, 327]. The area covered c0.1ha of land and formed sub-enclosure E7. Ditch [349] measured 1m wide by 0.25m deep, whilst ditch [482] measured 0.79m wide by 0.17m deep. Enclosure E7 seems to have been a small field or paddock, perhaps an infield for keeping animals requiring regular attention. The incorporation of land at its western extremity containing six human burials was an indication that patterns of land use within the settlement area were subject to constant alteration. Two neonatal jawbones from lambs were found in the ditch by the entrance. Ditch [482] produced a Lower Nene Valley whiteware mortarium reeded-rim sherd (Fig 15, 35).

Burials along the western perimeter of the settlement

A small inhumation cemetery comprising a total of 23 burials was established along the line of ditch [144], forming the western side of Enclosure E6. In general, the depth of burial was extremely shallow, in some cases the skeletal remains were seen protruding

through the subsoil during initial machine watching and in all cases the graves had been affected by severe modern plough damage (Plate 5). In some cases the individuals were identified as little more than concentrated scatters of charnel where no grave cut remained. All of the burials on site were laid in a supine position.

The burials formed two distinct groups, with the northern group interred either side of the settlement boundary and the southern group all positioned within the settlement boundary. In addition to these were two isolated burials that formed no part of either group (taking the total to 25 burials recovered). One of these was SK14, a meningitis victim, buried to the south of the site and aligned east to west, with the head at the west end. The other was the skeleton retrieved during the evaluation works, [1506], which on the basis of its position and alignment belonged to the period of the late 1st to mid-2nd centuries (Taylor and Chapman 2005; Fig 5).

A cluster of twelve burials lay at the northern edge of the excavation area interred on either side of the enclosure boundary. Of these, five lay to the west of ditch [144], four of which were aligned north-east to south-west and one of which was aligned north-west to south-east, parallel to ditch [144]. The remaining seven burials inside the enclosure were all aligned north-west to south-east and were parallel to the ditch. Eight of these were buried with the head at the north-west end of the grave cut and four with the head to the south-west end. SK7a was unusual in that the head had been removed and buried under the right knee of the individual, although examination produced no evidence for decapitation prior to death.

A group of eleven burials were interred at intervals further along the perimeter ditch including a disarticulated human skull from ditch [144] (SK20) and two neonates (SK21b, SK22), one of which was buried in the adults' lap (SK21a). All of these were aligned north-west to south-east and were parallel to the ditch except for the southernmost grave (SK13; Plate 5). This lay in the southern corner of Enclosure E7 and was aligned north-east to south-west, parallel to the return of ditch [144]. Three of the burials had the head at the north-west end of the grave cut, two at the south-east, one at the north-east end and three could not be defined.

The burials of SK13, 15 and 21 were the only ones that retained well defined grave cuts. The grave of SK13 was 1.77m long by 0.82m wide and 0.12m deep (Plate 5). It contained no evidence for a coffin, although it was large enough. The grave of SK15 was 1.8m long by 0.37m wide and 0.12m deep. There was a distribution of seven nails supporting the possibility of a wooden coffin having been present. The individual was also buried with a large collection of hobnails (SF60) belonging to a pair of shoes or sandals located by the feet. The grave of SK21 was the largest measuring 2.1m long by 0.65m wide and was 0.2m deep. It had sharp sides and a generally flat base large enough to accommodate a coffin. There were seven nails present located in a cluster next to the head. They may have been fittings holding together a wooden object that was not preserved.

Six graves produced iron nails; three with SK1, two with SK2, twelve with SK5, two with SK12, seven with SK15 and SK21. One of the nails with SK5 appeared to have been driven through the individual's foot, perhaps indicating the attachment of a shroud. Other metal objects present included a twisted wire bracelet (SF47-48) about the dexter (right) wrist of SK5 and a finger ring (SF43) on the third finger of the sinister (left) hand of SK14. Five of the graves contained pottery sherds; they were buried with SK3, 5, 6, 13 and 14. One of these was identified as a Lower Nene Valley colour-coated ware flask or bottle (Fig 14, 29). There were no other grave goods surviving.

The majority of burials were aligned parallel to the enclosure ditch and were distributed at intervals along its length rather than following a particular burial practise with

orderly distribution and dedicated burial alignments. The lack of features to the west and the presence of the burials at the perimeter reinforced the interpretation of this ditch as an important landscape division. The spacing of the distribution raises questions of social caste, distinction of status and the possibility that some individuals may have been considered unclean or outsiders who were therefore buried outside Enclosure E6. Unfortunately the state of preservation of the remains was such that recognised methods of osteological analyses were unable to secure good evidence to make these observations explicable. It is likely that the burials represented several generations of people on the site and the pottery suggests a period of inhumation from the mid-2nd century onwards.

Examination of the burial remains highlighted several key trends. The individuals were generally adult, a larger proportion of which were male. Only two neonates were present and there was an absence of children or adolescents. With the exception of two possible instances of non-metric traits in the stature of the remains, there was little evidence to support genetic association through skeletal structure. In general the remains indicated poorly balanced diet and hard working lives. On this basis it seems likely that these individuals may represent a labouring population who relied upon the agricultural produce of the land for their subsistence and marketable surplus.

Pond and animal watering hole

A large sub-circular pond [75] lay to the south of Enclosure E6 that measured 18.5m long by 15m wide and was 1.82m deep (Plate 6). It comprised a sequence of four main silting deposits that merged gradually between contexts. It had relatively gentle, non-symmetrical, sloping sides and a broad rounded gravel base. A number of freshwater molluscs were present amongst the environmental residues (Sample 3). By contrast the adjacent pit [128] produced several species of open country molluscs (Sample 4). The pond and its banks provided a stable habitat for both land and water species, which would have required it to be present for considerable time. Ditch [67] which measured 1.43m wide by 0.33m deep connected to the pond from a point within Enclosure E6, adjacent to the stone-roofed building. The ditch became redundant and was filled in when the settlement boundary was established, so it seems likely that in its early stages the pond was a collection point for drainage water, later carried away by the boundary ditch. Samples from this ditch were contaminated by cereal processing activity in the late 3rd to 4th century (Sample 18). Several late 3rd and 4th century ditches respected the position of pond [75] indicating that its period of use bridges the later period of site occupation. In its final silting context the pond was surrounded by abandonment deposit (13) which covered both the silted up pond and surrounding features (Plate 7). The spread produced a number of coins, mainly from the 4th century with those of Constantine dated to post-AD320 (SF13-14) and one later issue dated to post-AD346 (SF45). In its main period of use the pond may have been a watering hole to facilitate livestock requiring less intensive care, such as cattle, outside the settlement area. Its occurrence as a feature on the site falls at a time consistent with the increase in cattle bone deposited in the ditch waste, a practise in evidence well into the late 3rd and mid-4th centuries.

Chalk quarry and drainage sump

A large pit [150] was located within the western edge of the settlement demarcated by Enclosure E6. The pit was c10m wide, sub-circular and over 2m deep cutting through the gravel and clay drift geology into the chalk beneath. The cut of the pit was stepped in section down the sides, allowing for ease of access during the process of extraction. It was probable the pit was dug to extract chalk which is useful to spread on fields, reducing acidity, as well as for creating lime. Its backfill appears to have been gradual, acting as a sump for water to percolate beneath the natural clay well into the late 3rd and 4th centuries. Much of the later fill coloration was suggestive of cess material,

although this was not highlighted by the environmental samples taken. The molluscs were the only environmental indicators within the sample and included various species of mixed habitats but none of freshwater, they were probably all residual (Sample 5). An accumulation of various types of waste, rubbish and soil was cast into the pit before it was full. The base deposits included pottery that was consistently earlier of the period of the mid- to late 2nd century, whilst the upper fills were mainly of late 3rd and 4th century date with a single Saxon sherd present. Amongst the pottery present were Gaulish whiteware flagon amphorae and a large oven hood cover (Fig 14, 26; Fig 15, 37). The only evidence for Red Deer was recovered from the pit in the form of antler tine, but given the longevity of the feature its date can only be broadly described as “late Roman”. It also contained SF24, a barbarous radiate coin of the late 3rd century.

5.5 The late Roman enclosure pattern (4th century) (Fig 8)

The previous patterns of enclosure that had formed the basis of mid-2nd to 3rd century settlement were rearranged into a new layout of ditch systems in the 4th century (Fig 8). One of the key changes in this layout was the final abandonment of boundary [327] as a principal land boundary and the shift of settlement elsewhere. The western limit of occupation was shifted east by 12m so that the majority of burials along the western periphery lay outside the 4th century enclosure pattern. The newly established boundary was connected to the former quarry pit [150], which continued in use as a drainage sump for the ditches. Earlier structures appear to have been demolished or abandoned, accumulating spread deposits and no new structures were established. The pattern of enclosure that replaced this subsumed the area of earlier settlement and extended onto former grazing areas to the south to create a series of small paddocks and fields (E8-E15). Not all of these were in use at the same time and it appears that the pattern was continually altered to accommodate minor changes in the layout.

Enclosure E8

The southern part of a small Enclosure E8 extended into the excavation area from the north. It was at least 24m wide, slightly rounded and asymmetrical, with no signs of contemporary internal features. Ditch [516] measured 1.12m wide by 0.51m deep and truncated two of the postholes in arrangement P1 (mid-2nd to 3rd centuries) showing that the enclosure was established after the structure had ceased to exist. A large quantity of residual tile was present. It produced SF142, a Tetricus II barbarous issue coin, dated post-AD270-273. The presence of charred cereal grain was indicative of cereal processing although there were no contaminants present and it was unlikely to be a primary dump of processing waste as seen in Enclosure E13 (Sample 27). Enclosure E8 was re-cut on the same alignment at least once.

Enclosure E9

The only entrance to this enclosure was orientated towards the north-west and was accessed by a trackway extending from beyond the excavation. The trackway was 4m wide bounded by ditch [146] on the west and the extension of ditch [492] on the east. Enclosure E9 was vaguely rectangular with rounded corners and a slight narrowing towards the entrance. It measured c32m long by c17.5m wide, covered an area of c0.048ha, and was oriented west to east. Its ditch, [492], varied in size at different points but was a maximum of 1.8m wide by 0.55m deep. It emptied into quarry pit [150] which was still in use as a sump at that time. Ditch [492] produced SF198, a barbarous radiate coin dated post-AD275. In its later disuse the ditch silted up and overflowed to form spread (418) which sealed the demolition layers of the stone-roofed building. To the centre was a single pit [466] which produced finds of particular interest.

Pit [466] was sub-circular, measured 1.4m by 1.2m in plan and was 0.3m deep. The sides were sharp at 80-85° to the horizontal and it had a flattish base. The fill (465) was firm greyish black silty clay with charcoal and small stones up to 30mm in size. Sieved samples recovered enough charcoal and black porous “cokey” material to suggest the deposition of remains from a small fire (Sample 21). Pit [466] contained a range of metal artefacts and other finds. The finds included 13 iron objects, a fragment of quern (SF178) and a coin (SF174). The coin was of 4th century issue, an AE4 House of Constantine barbarous copy. It also produced a Romano-British shellyware jar sherd with stamped roundels/rosettes (Fig 14, 33). It is likely that these finds represent artefacts deposited amongst a small bonfire during clearance of the site.

A timber-framed building

Posthole group P5 marked out the position of a fairly large timber structure within the bounds of Enclosure E15. The features comprised a reasonably uniform arrangement of 21 postholes covering a roughly rectangular area measuring c20m long by c15m wide. The majority were circular with steep sides and were slightly rounded at the base. They measured in the range of 0.23-0.57m in diameter by 0.09-0.28m deep. Most lacked finds, although intrusive 4th century material was introduced into Iron Age ditch [623] by one of the postholes. There were no gullies or ditches in close association and a general lack of material to suggest its function.

Enclosures E10-E15

The shapes of these enclosures varied considerably. Most contained rough rectangular elements where lengths of ditch formed additions and alterations to the enclosures throughout their use but they did not appear to have been planned and laid out with any uniformity. One of these ditches, [122], produced the only evidence for duck present on the site and another, ditch [28], contained the remains of a dog. Ditch [122] also produced SF125, a barbarous radiate coin of the late 3rd century. Where ditches changed course they were generally rounded, suggesting that water flow was as important as the boundaries themselves, although a full topographical contour survey of spot heights has not been undertaken to verify this. Of those enclosures fully within the excavation Enclosure E10 was the smallest, c0.038ha in size. Enclosures E13 and E14 were larger covering c0.08ha and c0.12ha respectively. The ditches of the boundaries themselves tended to be fairly substantial. Ditch [605] was 1.3m wide by 0.35m deep, ditch [613] measured 1.08m wide by 0.42m deep and ditch [632] was 2.04m wide by 0.63m deep. Their size was generally proportional to their relative importance, and the largest of these, ditch [632], formed an axial drain into which all the other ditches were connected. Ditch [632] appears to have replaced the former boundary [273] as the main drainage ditch on the site and the principal boundary was no longer important, having been largely filled in. A variety of shade loving and open country species of mollusc present within the ditch indicated a fairly mixed balance of micro-habitats (Sample 36). Ditch [605] produced SF114, a copy of a House of Constantine coin of the mid-3rd century. A flagon in Lower Nene Valley colour-coated ware and two jar forms in East Midlands greyware were recovered from ditch [632], as well as the articulated remains of a horse (Fig 14, 30-32). Ditch [613] also produced the only piece of evidence for horn-working from the site, the horn core of a young adult ox, accompanied by SF113, a barbarous radiate coin, dated to post-AD275.

Analysis of the faunal remains and the environmental evidence suggested mixed farming practice. Enclosure E13 was used on one occasion to process a substantial quantity of cereal, the remains of which were recovered from pit [351] (Plate 8). The pit was broad with gently curved shallow sides and formed a rough rectangle with rounded corners. It was 3.2m long by 2.38m wide and 0.36m deep. The pit produced the largest quantity of charred cereal grains and processing waste upon the entire site (Sample 17). That cereal processing was undertaken in Enclosure E13 was corroborated by other

remains from ditches [24], [73], [122] and [632] (Samples 15, 16, 19 and 36). Enclosure E14 produced a similar assemblage from ditch [613] (Sample 39). The material from these ditches contained a smaller quantity of charred cereal grains than pit [351], and a greater quantity of contaminants such as brome and cornflower which are typical to cultivation. Much of the waste from the processing was dumped in the ditches close by and the carriage of chaff upon the wind may account for smaller quantities in contemporary ditches, such as [516] and [605], spread further across the site (Samples 27 and 34). Samples included a number of wetland/aquatic plant remains indicating fairly damp conditions together with a mixture of open country and marsh/freshwater slum mollusc species consistent with the habitat surrounding the pond [75]. Some of these enclosures may have been under arable cultivation while stock kept for household meat and dairying, and for manure were in the smaller fields during periods of animal husbandry. Enclosures E11 and E14 in particular exhibit a pattern of droveways that appear more consistent with the movement of animals between pens than for arable use. Similarly the various realignments of ditches on the western side of the site would have channelled movement to the south and indicated that a degree of stock movement was an important element of the site, perhaps allowing manuring of the fields by natural means between seasonal cropping. The increase of cattle on the site and continued presence of sheep rearing was identified amongst the bone assemblage as a major element of subsistence.

5.6 Post-Roman activity

The site appears to have been abandoned by the beginning of the 5th century. There was no evidence for further activity until the 7th century, at the earliest.

5.7 Saxon activity

One Saxon pottery sherd was recovered from the top of pit [150]. This could easily have been intrusive. The bulk of Roman pottery from the lower fills is highly abraded but contained no later material.

5.8 Medieval cultivation

Ridge and furrow cultivation was identified during the strip of subsoil on the site. Two alignments of ridge and furrow were evident that confirmed the evidence suggested by the geophysical survey and the evaluation (Butler 2005; Taylor and Chapman 2005). The division between the two alignments followed a headland along the principal east to west ditch [273] established during the Iron Age and which was subsequently used to form the southern side of Enclosure E6 in the mid-2nd to 3rd centuries (Fig 9). Its survival in the medieval period indicates that it was still a visible landscape feature. Given that the pottery evidence indicated that the boundary was backfilled by the end of the late 3rd century, there would have been an earthwork surviving, probably as a depression or low point for water to gather and was subsequently ploughed flat in modern times.

5.9 Post-medieval and modern drainage

Many post-medieval and modern ceramic field drains were present across the site but none of the ditches were of recent origin.

6 FINDS

6.1 Worked flint by Andy Chapman

A total of fourteen pieces of worked flint were recovered. The raw material is a mixture of vitreous flint, brown or grey in colour, and grey opaque flint. Where cortex survives it is either light brown to off-white, or light grey in colour.

There is a single thin flake that has fine marginal retouch. This piece is evidently a residual implement of Neolithic or early Bronze Age date, and it is the only piece that has a pale blue-grey surface patination. A further flake with a retouched edge may also be a residual implement of earlier date.

There are six flakes that are irregular, broad and squat, and there are three irregular shattered pieces. These could all be accounted for as the product of accidental impacts, although one flake and a shattered piece has irregular and crude retouch that suggests some deliberate, but casual, utilisation of the flint.

There is also a single larger part of a flint nodule, 115mm long by 70mm wide, which has been roughly shaped by striking large flakes from it, but this may derive from rough shaping for use as building stone in the Roman period.

6.2 Late prehistoric pottery by Ed McSloy

Approximately 656 sherds weighing 11.9kg are of late prehistoric date, mainly of middle to late Iron Age date (Table 2). The majority is of middle to late Iron Age date, with two sherds probably earlier of a late Bronze Age to early Iron Age type. The condition of the pottery is typically good and a number of contexts produced large joining sherds or substantially complete vessels (Fig 11, 3 and 5-6). This, together with good preservation of calcareous and other inclusions reflects a moderately high average sherd weight at 18.1g.

Methodology

The pottery was sorted into fabrics primarily by macroscopic observation, with sherd count and weight recorded for each context. Where this could be determined, vessel form and rim EVEs (Estimated Vessel Equivalent) were recorded. The assemblage was recorded using an MS Access database, a copy of which will be submitted with the archive. The fabrics are described individually.

Fabrics

Fabrics are defined on the basis of principal inclusion type and inclusion size below.

- | | |
|-----|--|
| QZ | Quartz. Common, clear sub-rounded quartz 0.3–0.5mm. Rare, red-brown iron oxide. Dark grey throughout. Sandy feel. |
| LI | Shell with obvious crushed limestone. Common, well-sorted fossil shell 1–3mm, common or limestone fragments up to 5mm. Soapy feel. Handmade. |
| SH | Shell-tempered. Common moderately-well sorted fossil shell 2–4mm. Typically dark grey throughout, although may have patchy red-brown surfaces. Soapy feel. Handmade. |
| SHF | Finer shell-tempered. As above but noticeably finer, with inclusions typically less than 2mm. Dark grey throughout. Smooth feel. Handmade. |

Table 2: Quantification of the Iron Age fabrics

Fabric	Count	Weight (g)	EVE total
IA QZ	12	111	-
IA LI	20	146	0.06
IA SH	582	11341	3.19
IA SHf	42	292	0.07
Totals	656	11890	3.32

The late Prehistoric assemblage comprised a range of shell-tempered and other calcareous fabrics. Such fabrics are typical of late Prehistoric assemblages from the area and most or all such material can be considered of local manufacture. Similar fabrics characterise Iron Age groups from Fengate (Pryor 1980; 1984), Longthorpe (Wild 1987) and Werrington (Rollo 1988). Shell-tempered fabrics of Iron Age date tend to greater coarseness and to darker hues, compared to the equivalent Romano-British wares. The main distinction however, is principally one of form and technology, with Iron Age to earlier Roman pottery occurring in a distinctive range of forms which are primarily handmade.

Forms and decoration

Identifiable forms are listed below. Divisions are broad, as necessitated by the rarity of full vessel profiles. The range of vessel forms represented is typical for the middle to late Iron Age in the wider region (Knight 2002). Details of rim form and decoration compare with groups from the Peterborough area including Werrington (Rollo 1988) and Longthorpe (Wild 1987).

Jars dominate, reflecting utilitarian function typical for Iron Age assemblages. Systematic recording of vessel size was not undertaken, however the illustrated vessels are likely to be representative, with larger diameter vessels (Fig 11, 3; Fig 12, 7) less common than mid-sized jars (Fig 11, 4-6). Evidence for vessel use occurs as carbonised residues arising from cooking over direct heat or within the embers of a hearth or an open fire. Such evidence is rare, and confined to three instances of exterior sooting and one of internal burnt food residues. All occurrences are amongst vessels of 'standard' shell-tempered fabric shell (Table 2).

Form summary

- Type 1: (JHU). High-necked, ?round-shouldered large jar. Smoothed/burnished surfaces. Simple, rounded rim uppers (Fig 11, 1). One example.
- Type 2: (JRS). Round-shouldered jars with short upright rim. Flattened rim upper (Fig 11, 2). One example.
- Type 3: (JU). Slack-shouldered jars with short upright or slightly everted rim. Simple rounded or flattened rim uppers (Fig 11, 3 and 5). Seventeen examples.
- Type 4: (JR). Rounded or globular profile jars/bowls. Bead-like or short-everted rims (Fig 12, 9-10). Ten examples.
- Type 5: (JBAROV). Jars with undifferentiated rims. May be ovoid-profile or barrel-shaped. Rim uppers are plain or squared (Fig 11, 4). Seven examples.
- Type 6 (Cover). Probable lid/cover, wide-diameter (>280mm). Not illustrated. Two examples.

Decoration and surface treatment

Four types of impression are visible in the assemblage;

- Fingertip indents to shoulder zone. One example (Fig 11, 2).
- Fingertip impressions to rim only. Three examples to rim upper (Fig 11, 3). One example to rim outside edge (Fig 12, 7).

- Simple vertical scoring to vessel exterior, below rim zone. (Fig 11, 4-5; Fig 12, 7).
- Multi-directional scoring. Includes regular lattice-pattern (Fig 11, 6; Fig 12, 9) and irregular designs (Fig 11, 3).

Decoration of any kind is rare in the assemblage. Scoring is most common with 34 instances noted (89 sherds or 13.6% of the total sherd count). An unusual feature of the group is vessels with regular lattice designs (Fig 11, 6; Fig 12, 9). Fingertip decoration occurs rarely and where this type of decoration is present on the rim it is combined with scoring. Two of the three vessels recorded with such decoration are large-sized vessels (Fig 11, 3; Fig 12, 7).

Chronology

Late Bronze Age and earlier Iron Age

Evidence for ceramics earlier than the middle Iron Age is rare but occurs as two sherds of distinctive form. A rim sherd from a large jar with high, upright neck and well-formed flattened rim is from from ditch [295], Enclosure E2 (Fig 3). It might be attributed to the late Bronze Age post-Deverel Rimbury plainware tradition (Barrett 1980; Knight 2002, 124–6). The form of this vessel is characteristic of the period (Fig 11, 1). Its fine fabric and smoothed surfaces are not untypical among late Bronze Age or early Iron Age groups from the region (Pryor 1984, 139–40; Rollo 1988, 107–12). Its fabric is indistinguishable from sherds in finer shell-tempered type among the Iron Age group SHf and therefore a similar, local, derivation is likely.

Carinated vessels characterising the late decorated phase of the Bronze Age and early Iron Age are absent from the assemblage. A round-shouldered jar from ‘ash pit’ [16], features fingertip decoration to its shoulder which can be a feature of this period, occurring for example on ‘early Iron Age’ pottery from Werrington (Fig 11, 2; Rollo 1988, fig 25, 13). Other material from pit [16] is consistent with the middle Iron Age and suggests that this vessel is a residual find (Fig 3).

CP2: Middle to late Iron Age

The larger part of the assemblage is of this period on the basis of vessel form and decoration. Scored wares are characteristic of the period, principally between the 3rd and 1st centuries BC, across the East Midlands, particularly in the area of the Lower Nene (Elsdon 1992). Studies using large, phased assemblages from Northamptonshire have shown that the more complex, multi-directional scoring of the type represented in this assemblage may be a relatively late development within the Scored ware tradition (Woodward and Hancocks forthcoming). Further indications that at least a portion of the assemblage is ‘late’, extending into the 1st century AD, is the occurrence alongside wheel-thrown grog-tempered vessels.

Pottery of middle to late Iron Age type is principally associated with the major elements of the initial site occupation (Fig 3). Moderately large quantities were derived from the drip-gullies and other features associated with Roundhouse R1 (65 sherds) and Roundhouse R4 (69 sherds), with smaller groups (up to 32 sherds) from other roundhouse features. Larger context groups mainly derive from boundary ditches (up to 40 sherds). ‘Structured’ deposition, of the kind seen in some Iron Age assemblages, cannot be clearly demonstrated in this comparatively small sample. A possible instance of this are the lower fills of pit [329], which produced Iron Age type querns and a substantially complete Scored ware jar (Fig 11, 4). A second, substantially complete lattice-scored vessel may be notable in this respect (Fig 11, 6). In this instance its context, from the Enclosure E2 ditch terminal, and its ‘special’ nature, combine to suggest it represents a ‘placed’ deposit.

Illustrations (Figs 11-12)

- 1 Fabric, fine shell. Large jar (Type 1). Enclosure E2, ditch [295].
- 2 Fabric, shell. Round-shouldered jar (Type 2). Fingertip impressions to shoulder. Quarry pit [150].
- 3 Fabric, shell. Large, slack-shouldered jar (Type 3). Ditch [337].
- 4 Fabric, shell. Barrel-shaped jar (Type 5). Vertical scoring. Pit [329].
- 5 Fabric, shell. Barrel-shaped jar (Type 5). Vertical scoring. Ditch [310].
- 6 Fabric, shell. Slack-shouldered jar (Type 3). Complex, regular (lattice) scoring. Enclosure E2 ditch [312].
- 7 Fabric, shell. Large, rounded (Type 4) jar. Square rim with fingertip impressions. Light vertical scoring (cf. Wild 1987, no. 22). Posthole [635].
- 8 Fabric, shell. Slack-shouldered (Type 3) jar. Internally expanded rim (cf. Wild 1987, no. 14). Ditch [716].
- 9 Fabric, shell. Rounded/globular jar (Type 4). Complex scoring. Posthole [233].
- 10 Fabric, shell. Rounded/globular jar or bowl (Type 4). Complex scoring/combing. Ditch [310].

6.3 Roman pottery by Ed McSloy

A total of 4856 sherds (102.1kg) of pottery, considered to date to between the mid-1st and late 4th centuries, was recovered. The condition of the pottery is generally good with surfaces well-preserved in most instances and little significant abrasion apparent. The average sherd weight (21.4g) may be skewed by storage jars and other thicker-walled sherds, although this figure would still seem relatively high for a Roman assemblage and suggestive of limited levels of disturbance in later contexts.

The larger part of the assemblage, 43% of the sherd count, derives from the fills of linear features, predominantly from principal enclosures and boundary ditches. Large quantities were recovered from layers (30%). The bulk of this material derived from an abandonment spread (426) that overlay the compacted stone surface [427] (Fig 6). Pottery from pits and postholes account for the bulk of the remainder (25%), with a substantial portion retrieved from the fills of quarry pit [150] (Figs 6 and 8; 525 sherds, 11%). Of the remainder, 28 sherds derive from the fills of the mid-2nd to 3rd-century inhumations, including one vessel deposited as grave goods (Fig 6; Fig 14, 29).

Methodology

The pottery was sorted into fabrics primarily by macroscopic observation, with sherd count and weight recorded for each context. Where this could be determined, vessel form and rim EVEs (Estimated Vessel Equivalents) were recorded. The assemblage was recorded using an MS Access database, a copy of which will be submitted with the archive.

Assemblage composition

Fabric coding for Roman types is based on that utilised for the large Orton Hall Farm assemblage (Perrin 1996). Cross-reference to the National Roman Fabric Reference Collection codes (Tomber and Dore 1998), has been included with the fabric descriptions. Fabrics are grouped according to ware or 'tradition' with codes in parenthesis. The inventory of Samian and other fabrics is supplemented by numerical quantification in Appendix 1, Tables 1-2.

Summary of overall assemblage composition

The overall composition of the Roman assemblage is shown in Appendix 1, Table 3. As is typical for the area, the bulk of the pottery is of local origin and chiefly represents products of the Lower Nene Valley industry, centred on the small town at *Durobrivae* (Water Newton) (Howe *et al* 1980; Perrin 1999). A proportion of reduced types of Local Greyware fabric are distinct from the typical Lower Nene grey fabric (Tomber and Dore 1998). They are representative of smaller-scale production likely to be widespread in the area prior to the main production phase of the Lower Nene valley industry (Perrin 1996, 120).

Shell-tempered wares occur throughout the assemblage. Much of this material is local in origin, however there is evidence for a shift in source in the late Roman period, equivalent to CP5, with most material from this time originating from the kilns at Harrold in north Bedfordshire. Coarsewares originating from outside, what is a distinctly self-sufficient region, are mainly confined to the late Roman period, equivalent to CP5, and include Dorset black burnished ware, East Midlands grey burnished ware, Horningsea grey wares and pink grog-tempered ware, as well as finewares in the form of Oxfordshire red slipped ware. Horningsea and pink-grogged types occur as storage ware sherds, perhaps implying the transit of foodstuff or other 'packaged' substances, rather than of pottery as a commodity.

Not surprisingly Lower Nene Valley colour-coated wares account for the large majority of pottery finewares; the local availability acting to inhibit the penetration of other finewares. Similar factors are presumably responsible for the supply of mortaria to the site which comprises solely Lower Nene Valley products. In common with other sites in the region, colour-coated wares are very much more common in the late Roman period, CP5, reflecting a switch in production of coarseware forms from grey to colour-coated wares at this time. This can be seen in vessel forms occurring in later groups which are dominated by utilitarian jars and open forms (Appendix 1, Table 3). Tableware forms, including samian derived bowls, occur in late Roman groups and similar forms also supplied in Oxford red-slipped ware. Also reflective of a region-wide trend is an apparent reduction in beakers among late groups, possibly resulting from the supply of drinking vessels in non-ceramic materials.

Forms and pottery use

A simplified breakdown of coarseware vessel forms is presented in Appendix 1, Tables 3-4. In common with most rural assemblages, this assemblage is dominated by jars making up 63% of identifiable vessels. Most comprise mid-sized vessels suitable for a variety of kitchen-related tasks, with a smaller group of larger vessels with a diameter exceeding 260mm and thick-walled vessels, which were probably used for dry storage. The majority of other forms, including dishes and platters (9%), bowls (15%), lids (1%) and mortaria (2%), likely to have been used in a range of kitchen-related or agricultural functions.

Identifiable tableware includes a number of samian-derived or other fineware bowls (3.3%), beakers (4%) and flagons (1.4%). The samian assemblage comprises a mix of open forms and cups.

A small number of vessels are instructive of specialist use, although not fully understood. Among vessels in coarse shell-tempered fabric are fragments of a possible griddle (Fig 15, 37) and large cover-like vessels (Fig 15, 38). Similar vessels occur, with or without applied, thumbed-strips, below the rim, at other sites in the region and probably functioned as oven covers or hoods (Perrin 1999, 124). Evidence for dairying is present, as examples of the cheese press occurring in Lower Nene Valley greyware from spread (426) and red-brown shell fabrics from ditch [492], Enclosure E9 (Fig 8). A

vessel of somewhat similar form with concentric ridges, but lacking perforations resembles later medieval examples identified as poultry feeders (Fig 14, 23; MPRG 1998, 10.6).

Evidence for vessel use occurs only sporadically among reduced and shell-tempered wares. Two instances of sooting and one of burnt food residue are recorded. Other indications of use is a single occurrence of white limey residue from heating or storage of water and two examples of greyware vessels, with eroded interior surfaces possibly resulting from the storage of corrosive contents.

Chronology and Ceramic Phases

Discussion of ceramic phases is primarily with reference to discretely dated and typically larger groups (Appendix 1, Tables 5-7). The typological development of Lower Nene Valley colour-coated and other wares is well understood and provides the basis for much of the context-level and Ceramic Phase dating (Howe *et al* 1980; Perrin 1999). Further chronological markers are indicated by the samian and traded wares.

CP1: Early to middle 1st century AD

Material of this date occurs in relatively small quantities across the site. Larger groups were derived from the 'drip gully' fills of Roundhouses R3, R1 and from associated features (Fig 3; 32 and 24 sherds respectively). Pottery of this date, including 'Belgic' type material and comb-decorated vessels in shell-tempered ware also occur in mixed-date contexts (Fig 13, 13).

Dating is primarily dependent on the small quantities of 'Belgic'-style grog-tempered ware and early wheel-thrown shell-tempered wares. A date as early as the 1st century BC is indicated for earliest 'Belgic' type wares (Knight 1984). The forms occurring within CP1 deposits include cordoned, necked jars and bowls (Fig 13, 15), platters and butt-beaker copies which are characteristic of the more developed style. They date no earlier than the second quarter of the 1st century AD (Friendship-Taylor 1999, 13).

Handmade shell-tempered pottery of Iron Age type is abundant in CP1 deposits. The few forms identifiable from among this group include slack-shouldered (Type 3) and rounded (Type 4) jars and one possible lid or cover (Type 6). Included are a number of sherds with complex scored decoration. A proportion of this material may be residual however there is reason to believe that 'native' type wares continued into the conquest period. Good evidence for late occurrence of native type pottery, including scored wares was identified at Werrington, Peterborough, where such material was in use alongside wheel-thrown wares (Rollo 1988, 116).

CP3: Middle to late 1st to early 2nd centuries

A single larger group comprising material from ditch [308], compositionally distinctive pits [329, 456, 458], and ditch [769] are considered representative of this period (Fig 5). In addition, elements of comparable date were present as residual material in later-dated deposits, most abundantly amongst spread (426) and overlying surface [427].

Samian is not present among CP3 groups and is not attested at all before the Trajanic period. Iron Age wares occur commonly, though most of this is probably residual. The absence of Lower Nene valley wares is indicative of a date before cAD120-140. 'Belgic'-style vessels, occurring as necked, cordoned bowls, (Fig 13, 16) and elaborately-cordoned carinated bowls and cups (Fig 13, 17) encourage a 1st century interpretation. Such vessels consistently occur in 'developed', oxidised quartz-rich grogged fabrics. Belgic influence is also present among reduced and shell-tempered wares in the form of cordons or grooves.

Ditch [308] may fall early in the stated range for CP3. Some material of Lower Nene Valley greyware fabric is undoubtedly intrusive, post-conquest dating is suggested by Romanised sandy reduced wares which include an unusual, comb-impressed bowl (Fig 14, 20). Grogged wares include cordoned bowls. The most distinctive elements are coarse wheel-thrown and handmade shell-tempered wares (Fig 13, 11-13). The composition of the smaller groups is consistent. Local reduced types are prominent and occur as a range of forms, (Figs 13-14, 19-24). A minimum of three vessels from pits [458] and [329], and from ditch [509] exhibit characteristics of overfiring or blistering and bloating, identifying these as wasters or possibly seconds (Fig 5). They are likely derived from pottery manufacture in the near vicinity. Included among identifiable forms is an unusual carinated strainer (Fig 14, 20) and necked, cordoned jars. It is entirely plausible that the wasters and seconds derive from kiln [506].

CP4: Middle to late 2nd to late 3rd century

Pottery ascribed to CP4 is abundant compared to earlier groups and a number of large and discrete groups are included (Appendix 1, Table 6). There is a broad correspondence between CP4 contexts and the villa estate settlement (Fig 6), particularly contexts associated with Enclosure E6 and pond deposits.

Over half of all samian associated with CP4 (21 sherds) derives from layer (426) which overlies the stone surface [427] (Fig 6). All of it is Central Gaulish. Forms present from this group are representative of CP4 as a whole, comprising plain types; Drag 33, Drag 35, Drag 31, Drag 31R and Curle 15. Dating suggested by this material is consistently Antonine and late Antonine, post *c*AD160. There are indications that deposit (426) accumulated over an extended period of time with a proportion to the first half of the 2nd century including Local-type reduced and one London ware style vessels. Colour-coated wares are in agreement with late Antonine samian forms and include bag-shaped, cornice-rimmed beakers and double waisted forms (Perrin 1999, 94–5).

Compositionally CP4 groups appear fairly consistent, with Lower Nene greyware and shell-tempered wares are always prominent. Typically for the period between the late 2nd and 3rd centuries, a narrow range of forms is represented amongst the Lower Nene Valley greyware, mainly comprising jars and utilitarian dishes or bowls. Rare examples of a cheese press from deposit (426) and of a bowl imitating a samian Drag. 36 bowl with barbotine trails belong to this group. The latter, also from spread (426), is further suggestive of a late 2nd to 3rd century date (Perrin 1999, 86). Colour-coated ware forms indicate a date in the middle years of the 3rd century and include indented forms with applied clay pads (Howe *et al* 1980, no 39). Examples occur in ditches (144, 492, and 516), although the latter two are residual alongside later forms.

CP5/5.1: Late 3rd and 4th centuries

Several features contained pottery groups that are characteristic of this Ceramic Phase and are presented in Appendix 1, Table 7 (150, 390, 492, 516 and 613). There is an agreement between larger CP5 groups and the later Roman enclosures, with the larger groups deriving from morphologically similar Enclosures E8, E9, E12- E14 (Fig 8). Chronological markers are derived mainly from the large Lower Nene valley colour-coated ware components and among shelly wares which now mainly comprise Harrold type wares. Oxfordshire red-slipped wares include type C75 from quarry pit [150] and type C70 bowls, both implying dating after *c*AD325-340 (Young 1977). There is some evidence, based on the presence of individual forms and the overall composition of groups that the activity extends at least to the middle years of the 4th century (CP5.1). Associated coins are in agreement, indicating activity around *c*AD340.

Two sherds of Anglo-Saxon pottery were recovered from the upper fill (149) of quarry pit [150] (Fig 8). It is likely that this post-Roman material is intrusive. Pottery from the basal fill (276) is consistently earlier, equivalent to CP4, suggesting that material in the upper fills accumulated within ‘slumping’ into the earlier feature, perhaps over an extended period of time. Much of the pottery from fill (149) is notably abraded.

Residual earlier Roman components aside, the larger CP5/5.1 groups demonstrate consistent composition. The larger part of each group comprises shell-tempered wares and colour-coated wares forming between 67% and 84% of EVE totals. There is an increased dominance of these wares in the latest, CP5.1, deposits. Most common among forms in Harrold type shell-tempered wares are necked jars, with fewer examples of storage jars and large flat-rim bowls. Included among CP5.1 groups, are hooked-rim jars which are prominent in the latest production phases at Harrold (Brown 1994, 72–8). Forms among the Lower Nene valley colour-coated ware are dominated by the jars and dishes and bowls fulfilling the functions of greywares from earlier periods. Tableware forms comprise samian-derived, bowl forms in Lower Nene valley colour-coated ware (Drag 31/36/37/38) and Oxfordshire bowl forms. Beakers are poorly represented, restricted to single examples of funnel-necked form occurring as Oxfordshire red-slipped ware and Lower Nene Valley colour coated ware, from quarry pit [150] and a possible beaker or flagon from ditch [632] (Fig 8).

Summary

Evidence for pottery on the site in the form of a dismantled kiln and kiln furniture is present as a small number of wasters or possible seconds. This material is consistent with the character of material preceding the earliest industrial scale production, probably from the second quarter of the 2nd century.

Compositionally the rest of the Roman assemblage demonstrates close similarities with previously published material from the Peterborough area (Perrin 1996). Given the close proximity of Lower Nene valley kiln sites there is a marked reliance on wares supplied locally.

The pottery provides good evidence for activity spanning the 1st century to at least the middle years of the 4th century. Throughout, the pottery assemblage is utilitarian in character reflecting kitchen related and agricultural activities. Despite the proximity of kilns producing colour-coated and other ‘finewares’, tablewares including beakers and flagons appear to be poorly represented. A small number of forms are instructive of specific activities including dairying (cheese making) and, possibly, the keeping of poultry.

The impression of habitation at the lower end of rural society is given additional weight, at least for the earlier Roman period, by the samian. There is no evidence for samian use before cAD100, and the 2nd century assemblage consists of cup and plain bowl forms, with decorated vessels completely absent.

Catalogue of Illustrations (Figs 13-15)

- 11 Fabric, early Roman shell-tempered. Medium-mouthed necked jar, multiple grooves to neck and shoulder. Ditch [308].
- 12 Fabric, early Roman shell-tempered. Neckless jar, bead-rim. Ditch [308].
- 13 Fabric, early Roman shell-tempered. Large, necked, storage jar (handmade). Ditch [308].
- 14 Fabric, early Roman shell-tempered. Large necked jar (handmade). Combed decoration. Ditch [327].
- 15 Fabric, “Belgic” grog-tempered. Necked jar or bowl. Cordon to neck. Gully [474].

- 16 Fabric, "Developed" quartz grog-tempered. Necked bowl. Cordon to neck. Ditch [769].
- 17 Fabric, "Developed" quartz grog-tempered. Carinated bowl/cup, elaborately cordoned. Posthole [532].
- 18 Fabric, Local greyware. Platter copy. Spread (426).
- 19 Fabric, Local greyware. Carinated strainer bowl/cup (waster or second). Pit [329].
- 20 Fabric, Local greyware. Straight-sided bowl with impressed comb decoration. Ditch [308].
- 21 Fabric, Local greyware. Medium-mouthed necked jar. Shoulder grooves. Pit [329].
- 22 Fabric, Local greyware. Carinated, necked jar. Neck cordon. Pit [456].
- 23 Fabric, Local greyware. ?poultry feeder. Spread (426).
- 24 Fabric, Local greyware. ?patera handle/finial (*cf* Dannell 1987, Fig 55, no 119). Surface (427).
- 25 Fabric, Oxidised fineware. Curved-sided bowl, Drag. 31 imitation. Spread (426).
- 26 Fabric, Gaulish whiteware. Flagon amphora. Quarry pit [150].
- 27 Fabric, Romano-British Bourne and Greetham shell-tempered ware. Necked jar, girth grooves. Ditch [444].
- 28 Fabric, Lower Nene Valley colour-coated ware. Carinated bowl, flat/undercut rim. Ditch [444].
- 29 Fabric, Lower Nene Valley colour-coated ware. Flask/bottle (*cf* Howe *et al* 1980, no 69). SK5.
- 30 Fabric, Lower Nene Valley colour-coated ware. Pinch-neck or pulled-rim flagon/beaker flagon. Ditch [632].
- 31 Fabric, East Midlands Burnished greyware. Wide-mouthed jar/bowl-jar. Ditch [632].
- 32 Fabric, East Midlands Burnished greyware. Everted-rim jar. Ditch [632].
- 33 Fabric, Romano-British shell-tempered. ?storage jar sherd with stamped roundels/rosettes. Pit [466].
- 34 Fabric, Lower Nene Valley white mortaria. Bifid flanged mortarium. Ditch [492].
- 35 Fabric, Lower Nene Valley white mortaria. Reeded-rim mortarium. Ditch [482].
- 36 Fabric, Lower Nene Valley white mortaria. Reeded-rim mortarium. Spread (426).
- 37 Fabric, Romano-British coarse shell-tempered. Large oven hood/cover. Quarry pit [150].
- 38 Fabric, Romano-British coarse shell-tempered. ?Griddle fragment. Ditch [285].

6.4 Ceramic tile by Pat Chapman

The assemblage comprises 235 fragments, weighing 25.83kg. The roof tile includes 17 *tegulae* and 10 *imbrice* fragments; there are also 10 combed box flue tile fragments and 45 pieces of brick tile. The remaining 153 fragments are sherds that are probably *tegulae* but had no diagnostic elements. Some sherds have been worn very smooth and some are frost eroded, while others are in good condition. The under surfaces of the *tegulae* are often very sandy from the drying process.

Roof tiles

The *tegulae* are 22-25mm thick, with the flange varying in height from 33-55mm. The fragments of *imbrices* are 10-25mm thick. Coloured slip is present on the surface of two

sherds, one a black surface from ditch [605] and the other red from ditch [571] (Figs 6 and 8). Tiles from villas at Piddington and Wootton in Northamptonshire also indicated colour decorated roofs (Ward 1999, 15; Chapman 2004b). One of the *tegulae* sherds is curved in two directions; the flange is bowed side to side while the base curves up from the back forwards, similar to a tile from Cambridge Road, Bedford (Chapman 2006).

Box tiles

Only one sherd of box flue tile (*tubuli*) from ditch [429] has a measurable dimension, it is 110mm wide and 15mm thick (Fig 6). The remaining fragments are 20-25mm thick. The surfaces are combed in both vertical and diagonal patterns parallel to the sides, enclosing broad wavy lines.

Brick tiles

The brick tiles are each either 30-35mm thick or 42-50mm thick. Some have been burnt or show signs of having been subjected to heat, indicating that they derive from a hypocaust. One tile is chamfered, typical of a *bessalis* tile from a hypocaust pillar (Ward 1999, 42). Some fragments may be from *lydion* bricks used in walls and floors. The proximity of a dismantled kiln [506] in the late 1st to mid-2nd centuries raises the possibility that some of these brick fragments may have been part of a kiln structure.

The largest quantity of tile, in mainly small sherds, came from spread (426) over a hard compacted surface in Enclosure E6 (Fig 6). The practice of using pottery and ceramic building materials from nearby settlements to help compact sunken areas was not uncommon, a similar deposition of material at the entrance of a small enclosure occurred at Hinckley, Leicestershire (Chapman 2004a). The other main deposits of tile came from ditch [516] in Enclosure E8 and quarry pit [150] (Figs 6 and 8). The remaining tile was distributed fairly evenly across the site.

There are four basic fabrics. One of the main fabrics is coarse, orange-brown with calcareous and flint inclusions up to 12mm in diameter, with or without a reduced core. Another common fabric is orange and softer silt with occasional calcareous inclusions up to 5mm in diameter, with or without a reduced core. A slightly softer, orange fabric with fine grog inclusions and a grey brown, shell gritted, fabric accounts for approximately 10% of the material. There is one sherd with a typically Roman soft pink fabric.

6.5 Building stone by Pat Chapman and Steve Critchley

The assemblage includes 20 fragments of roof tile and 9 pieces of building stone. It is of three main types; glacial erratics, fine-grained sandstones (quartz arenites) derived from Carboniferous sediments in the South Pennines and sandy limestones (calcarenite) from the Jurassic Collyweston Slates of North Northamptonshire and North-west Cambridgeshire.

An exotic glacial erratic found in the local Pleistocene Anglian tills and originally derived from Scandinavia was from ditch [688], S367 (Fig 10). It is a large cobble of a dark coloured high-grade basic metamorphic rock type called a Garnet Amphibolite.

Many of the quartz arenite samples have morphology that is indicative of a local glacial till source. This building stone is roughly shaped, such as those from the spread (426) in Enclosure E6 (Fig 6). One is chamfered along one side. A total of three pieces came from the ditch [492] (Fig 8). One appears to have been cut from a rectangular block, with a narrow groove along one edge just below the rougher surface, the other surface being fairly smooth. A small squarish fragment is 67mm thick with one surface very

smooth and the other rougher but reddened by heating. A sample from ditch [613] is fine grained with dark post depositional staining. The rounded edges of the clast suggest a derivation from the local fluvio-glacial terrace gravels. The example from the pond [75] contains white mica and has a darker hue due to high iron content. A cobble from ditch [688] on the south side of Enclosure E6 has been sheered diagonally. It measures 70mm thick by 175mm long and has a remnant patch of a highly polished surface. A pale to dark brown bioturbated very fine-grained semi lithic arenite from spread (418) is similar to rock types found in the Jurassic outcrops on the East Yorkshire coast and suggests derivation from local glacial tills.

A large proportion of the stone comprises a sandy fissile limestone (calcarenite) typical of that extensively quarried for roofing material in the Collyweston Slate beds of North Northamptonshire and North-west Cambridgeshire. The tile comprises 18 small irregular fragments of fissile limestone averaging 17mm thick, and one fragment of sandstone, none have pegholes evident. The largest piece measures 210mm by 140mm but most pieces are 80mm by 60mm or smaller. They contain c30% quartz and the remainder is fossilised plant debris cemented with calcite. They may have been sourced from a local outcrop to the north of the site but could equally have been obtained from the tills. This is also the likely source for the three fragments of soft pale yellow impure biomicritic limestone from spread (426).

6.6 Kiln furniture by Pat Chapman

There are 15 kiln bars in the assemblage. The fragments from the butt ends, the middle and the tapering ends do not join and no complete length can be recorded. The two butt ends are 50mm and 40mm by 45mm square, with the middle sections being 40mm by 35mm square where the taper begins. This type of kiln furniture is typical of the Late La Tene-derived "Belgic" surface-built kiln with turf lining and portable prefabricated furniture. It is found amongst early kilns in the Nene and Ouse valleys, until the turn of the 1st to 2nd centuries (Swann 1984, 68, fig VIII). Similar examples were found at Park Farm, Stanground (Dannell *et al* 1993, 60-64).

Though the kiln bars have been shaped, the surfaces are rough. The fabric varies being overfired, hard granular greyish-white or orangey-brown surfaces over a black core with frequent calcareous and flint inclusions, all orange with a very small grey core and coarse sandy brick red.

Four kiln bars were recorded in the area of the compacted surface in Enclosure E6, but they were generally scattered across the enclosures, with only one bar, in fragments, from the demolished kiln [506] (Fig 5). The fragments of two perforated kiln plates came from a pit [329], similar to those found by Hartley during excavations at Water Newton (Swann 1984, 95-97).

6.7 Fired clay by Pat Chapman

This assemblage comprises 284 fragments, weighing a total of 3.9kg. The majority of the fragments are irregular and fairly small, generally composed of hard reddish-brown to orange clay with frequent small calcareous and flint inclusions and occasional organic material. Some have been subjected to high temperatures, as indicated by the pale brown to white colouration. The texture is sometimes approaching granular, while others pieces are slightly friable.

The largest amount of fired clay comes from pit [329] in the south-west area of Enclosure E4, which produced 96 fragments. About half the pieces have one smooth

surface as if having been pressed against a compact, slightly ridged surface. Only one fragment has a clear wattle impression, from ditch [22]. Several small fragments with a surface of white plaster came from a pit inside Roundhouse R4. Of the other 37 fragments, all from pit [423], a few have a very smooth surface with a black colouration.

The fill of the demolished kiln [506] contained a sample of the sides of the structure where the clay walling had partially bonded with the sides of the pit.

6.8 Metalworking debris by Andy Chapman

A total of 1.18kg of metalworking debris was recovered from five contexts, with 885g of that material coming from the re-cut of Enclosure E8 (Fig 8).

The smaller quantities are all small, irregular lumps of general ironworking slag. The single larger group comprises four small pieces of general ironworking slag that measure 40-70mm across. There are two probable hearth bases. One is sub-circular, 65mm in diameter, with the characteristic convex base and a clearly concave upper surface. The other is sub-square, measuring 80mm across, with a convex base and a flat to slightly concave upper surface.

The nature and small size of the assemblage suggests that some secondary ironworking was carried out on the site, but this may have been a single short-lived episode, and was certainly not a major element of the economy of the site.

6.9 Other finds by Tora Hylton, Ian Meadows and Andy Chapman

Introduction

The excavations produced a collection of finds spanning the Roman to post-medieval periods. The majority of finds fall within the Roman period and are comparable with assemblages from other settlement sites in the east midlands. Small numbers of finds were recovered from deposits dating from the 1st century BC to the mid 2nd century AD, while the majority of finds were recovered from later features. Although the assemblage is dominated by coins, the range of artefacts provides a brief insight into the nature of occupation, there are items for personal adornment, structural fittings and a range of tools that can be assigned to specific processes, industrial (metal working) and craft activities (wood working, textile manufacture). In addition a small number of personal items were recovered from burials.

There are a large number of residual, unstratified finds, recovered primarily from medieval furrows and the 20th century ploughsoil. This group is dominated by Roman coins but also includes brooches, part of a finger ring and a range of medieval and post-medieval finds.

Quantity of material

In total there are 146 individual or group recorded small finds (excluding coins and querns), providing a total number of 214 individual objects in seven material types. Each object has been described and measured, and a descriptive catalogue is retained in archive. The majority of artefacts were recovered by hand, but the use of a metal detector at regular intervals during the excavation increased the recovery of metal objects. The quantification of finds by material type is given in Appendix 2, Table 1.

A total of 31 iron objects (excluding nails and small fragments) were submitted for X-ray. This was undertaken by David Parish of the Buckinghamshire County Museum Conservation Service. This not only provided a permanent record, but it enabled identification and revealed technical details not previously visible. Four objects were chosen for further investigation, this entailed selective cleaning, using air abrasive on heavily concreted items to reveal features of interest. No stabilisation was carried out. All sensitive finds are packaged in air tight plastic containers with silica gel and an indicator card, to maintain a low humidity and reduce deterioration.

The finds are published as individual types within four major functional categories. Only small groups and the miscellaneous and unidentified objects have been considered by material type. The quantification of finds by function is given in Appendix 2, Table 2.

Iron Age to early Roman (1st century BC to late 1st century AD)

Two objects were recovered from Roundhouse R3, gully [623] and include a nail with a triangular head and an intrusive 4th century coin (SF 143). These are likely to be from the timber frame building denoted by posthole group P5 (Fig 8).

Roman (Late 1st to mid-2nd centuries)

There are eight objects of this date. The assemblage includes part of a knife from boundary ditch [285], two fragmentary copper alloy cylinders and three nails from ditch [538], and two nails from ditch [308] and pit [542].

The cylinders are probably part of the same object manufactured from rolled copper alloy sheeting. The cylinders measure 19mm and 17mm in length and 2mm in diameter; the longitudinal edges join to form an edge to edge seam and at one end there is a small circular perforation. Such fragmentary objects are difficult to identify with any certainty, but a similar object was recovered from an Iron Age hut circle ditch at Ashville Trading Estate, Abingdon (Parrington 1978, fig 59, 17) and at Upton, Northampton (Walker, forthcoming).

Later Roman settlement (mid-2nd to 3rd centuries)

There are 109 individual objects. The assemblage is dominated by 60 nails, but also includes items relating to personal adornment and domestic activities. The majority of finds were located in features associated with Enclosure E6, suggesting that this was the focus of occupation. Of these finds, twenty were located in the fills of boundary ditches. Those worthy of note include ten coins dating from the late 3rd to 4th centuries and two brooches, a Langton Down (c35-50/55) from ditch [349] and a Cross Bow brooch (c325-375) from ditch [158] (Fig 16, 1).

Fifty-five finds were recovered from burials, two armlets from SK5 (Fig 16, 5-6), together with a group of 21 hobnails, presumably from shoes interred with the body, and a finger ring was recovered from SK14 (Fig 16, 2). Nails for use with wood were also recovered from burials SK1 (3 nails), SK2 (2 nails), SK5 (12 nails), SK12 (2 nails), SK15 (7 nails) and SK21 (7 nails) that may relate to caskets or coffins.

There are small concentrations of domestic finds, but none denote specific areas of activity. They include, a ceramic spindle whorl, a cosmetic mortar (Fig 16, 8), a quern stone from stone surface (427), a copper alloy needle and a 'rubbing' stone from ditch [444].

Later Roman (4th century)

There are sixty individual finds, the majority of which were recovered from boundary ditches associated with Enclosures 7-10, 12 and 13. The finds are dominated by 31 nails, other finds include a small group of structural fittings and tools relating to farming, metal-working and woodworking.

There are two deposits which are of interest. A pit at the centre of Enclosure E9, pit [466], which produced a group of fifteen artefacts, including thirteen iron objects, a quern stone and a 4th century coin. The iron objects include a decorative tripod candlestick (Fig 17, 10), two drop hinges (Fig 17, 11), a key (Fig 17, 9) and metal working punch, three nails and five scrap fragments. All the objects represented are damaged or incomplete and the fill of the pit contained fragments of charcoal and a burnt slag like material, suggesting that the material had been discarded and burnt prior to deposition.

Of particular interest is the presence of a small group of wood working tools recovered from boundary ditch [73], they include an adze hammer (Fig 18, 13) and two cross-penne hammers (Fig 18, 14-15).

The Roman finds

Personal possessions

This category comprises small portable items which would have been worn as jewellery, formed part of a person's clothing or would have been held by an individual for personal use such as toilet equipment. Items recovered include eight brooches, two finger rings, one pin, a strap distributor and a cosmetic mortar.

Brooches identified by Don Mackreth, written by Tora Hylton

In total there are eight brooches dating from the late 1st to the 4th century. Three are from stratified contexts. Two were located in boundary ditches associated with Enclosure E6, a Langton Down brooch (c35-50/55) from ditch [349] and a Crossbow brooch (c325-375) from ditch [158] (Fig 16, 1). Finally an Alesia Derivative (Bagendon Type) dating to c30-45/50 was recovered from Enclosure E7, ditch [122]. Five brooches are from subsoil and medieval furrows, they include a Hod Hill Type (c43-65/70) and four Colchester Types which range in date c20-65.

Finger rings

There are two finger rings, one copper alloy finger ring was recovered from the third finger of the left hand of SK14 and part of a silver finger ring was recovered from a medieval furrow.

The copper alloy ring is badly decayed, it is in three pieces and comprises a flat-sectioned hoop, the terminals have been beaten flat and soldered together to form a lap joint beneath the bezel. The bezel is square (8mm by 8mm) with bevelled edges and although plain, the upper surface appears to retain patches of a white metal coating (Fig 16, 2). Examples of finger rings with lap-joints at the bezel, include one from a grave at Butt Road, Colchester, dating to c320-450 (Crummy 1983, fig 50, 1765) and Bancroft Villa, Milton Keynes (Zeevat 1987, fig 42, 36).

The silver finger ring is incomplete, but stylistically it displays similarities to a Vindolanda Type IX ring (Green 2006, fig 3.4). It comprises a flat-sectioned rectangular bezel flanked by vestiges of the hoop; the bezel is ornamented with a plain rectangular panel defined by four grooves with a notched ornament (Fig 16, 3). It is rather like a finger ring from Vindolanda (*ibid*, fig 3.3) which was recovered from an early 3rd-4th century deposit.

Bracelets

There are three armlets, two manufactured from copper alloy and one from shale. The copper alloy armlets were found together, close to the right wrist of SK5 and both are examples of multi-stranded cable bracelets. The bracelets have been manufactured from three circular-sectioned strands of wire twisted together in an anti-clockwise direction (Fig 16, 5-6); one example has a hooked fastening. Three-stranded bracelets are not uncommon, similar examples have been recovered from 4th century burials at Lankhills (Clarke 1979, 302ff) and Colchester (Crummy 1983, fig 41, 1628).

Part of a plain shale armlet measuring just 26mm by 6mm was recovered from boundary ditch [605], together with two 3rd-4th century coins. The fragment has a D-shaped cross-section and the curvature of the piece suggests that originally it would have measured c60mm in diameter. It is difficult to determine if the armlet was hand made or turned on a lathe, but it has been carefully finished. Armlets of this type may date to the Iron Age or Roman period. Stylistically it resembles plain examples recovered from Danebury which have been manufactured from Kimmeridge shale (Cunliffe 1984, fig 7.41, 41-4.3).

Pin

A single copper alloy pin was recovered from a 3rd to 4th century pit [150] together with a late 3rd century barbarous radiate and a quern fragment. The pin is complete (55mm long) and has a plain faceted head like and an example from Colchester (Fig 16, 4; Crummy 1983, fig 29, 487). Stylistically pins of this form resemble Cools Type 15 (1990, fig 9, 13), and in tandem with this example, they are often found in late 3rd-4th century deposits.

Toiletry implements

A cast bronze mortar was recovered from a stone surface (427), together with a small group of domestic artefacts, including, a spindle whorl, a quern fragment, and a small piece of marble veneer. The mortar comprises a crescent-shaped bow with a V-shaped grooved channel and circular end-loop (Fig 16, 8). The mortar would have been used for grinding up mineral based cosmetics. Cosmetic mortars are known to have been in use from the late Iron Age to the 1st and early 2nd centuries and evidence seems to suggest that they were only used in England, particularly in the south-east of the country (Jackson 1985).

Equipment and furnishings

Fittings

There are very few objects which reflect the nature of structures that would have been in existence during the life time of the settlement. There are many small undiagnostic pieces which may represent fragments of architectural ironwork, the only identifiable objects are parts of two drop hinges and a hinge pivot; both types of object would have been used together to support doors, shutters or gates.

Drop hinges would have been fixed to the external face of a door. Two examples were recovered from pit [466]. One is very large and comprises a forged rectangular-sectioned, perforated bar (350mm by 53mm by 5mm) with a rounded terminal also perforated. Similar drop hinges were recovered from a 4th century deposit at Stantonbury, Milton Keynes (Zeepvat 1987, fig 56, 316, 317). The second example is more ornate and only the decorative end of the drop hinge survives. It comprises a perforated parallel-sided strap terminating in two opposing crescentic arms and a centrally placed, perforated terminal knob (Fig 17, 11; Manning 1985, plate 58, 8).

An L-shaped hinge pivot was recovered from boundary ditch [516]. It comprises a 'horizontal' tapered rectangular sectioned shank (120mm long) which would have been driven into the wood, leaving the 'vertical' circular sectioned pivot/guide arm (53mm long) free to pass through a U-shaped hanging eye, and therefore permitting the drop hinge to pivot. This example is paralleled by examples from Gadebridge Park Roman Villa (Manning 1974, fig 75, Nos 525-8).

Miscellaneous fittings

A circular plain domed mount with terminal lobes (36mm by 17mm) was recovered from boundary ditch [73], together with a group of wood working tools and a cast strap-distributor from 20th century plough soil. It comprises a centrally placed perforated disc with four equidistant rectangular loops (Fig 16, 7).

Nails

A total of 120 nails were recorded, they include 23 hobnails presumably from footwear. Six nails come deposits predating Enclosure E6, 60 were associated with Enclosure E6 deposits and 31 were found amongst later deposits. Thirty-eight nails were recovered from boundary ditches, 28 were recovered from pits and 52 from burials including most of the hobnails. The remainder were recovered from sundry features. With the exception of two small groups of nails or nail fragments from the grave of SK5 (12 nails) and pit [150] (22 nails), most examples were recovered as individual finds.

Where possible the nails have been classified according to Mannings Typology (1985, fig 32). The majority are represented by Type 1b which have a flat sub-circular head; complete examples range in recorded length from 30-110mm but the majority are 50-64mm. The nails were presumably used for furniture or light structural fixings but the generally short length would preclude their use for fixing major timbers, which would probably have been held, by means of pegging and carpentry joints. Of the 52 nails recovered from burials six were unidentifiable fragments. Thirteen were Type 1b, measuring from c40-66mm in length, these would presumably have been used in the manufacture of caskets or coffins. It was noticeable that two nails from the grave of SK5 had particularly large heads (21mm by 18mm). Other forms of nail within the overall assemblage include; Type 2 with a triangular head (1 example), Type 3 with a T-shaped head measuring from 58-60mm (2 examples) and Type 5 with no distinct head and measuring from 45-65mm (5 examples). All these types would have had numerous applications for use with wood. The final type represented is Type 8, a dome headed nail (hobnail) for use with shoes (23 examples).

Architectural stonework

A small fragment (80mm by 60mm by 30mm) of polished sedimentary limestone was recovered from pit [150]. This greyish brown fossiliferous limestone, commonly known as 'forest' marble, originates from Alwalton near Peterborough. It is known to have been exploited in the 3rd and 4th centuries by the Romans and examples of mouldings and veneers have been recorded both locally at the villas at Borough Hill and Chasteron (Pritchard 1986, 187) and at Roman sites in London. In addition a very small abraded fragment (22mm by 22mm by 2mm) of veneer in a buff coloured marble was recovered from the hard standing overlying surface (427).

Household equipment

There is a small collection of artefacts that would have been for domestic or household use. They include an iron candlestick, three fragments of vessel glass, a key, three knives and ten quern fragments.

The candlestick was recovered from pit [466]. It is of tripod form and, although it has two legs missing, enough survives to indicate that the single tapered socket would have been supported by three, twisted square-sectioned legs, which terminate in flattened out-turned feet (Fig 17, 10). Unlike other excavated examples from Lydney Park, Gloucestershire (Wheeler and Wheeler 1932, fig 23, 191), Verulamium, St Albans (Manning 1972, fig 65, 51) and Fishbourne (Cunliffe 1971, fig 60, 51), which are relatively plain and appear to have been manufactured in one piece, this particular example is composite, comprising four individual sections. The sections comprise: the legs, a circular 'dished' plate, tapered socket and dome-headed rivet for joining the sections together. This candlestick is distinctive, unlike the plain examples it is decorated and the 'dished' plate at the junction of the legs and socket, perhaps for the collection of wax is unusual. Prior to assembling, the base of the socket was cut longitudinally, into four equal strips (c50mm long), these were then forged back on themselves forming decorative 'tendrils'. The tripod legs are connected by an integral, perforated triangular-plate, the 'dished' plate and socket were then fixed together, by means of a large dome-headed rivet, which passed through the two former and into the base of the latter. No other comparable examples have been located.

Glass

Three fragments of glass were recovered, 2 small undiagnostic body sherds or flakes in bluish-green glass (25mm by 10mm) and colourless glass (15mm by 11mm) were recovered from ditches [433] and [444]. A base sherd in greenish, colourless glass was recovered from boundary ditch [492]. The latter appears to be part of a cylindrical flask or bottle measuring c80mm in diameter and decorated with horizontal bands of close set, barely detectable, shallow abraded lines. This form of ornamentation was used on a wide variety of vessels in the 4th century and generally dates to the late 3rd and early 4th century (*cf* Price and Cottam 1998, 34).

Security equipment

A single L-shaped lift key for use with a tumbler lock was recovered from pit [466]. The key comprises a square-sectioned shank with looped terminal (rolled bow), the shank tapers slightly to form a three toothed bit. Although this key type is relatively common, this particular example differs slightly in that it is furnished with an additional U-shaped loop at the base of the stem, adjacent to the bit (Fig 17, 9). No other parallels with this additional loop have been located, the nearest example is a slide key with U-shaped bit recovered from Gadebridge Park (Manning 1974, fig 71, 386-387).

Knives

Two incomplete knives were identified, where possible they have been classified according to Mannings types (1985, 109, fig 28). The earliest example was recovered from boundary ditch [285]. It represents a tanged knife and although incomplete, it is possible to determine that the tang is in line with the back of the blade which stylistically equates to a Manning Type 11a. The other knife was located in a soil spread surrounding pond [75]. One of the knives represents a relatively common Roman form, it has a circular-sectioned tang which is set in the middle of the blade with stepped shoulder, the back of the blade rises slightly then curves down to the tip (now missing). The cutting edge is straight but with a slight concavity probably created by repeated sharpening. Typologically it displays similarities to Mannings Type 14, a common form, for general purpose use.

Querns and millstones by Andy Chapman

Thirteen stones certainly or probably from querns and millstones of Iron Age and Roman date were recovered, although all except two were small fragments containing little diagnostic information. A catalogue of the querns and millstones is included in the archive.

Iron Age querns

There are two stones of Iron Age date, both from pit [329], cut into the entrance terminal of Iron Age Enclosure E2 (Fig 5). About half of a rounded boulder (SF 135), probably a glacial erratic, has a worn surface and is probably part of a saddle quern or a large sharpening stone. The rounded surface of the boulder has a red crust from burning while the grinding surface is unburnt, suggesting that burning and rapid cooling were the probable means of splitting the boulder.

The second stone comprises just under half of a beehive quern (SF133), standing 200mm high and 310mm in diameter, with a deeply concave grinding surface (Fig 17, 12). It has a rounded top with a broad, deep, hopper and a handle socket that penetrates through to the base of the hopper, in the typical Hunsbury style (Watts 2002). As with many beehive querns, it is shaped and worn asymmetrically. The outer surface is quite roughly finished, and is uneven with a few shallow dimpled tool marks surviving. There are also dimpled tool marks on the surface of the hopper. The stone is fine-grained creamy-grey sandstone with small black grains, probably Spilsby Sandstone from Lincolnshire. Examples of beehive querns in this stone-type have been found as far south as Hunsbury, Northampton (Ingle 1993-4, 29-30). Two large irregular fragments of stone from the same deposit and in the same geology are probably from the accompanying lower stone. These are partly blackened from burning, suggesting that the lower stone was broken by heating and rapid cooling. One piece retains part of a central spindle hole that is 15-20mm in diameter and was drilled through the entire 80mm thickness of the stone.

Roman querns and millstones

There are ten fragments that come from querns or millstones of Roman date, all in the simple flat rotary quern style, with the upper surfaces closely parallel with the grinding surfaces, which are only very slightly concave or convex. There are two fragments that include part of the circumference of upper stones and two fragments from the circumference of lower stones, with estimated diameters between 500mm and 600mm. The upper stones are 32-35mm thick while the lower stones are 30-37mm thick (SF178 and 208; SF33 and a stone from quarry pit [150]). A couple of fragments are also present (SF160 and a stone from quarry pit [150]). The measurements of these stones indicate that they came from hand querns. The edges of the querns are all simply finished, with slightly rounded corners on both surfaces of the lower stones and the upper surface of the upper stones, with an abrupt angle only on the grinding surfaces of the upper stones. No central eyes, or spindle and handle sockets survive. The geology of the smaller stones is variable. There is a single piece probably in Spilsby Sandstone from Lincolnshire, while the others are all in various coarse sandstones. Two of these are probably Millstone Grit, perhaps from Derbyshire, while another is a particularly fine-grained Millstone Grit. The remaining two are in off-white coloured sandstone that may have been from a different source.

There is a single large fragment in Millstone Grit that comes from the outer circumference of an upper stone (SF97). This is 70mm thick and 800-900mm in diameter, and is probably from an animal powered mechanism. The upper surface has remnants of dimpled tooling while small patches of wear on the grinding surface suggest either that the stone had been abandoned when almost unused or that the surface has suffered later damage. There are also irregular fragments in Millstone Grit, 40-50mm thick, which are probably also from millstones (SF121 and 177).

Tools

There is a small collection of tools for specific processes that include wood working, metal-working, textile working and animal husbandry.

Wood working and metal working tools by Ian Meadows

A complete adze hammer of well-known type (Piggott 1953, E15) was recovered along with two objects that are traditionally identified as cross-pene hammers (Fig 18, 14-15). Published examples of cross-pene hammer type objects occur from Eckford, Scotland (Piggott 1953, E13 & E14), Great Chesterford (Neville 1854, plate 1 3-6) and Silchester (Evans 1890, fig 8). These published pieces, however, appear to differ from the Yaxley examples in one key aspect, the size of the haft hole, the examples from Eckford had holes 24mm and 19mm which is nearly twice that of those from Yaxley. The smallness of the haft hole is particularly surprising when considered in relation to the weight of the head (1.65kg and 1.176kg), this smallness would preclude their use with any great force. A further difference is that both the Yaxley examples have tapered holes. For comparison a modern wooden hafted claw hammer (in the authors tool box) weighing only 0.45kg had a haft 28mm by 17mm.

The small size of any hafting would seem to preclude the use of these objects as hammers but an alternative function is difficult to suggest. The burring of the square head of these pieces would perhaps indicate either the piece striking something or something being struck on that end. Initially it was considered that they might have functioned as log splitting wedges, a later thought was they might be a variant of the field anvil/earth anvil employed to give an edge to scythes. This latter suggestion would explain both the burred head and the large expansion around the socket to prevent it being driven in too far similarly the hole could have been to assist in the removal of the piece after use. There are no published examples that share these features.

There is a complete punch recovered from pit [466]. The punch measure 115mm in length and has a square-sectioned shank, which tapers to a circular-sectioned point. The head of the punch is burred through use and would have been used to pierce hot metal.

Textile working tools

There are two objects that relate to the hand activities of spinning and sewing, a ceramic spindle whorl and a copper alloy needle. The spindle whorl was located in a soil spread overlying surface (427), it has been made from the base sherd of a colour coat jar manufactured in the Lower Nene Valley ware; it measures 46mm in diameter and weighs 31.7g.

The needle was recovered from ditch [444], although incomplete, it measures 95mm in length and still retains a vestige of the eye with an elongated groove below, like an example from Colchester (Crummy 1983, fig 70, 1991).

Animal Husbandry tools

A complete ox goad was recovered from boundary ditch [516], perhaps suggesting the purpose of Enclosure E8. The goad is a coiled-socketed type, with two turns and one terminal ending in a spike, set at right-angles to the socket, it is 30mm long. Such objects are common on sites of Roman date; they would have been pushed over the end of a stick with the point protruding and used to control animals. Similar examples have been recovered from Stonea, Cambridgeshire (Jackson 1996, fig 117, 6) and Folly Lane, St Albans (Adamson 1999, fig 69, 40-41).

Miscellaneous tools

Part of a fine-grained mica-rich rubbing-stone was recovered from ditch [444]. The stone is 'tongue-shaped' (65mm by 34mm by 14mm) with a rectangular cross-section, the faces are flat and smooth and there are signs of excessive polishing, which is present on both long sides. Such items may have had any number of uses.

Weights

Three unstratified lead weights were recovered by metal detector from the subsoil. There are two steelyard weights, one is biconical (365.5gm) and the other is sub-spherical (75.4gm), both retain all or part of their iron suspension loops. Although not an exact unit of weight, it is possible that it was intended that the former should represent one libra (c327.45g) and the latter one quadrans (3oz). In addition there is a small conical weight with a central perforation (5.3gm).

Coins by Ian Meadows

There are 92 coins, eight are unstratified, one was recovered from the topsoil, 41 were recovered from the subsoil and nine were from medieval furrows. The remaining 33 coins were recovered from 22 stratified deposits, of which, 20 were recovered from the fills of boundary ditches, four from minor gullies, three from pits and six from a soil spread surrounding pond [75]. There are a small number of 1st-2nd century coins, all recovered from subsoil and furrow deposits. The majority of the assemblage dates to the 3rd-4th centuries. A catalogue of all the coins is listed in Appendix 2, Table 3. All of the coins were identified by type. In most cases the flans cannot yield much more information than that recorded in the present catalogue. Cross referencing the coins to published types is compounded by their poor condition making it awkward and would not yield extra information for the site.

6.10 Saxon pottery by Paul Blinkhorn

A single bodysherd of early to middle Saxon hand-built pottery occurred in the top fill of pit [150]. It weighs 14g, and the fabric is densely tempered with sub-angular quartz up to 0.5mm. The outer surface is somewhat unusual for pottery of this type, it is entirely unfinished and rough to the touch. It cannot be dated, other than to within the broad early middle Saxon period, cAD450 - 850.

6.11 Medieval and post-medieval finds by Tora Hylton

There are a small number of artefacts which date to the medieval and post-medieval periods, with the exception of one intrusive farthing and a knife in the spread around pond [75] the others were recovered from the subsoil. Objects of medieval date include a mount, possibly for use on an archers wrist guard (Egan and Pritchard 1991, fig 147, 1252), a circular horse harness pendant (Griffiths 1996, fig 5), feet or legs from three individual cast copper alloy vessels and a cast buckle pin.

The knife is part of a tanged knife, but unusually this example has a thickening at the junction of the blade and tang (bolster), decorated with a non-ferrous linear motif. Stylistically this knife is probably late medieval or post-medieval.

Other post-medieval finds are represented by an 18th century shoe buckle, an 18th-19th century farthing, and a sandstone whetstone, for sharpening tools.

7 THE HUMAN SKELETAL REMAINS by Katie Tucker

The remains of 25 skeletons from a small cemetery associated with Romano-British settlement were analysed. The bone was generally moderately preserved with some taphonomic damage to bone surfaces and some loss of elements and fragmentation from later ploughing of the site. There was also modern excavation damage of some elements due to their shallow depth of burial and further loss of bone surfaces due to weathering

and impregnation with clay which has removed evidence for pathological periosteal new bone on some elements. The collection of the small bones, particularly of the hands and feet, was poor in some cases, with many carpals, hand and foot phalanges and loose teeth missing because of plough damage.

Eighteen burials were aligned north to south within the western limit of Enclosure E6, while a further five were buried in a small cluster just outside the enclosure (Fig 6). Two burials were isolated from the main cemetery. SK14 lay to the south of the Enclosure E6, close to pond [75]. A further skeleton was recovered during the evaluation which determined that the remains represented an young adult ?female aged 15-20 (Hepburn 2005). Due to the fragmentary nature of the surviving skeletal material, only the most basic analysis was possible and its assessment considered it unlikely to yield further metric and non-metric data of value.

Methodology and results

The full dialogue of the skeletal report is included in Appendix 3 and is presented along with the summarised data for each skeleton.

Summary

The burials do not seem unusual for the Romano-British period, with low numbers of sub-adult burials and a slight imbalance between the genders. The lack of very young individuals in cemeteries is often due to truncation and disturbance of smaller burials and a lower likelihood of recovery during excavation (Chamberlain 2000, 105). Very young individuals were not accorded burial in the same space as older individuals and there are a number of sites from the Roman period where the skeletons of neonates and infants have been found in domestic settings (Cox 1997; Mays and Strongman 1995; Watts 1991; Werner 1998, 39). A slight gender ratio bias towards males seems to be common in rural Romano-British cemeteries, although in the present sample this is higher than expected.

The statures are as expected for the period. A number of non-metric traits were recorded in the assemblage. These are thought to have a degree of inheritance and can be used to infer kindred links between individuals, or family groups within cemeteries. The majority of the traits recorded are very commonly found in British cemeteries from all periods and do not imply particular genetic closeness between individuals. There was some evidence to suggest possible differences between the internal and external burial groups in terms of stature and dental health.

Levels of dental hygiene are poor, similar to that seen in contemporary populations. It is not surprising given the lack of dental care compared to modern cultures. The level of wear and tear on joints was similar. Evidence for strenuous activity among the remains is implied by the presence of activity related changes to the skeleton. Cortical defects, which occur at sites of muscle attachment were noted amongst the majority of male individuals. The number of fractures was within the range seen in other cemeteries of the period. They were predominantly fractures of the ribs and hands that had healed over time. Whilst often interpreted as signs of violence, they would be more likely to occur amongst a population whose daily physical tasks incurred a higher level of risk, than for other groups of people. Agricultural work would fall into this category.

There seem to have been slightly increased levels of stress during childhood. The duration of the stress was mainly associated with weaning and the extension into adolescence would infer an imbalanced diet. By comparison there was a low level of infection to disease, common where regular outdoor activities grant exposure to small numbers of microbes that can boost the immune system. There was evidence for a number of conditions, such as neoplastic disease, gout and DISH that have previously

been recorded in individuals from the period. These are largely complaints associated with the levels of nutrition, none of which appeared representative of the population as a whole. The burial of SK14 in a context isolated from the main cemetery is likely to have been the result of an unusual death associated with meningitis.

There was contextual evidence for one example of decapitation from SK7a, although no osteological evidence survived to suggest whether this was the cause of death. That it is the sole example suggests that the decapitation was not necessarily part of the burial practise.

As a whole the cemetery appeared to represent a community whose lives were used to a certain level of manual labour. They enjoyed a level of subsistence comfortable enough that the women did not need to engage in the same heavy duty tasks as the men. Their diet may have been lacking certain elements, but does not appear to have been poor. The imbalance of gender, relative maturity and overall non-metric traits leave an impression that the community may have included some relatives, but that the main focus of their living together was not based upon the family unit.

8 THE FAUNAL REMAINS by Dr Philip Armitage

Numbers of bone elements or fragments (NISP) and species represented

A total of 2249 animal bone elements and fragments were analysed, which included 1961 specimens that had been hand-collected during the excavation and 288 others recovered from the sieved bulk environmental samples. Employing standard zooarchaeological methodological procedures, 1124 specimens (49.98% of the total) were identified to taxa and parts of anatomy, representing eight mammalian species, three bird species and a single amphibian. No fish bones were recovered.

Summary counts of the Yaxley animal bones from each species and site period are presented in Table 3.

For the purpose of analysis and reporting the bone assemblages from the various contexts and features were grouped according to the following site periods:

Iron Age

Early Roman (late 1st to mid-2nd centuries)

Roman (mid-2nd to 3rd centuries)

Later Roman (4th century)

Deposition and preservation of the bones

The greatest proportion of the animal bone collected was recognisable as discarded waste from the on-site slaughter, primary butchering and consumption of the major domestic meat-yielding species (cattle, sheep and pigs). Evidence of pooled body part distributions of these animals from the various contexts and features was representative in each period (Appendix 4, Tables 1-3). Although certain contexts exhibited higher concentrations of food bones than others, there was no discernable pattern found in the distributions of slaughter and primary butchering waste or that of kitchen and table waste. All of this was intermixed and dispersed throughout the site.

With the exception of two discrete assemblages of articulating remains forming partial skeletons of horses, all of the equid bones and teeth were dispersed throughout the site in the ditches, gullies and pits, intermixed with the food waste (Appendix 4, Table 4). Unlike the bones of the other major species the horse bones were mostly complete and showed no evidence of butchery. It seems probable that horse meat did not feature in

the diet of the inhabitants. The bones of dogs were also scattered throughout the site, with no noticeable concentrations except for the articulating group of bones representing a dog cast into ditch [28] (Fig 8).

Apart from a relatively higher incidence of scrappy, eroded, abraded and probably reworked or redeposited bone fragments in postholes, the overall condition and preservation of the bones from the ditches, gullies and pit fills across the site is fair to good with only moderate levels of weathering and erosion (1.6% of the total NISP), dog gnawing (1.8%) or burning (1.1%). In respect of the various features on the site yielding animal remains, it would be expected that preservation would be poorest in ditches where deposited bones were more likely to be exposed to post-depositional reworking and redeposition, whilst bones in pit fills would have experienced more favourable conditions for preservation. This differential preservation would be evidenced in the intra-site incidence of loose teeth. At Yaxley the higher frequencies of loose cattle teeth in the mid-2nd to 3rd-century ditches (27%) compared with those from the pits (6.7%) seems to confirm the differential preservation pattern. However, the reverse situation was documented for 4th century contexts, where loose cattle teeth comprised 8.7% of the total cattle NISP from ditches and 17.4% from pits. Other factors must therefore have operated in determining the different levels of preservation and are consistent with the deliberate rapid backfilling of the ditches in the mid- 4th century.

Description of the species represented

Mammals

Horses

Small, pony-sized animals with withers heights *c*12 hands were represented among the Iron Age and late 1st to mid-2nd century assemblages. They are also present in the faunal remains throughout the Roman period. By the 4th century there was also evidence for the presence at the site of slightly taller horses, with estimated withers heights up to 1.359m (Appendix 4, Table 5).

Estimated ages at the time of death included juveniles as well as animals of considerable age (20 yrs +), with a median age around 10 to 12 years (Appendix 4, Table 6). The presence of very young animals suggests horse breeding took place at the site from as early as the 1st century AD and continued during the early Roman period.

A pathological condition was evident in the last three thoracic vertebrae (T16, T17 and T18) of an adult horse, recovered from ditch [632] (Fig 8). In these specimens there is extensive ventral and bilateral bridging bone formation across the intervertebral disks, with complete ankylosis (fusion) of the centra (bodies) of all three vertebrae, forming one solid unit. There appears to be no anatomical evidence however indicating the last thoracic vertebra had been joined or fused to the first lumbar vertebra or that T16 had been fused to T15. Studies on modern equids carried out by Stecher and Goss (1961) revealed these types of ankylosing lesions occur only in the domestic horse, and are confined to the posterior thoracic vertebrae, lumbar vertebrae, or caudal portions of the spine. Smythe (1962) further observed that the condition frequently afflicted race horses, but was also to be seen in heavy draft horses. It may be suggested that this horse had been a heavily worked pack or draught animal or had been frequently ridden from an early age.

Mention should also be made of the articulating remains of two horses discovered at the site:

Pit [442] contained a partial post-cranial adult skeleton, comprising bones of the upper fore and hind legs, and sacro-lumbar portion of the spine (Fig 5).

Ditch [632] contained parts of an adult skeleton, comprising a jawbone and upper cheek, teeth, bones of upper hind legs, thoracic and lumbar vertebrae, and ribs (Fig 8).

Cattle

Part of the skull with attached horn core from Roundhouse R1 was identified as an example of the small, short horned type of cattle, the so-called “Celtic ox”, common to Iron Age sites (Fig 3; Armitage and Clutton-Brock 1976, 331 and 336). This cattle type was also represented among the remains from the 4th century in ditch [639] and yielded a horn core of an old adult short-horned bull (Fig 8). However, by this period there was also evidence among the cranial material of larger sized, medium-horned cattle exemplified by a partially intact upper portion of a skull with right and left horn cores attached. This was identified as a young adult medium-horned ox (castrate), which was recovered from ditch [632] (Fig 8).

The increase in the average size of the cattle by the later Roman period was also evidenced by the post-cranial bone elements, including the astragali:

Greatest length (GLI) in cattle astragali

Iron Age	56.1mm
Roman, mid-2nd to 3rd centuries	70.3 and 75.1mm
Later Roman, 4th century	64.5mm

Comparison of the smallest specimen with modern cattle indicates the Iron Age animal represented was slightly smaller than a Dexter steer documented by Noddle (1989), whose astragalus had a GLI of 59mm. The Iron Age beast would therefore have been of diminutive stature, probably with a withers height less than 1 metre. The Roman and later Roman cattle represented by the larger astragali however compare in size with the modern Chillingham cattle which have an astragali GLI range of 60-74 mm and are documented by Jewell (1963).

From length measurements taken on complete adult metapodials (Appendix 4, Table 7), the overall mean withers height in the combined Roman cattle was estimated at 121.8cm. In addition to the metapodials, there was an especially large robust radius recovered from the bottom fill of quarry pit [150], belonging to an animal with an estimated withers height of 1.359m (Fig 8). Whilst this large beast fails to match the stature of the massive ox recorded at Vindolanda it does correspond to the largest cattle at the Roman Villa in Gadbridge Park, Hemel Hempstead and those at the late 3rd to 4th century site at Great Holts Farm, Boreham, Essex (Hodgson 1977, 19 and 20; Harcourt 1974a; Albarella 2003). The presence of such large cattle in the later Roman period has led to much debate as to whether these animals were upgraded local native Iron Age cattle or imports of improved breeding stock. According to Professor Jewell (1963) “the large strains of cattle were encouraged into ascendancy by the Roman organisation of agriculture”, a view also held by Harcourt (1974a, 261) and Armitage (1982, 50). However, the study from Great Holts Farm concluded these represented imported rather than improved native stock which had not yet been “interbred with local populations” (Albarella 2003, 196).

Special mention should be made of the left horn core of a young adult medium-horned ox (castrate) from ditch [613] (Fig 8). In this specimen a shallow groove has been cut around the circumference above the base, presumably resulting from cutting up of the horn sheath whilst still on the core. This particular specimen was the sole evidence of horn-working activity at the site.

Sheep

For the later Roman period it was possible to estimate stature in the sheep from measurements taken on their metapodial bones indicating overall withers heights ranging from 593 to 615mm, with a mean of 605mm. These data indicate the sheep were comparable in stature and build to the modern unimproved Soay breed. Although the absence of intact long bones from the earlier periods precluded similar calculations of withers heights, the earlier sheep also appeared to have been of small size, and unlike the cattle, they showed no evidence for a size increase from the late Iron Age to later Roman times.

Supporting evidence for the Soay-like size and appearance of the sheep was provided by a horn core of an adult female, recovered from Roundhouse R3 (Fig 3). Horned sheep were also represented in the late 1st to mid-2nd centuries by a piece of skull with the basal portion of the right horn core, recovered from the backfill of kiln [506] (Fig 5). No polled sheep were identified in the collection.

Pigs

In the absence of any complete adult long bones it was not possible to determine stature in the pigs represented but it seemed from their general size that all the pig bone elements from the site derived from domestic rather than wild animals. Using the morphological criteria of Mayer and Brisbin (1988), five pig canine teeth (tusks) were identified as two males from Iron Age deposits, a single male in the late 1st to mid-2nd centuries, and another in the mid-2nd to 3rd centuries. The only female pig identified by this means came from the 4th century.

Dogs

The shoulder height of the dog cast into ditch [28] was estimated from the length of its femur (Fig 8; Harcourt 1974b, 154). The calculated value of 543mm falls into the upper size-range of 230-720mm for Romano-British dogs documented by Harcourt (*Ibid*, 166).

Cat

An immature humerus with the proximal epiphysis unfused was recovered from ditch [60] (Fig 3). Compared with a modern specimen from a young domestic cat it was not possible to determine whether this humerus represented a domestic or a wild cat. Until relatively recently it had been the Romans who were attributed with first introducing the domestic cat into Britain but increasingly more evidence for the presence of cat skeletal remains are coming from Iron Age settlement sites, questioning this assumption. Among the earliest published accounts are those from the Iron Age settlement at Gussage All Saints in Dorset that included bones from “not less than five new-born kittens” in a single feature, which evidence led him to conclude the cats at the site had been domestic (Harcourt 1979, 154). Other unpublished remains of Iron Age cats, all from Cambridgeshire sites, have been identified at Trumpington (including a partial skeleton), Hinchingsbrooke, and St. Neots (Baxter, pers comm, 2007).

Red deer

A small piece from the tip of a red deer antler tine was recovered from quarry pit [150], part of the upper slump deposits. This specimen could have been a naturally shed antler collected for the purposes of bone-working and may be post-Roman in origin.

House mouse

This species is represented by two specimens, both from sieved samples; One mandible from ditch [310] (Fig 3) and one femur from ditch [516] (Fig 8).

Table 3: Summary count of animal bone identified by species and period

	Iron Age		Late Iron Age to Roman		Early Roman		Roman		Later Roman		Totals
	period BC		early to mid-1st century AD		late 1st to mid-2nd centuries		mid-2nd to 3rd centuries		4th century		
	H	S	H	S	H	S	H	S	H	S	
MAMMALS											
horse	3		18		7		31		73	1	133
cattle	52	1	67	1	28		154		419	2	724
sheep	19	3	35	7	4	2	26	1	71	13	181
pig	15	2	1		3		3		11		35
dog	2		3		3		26		4		38
cat	1										1
red deer									1		1
house mouse				1						1	2
cattle sized frags	49		52		8		117		261		487
sheep/pig sized frags	22		21		8		13		21	6	91
scrappy mammal bone frags	79	44	37	42		45	49	26	141	83	546
BIRDS											
domestic fowl									2		2
mallard/domestic duck									1		1
swallow								5			5
indet.bird bone		1									1
AMPHIBIAN											
common frog								1			1
Totals	242	51	234	51	61	47	419	33	1005	106	2249

Key: H = hand collected; S = sieved samples

Birds

Domestic fowl

There was a surprising paucity of domestic fowl bones, with only two specimens recovered, both from 4th-century contexts.

Mallard/domestic duck

Ditch [122] yielded the only evidence of duck at the site (Fig 8). It was not possible to ascertain whether this specimen was from a domestic duck or wild mallard. In general the domestic duck would be larger than its wild ancestor, but this distinction is not clear cut with the early domesticates. Given the absence of any other remains of wildfowl, it is more likely to be a domestic duck kept at the site.

Swallow

Gully [480], possibly a brush drain, yielded five skeletal elements, identified as the remains of an adult swallow *Hirundo rustica* (Fig 6). Swallows are summer visitors to Britain and nest near human habitation, usually on ledges in barns, stables and outhouses. It is likely therefore the swallow found in the gully had inhabited a nearby building.

Amphibian

Common frog

In addition to the swallow bones, ditch [480] produced a tibiofibula from a common frog *Rana temporaria*.

Interpretation and discussion

The overall nature of the excavated faunal material, with each assemblage from the different periods predominated by food refuse, provided direct evidence of changes in the diet of the inhabitants as well as indirect insight into their changing livestock husbandry practices.

Changes in livestock husbandry addressing “Romanisation”

The Iron Age to early Roman transition

Analysis of remains spanning this transition period has contributed to our understanding of the extent to which the Roman conquest affected the regional dietary and livestock husbandry practices, an aspect of zooarchaeological application identified as being of high priority among the research topics requiring attention in the south eastern counties (Going and Plouviez 2000, 21).

The transition from a mutton diet to one high in beef and pork is evidence of “Romanisation” of a settlement, whilst a diet dominated by sheep is indicative of a “native” or un-Romanised settlement (King 1978, 216). Evidence for Roman influence at Yaxley is not so deterministic and while there is some evidence of a proportional increase in beef consumption at the farmstead during the late Iron Age into the 1st century AD, the faunal material does not seem to indicate any significant concomitant increase in the quantities of pork eaten, in fact the NISP data suggests the exact opposite situation. Frequencies of the principal livestock species represented are based on NISP data and reveal that cattle were the main providers of meat to the Iron Age settlement, with sheep and pigs virtually equal as secondary contributors (Appendix 4, Table 21). Towards the late 1st century AD there is a very noticeable proportional decline in the

role of pigs, a slight increase in the contribution in the meat supply from cattle, and an even larger increase from sheep.

The sample size for the late 1st to mid-2nd centuries is far too limited to provide any valid reconstruction of either the diet or the form of animal husbandry practiced. The apparent recovery in the status of pigs relative to the other classes of livestock shown in Appendix 4, Table 21, may therefore be entirely spurious.

Social change rather than cultural influences may account for a proportional rise in the importance of cattle. The late Iron Age occupation at the site comprised a small scale farmstead focused towards arable cultivation. Cattle would have been an important component in the local livestock economy, providing traction and manure for the arable enterprise. When no longer fit as draught beasts or as milk producers and breeding stock they would be killed for their meat. An increase in activity on site by the later 1st century AD shows that agricultural activity at the site “gained momentum” and there would have been a requirement for more cattle to be kept at the settlement primarily as draught beasts and as secondary sources of manure and meat.

The Iron Age farmstead, functioning as a self sufficient production centre, would have relied on the sheep to provide wool and milk as well as augmenting the meat from the cattle. With an increase in the human population there would have been additional demand for these products, necessitating an expansion of the flock. Horses would have been usefully employed as pack animals, in transport, and in managing the movement of cattle and sheep between grazing areas.

There is no evidence for the exploitation of wild game or wildfowl. Storage of harvested grain at the farmstead presumably explains the presence of mice and the necessity of keeping a farmyard cat to destroy these unwelcome vermin.

Later Romano-British husbandry practises

In addition to the Iron Age and early Roman faunal material, the recovery of 3rd to 4th century animal remains has contributed to our knowledge concerning changing livestock trends in the south eastern counties through the later Romano-British period.

Elsewhere in the region, in Essex, faunal remains showed an increasing importance of cattle at the expense of sheep probably as a consequence of an intensification of arable farming, which was also accompanied by an increasing demand for larger more robust draught cattle (Luff 1993; Murphy 1997, 42). The high frequency of cattle bones and average size increase in the cattle seem to confirm a similar trend that fits well into the reconstructed history of the site, matching a marked intensification of cereal production and utilization (Appendix 3, Table 21; Appendix 4, Tables 1-3). Some of the cattle stock may also have been kept for household dairying as suggested by their age at death (Appendix 4, Table 8). It is suggested that in addition to worn out plough oxen the cattle assigned to age category A3 included no longer productive milk cows, and calves in age category J probably derived from the milking herd, culled just at or before weaning.

Pigs seem to have declined markedly by the later Romano-British, dropping from the 18.5% Iron Age level to 2.1% in the late 3rd to 4th century, whilst sheep reduced from the Iron Age level of 23.9% down to 16.3%, owing to the increasing preponderance of cattle. Sheep continued to make a contribution to the livestock economy, providing evidence for lamb as well as mutton in the diet and secondary products such as wool and milk. The enclosures were in use well into the late 3rd century and some may have served as temporary stock pens during lambing time. Some support for this suggestion comes from two jawbones, identified as new born lambs, both recovered from ditch

[349] (Fig 6). These two very young animals represent natural casualties during lambing time at the farmstead.

Despite the suggestion of the site's proximity to a villa, none of the later Roman assemblages yielded bones from hunted game species such as deer, hare and wild boar, or from wildfowl. Such remains are generally very much in evidence among the food refuse from such sites. Also, somewhat surprising, is the absence of any evidence of poultry at the site until the 3rd to 4th centuries when domestic fowl and domestic ducks appear to have been kept for the first time in limited numbers.

Summary

Throughout the five hundred years of occupation the succession of inhabitants continued to rely exclusively on the traditional farmyard livestock of cattle, sheep and pigs for their meat requirements. The farmstead was self-sufficient in this regard as there was no indication of pre-butchered joints of meat from these animals imported to the site from elsewhere. The arable and livestock resources were adequate to satisfy all their food requirements and there is no evidence the inhabitants made any effort to exploit the wild resources of the surrounding countryside or the freshwater fish stocks of local rivers. The decline in pigs in the later Roman period may be explained by the intensification of the agricultural production at the settlement, in which pigs were no longer compatible with the expansion in arable and pastoral farming.

Analysis of the faunal samples did not produce any evidence for "Romanisation" in the diet (King 1978, 216). There may have been a certain degree of Roman influence in the livestock breeding carried out by the mid-2nd to 3rd centuries, indicated by the presence of larger, improved draught cattle. At Great Holts Farm, Essex, by the 3rd to 4th centuries the occupants of certain rural settlements in south eastern England had become "informed about agricultural improvements and had the ability to adopt them" (Murphy *et al* 2000, 46). The question remains unresolved however as to whether the larger Roman cattle were upgraded Iron Age stock or the result of imported stock from the continent.

9 THE ENVIRONMENTAL EVIDENCE by Val Fryer

Following the recommendations of Helen Keeley's site visit on the 4th October 2005, samples for the extraction of the plant macrofossil assemblages were taken from datable features across the excavated area of which 38 were submitted for assessment (Keeley 2005).

The samples were bulk floated by Northamptonshire Archaeology, and the flots were collected in a 500 micron mesh sieve. The dried flots were scanned under a binocular microscope at magnifications up to x16, and the plant macrofossils and other remains noted were tabulated following the nomenclature in Stace (1997). All plant remains were charred. Modern contaminants including fibrous roots, seeds and arthropod remains were present throughout, probably a result of the very shallow depth of archaeology and considerable modern vegetative cover both as arable land and most recently as scrubland.

Results

The contents of the sieved samples are presented in Appendix 5, Tables 1-3.

Plant macrofossils

Cereal grains, chaff and seeds of common weeds and wetland plants were recovered at varying densities from all but eleven samples. Preservation was very variable, some grains and seeds were severely puffed and distorted as a result of combustion at very high temperatures, while other specimens were well preserved and easily identifiable.

Cereal grains and chaff were present within many of the assemblages, although rarely at a high density. Oat (*Avena sp.*), barley (*Hordeum sp.*) and wheat (*Triticum sp.*) grains were all present, with wheat the most dominant. The majority of the wheat grains were of an elongated 'drop-form' typical of emmer (*T. dicoccum*) or spelt (*T. spelta*), and glume bases of both types were also noted, with spelt occurring most frequently. A single bread wheat (*T. aestivum/compactum*) rachis node was present within Sample 17, taken from pit [351] in Enclosure E13 (Fig 8).

Of the weed seeds recorded, most were of common segetal species including stinking mayweed (*Anthemis cotula*), indicative of cultivation on the local clay soils, brome (*Bromus sp.*), cornflower (*Centaurea sp.*), small legumes (*Fabaceae*), black bindweed (*Fallopia convolvulus*), grasses (*Poaceae*) and dock (*Rumex sp.*). In contrast, the assemblage from Sample 1 taken from Iron Age pit [16] in the south-west corner of Enclosure E3, was dominated by grassland species including mallow (*Malva sp.*), medick/clover/trefoil (*Medicago/ Trifolium/Lotus sp.*), persicaria (*Persicaria maculosa/lapathifolia*), ribwort plantain (*Plantago lanceolata*) and stitchwort (*Stellaria graminea*). Wetland and aquatic plant macrofossils, including nutlets of sedge (*Carex sp.*), saw-sedge (*Cladium mariscus*) and spike-rush (*Eleocharis sp.*), were infrequent. Duckweed (*Lemna sp.*) seeds were abundant within Sample 8 from pit [329], an early to mid-2nd century pit, and implies that the pit was a semi-permanently water filled feature.

Charcoal fragments were recorded at varying densities from all but five samples. Other plant macrofossils were rare, but included pieces of charred root and stem, together with indeterminate inflorescence fragments and seeds.

Molluscs

Although specific sieving for molluscan remains was not undertaken, shells were present within most assemblages. During the evaluation of the deposits, Helen Keeley noted that shells only occurred within the upper layers of the excavated features and were, therefore, likely to be modern contaminants. This hypothesis was generally supported by the condition of the shells, some of which retained excellent surface coloration and delicate surface structures. However, certain assemblages were unusual enough to merit some limited comment. Mollusc assemblages were generally more abundant within the ditch fills. Most were indicative of dry, open conditions, although some shaded areas may have been present along with damp or wet micro-habitats. Pond [75] and pit [329] contained specimens of two freshwater obligate species *Armiger crista* and *Lymnaea peregra*, evidence of their at least semi-permanent water filled state (Samples 3 and 8).

Other materials

Fragments of black porous and tarry material were noted within a number of samples as the probable residue of the combustion of organic remains, including cereal grains, at very high temperatures. Small pellets of burnt or fired clay were abundant within Sample 24 from the fill of the demolished kiln [506]. Other remains were rare but included bone fragments and small mammalian bones.

Discussion

Sample 1 appeared to be markedly different to other samples as it was a secure Iron Age deposit predominantly composed of grasses and grassland herbs. It would appear most likely that in this instance, the material was indicative of burnt litter or flooring waste, possibly from Roundhouse R4 (Pit [16], Sample 1).

It is possible that processing waste was used as fuel or kindling for the pottery kiln, however it appears to have been well cleaned after its final firing and little evidence for the fuel survived (Kiln [506], Samples 22, 24-26).

The abundance of wheat chaff within Sample 17 indicated that it was derived from a small quantity of charred cereal processing waste, which was deliberately placed within the fill of pit [351], a large pit within Enclosure E13. Pottery dates showed that the pit was not associated with Roundhouse R1 despite its proximity, but may indicate that cereal production and processing were of prime importance in the 4th century. Similar assemblages were recorded from a number of ditches from the surrounding enclosure ditches [24], [73], [122], [613] and [632] (Samples 15, 16, 19, 36 and 39). The quantity of contaminants was generally higher amongst the Samples from the ditches. The density of material present was always extremely low, possibly indicating that the material was derived from scattered, re-deposited or wind-blown detritus.

Many of the assemblages recovered appeared to be derived from charred cereal processing waste, although only one definite primary deposit of material was located in pit [351]. The main period of cereal production and utilisation appears to have been throughout the later Roman periods from the mid-2nd to 4th centuries. Such waste was frequently used for a range of domestic and light industrial uses throughout the Roman period and, as a result, it often became incorporated within a variety of secondary features, either in the form of scattered refuse or wind-blown debris.

The problem of the re-deposition of material from underlying features would appear to be acute on this site, probably as a result of the intense re-digging of features and deposits over four centuries of site use. Such is the case with Sample 40, from Iron Age Roundhouse R3, which lay within the subsequent footprint of a 4th century Roman building. Assemblages from the earlier features and the later features were essentially the same, although the emphasis of the site appeared to have moved away from habitation to a late Roman system of ditched field enclosures.

10 DISCUSSION

10.1 Site chronology

In summary the site chronology highlights five key episodes of settlement spanning a period of 400 to 500 years. Occupation began as early as the 1st century BC with the establishment of a major boundary in association with Iron Age settlement, set amongst smaller enclosures. This crossing point was further defined towards the end of the Iron Age by boundaries that may have included a bank and ditch earthwork whilst habitation of the Iron Age roundhouses was moved away from the entrance. The late 1st to mid-2nd centuries brought a marked change of settlement status during which the principal Iron Age boundaries were deliberately slighted and replaced by an extended infield enclosure pattern. The site exhibited significantly reduced occupation with evidence for a single roundhouse, an isolated burial and a small temporary pottery kiln. This changed again in the mid-2nd century which brought a revival in occupation of the site with enclosure patterns laid out afresh and formalised. A small farming population was resident upon the site which exhibited evidence for a range of buildings, presumably

intended for different uses or reflecting levels of status, and a small cemetery at the edge of settlement. It is likely that this population worked the land located in the vicinity and may form part of a much larger group whose occupation extended further to the north-east. A moderate level of wealth amongst the farming community was exhibited by the presence of at least one small building that had stone cobbled floors, a stone tiled roof and contained fine tableware amongst its demolition deposit. The presence of a piece of Alwalton marble was particularly unusual and may suggest that the settlement benefited from a far wealthier patron than was resident on the site, such as a villa owner. The site took on new characteristics in the 4th century. In this later period the settlement appeared to have been moved elsewhere and had been replaced by field systems supporting a mixed arable and pastoral economy dominated by cattle. No evidence was present for occupation after this and the abandonment of the site in the mid-4th century seems to have followed the rapid infill of later enclosure ditches and reversion to pasture. Evidence for subsequent periods was limited to the alignments and probable headland of the medieval open field system which coincided with the position of the original Iron Age axial land division.

10.2 The settlement and economy

Iron Age (1st century BC to late 1st century AD)

Initial Iron Age features were associated with small scale settlement, the kind that would be expected in an extended family unit. Habitation was established on a raised clay ridge spur overlooking the surrounding fenlands to the south and east. Occupation began on a small scale with roundhouses grouped around the informal crossing point of an axial east-west ditch and bank, recognised as a particular landscape form characteristic of Iron Age sites in East Anglia (Taylor 2007, 65). Ditch boundaries of the kind seen at Yaxley often ran perpendicular to long sinuous trackways laid out along the course of roddons, the local fenland name for a palaeo-channel. These axial boundaries led to the edge of the former wetlands. At Yaxley the topographic height of the surrounding land suggests that the course of the axial ditch, assuming it did not alter, would have met the fen edge c1km to the east where the former course of the River Nene passed south of Farcet village (Hall 1992, fig 56). Settlement along the ridge was presumably a choice based upon the quality and drainage of the land, and the resources available in the vicinity. Yaxley adds to the corpus of 184 recorded sites where roundhouses have been found in East Anglia (Taylor 2007, 32). Of these sites 19 were of Iron Age date, 25 bridged the Iron Age to Roman transitional period, 60 were identified as Roman and the remaining 80 are undated, presumably accounts of variable quality. The roundhouses at Yaxley used typical materials in their construction and occupation exhibiting evidence for daubing, dried grasses and, unusually, lime. During the later part of the Iron Age the main entrance was improved and defined by a substantial ditch of high enough importance to warrant the deposition of artefacts at the terminus marking a closure in domestic activity. Previous enclosures probably remained in use as the development incorporated their layout within a controlled point of access. Domestic activity seems likely to have been moved away from the entrance and therefore the function of the enclosures may have shifted.

Faunal evidence suggests that animals were kept to supply meat, dairy produce and to birth offspring, although the use of wool and hides is also likely. Cattle held a dominant economic role as resource providers and were supplemented by approximately equal proportions of sheep and pigs with no evidence for exploitation of wild game. This probably explains the need to incorporate further enclosures, expanding the land management of grazing areas. There was no firm evidence for cereal cultivation during this period. The only Iron Age context to produce cereal grains included *Triticum spelta* L. glume bases likely to have been introduced by later Roman disturbance (Sample 40).

Sites at Maxey, Werrington and Monument 97 near Orton Longueville exhibited mixed farming economies in the late Iron Age (Pryor *et al* 1985; Mackreth 1988; 1996). At Werrington, Monument 97 and Orton Hall Farm their presence increased towards the end of the 1st century AD at the expense of domestic occupation (Hinman 2003, 27). This pattern was reflected at Yaxley despite the small assemblage of material that could be firmly attributed to the period. However, an increase in the contribution of sheep accompanied the more general move towards animal husbandry rather than specifically towards cattle rearing.

Early Roman (late 1st to mid-2nd century)

The distribution of enclosures demonstrated a greatly reduced level of habitation. The former Iron Age settlement site was abandoned and cleared with the substantial entrance and probable earthwork breached to accommodate the new layout of ditches. The principal axial east-west ditch was retained, but appeared to have become a less important boundary within this layout. Instead the westward limit of the site emerged as the significant perimeter boundary. Environmental evidence to support theories of economic activity was lacking, probably due to the high level of later Roman development. This may have also been responsible for the loss of the majority of occupation features for this period. Faunal assemblages supported a general increase in the numbers of cattle and sheep. The weakness of the sample size was presumably due to the very low level of habitation. This fits with the pattern of dispersed settlement for East Anglia in areas where linear systems of settlement were common along the river valleys of the west of the region (Taylor 2007, 50). A single roundhouse, an isolated burial and a small temporary pottery kiln with wasters deposited in the main ditches formed the main evidence of settlement. The kiln is an addition to the local kilns in the area, two others were located 700m to the south of the excavated area at Hog Fen close and at Cow Bridge Farm (11686-MC[273]3736; 01628-MCB2083). The kiln construction presumably served small scale, possibly short lived, activities in the dwelling and surrounding fields providing storage containers for transporting food resources such as milk or grain. Vessel forms were noticeably dominated by jars and the presence of an unusual carinated strainer in the same fabric supports the notion of dairying activity.

Continuity of settlement showed general expansion in the pastoral economy which retained parts of the former Iron Age axial ditch in the boundary layout and occupation of the site by a single roundhouse in the “native” tradition. Change was substantial in management terms and the distribution of features was altered throughout. The vast majority of the Iron Age enclosures and the impressive entranceway became redundant, and most were cleared, filled in or substantially altered. This is a stark contrast to the site at Glapthorn Road, Oundle, where the small-scale Iron Age settlement was retained well into the 2nd century and gradually gained “Roman” character through enclosure and acquisition of trade goods (Maull and Masters 2005, 75). The difference may indicate that the late Iron Age settlement at Yaxley was sufficiently stubborn towards the Roman way of life or that the land was of sufficient value to the rising local elite to warrant more radical intervention in the removal of settlement and reallocation of the land to a more sympathetic or less disruptive family. The “placed deposit” at the Iron Age entranceway and its closure were key elements of this. The initial deposition of the objects may have marked the relocation of dwellings away from the Iron Age settlement entrance. Similar activities at Haddon showed prominent features of the mid- to late 1st century AD were the subject of acts of deposition marking an end to domestic occupation and associated with the relocation of the immediate population (Hinman 2003, 26-27). This pattern was similar to events at Tort Hill West where roundhouses and enclosures of the Iron Age were deliberately levelled (Hinman 2003, 63). Whilst the initial placement of the broken querns and pottery at Yaxley reflected similarities, marking a functional change in the use of the entranceway, the removal of the deposits

within the space of a century also reverses this concept. The Iron Age entrance was removed and Roundhouse R5 returned the primary activity to domestic occupation. With the extension of Enclosure E4, the passage across the axial boundary was no longer as important a gateway as it had been but the site was once again reoccupied by a “native” roundhouse. The full “Roman” image as presented through lifestyles, architecture, material culture, traditions and belief were still only partially integrated into rural communities so that there was for a long period an eclectic blend of continental and traditional elements in existence.

Roman (mid-2nd to 3rd centuries)

Habitation of the site regained momentum. The boundaries were rearranged and the area was subsumed into an open plan enclosure which retained the general western extremity of the site from the late 1st to mid-2nd centuries and incorporated the probable Iron Age earthwork of the axial east-west ditch as its southern limit. These limits appeared to define the edge of habitation, but not necessarily of agricultural activity. Along the western boundary a small cemetery was established, perhaps over several generations. Indications from osteological analysis of the remains suggested that the population were a group of people exposed to regular hard labour. Their deposition as inhumations rather than cremations was consistent with the general trend of burial practise on Roman rural sites within the region (Taylor 2007, 36). A noticeable absence of hunted game species together with a lack of pork or fowl suggested a reliance on a fairly mundane diet provided by the agricultural activities of the site. Some pottery and material artefacts indicating moderate wealth included samian, Aldwalton marble, a sizable proportion of ceramic building materials and Collyweston slate roofing tiles that suggested a moderate level of investment in building. On this basis the farming community may have been expanding their assets, which given the morphological development of the site, may have included land extending some distance to the north-east. The move towards a nucleated settlement in the Roman period has been observed as a key characteristic of the East Anglian fenland (Taylor 2007, 30). The apparent rapid development of the site corresponds with the economic effects of growth in the small towns of Roman Britain (Millet 1990). Rural farmsteads and larger agricultural units forming parts of villa estates, either in their direct hinterland or attached to small towns, exhibited a general flourish of development at this time. The Roman farmstead at Glaphorn Road, Oundle, undertook just such a transformation in the mid-2nd century when roundhouse settlement was replaced by a familiarly “Roman” pattern of rectangular enclosures, which by the late 3rd century included a small villa building (Maull and Masters 2005, 55-59). At Yaxley the surviving evidence for habitable structures lacked clear indications for domestic hearths, however, posthole groups indicated the location of at least five small structures close to the edge of a smaller internal enclosure. Substantial quantities of pottery were recovered for this period supporting the presence of a stone roofed building, including an assemblage of tableware found predominantly in the vicinity of a compact stone surface and associated postholes with large quantities of Collyweston Slate roof tile and ceramic building materials present. The presence of Samian amongst the tableware indicates a dwelling of at least moderate wealth, given there was a glut of such pottery on the market at the time. The true function remains speculative, but a general domestic use appears likely. Despite key indicators for a building of substance, it did not appear to have been large or of high importance and was likely to have been a utilitarian structure or dwelling. The location of a potential villa would be less common for the region, but not unique and it would lie at the edge of the distribution of recorded villa sites (Taylor 2007, 34; Fig 5.9). It would appear that this farming settlement did not reach that level of affluence, or that it was part of a larger network of holdings that was either at the periphery of, or separated from, the main estate.

Environmental evidence for the period remained lacking as a direct result of intrusive disturbances and residual waste associated with the intensive re-planning of the site. The faunal evidence continued to provide indications of a consistent pastoral economy with the emphasis on cattle at the expense of sheep. It is possible this reflects more intensive mixed farming for arable, meat and dairy produce elsewhere. Such extensive agricultural activities would have had to have taken place over a much larger area of land and on a scale greater than that indicated by the excavations. Evidence that pastoral activity continued beyond the extent of the habitation was indicated by the large pond to the south which may be one of many such scattered features within the wider landscape and the boundary of Enclosure E6 may be the extent of the estate workers settlement, but not the influence over which the potential villa estate may extend.

Late Roman (4th century)

A new set of enclosures was established, no evidence for buildings was present within the excavated area, although occupation of the site remained intense and they appear to have been relocated to another area of the land. The concentration of features was directed towards purely agricultural production. The western limit of the site established in the late 1st to mid-2nd centuries and perpetuated in the mid-2nd to 3rd centuries was retained into the 4th century. This supports the notion that a well established farming community maintained continual possession of the land over a period of 250-300 years. The distribution of the enclosures extended across the whole of the eastern area defined by a pattern of small fields, likely utilised for a mixed farming economy. Environmental evidence for this period was more reliable than for earlier periods as this last phase of activity exhibited the least disturbance. Assemblages included evidence for the processing of cereal crops on the site in the form of charred grains and chaff. Cattle remained as the dominant species and this is thought to reflect the need for manure as well as meat and dairy produce. Pottery was dominated by the collection of jar forms, presumably serving to act as containers and transportation vessels. The larger part of this material was in the Lower Nene valley colour-coated wares and shell-tempered wares produced in the region and emphasises a reliance on the local markets. Beakers and other forms were poorly represented, indicative that the pottery was not deposited as household refuse. The rapid infilling of the enclosure ditches with midden waste tends to suggest deliberate replacement of the enclosures with open pasture in the site's final occupation. A similar move away from enclosure towards unbounded pasture was observed for the mid-3rd to 4th centuries at Haddon (Hinman 2003, 54-55). At Yaxley the process was undertaken in the middle years of the 4th century. The latest coins indicate a date *c*AD340. No distinctive occupation of the site could be identified after this date. The rapid and deliberate creation of open pasture reflected total abandonment of arable cultivation but implied the continued need for some degree of low intensity grazing thereafter. Such a move may have been the result of failing grain markets rather than the total loss of the farm estate which could have survived on a much reduced scale, but was not observed in the excavated area, an area which became peripheral to the final years of its occupation.

Post-Roman and medieval

The period since the site abandonment was marked only by the presence of the medieval ridge and furrow belonging to the open field system retaining the earlier axial boundary in its make up. This is consistent with the general pattern of open-field agriculture within the region where long axial furlong boundaries and tracks of the medieval landscape were founded upon pre-existing coaxial frameworks of late prehistoric and Roman land divisions (Taylor 2007, 65). It is logical that a physical characteristic remained in the landscape, either as a low rise or shallow trough. Roman burials interred in the mid-2nd to 3rd centuries were placed on both sides of the main enclosure ditch so that a bank could not have existed along the western length of Enclosure E6 and thus was not perpetuated by medieval cultivation. Any potential

embankment would therefore be of Iron Age origin associated with the elaborated entrance and the “placed” deposit in the access way, disturbed by pit [329]. Whatever its date it must have been severely flattened by the 4th century, as it formed no part of that period of enclosure. Sufficient of a depression remained for it to be reused in the medieval period, perhaps gathering water in poor weather and making it a logical choice for a headland.

10.3 Material goods and contacts

Early to middle 1st century pottery fabrics suggested a general continuation of “native” style pottery production for domestic use. Material artefacts providing indications of the type and level of economic contact off-site was largely limited to the period of the mid-2nd to 4th centuries, with the majority of artefacts, particularly the pottery, produced within the local region. Colour-coated wares were common in the late Roman period, reflecting a switch in production of coarseware forms from grey to colour-coated wares at this time. Some continental imports were present, although their contribution towards understanding the status of the site was obscured by the presence of the nearby Nene Valley pottery production centres. The supply of mortaria to the site comprised solely Lower Nene Valley products. Continental items were relatively uncommon, in that equally suitable finewares were being produced locally. Tableware forms, including samian derived bowls, occurred in late Roman groups. There was evidence for a shift in source in the late Roman period, with most local material from this time originating from the kilns at Harrold in north Bedfordshire and an increase in imported wares. Coarsewares originating from outside, what is a distinctly self-sufficient region, were few and implied the transit of foodstuffs or other ‘packaged’ substances, rather than of pottery as a commodity. Reflective of a region-wide trend was an apparent reduction in beakers among late groups, possibly resulting from the supply of drinking vessels in non-ceramic materials.

Local market exchanges were difficult to detect and it is reasonable to suppose that the source of materials coming onto the site would have also been the outlet for goods being sold at market, whether cereals, livestock, meat or dairy produce. Markets would have been close at hand where perishable goods were being exchanged. The Roman town of *Durobrivae* (Water Newton) lay upon Ermine Street, 7.5km due north-west of the site (Fig 1). The distance between the site and Ermine Street at its closest point is 3km, the maximum journey to market would have been c8.5km. Analysis of the pottery has indicated some domestic dairying and cheese-making, although it may not have formed a prime economic function. Faunal assemblages for the site do not provide evidence for large scale butchery and the potential for sale of meat produce would almost certainly have been in the form of livestock. The presence of certain specialised tools for use in metalworking and woodworking, together with small quantities of metalworking debris indicated that craft skills were being used upon the site, but not on a scale to suggest anything more than to meet the needs of the occupants themselves.

It appeared likely that the farming community supported a fairly successful and self-sufficient mixed economy and may have extended over a much wider area, perhaps even as a holding belonging to a villa estate, not necessarily on the neighbouring land. The focal centre of the farming settlement is likely to have lain nearby to the north-east and its economic fortunes at its height in the mid-2nd to 3rd centuries produced enough surplus wealth to afford Alwalton marble and to furnish its inhabitants with fine tableware such as samian. The farming settlement was subject to economic and political changes in Britain in the period from the late 1st to 4th centuries. The pattern of emergence from an Iron Age community leading to reorganisation, expansion and economic success under Roman rule reflects a general pattern of events. The sites at Haddon and Oundle did not differ in that regard (Hinman 2003; Maull and Masters

2005). The onset of economic decline in the province matched the abandonment of the final sequence of field enclosures around *cAD340*. That they continued in use to the middle of the 4th century when other regions had already begun to succumb to economic changes in the late 3rd century is an indicator that this area had been particularly successful and its abrupt end implied a decision to cease trading. Conversion to pasture may indicate the tail end of an ailing agricultural economy or final abandonment. The former may have enabled some level of subsistence to survive into the late 4th century at the focal centre of the late settlement (towards the north-east). The Roman farmstead at Glaphorn Road, Oundle, enjoyed a longer period of survival and coin dates suggested its abandonment in the period *cAD370-380*, some thirty to forty years after Yaxley had ceased as an agricultural producer of grain (Maull and Masters 2005, 76). The relatively late survival of both sites may be a product of a more robust regional economy born from the success of *Durobrivae* as a Roman town. A degree of self-sufficiency was also likely to have been a contributing factor, enabling them to weather the more difficult economic climate for some time before viability as a commercial producer was irreversibly compromised.

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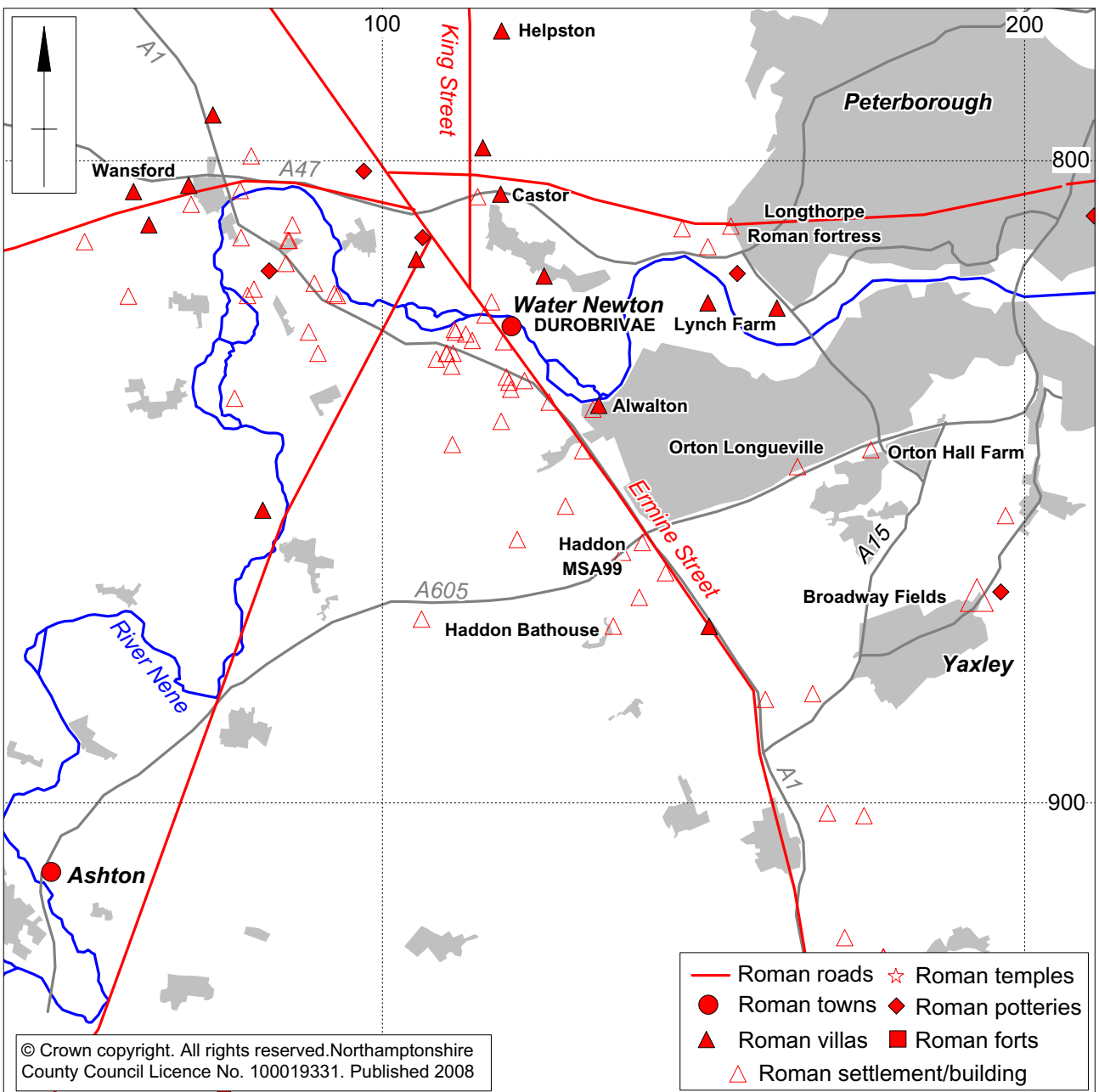
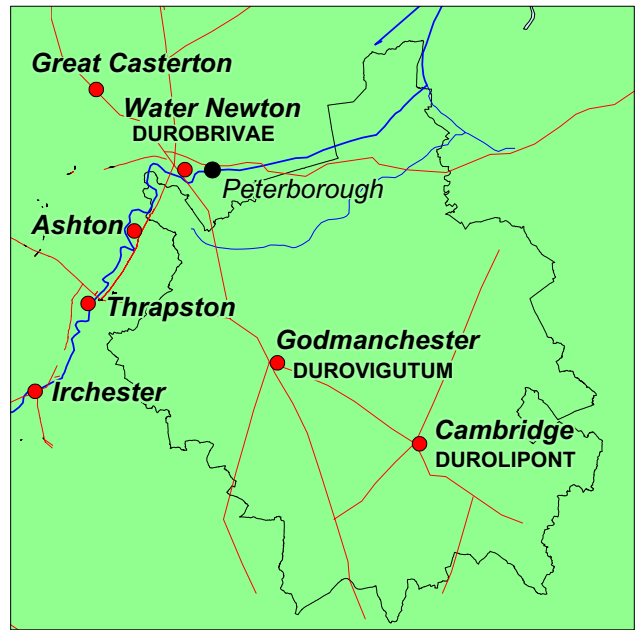
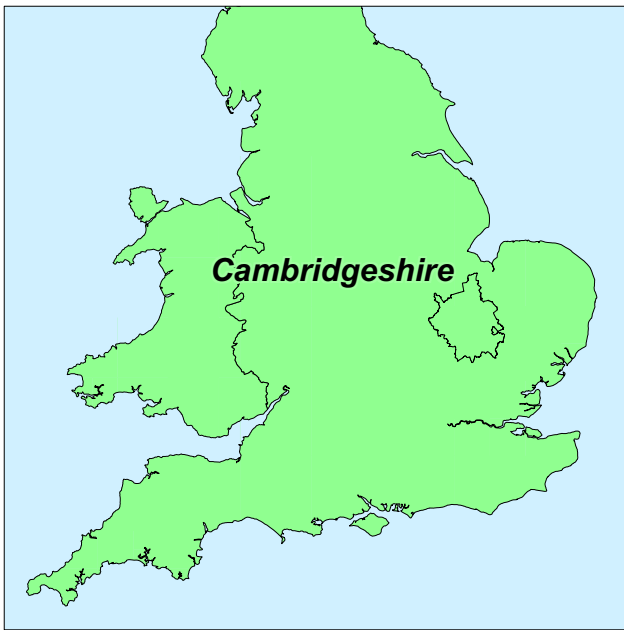
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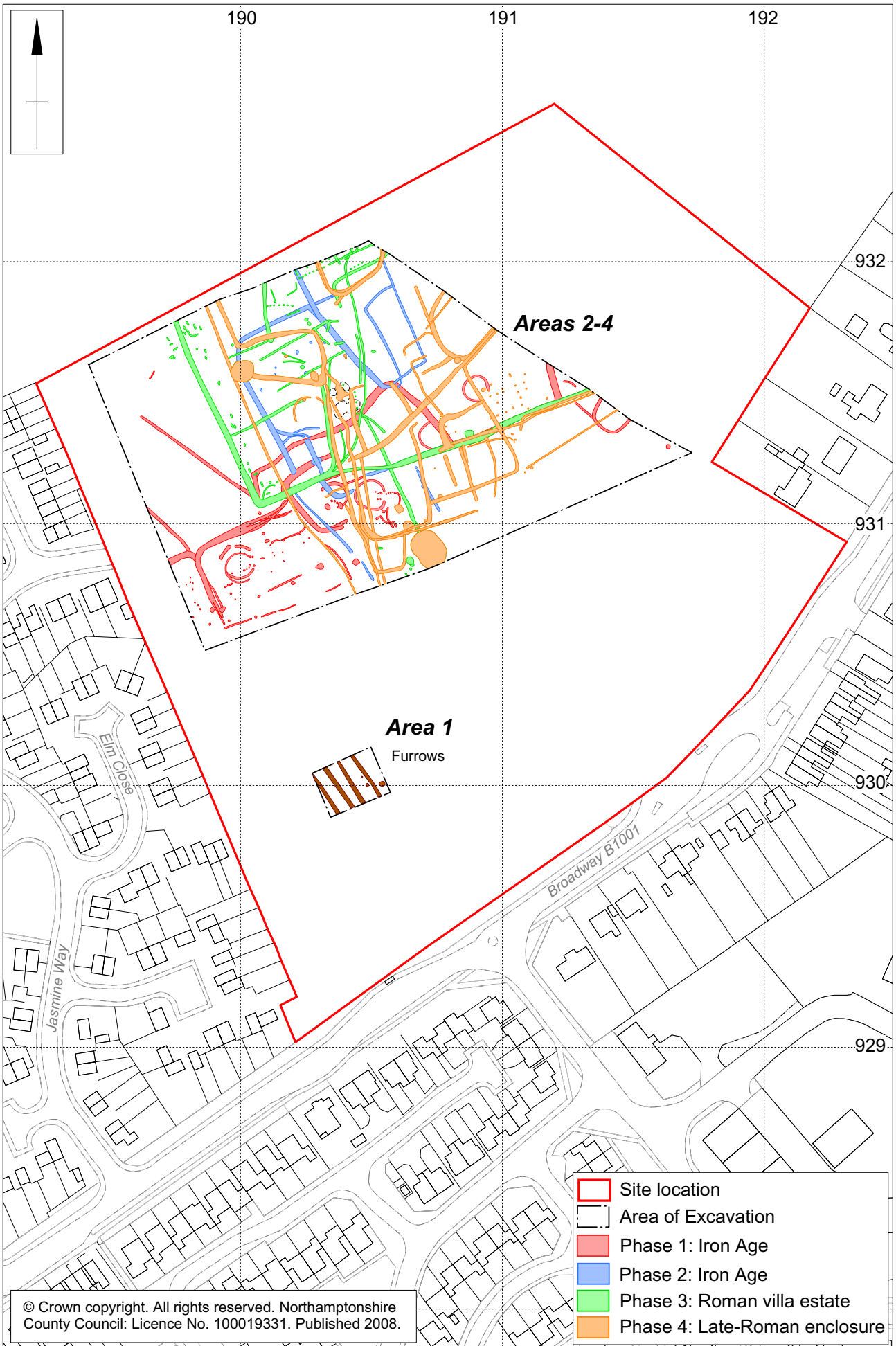
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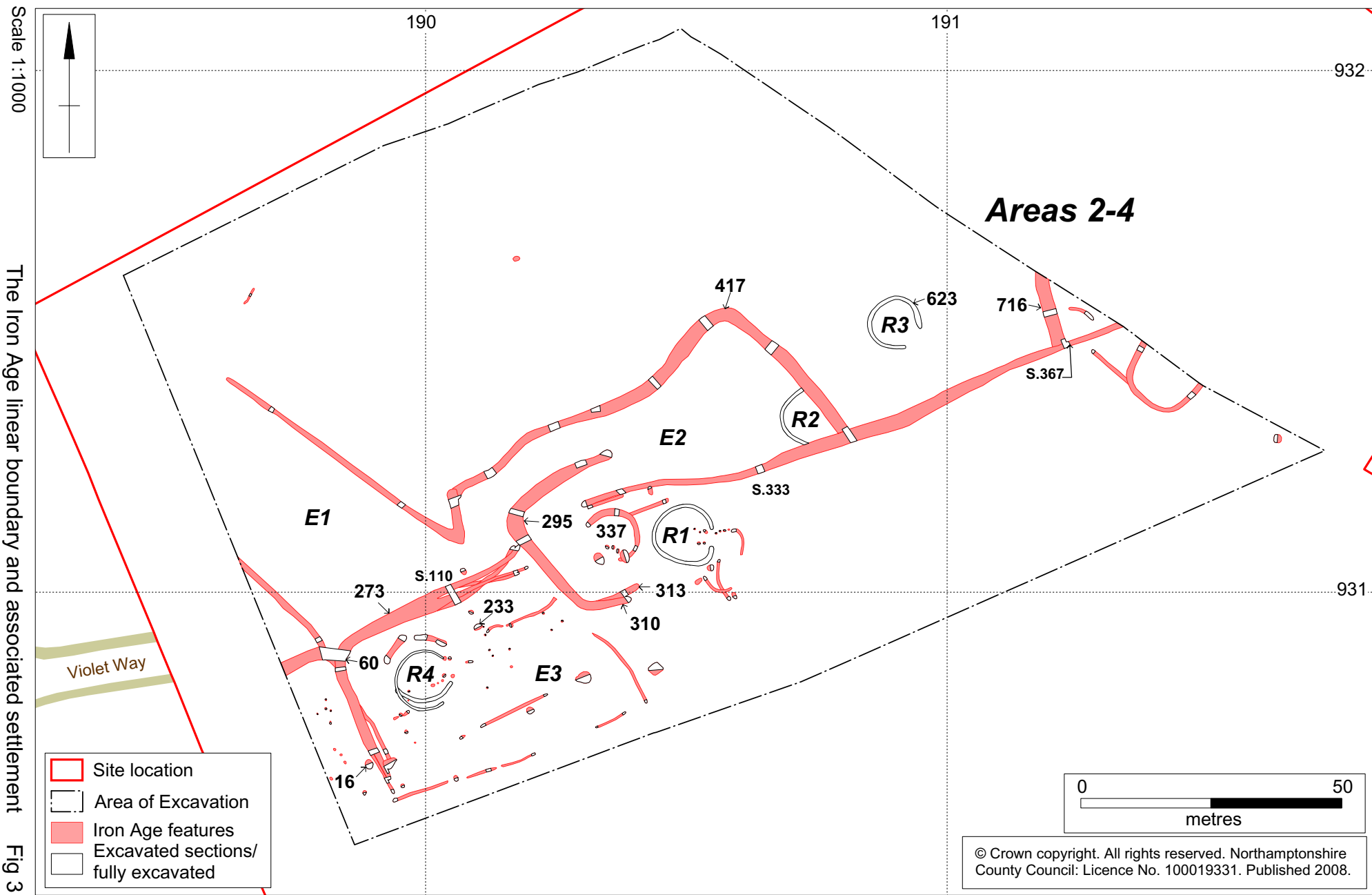


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- Site location
- Area of Excavation
- Phase 1: Iron Age
- Phase 2: Iron Age
- Phase 3: Roman villa estate
- Phase 4: Late-Roman enclosure

Scale 1:2000

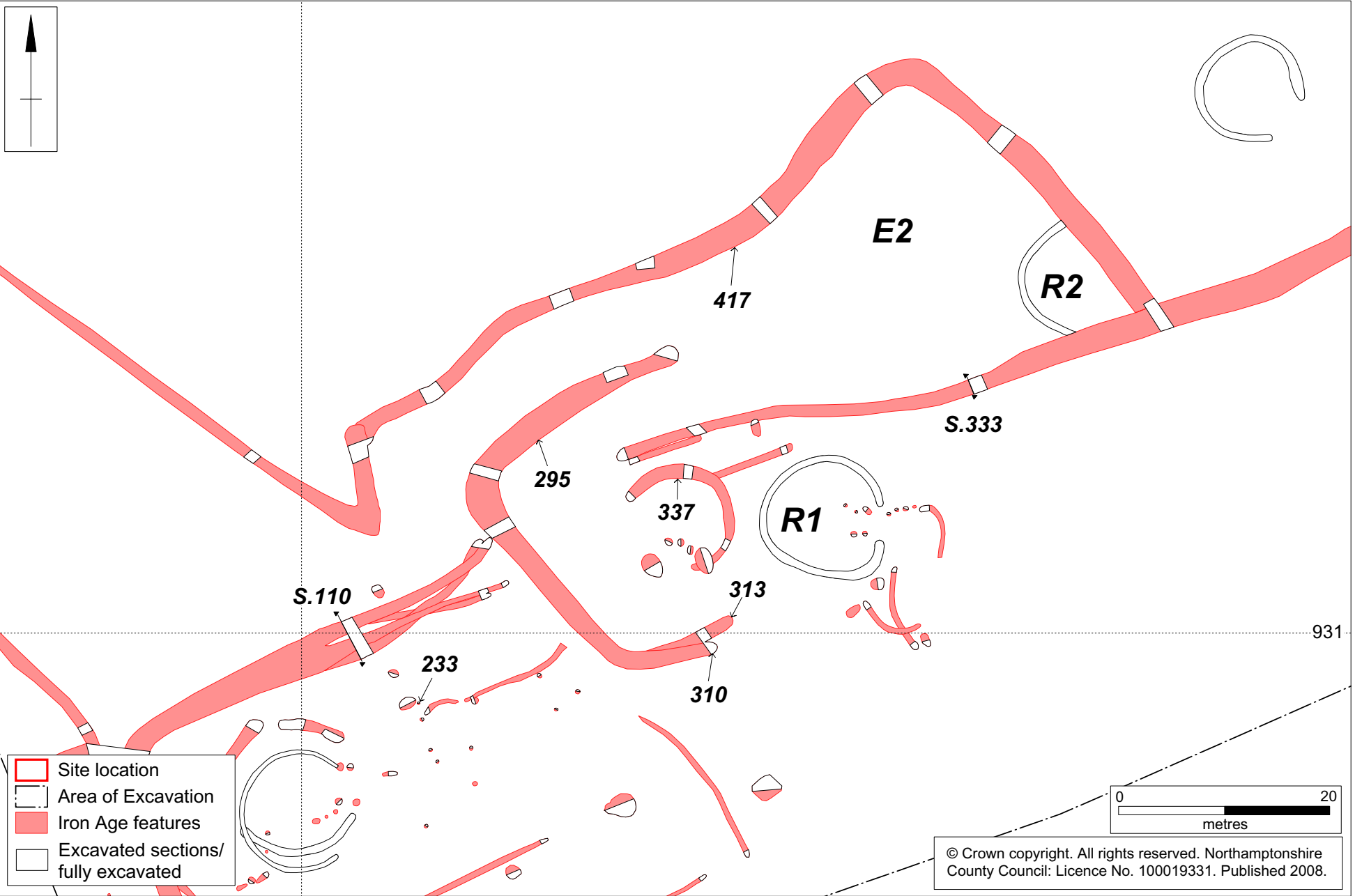
General site plan Fig 2



Scale 1:500

The Iron Age entranceway and Roundhouse R1

Fig 4

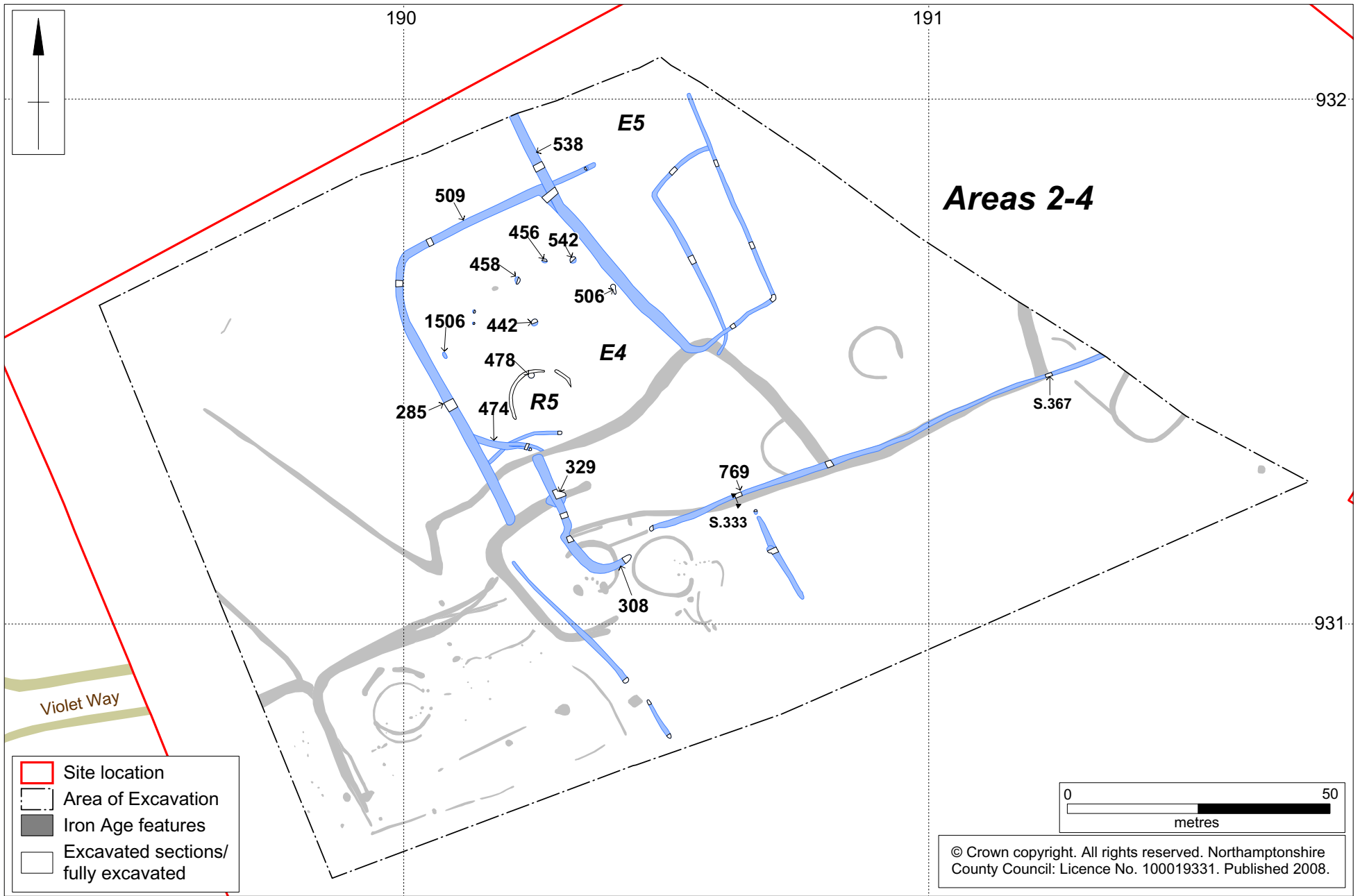


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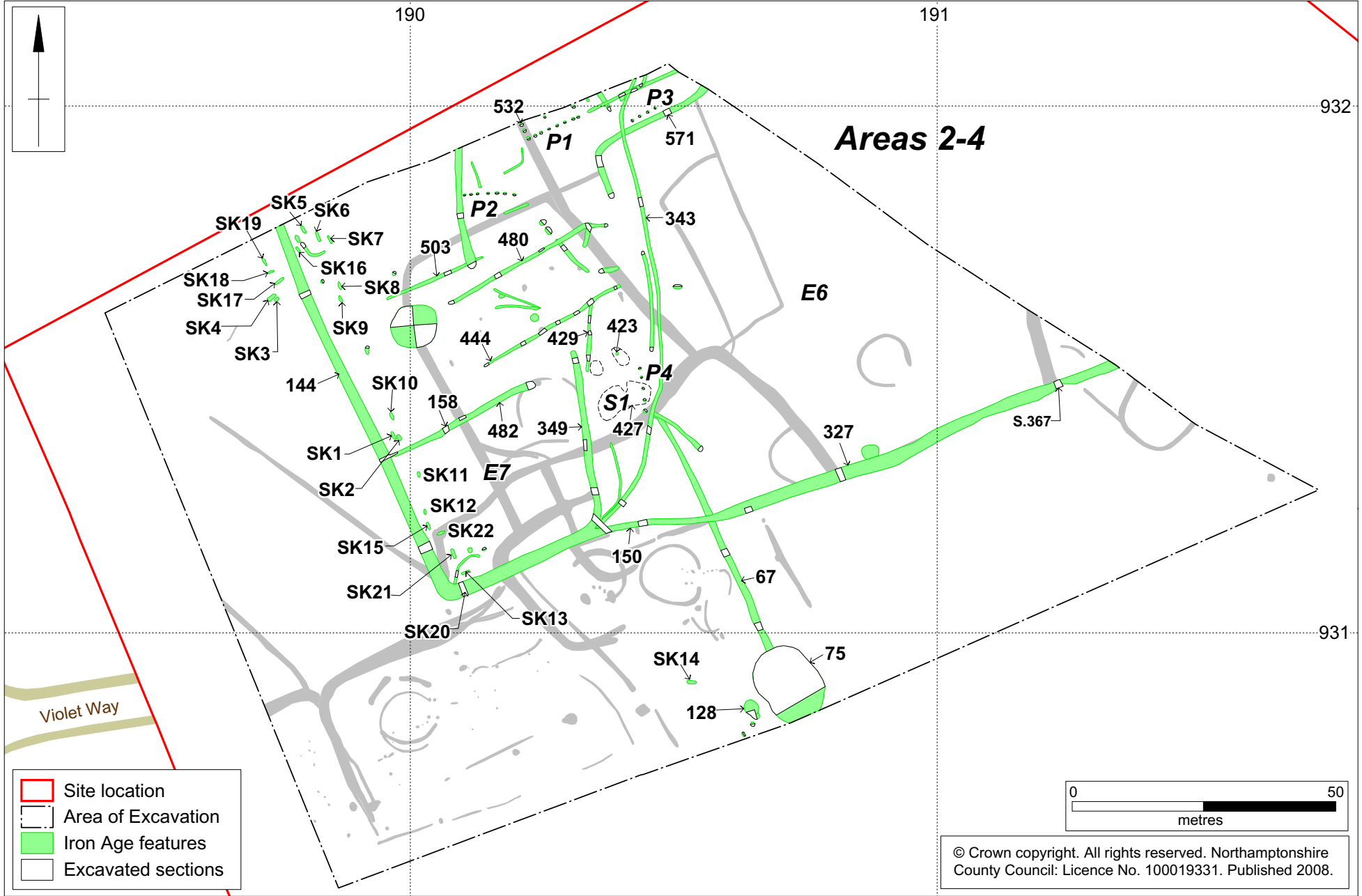
Early Roman changes to the entrance and new enclosures

Fig 5



Scale 1:1000

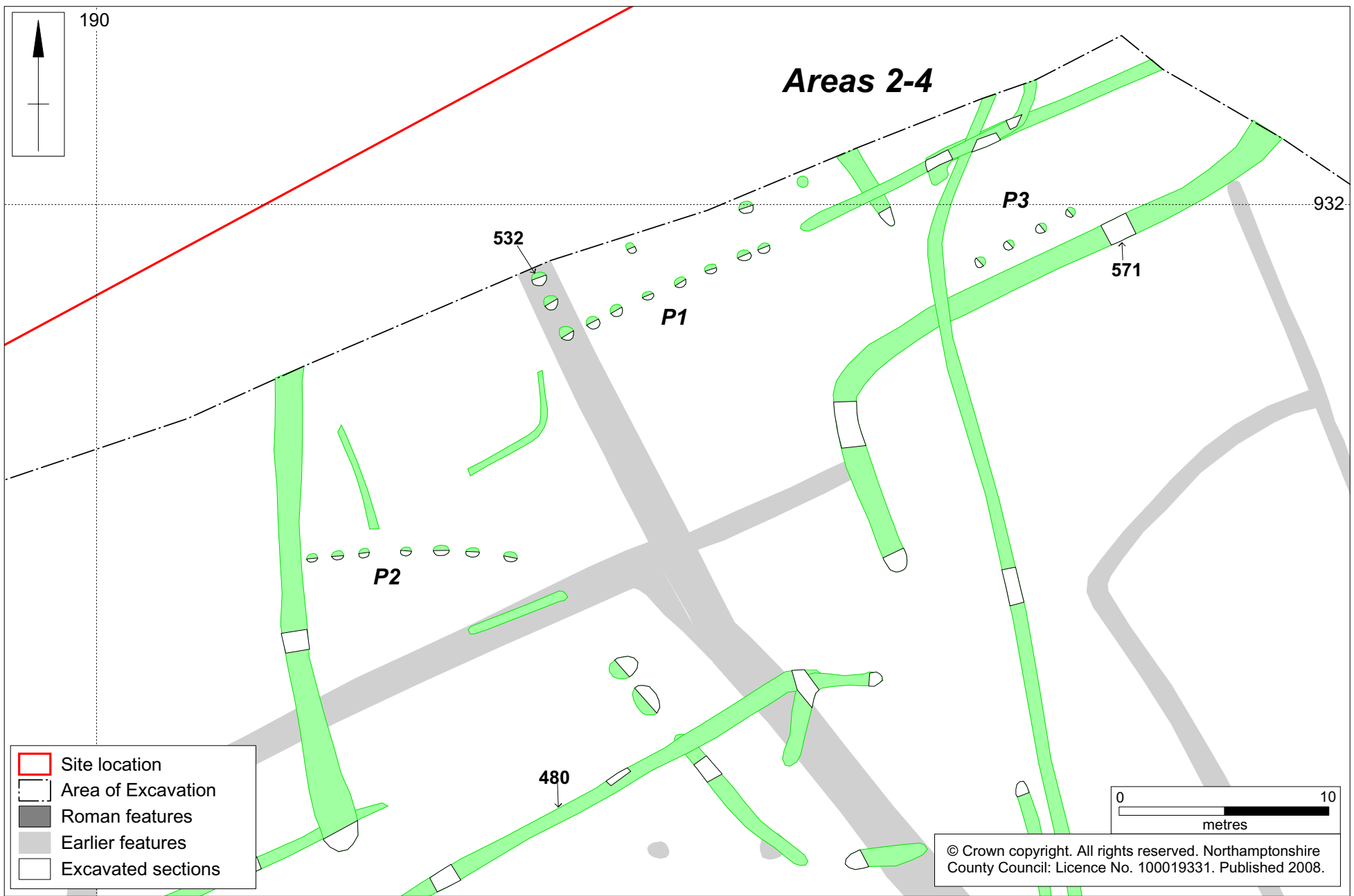
The Roman farming settlement Fig 6








Scale 1:250

Timber-framed structures and posthole arrangements P1-3

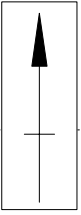
Fig 7



-  Site location
-  Area of Excavation
-  Roman features
-  Earlier features
-  Excavated sections

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Scale 1:1000

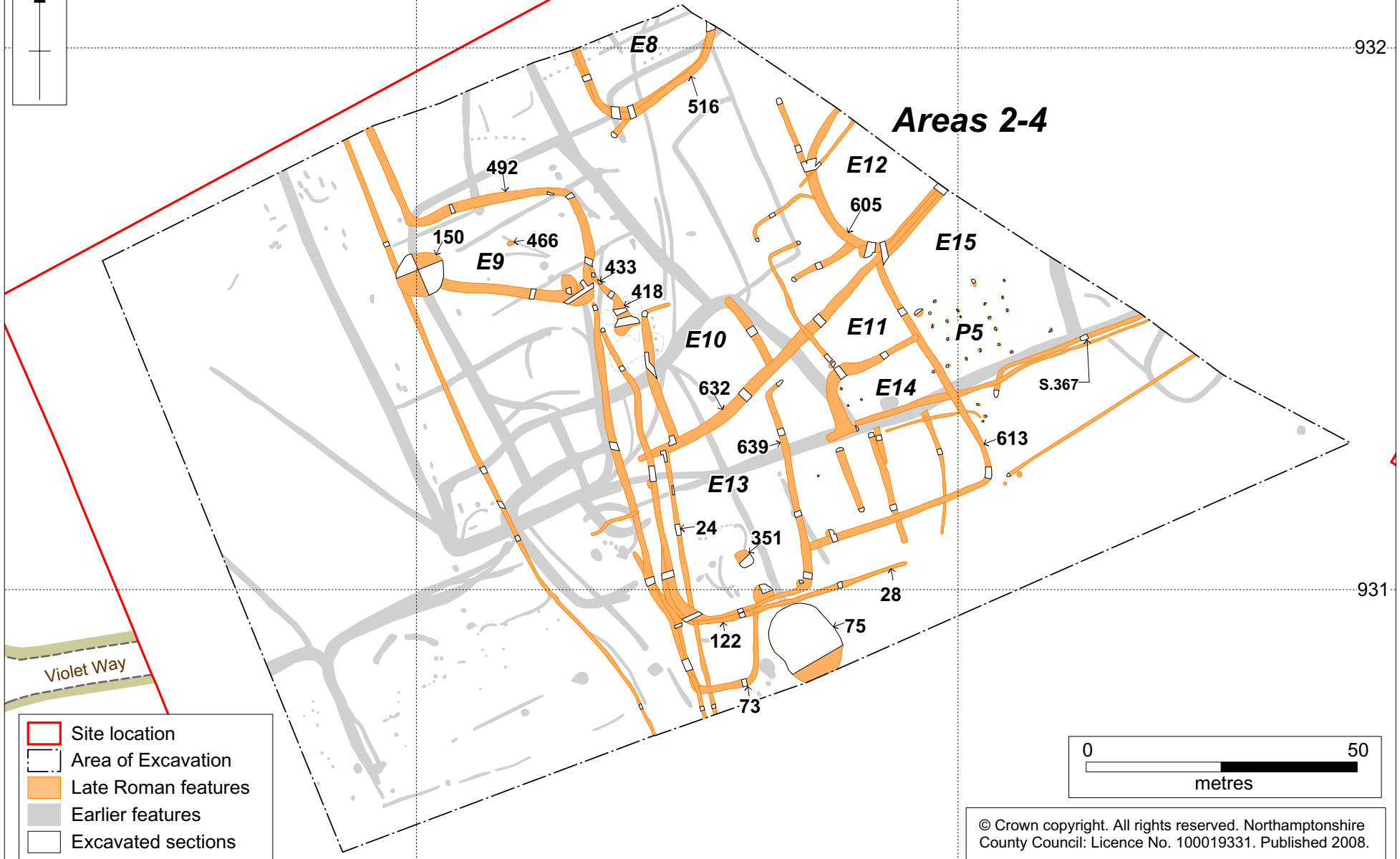


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



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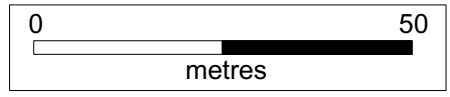
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Areas 2-4

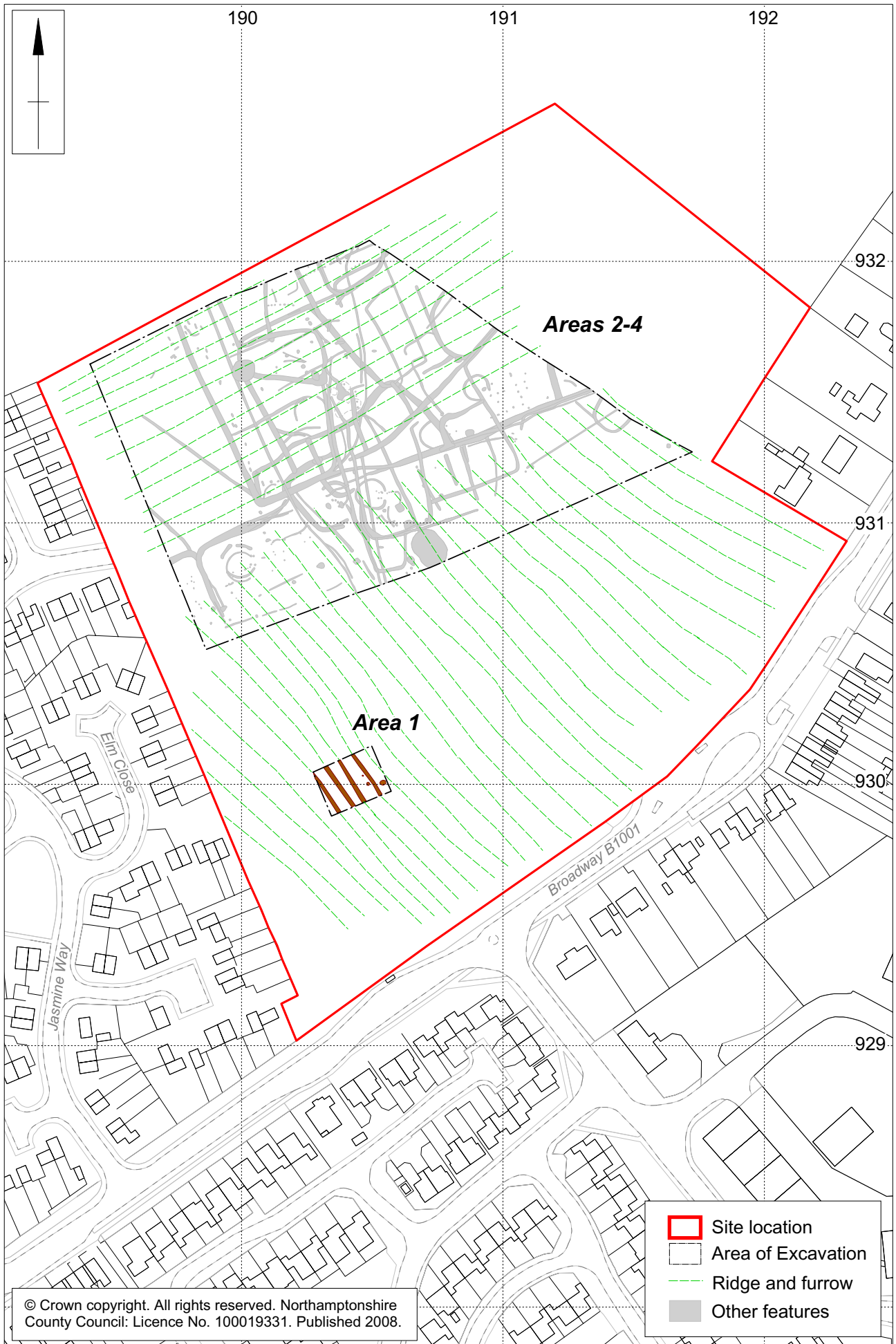


The late Roman enclosure pattern Fig 8

-  Site location
-  Area of Excavation
-  Late Roman features
-  Earlier features
-  Excavated sections



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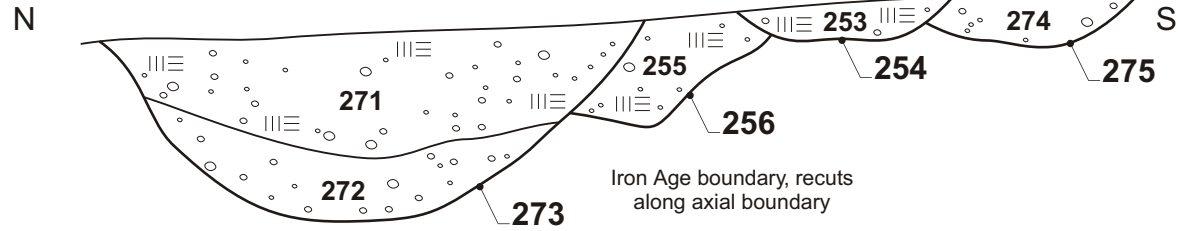


Scale 1:2000

Ridge and furrow Fig 9

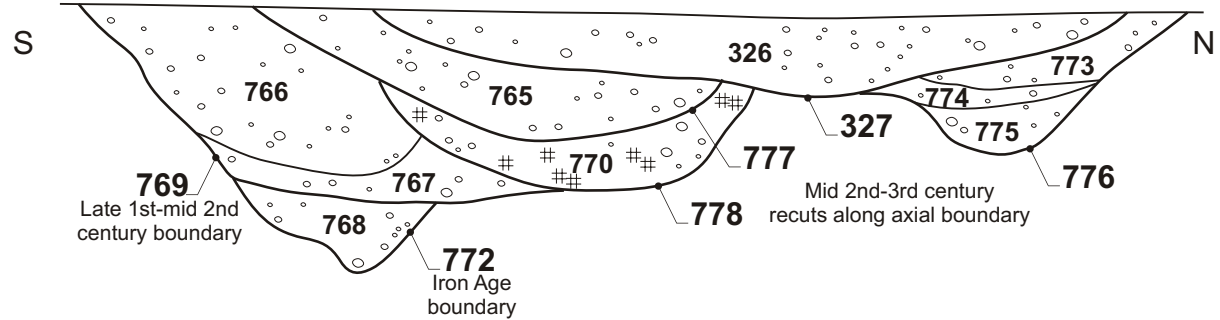
Section 110

20.96m OD



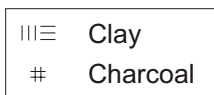
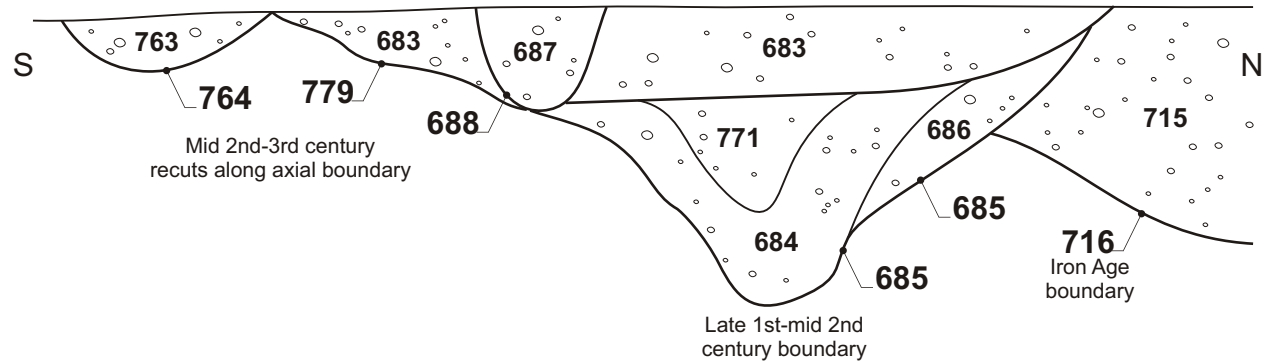
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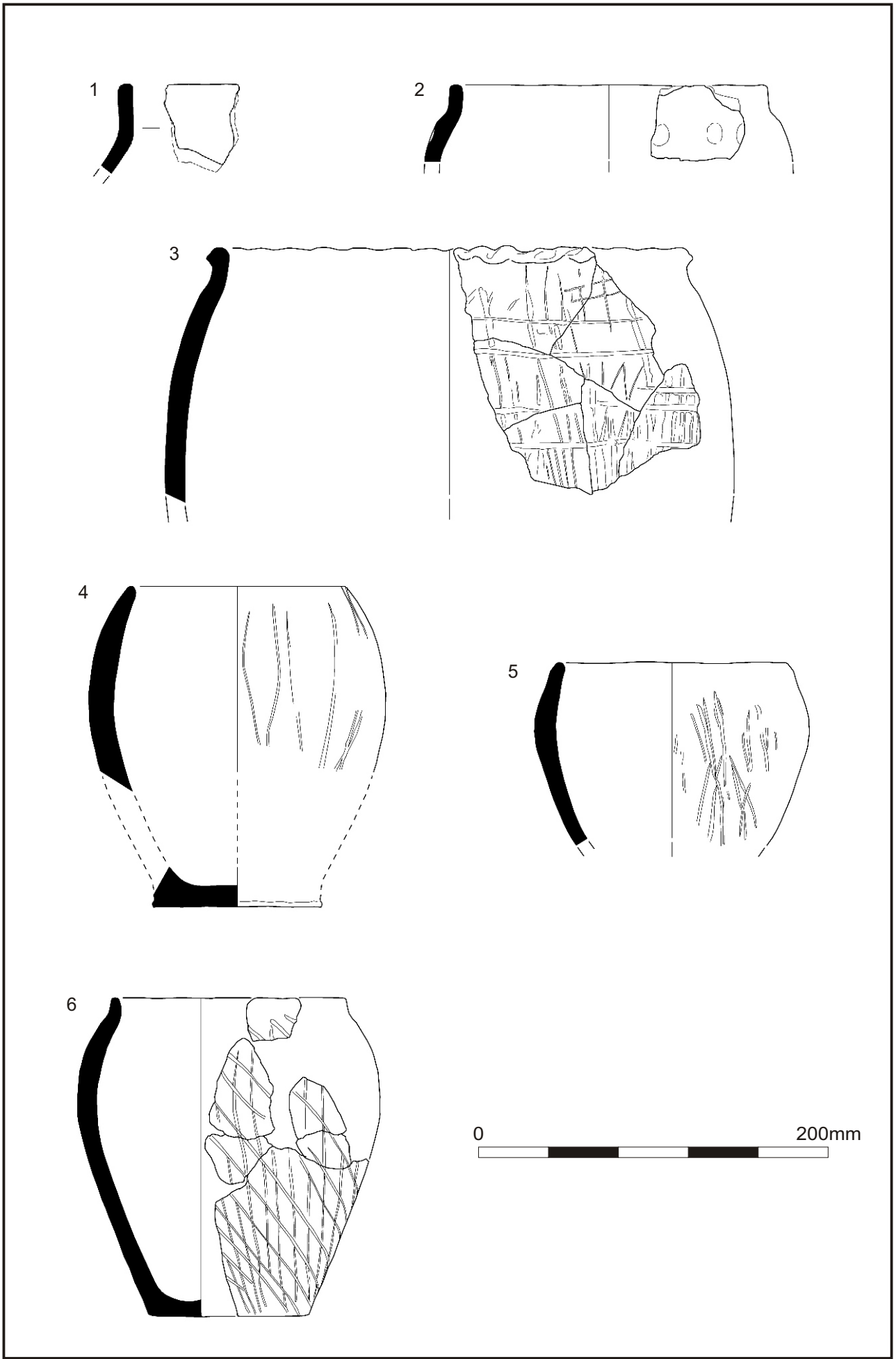


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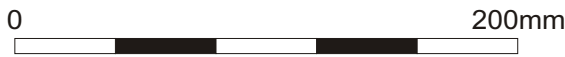
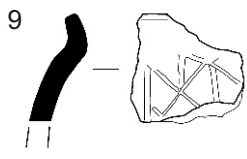
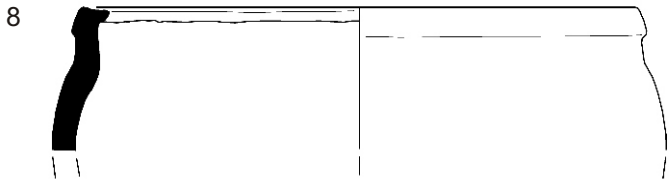
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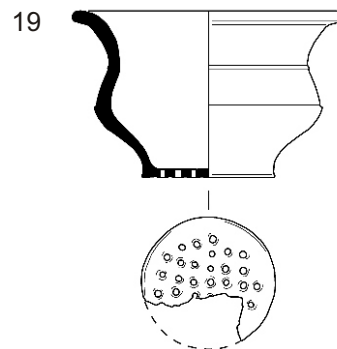
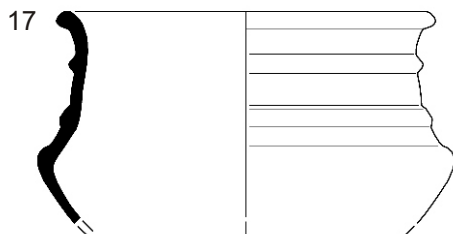
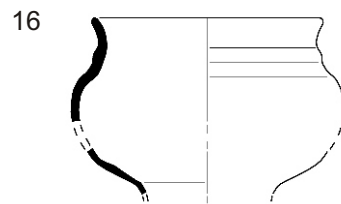
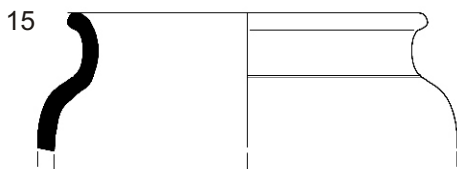
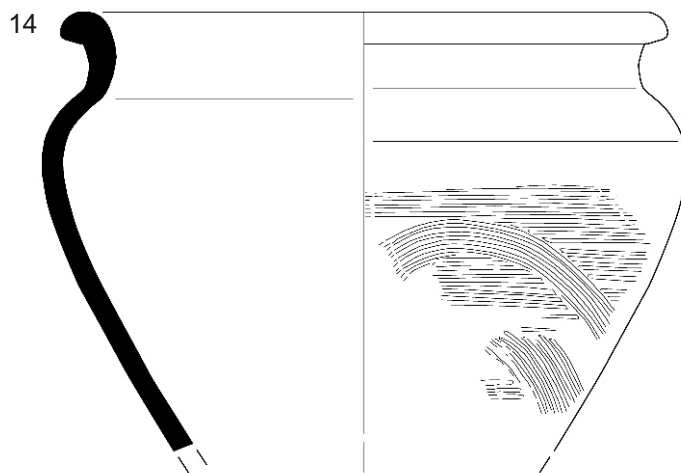
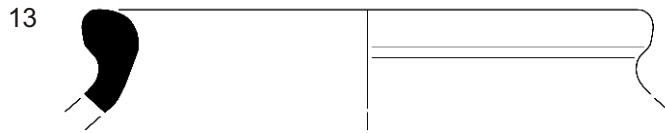
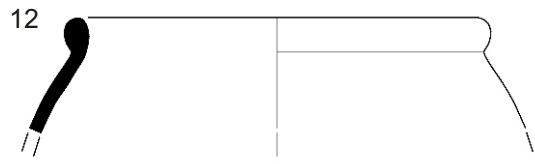
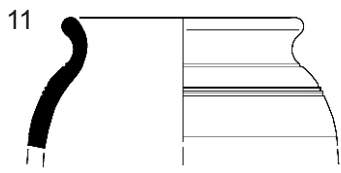
Sections through the linear boundary Fig 10



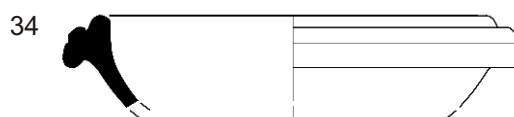
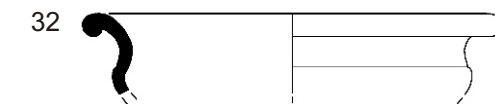
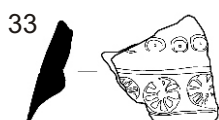
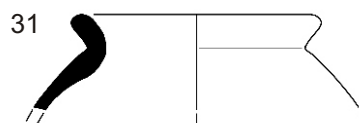
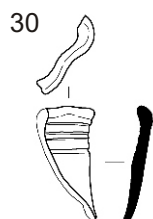
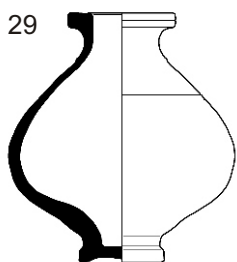
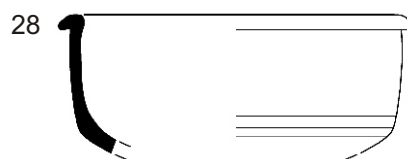
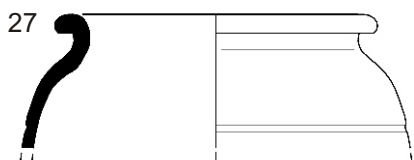
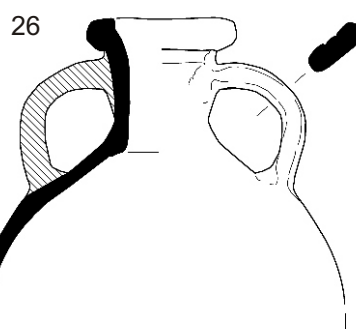
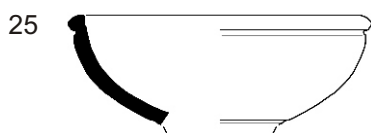
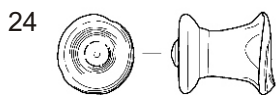
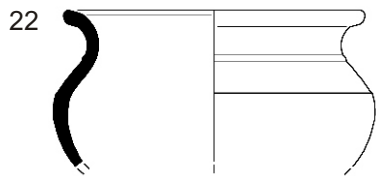
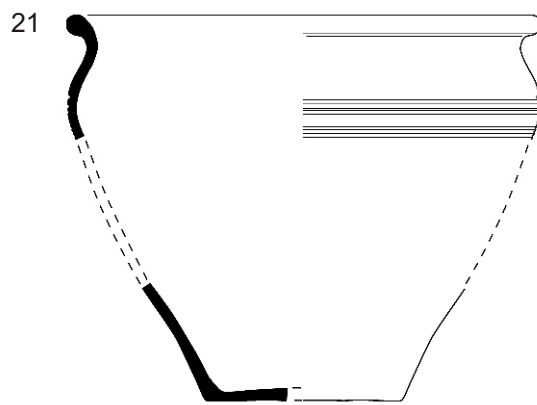
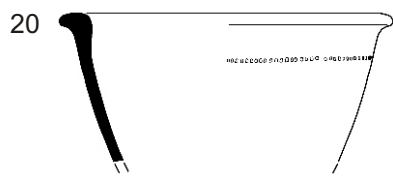
Iron Age pottery Fig 11



Iron Age pottery Fig 12

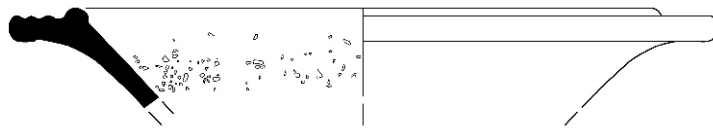


Roman pottery Fig 13

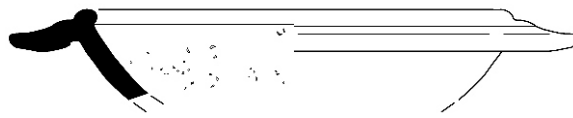


Roman pottery Fig 14

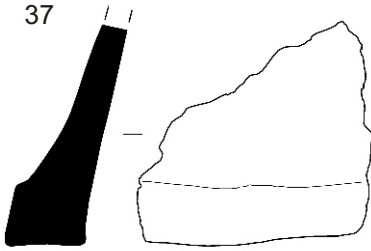
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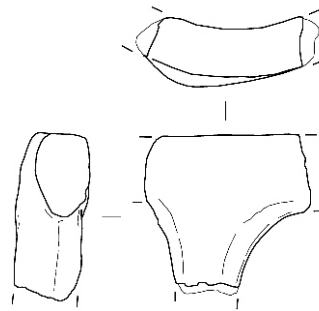
36



37

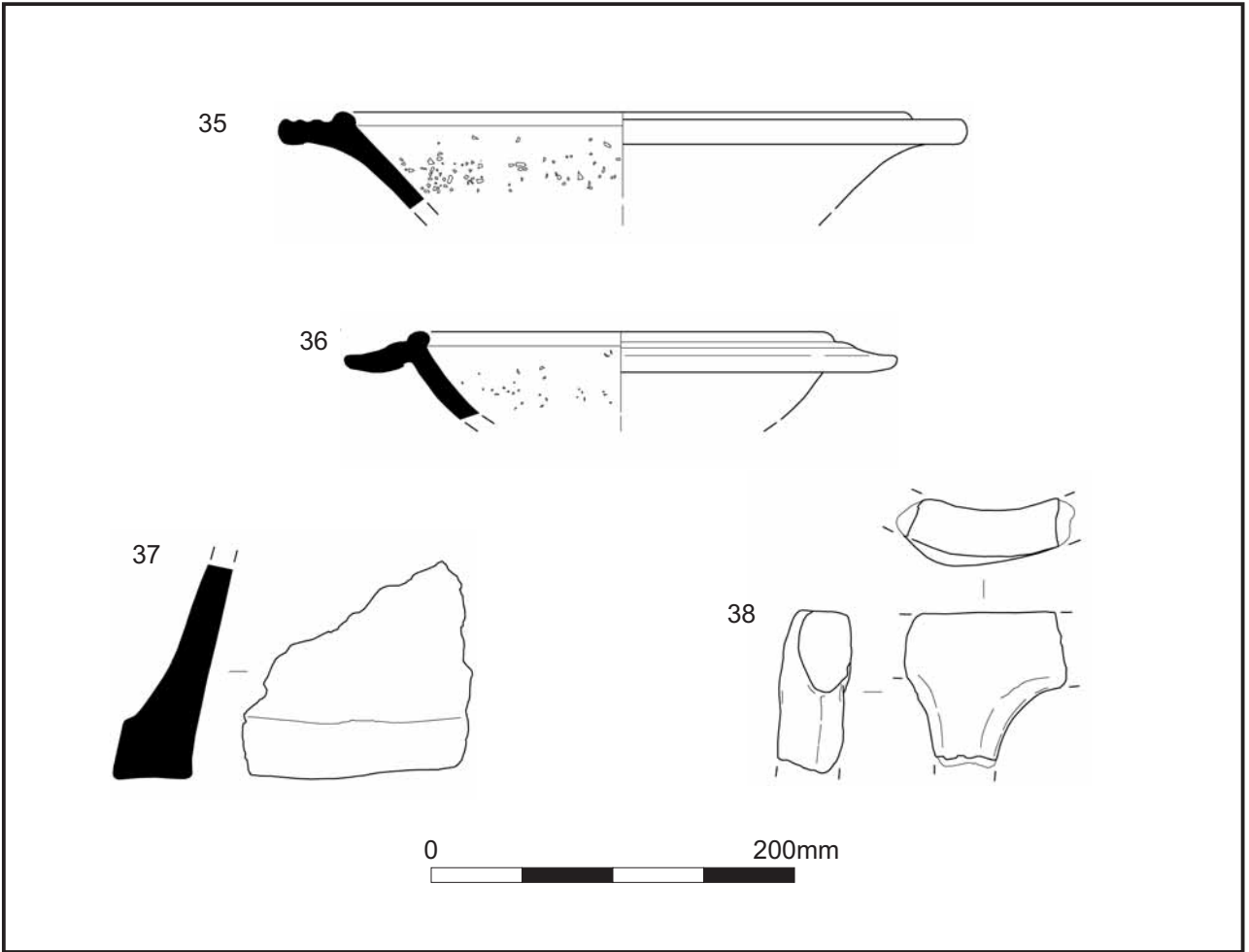


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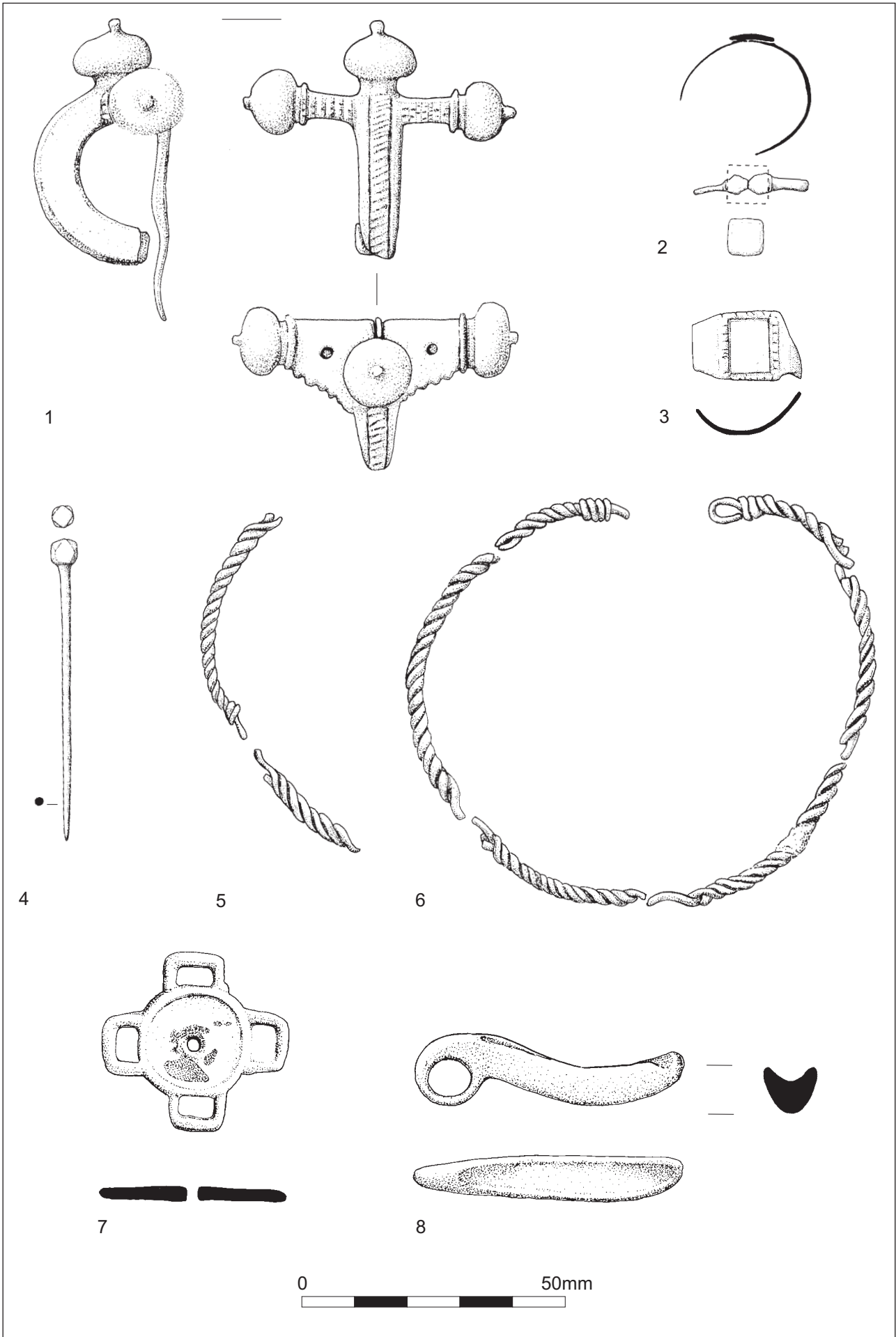


0 200mm

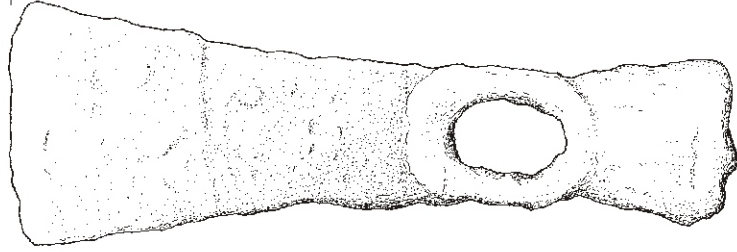
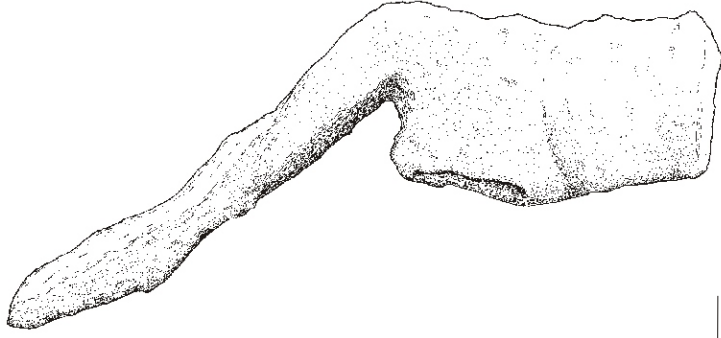




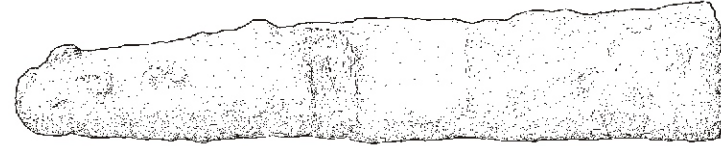
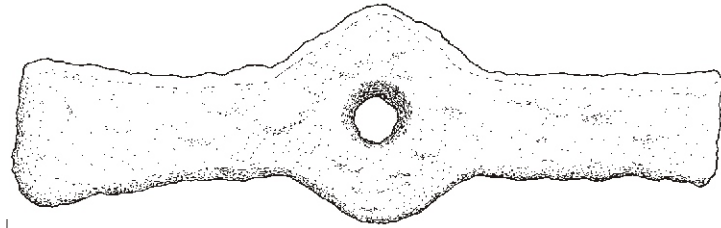
Roman pottery Fig 16



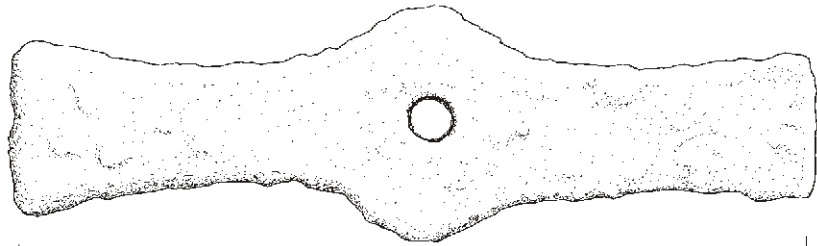
Finds Fig 17



13



14



15



Adze-hammer and two cross-pene hammers Fig 18



Plate 1 Controlled archaeological machine stripping of the excavation area



Plate 2 Section 333 across the principle boundary ditch [273]



Plate 3 Pit [329] cut into the top of ditch terminus [295]



Plate 4 Posthole group P2 at the northern edge of the excavation



Plate 5 Human burial SK13, one of the deepest graves at only c120mm deep



Plate 6 Pond [75], the machine excavated section



Plate 7 Spread deposit (13) under initial investigation by Rob Smith



Plate 8 Pit [351], the greatest concentration of cereal processing on the site

Late Iron Age occupation and the emergence of a
Roman farming settlement at
Broadway Fields, Yaxley, Huntingdonshire

July - October 2005

Appendices



Jim Brown

October 2008

Report 08/135

CHER Event No. ECB1978

**LATE IRON AGE OCCUPATION AND
THE EMERGENCE OF A ROMAN FARMING SETTLEMENT AT
BROADWAY FIELDS, YAXLEY, HUNTINGDONSHIRE**

JULY-OCTOBER 2005

Appendices

APPENDIX 1 – POTTERY DATA

1.1 Roman pottery assemblage composition by Ed McSloy

‘Belgic’ grogged wares (GROG)

The fabrics are representative of wheel-thrown ‘Belgic’-style vessels, originating in the late pre-Roman Iron Age and in this region appearing in the earlier 1st century but continuing well into the Roman period (Thompson 1982; Friendship-Taylor 1999). The majority of material consists of ‘developed’ fabrics, oxidised during firing, with quartz and other inclusions. The oxidised fabrics and the forms compare with material of mid-1st century date from Longthorpe (Dannell forthcoming, 45).

GROG: This is the typical ‘Belgic’ grog-tempered fabric as described by Thompson (1982), dark grey-brown firing with common, well-sorted grog and rare instances of quartz or shell.

Forms: Mainly necked jars or bowls with neck cordons (Fig 13, 15). There are single examples of platter and butt-beaker copies.

QZ GR: A ‘developed’ type with common quartz and a sandy feel. Buff-coloured surfaces with grey core that may also contain sparse limestone inclusions.

Forms: Mainly necked jars or bowls with neck cordons (Fig 13, 16). Several carinated bowls and cups with elaborately cordoned sides (Fig 13, 17).

‘Local’ reduced wares (LOC RE)

An ostensibly disparate group of fabrics brought together for convenience as representative of local coarsewares produced prior to the more or less standardised production of Lower Nene valley greywares from the second quarter of the 2nd-century.

LOC GW: Local greyware. Typically it is grey-brown throughout and hard, with common clear quartz inclusions, a harsh sandy feel and laminating surfaces. A small group of over-fired and blistered vessels represent wasters or possible seconds.

Forms: Mainly medium-mouthed necked jars, commonly with neck cordon; carinated jars or bowls (Fig 14, 22); platters (Fig 13, 18); a straight-sided bowl with triangular rims (Fig 14, 20); a ridged ‘poultry-feeder’ (Fig 14, 23); a strainer (Fig 13, 19); and a possible patera handle (Fig 14, 24).

LOC GWli: Local greyware with white limestone inclusions similar to LOC GW with obvious sparse to common inclusions.

Forms: Necked, carinated jar.

LOC GWrm: Grey surfaces and core with red brown margins. Common clear quartz inclusions. Hard, with sandy feel.

- Forms: Wide or medium-mouthed, necked jars (Fig 14, 21); strainer; platter.
- LOC GWgm: Dark grey surfaces and core with pale grey margins. Soft and smooth with sparse quartz inclusions.
- Forms: Medium-mouthed necked jars.
- LOC GW LON: 'London-type' ware (Perrin 1980). Dark grey throughout. Soft and smooth with sparse quartz inclusions.
- Forms: Curved-sided bowl with compass-scribed decoration.
- LOC BS: Dark-grey or black throughout, occasionally with red-brown core. Common clear quartz inclusions. Hard, with sandy feel.
- Forms: Medium-mouth necked jars; bead-rim dishes; curved-sided bowl; strainer.
- LOC BSli: Black sandy fabric with obvious sparse to common white limestone inclusions.
- Forms: Medium-mouth necked jar.

Lower Nene valley wares (LNV)

Lower Nene valley products have been extensively published (Howe *et al* 1980, Perrin 1996; Perrin 1999). A small number of forms in Colour-coated wares depart from the published corpus and have been drawn (Fig 14, 28-30). Bottle 29, found with SK15, may be a smaller version of vessels known in colour-coated and self-coloured wares (Howe *et al* 1980, nos 69 and 95).

- LNVGW: Lower Nene valley grey, 'Standard' grey-slipped fabric (Perrin 1996, 118-9). Typically with pale grey core, although not infrequently with 'sandwich' effect with dark core and pale margins.
- Forms: Medium and wide-mouthed jars; bead-rimmed and plain-rimmed dishes, flat-rim and conical flanged bowls; pinch-necked flagon; single examples of a cheese press and London ware style bowl are of note.
- LNV CC: Lower Nene Valley colour-coated ware (Tomber and Dore 1998, 149).
- Forms: Beakers: bag-shaped cornice-rimmed (including clay roughcasted), miscellaneous indented, indented with applied scales, double-waisted, funnel-necked (Howe *et al* 1980, nos 26-62); possible carinated bowl (Fig 14, 28); samian derived bowls Drag 31/36/37/38 (*ibid*, nos 80-83); 'Caster box' (*ibid*, no 89); jug/flagon (*ibid*, nos 64-5); bottle (Fig 14, 29), 'Coarseware' forms: jars: medium and narrow-mouthed (*ibid*, no 55), wide-mouthed (*ibid*, nos 75-6); flat-rim and conical flanged bowls (*ibid*, no 79); plain-rim dishes (*ibid*, no 87), 'steam-hole' lid (*ibid*, nos 71-2).
- LNVC/W: Lower Nene Valley self-coloured/cream (Tomber and Dore 1998, 119).
- Forms: Hemispherical flanged and samian-derived bowls Drag 36 (Perrin 1999, nos 346-53); medium-mouthed necked jars (Howe *et al* 1980, nos 90-5).
- LNVWHm: Lower Nene Valley mortaria, white or cream-coloured mortaria (Tomber and Dore 1998, 119). Forms compare to large illustrated series from Water Newton and environs (Hartley and Perrin 1999, nos 129-34).
- Forms: Included are flanged (Fig 14, 34), reeded-rim (Fig 15, 35-36) and reeded/wall-sided forms.

Shell-tempered wares (RSG)

The bulk of this material, particularly that from earlier CP3/4 groups compares to material described from Orton Hall Farm and Chesterton (Perrin 1999). A local origin is likely. Although it proved impossible to differentiate from individual sherds, the range of forms in later CP5 groups suggests most or all material originated from kilns at Harrold in Bedfordshire, some 40km distant to the south-west (Brown 1994; Tomber and Dore 1998, 115).

ER SH: A proportion of the shell-tempered wares occurring in early Roman CP3 deposits are of distinctive type, characteristically coarse with inclusions typically 2–5mm, firing to dark grey or brown. Wheel-thrown forms tend to be thick-walled.

Forms: Medium-mouthed necked jars (Fig 13, 11) and neckless jars (Fig 13, 12); handmade large jars/storage jars, some with combed decoration (Fig 13, 13-14).

RB SH: Medium coarse fabric with common fossil shell inclusions 2–3mm, tending to red-brown or grey.

Forms: Mainly medium-mouthed necked jars; large, necked and neckless storage jars; also small number of bowls (Perrin 1999, no 73) and one example of a cheese press. Harrold forms are mainly jars medium-mouthed necked jars with curved or undercut rims with fewer plain-rim dishes and large flat-rim bowls, some with scored wavy line decoration (Brown 1994). One example with stamped rosettes may be a late Harrold product (Fig 14, 23).

RB SHc: A coarser variant with inclusions typically 3–6mm and characteristically red-brown throughout was more common among earlier Roman CP2/3 groups. Occurs as thick-walled sherds from large storage jars and large cover-like vessels (Fig 14, 27) and a probable griddle. Comparable material has a localised distribution and local manufacture is certain (Perrin 1999, 124; Potter and Potter 1982, fig 33).

Forms: Oven 'hood'/covers (Fig 15, 37), griddle (Fig 15, 38).

BOG SH: A small proportion of shell-tempered wares exhibit characteristics of slightly micaceous and dark-grey, sparsely shell-tempered fabric (Tomber and Dore 1998, 156). This together with forms restricted to necked jars with double shoulder grooves suggest they derive from Bourne, Lincolnshire and Greetham, Rutland (Bolton 1968). They formed a minor component at Orton Hall Farm (Perrin 1996).

Forms: Necked jars (Fig 14, 27).

Whitewares (WH)

A small group of white-firing fabrics are of uncertain origin. Flagon amphora in fine fabric WHf might be Gaulish (R Tomber pers comm). This vessel aside, fabrics are predominantly sandy, although finer than Verulamium whiteware and quite unlike self-coloured LNV type wares. Similar white-firing fabrics occurred at Ashton (Aird and MacRobert forthcoming), and Stanwick, Northants (McSloy *et al* forthcoming). The correspondence between forms of necked jars with bifid rims may suggest an Upper Nene valley source. A pinch-necked flagon from surface [427] may be an Oxfordshire product (Young 1977, fig 31, 25–8).

WHf: White throughout. Hard-fired sparse quartz inclusions with a slightly sandy feel. Non-micaceous.

Forms: Two-handed flagon amphora (Fig 14, 26). The neck of this vessel has been thrown separately, the join clearly visible on the inside.

WH: White throughout or with greyish outer surface. Sandy feel. Common clear quartz.

Forms: Necked jar with bifid rim. Bag-shaped beaker; miscellaneous flagon handle; pinch-neck flagon.

Oxidised wares (LOC OX)

Sherds grouped here comprising oxidised, orange-firing, fabrics might derive from various local sources in the Lower or Upper Nene or regional, possibly Oxfordshire sources.

OXf: Fine, no inclusions, pale orange surfaces and grey core. Soft with smooth/soapy feel.

Forms: Small bead-rim, possibly a Drag 31 imitation bowl (Fig 14, 25).

OX: Hard, oxidised orange-firing fabric with common quartz sand and sandy feel.

Forms: Bodysherds only.

Regional wares

A total of six regional fabric types are represented from parts of southern England that include the Upper Nene, the East Midlands, Horningsea, Milton Keynes, Dorset and Oxfordshire.

HCG: Hard cream grogged ware. Upper Nene type. White/cream firing grogged fabric common in sites from Northampton region. Also occurs rarely at Water Newton (Perrin 1999, 124, no. 516).

Forms: Lid-seated jar.

EM GW: East Midlands Burnished greyware. 'Trent Valley ware' at Orton Hall Farm (Perrin 1996, 116). Medium grey throughout with fine sandy feel and common fine quartz inclusions. The fabric, forms and highly burnished surfaces are distinctive and quite unlike more local reduced ware types. Closest affinities are with wares described by Todd (1968, 192–5), from Rutland, east Leicestershire and Lincolnshire.

Forms: Wide-mouthed jar or bowl-jar (Fig 14, 31); neckless, everted-rim jar (Fig 14, 32).

HOR RE: Horningsea grey wares from Horningsea, near Cambridge (Tomber and Dore 1998, 116).

Forms: Large necked jar with zoned, scored decoration to shoulder.

PNK GT: Pink grog-tempered ware from Towcester and Milton Keynes area (Tomber and Dore 1998, 210; Booth and Green 1989).

Forms: Thick-walled storage jar sherds.

DOR B[273]: Dorset Black-Burnished ware (Tomber and Dore 1998, 127).

Forms: Plain-rimmed dish; conical flanged bowl.

OXFCC: Oxfordshire red-slipped ware, red/brown slip (Tomber and Dore 1998, 176).

Forms: Bowl types C45, C51, C75 (Young 1977); Possible funnel-neck beaker.

Continental wares

Typically the imported fabric types from overseas comprise a majority of Gaulish samian products with examples of amphora from southern Spain.

LMV SA:	Central Gaulish samian from Les Martres-de-Veyre (Tomber and Dore 1998, 31).
LEZ SA:	Central Gaulish samian from Lezoux (Tomber and Dore 1998, 31).
EG SA:	East Gaulish samian (Tomber and Dore 1998, 34–41).
BAT AM:	Baetican amphorae from southern Spain. Amphora sherds (Tomber and Dore 1998, 84–5).
Forms:	Bodysherds from a globular Dressel 20 type amphora.

1.2 Roman samian by Geoffrey Dannell and Brenda Dickinson

The composition of the samian is described in Appendix 1, Table 2. Predominantly 2nd century dating is suggested by a marked dominance of Central Gaulish wares. The few East Gaulish sherds perhaps extends this range into the early or mid 3rd-century.

Some material from Les Martres-de-Veyre (floruit AD100-120) is present, but most of the samian is from the central Gaulish centre at Lezoux and thus predominantly of the period *c*AD120-200. Many of the Lezoux vessels are only broadly dateable within this period, however certain forms (31, 31R, 38) together with the east Gaulish sherds must post-date *c*AD150-160. Stamped vessels are Lezoux products, each of Antonine date. Of 38 identifiable vessels, ten are (26%) cups, the remainder being undecorated bowls or dishes. Of note is the total absence of decorated bowl forms.

Samian stamps

Context (426)	[DOC}CALVSF	Doccalus 6a Lezoux, AD135-165
Context (443)	ALBVCIM	Albucius ii 4b Lezoux, AD150-180

Table 1: Samian fabrics and forms

Form	LMdV	LEZ SA	EG SA	Totals
33 cup		10		10
31 bowl		5		5
31R bowl		1		1
35		1		1
35/36	1	1		2
38 bowl		4		4
misc. bowl	1	2	1	4
Curle 15 dish		1		1
32/40 dish/cup			1	1
18/31dish	1	4		5
18/31R dish		2		2
Lud Tg dish			1	1
misc dish		1		1
Unid.		18		18
Totals	3	50	3	56

Table 2: Quantification of Roman pottery fabrics

Fabric Group	Fabric	Count	Weight (g)	EVE total	% EVE total
GROG	GROG	81	1041	1.23	1.9
	QZ GR	61	861	1.69	2.7
RB SH	ER SH	115	2706	0.9	1.4
	RB SH	1663	37472	14.53	22.8
	RB SHc	161	6468	0.67	1.1
	BOG SH	62	719	1.06	1.7
LOC RE	LOC BS	125	1465	1.37	2.2
	LOC Bsli	53	599	0.88	1.4
	LOC GW	527	14471	5.6	8.8
	LOC Gwli	18	256	0.07	0.1
	LOC GWgm	35	726	0.15	0.2
	LOC GWrm	148	1959	1.45	2.3
	LOC GWgc	30	360	0.65	1.0
	LOC GW LON	1	12	-	-
LOC OX	LOC OX	22	62	0	-
	LOC OXgr	8	170	0.4	0.6
LNVGW	LNVGW	788	11606	11.08	17.4
LNV WHm	LNVWHm	25	1802	0.87	1.4
LNV C/W	LNV C/W	32	730	0.9	1.4
LNVCC	LNVCC	741	13721	14.73	23.2
WH	WH	19	313	1.30	2.0
	WHf	2	340	1.0	1.6
HCG	HCG	1	38	0.1	0.2
OXFCC	OXFCC	21	255	0.71	1.1
HOR RE	HOR RE	4	404	0	-
PNK GT	PNK GT	7	181	0	-
DOR BB	DOR BB	7	93	0.12	0.2
EM GW	EM GW	20	542	0.78	1.2
Samian	MdV	3	31	0.05	0.1
	LEZ SA	58	637	1.26	2.0
	EG	3	17	0.07	0.1
BAT AM	BAT AM	15	2071	0	-
Total		4856	102128	63.62	

Table 3: Forms by minimum vessel count and rim EVE (excludes samian)

Generic Form	GROG	RSG	LOC GW	LOC OX	HCG	WH	LNVGW	LNVCC	LNVC	LNV WHm	DOR BB	OXFCC	EM GW
Flagon						4/2.2	1/0.7	2/1.15				1/0.3	
Beaker	1/0					1/0		20/0.55				1/0.04	
Jar	17/1.96	132/13.24	63/7.79		1/0.1	1/0.1	65/7.79	48/6.15	3/0.31				4/0.68
Jar (large storage)		28/2.06	1/0.04										
Bowl	6/0.55	10/1	18/0.89			1/0	8/0.67	24/2.87	6/0.31		2/0.1	3/0.18	
Castor Box								1/0.1					
Bowl (samian derived)			1/0.22	1/0.4			1/0.35	13/0.97	1/0.05			2/0.19	
Cheese press		1/0					1/0						
'Poultry feeder'			1/0.1										
Cover/oven		9/0.47											
Dish		2/0.12	5/0.37				15/1.45	24/2.09			2/0.02		1/0.1
Lid		2/0.14					1/0.12	1/0.5					
Mortaria										8/0.92			
?Patera							1/0						
Platter	1/0.06		2/0.08										
Strainer			4/0.52										

Table 4: Forms by Ceramic Phase (excludes samian)

Generic Form	CP2		CP3		CP4		CP5		CP5.1	
	Count	EVE	Count	EVE	Count	EVE	Count	EVE	Count	EVE
Flagon					5	2.9	2	1.15	1	0.3
Beaker	1	0			9	0.29	8	0.05	2	0.19
Jar	4	0.40	15	2.63	106	13.16	112	10.46	48	5.23
JST (large storage)			1	0.07	12	0.87	7	0.75	5	0.25
Bowl	2	-	2	0.40	18	1.82	24	2.49	14	1.08
Castor Box							1	0.1		
Bowl (samian copies)					5	0.97	9	0.94	4	0.05
Cheese press					1	-	1	-		
'Poultry feeder'					1	0.1				
Cover/oven hood					6	0.31	2	0.1		
Dish			1	0.06	10	0.89	26	2.33	9	0.55
Lid			1	0.05	2	0.21	1	0.5		
Mortaria					1	0.16	4	0.51	1	0.05
?Patera					1	0				
Platter					2	0.08	1	0.6		
Strainer			1	0.52			1	-		

Table 5: Pottery quantities by Ceramic Phase (Contexts where dating spans two or more CPs have been omitted)

Fabric Group	CP2			CP3			CP4			CP5			CP5.1		
	Count	Wt (g)	EVE	Count	Wt (g)	EVE	Count	Wt (g)	EVE	Count	Wt (g)	EVE	Count	Wt (g)	EVE
(IA)	90	1027	0.5	46	920	0.04	15	103	0.1	15	304	0	9	192	0
GROG	29	298	0.34	20	232	0.79	14	203	0.4	19	302	0.46	3	18	0.05
RSG	8	44	0.06	53	868	1.22	544	14750	5.92	591	16445	3.34	366	5896	3.92
LOC RE	4	15	0	72	1813	0.69	434	5281	5.08	192	8668	1.47	27	553	0.13
LOC OX							9	16	0	7	15	0	1	1	0
LNVGW				11	201	0.49	421	6772	5.79	202	2574	2.41	57	483	0.52
LNVWHm							11	896	0.18	6	325	0.21	6	300	0.15
LNVC							23	289	0.5	2	220	0.2	2	44	0.15
LVNCC							94	1184	1.41	339	6108	7.23	252	5500	5.54
Samian							39	489	1.05	17	146	0.22	3	13	0.11
BAT AM				1	19	0	11	1653	0	1	32	0			
WH				1	7	0	15	564	2.3	2	51	0	1	10	0.3
HCG										1	38	0.1			
OXFCC										12	136	0.3	5	67	0.11
HOR RE										1	16	0			
PNK GT										7	181	0			
DOR BB							1	10	0	5	75	0.12			
EM GW										7	180	0.13	13	362	0.65
Total	131	1384	0.9	204	4060	3.05	1631	32210	22.91	1431	35911	16.19	745	13439	11.63

Table 6: Quantification of fabrics for selected groups in CP3-4

Fabric Group	CP3 (307)			CP4 (426)			CP4 (418)			CP4 (276)		
	Count	Wt (g)	EVE	Count	Wt (g)	EVE	Count	Wt (g)	EVE	Count	Wt (g)	EVE
(IA)	28	705	.32									
BAT AM				9	1504	0						
GROG	9	180	.04	1	9	0						
RSG	31	394	.64	200	6316	2.41	93	2358	.57	45	1819	.33
LOC RE	3	116	.30	234	3063	3.04	11	138	.10	18	241	.10
LOC OX				7	142	.40	1	21	0	0	0	0
LNVGW	2	7	0	197	2624	3.15	69	770	.64	66	2270	1.38
LNV WHm				5	450	.16	2	235	.20	1	69	0
LNVCC				28	346	.29	8	25	0	18	359	.48
LNVC				20	250	.40	2	18	.10	1	21	0
WH				6	54	.80	0	0	0	0	0	0
Samian				22	232	.51	2	13	.08	3	393	1.0
Total	73	1402	1.30	729	14990	11.16	188	3578	1.69	152	5172	3.29

Table 7: Quantification of fabrics for selected groups in CP5-5.1

Fabric Group	149 (CP5)			390 (CP5)			492 (CP5)			516 (CP5)			613 (CP5.1)			632 (CP5.1)		
	Count	Wt (g)	EVE	Count	Wt (g)	EVE	Count	Wt (g)	EVE	Count	Wt (g)	EVE	Count	Wt (g)	EVE	Count	Wt (g)	EVE
IA	7	158	0	2	19	0												
GROG				2	14	0	3	50	0.13							1	4	0.05
RSG	99	1804	0.86	44	1473	0.79	132	3105	1.01	48	1421	0.8	32	1114	0.38	56	1800	0.7
LOC RE	23	238	0.12	5	127	-	68	7058	0.34	11	172	0.13	1	8	-	4	58	-
LOC OX							3	20	0				1	1	-			
LNVGW	13	281	0.14	10	200	0.12	45	472	0.43	11	124	0.11				14	140	0.08
LNV WHm	1	51	0.14	1	41	-				1	134	0.1	1	15	-			
LNVCC	98	1348	1.27	32	475	0.84	56	1560	1.48	25	1066	0.93	32	1026	1.21	74	1326	0.71
LNV C							2	220	0.2	1	16	0	1	28	0.15			
Samian	4	21	0	1	5	0.11	1	5	-									
BAT AM							1	32	-									
WH																		
HCG							1	38	0.10									
OXF RS	5	39	0.11	1	33	-							4	42	0.37	1	2	0.04
HOR RE	1	16	0															
PNK GT	6	117	0															
DOR BB							2	16	0.04									
EM GW													1	52	0	5	190	0.5
Total	257	4073	2.64	98	2387	1.86	314	12576	3.73	97	2933	2.07	73	2286	2.11	155	3520	2.08

APPENDIX 2 – CATALOGUE OF FINDS

2.1 Illustrated catalogue of finds by Tora Hylton

Figure 16

- 1 Cross Bow brooch, copper alloy. SF16, Context (14), Ditch [158], Enclosure E7.
- 2 Finger ring, copper alloy. Incomplete, part of hoop missing and very corroded. Flat-sectioned hoop with flattened terminals, secured by a soldered lap joint beneath the bezel, which is square (8mm by 8mm) with bevelled edges and the upper surface is silvered. Diameter: 21mm, Height: 1-3mm, Bezel: 8mm by 8mm. SF43, Context (108), SK14, third finger on left hand.
- 3 Finger ring, Silver. Incomplete, most of hoop missing. The hoop widens towards the bezel, which is ornamented with a plain rectangular panel defined by four grooves and notched ornament. Height: 12mm. SF52, Context (183), Furrow.
- 4 Pin, copper alloy. Complete, Plain faceted head with a circular sectioned shank tapered to a fine point. Length: 55mm. SF72, Context (149), Pit [150].
- 5 Bracelet, copper alloy. Almost complete but in six pieces. Made from three circular-sectioned strands of wire, twisted together in an anti-clockwise direction, with hook and eye terminal. Height: 4mm, Thickness of individual strands: 1-1.5mm. SF48, Context (80), SK5.
- 6 Bracelet, copper alloy. Incomplete, two small fragments. Made from three circular sectioned strands of wire, twisted together in an anti-clockwise direction. Vestige of hooked terminal at one end. Height: 3mm, Thickness of individual strands: 1-1.5mm. SF47, Context (80), SK5.
- 7 Strap-distributor, copper alloy. Cast, centrally placed perforated disc with four equidistant rectangular loops. Dimensions: 35 x 35mm, Height: 3mm. SF 95, Context (2), Subsoil.
- 8 Cosmetic mortar, copper alloy. Incomplete, tip of one end missing. Plain, cast crescent-shaped bow with grooved channel on inside curve; circular end-loop type. Length: 51mm, Width: 8mm, Depth: 7mm. SF154, Context (426), Spread above (427).

Figure 17

- 9 Key, iron. Complete, L-shaped lift key (with additional loop) for use with a simple tumbler lock. Manufactured from a square-sectioned rod with looped terminal (rolled bow). Shank tapers slightly to form a three toothed bit; junction between handle and bit has a U-shaped bend. Length: 170mm. SF191, Context (465), Pit [466], Enclosure E9
- 10 Tripod candlestick, iron. Incomplete, two legs missing. Tripod form with single tapered socket supported by three, twisted square-sectioned legs, which terminate in flattened out-turned feet. Comprises four individual sections, the legs, a circular 'dished' plate, tapered socket and dome-headed rivet for joining the sections together. Prior to assembling, the base of the socket was

cut longitudinally, into four equal strips (c50mm long), these were then forged back on themselves forming decorative ‘tendrils’. The tripod legs connected by an integral, perforated triangular-plate, the ‘dished’ plate and socket were then fixed together, by means of a large dome-headed rivet, which passed through the two former and into the base of the latter. Height: 160mm. SF183, Context (465), Pit [466], Enclosure E9.

- 11 Drop hinge, iron. Incomplete, one terminal missing. Decorative hinge comprising a perforated, parallel sided strap with two opposing crescentric arms and a centrally placed, perforated terminal finial/knop. Length: 148mm. SF193, Context (465), Pit [466], Enclosure E9.
- 12 Half of a beehive quern, stone. Rounded top with a broad, deep, hopper and a handle socket that penetrates through to the base of the hopper. Shaped and worn asymmetrically. Outer surface is quite roughly finished, and is uneven with a few shallow dimpled tool marks surviving. Dimpled tool marks on the surface of the hopper. Stone is fine-grained creamy-grey sandstone with small black grains. Height: 200mm, Diameter: 310mm. SF133, Context (357), Pit [329], Enclosure E4.

Figure 18

- 13 Adze-hammer, iron. Complete. Parallel-sided oval eye socket (c30mm by 20mm) with long rectangular collar and no discernable neck. Well formed circular hammer head with vertical burred face. Adze blade widens and angles down to broad gently curved cutting edge (65mm long), which rises slightly. Length: 195mm, Weight: 1.053kg. SF39, Context (72), Ditch [73].
- 14 Wedge, iron. Complete. Small round eye (tapered) set within an expanded head, no distinct neck. Well formed square hammer head, which expands slightly towards butt end. Butt end burred. Underside of chisel-edged blade protrudes horizontally from head, expanding towards slightly curved cutting edge, underside and upper surface curves to blade. Length: 190mm, Weight: 1.176kg. SF218, Context (72), Ditch [73].
- 15 Wedge, iron. Complete. Small round eye (tapered) set within an expanded head, no distinct neck. Well formed square hammer head, which expands slightly towards butt end. Underside of chisel-edged blade protrudes horizontally from head, widening towards straight cutting edge, upper surface curves down to blade. Length: 210mm, Weight: 1.650kg. SF217, Context (72), Ditch [73].

Table 1: Quantification of the miscellaneous finds by material type

Material	Total
Silver	1
Copper alloy (excluding coins)	31
Iron objects	100
Lead	4
Stone	6
Glass	2
Ceramic	1
Total	146

Table 2: Quantification of the miscellaneous finds grouped by function

Functional category	Iron Age to early Roman	Early Roman (Late 1st to mid-2nd centuries)	Roman (Mid-2nd to 3rd centuries)	Later Roman (4th century)
Personal Possessions				
Costume and jewellery			6	3
Personal equipment			1	
Hob nails			22	1
Equipment and furnishings				
Fittings				
General ironwork				4
Nails	1	5	60	31
Household equipment				1
Vessel glass			1	1
Hones/sharpeners				
Weights			1	
Tools				
Knives		1		2
Farming (Animals)				1
Metal working				1
Textile working			2	
Wood working				3
Miscellaneous/unidentified				
Copper alloy		2	1	2
Iron			12	9
Stone			3	1

Table 3: Catalogue of coins

Identification	Date	Context
Copper unit, probably Pegasus	Late Iron Age	Subsoil (SF21)
AS of Domitian	AD83-96	Subsoil (SF 2)
Dupondius Trajan	AD98-117	Furrow (SF 54)
AE coin probably AS	1st-2nd century	Subsoil (SF 6)
AE AS	2nd -3rd century	Spread around pond 75 (SF10)
AE3 Victorinus	AD268-270	Subsoil (SF 64)
AE3 Victorinus	AD268-270	Gully 468 (SF 173)
AE Claudius II Gothicus	AD268-270	Boundary Ditch 144 (SF 107)
Tetricus II - barbarous issue	Post AD270-273	Subsoil (SF 75)
Tetricus II - barbarous issue	Post AD270-273	Boundary Ditch 516 (SF 142)
Copy of House of Constantine (FEL TEMP REPARATIO)	mid-3rd century	Boundary ditch 605 (SF 114)
Barbarous radiate	Post AD275	Boundary ditch 613 (SF 113)
Barbarous radiate	Post AD275	Subsoil (SF 26)
Barbarous radiate	Post AD275	Furrow (SF 129)
Barbarous radiate based on Victorinus prototype	Post AD275	Unstratified spoil (SF 215)
Barbarous radiate	Post AD275	Unstratified spoil (SF 214)
Barbarous radiate	Post AD275	Boundary ditch 492 (SF198)
Barbarous radiate on an irregular flan	Post AD275	Subsoil (SF 98)
Barbarous radiate, copy of Probus	276-282	Furrow (SF 109)
Barbarous radiate	Late 3rd century	Boundary ditch 122 (SF 125)
Barbarous radiate	Late 3rd century	Pit 150(SF 24)
Flan?	Late 3rd century	Subsoil (SF 40)
AE 3 flan	3rd-4th century	Boundary ditch 343 (SF204)
AE4 barbarous flan	3rd-4th century	Spread around pond 75 (SF 11)
AE4 coin illegible	3rd-4th century	Subsoil (SF 1)
AE4 House of Constantine	First half 4th century	Furrow (SF 51)
AE3 House of Constantine	First half 4th century	Subsoil (SF 87)
AE3/4 House of Constantine	First half 4th century	Subsoil (SF 34)
AE3 House of Constantine - barbarous	First half 4th century	Subsoil (SF 30)
AE4 House of Constantine - barbarous copy of a falling horseman prototype.	First half 4th century	Subsoil (SF 35)
AE follis poss Constantine I SOL INVICTO COMITI rev PLN London mint.	AD308-324	Boundary ditch 390 (SF 137)
AE3 Constantine I BEAT TRANQUILLITAS rev.	AD310-337	Subsoil (SF 71)
AE3 Crispus - barbarous copy	AD317-326	Subsoil (SF 79)
AE3 Constantine I Camp gate rev PROVIDENTIAEAVG. MM Trier.	AD320-330	Spread around pond 75 (SF 14)
AE3 House of Constantine - barbarous copy of CONSTANTINOPOLIS issue.	Post 320	Spread around pond 75 (SF 13)
AE3 House of Constantine – prob. barbarous CONSTANTINOPOLIS issue.	Post 320	Unstratified (SF 197)
AE3 copy of CONSTANTINOPOLIS issue.	Post 325	Unstratified (SF 213)
Barbarous House of Constantine GLORIA EXERCITUS 2 standards type.	Post 330	Furrow (SF 23)
AE3/4 House of Constantine GLORIA EXERCITUS copy 2 standards type.	Post 330	Unstratified (SF216)
AE4 barbarous CONSTANTINOPOLIS.	Post 330	Boundary ditch 144 (SF 74)
AE3 barbarous CONSTANTINOPOLIS issue.	Post 330	Boundary ditch 144 (SF 42)

AE3 House of Constantine GLORIA EXERCITUS 2 soldiers	AD330-35	Gully 623 (SF 143)
AE3/4 GLORIA EXERCITUS 2 soldiers 1 standard type.	AD335-340	Boundary ditch 390 (SF130)
AE3/4 copy of a House of Constantine with advancing victory on reverse.	Post 340	Subsoil (SF 82)
AE4 copy of a House of Constantine with advancing victory on reverse.	Post 340	Subsoil (SF 73)
AE3/4 Barbarous House of Constantine 2 victories rev Trier prototype.	Post 340	Boundary ditch 295 (SF 61)
AE3 House of Constantine poss. VICTORIAEDDAVGGQNN rev.	Post 340	Subsoil (SF 5)
AE3/4 Constantius II minted in Siscia, 2 victories reverse VICTORIAEDDAVGGQNN	AD341-46	Subsoil (SF 88)
AE3 House of Constantine VICTORIAEDDAVGGQNN issue 2 opposed victories. MM probably Trier.	AD341-346	Subsoil (SF 66)
AE3/4 House of Constantine 2 victories reverse VICTORIAEDDNNAVG	AD341-346	Boundary ditch 343 (SF 141)
AE3/4 Constans VICTORIAEDDNNAVGGQNN Trier mint	AD341-346	Subsoil (SF 89)
AE3/4 House of Constantine standing victory.	AD341-346	Pit 351 (SF 110)
AE3 Constantius II FEL TEMP REPARATIO falling horseman type. MM Lyons.	AD346-350	Subsoil (SF 76)
AE barbarous House of Constantine on irregular flan. Kneeling captive rev	post 346	Pond 75 (SF 45)
AE3 House of Constantine probably a falling horseman TYPE.	mid-4th century	Topsoil (SF 32)
AE3/4 barbarous House of Constantine 2 victories rev.	mid-4th century	Subsoil (SF 90)
AE3 House of Constantine	mid-4th century	Boundary ditch 605 (SF115)
AE3 House of Constantine barbarous copy	second half 4th century	Boundary ditch 144 (SF 41)
AE4 House of Constantine copy of a falling horseman type	second half 4th century	Subsoil (SF 18)
AE4 Barbarous House of Constantine	second half 4th century	Subsoil (SF 17)
AE3/4 House of Constantine, barbarous and chi-rho on reverse	second half 4th century	Boundary ditch 421 (SF 152)
AE3 House of Constantine GLORIA ROMANORUM rev emperor dragging captive	post 350	Subsoil (SF 80)
AE3 House of Constantine	post 350	Unstratified (SF 199)
AE Centenionalis of Magnentius FELICITAS REIPUBLICAE rev MM Lyons.	AD350-351	Subsoil (SF 69)
AE Centenionalis Magnentius (probable). MM Trier. FELICITAS REIPUBLICAE rev.	AD350-353	Subsoil (SF 20)
AE3 House of Constantine Securitas issue	post 360	Furrow (SF 132)
AE3 Valens	AD365-378	Subsoil (SF 8)
House of Constantine – URBS ROMA copy	4th century	Boundary ditch 327 (SF 124)
AE4 House of Constantine barbarous copy	4th century	Pit 466 (SF 174)
AE4 House of Constantine barbarous copy	4th century	Spread around Pond 75 (SF 9)
AE4 House of Constantine barbarous copy	4th century	Boundary ditch 343 (SF 123)

AE3/AE4 House of Constantine	4th century	Ditch 647 (SF 112)
AE3 House of Constantine- fragment only	4th century	Gully 596 (SF 205)
AE4 House of Constantine flan ?	4th century	Boundary ditch 144 (SF 22)
AE4 House of Constantine – Winged Victory on reverse	4th century	Boundary ditch 144 (SF 46)
AE3 House of Constantine Minim	4th century	Gully 468 (SF 108)
AE3/4 House of Constantine x 3	4th century	Furrow 183 (SF 53, 116, 140)
AE3 House of Constantine flan	4th century	Subsoil (SF 68)
AE3 House of Constantine x 2	4th century	Subsoil (SF 65, 99)
AE3/4 House of Constantine – barbarous copy x 2	4th century	Subsoil (SF 28, 94)
AE4 House of Constantine x 4	4th century	Subsoil (SF 19, 29, 84, 86)
AE4 House of Constantine – 2 Victories	4th century	Subsoil (SF 81)
AE4 - barbarous copy. Illegible	4th century	Subsoil (SF 4)
AE4b House of Constantine - Minim	4th century	Unstratified (SF 136)
AE4 House of Constantine prototype	4th century	Unstratified (SF 131)

APPENDIX 3 – CATALOGUE OF BURIALS

3.1 Analysis of the human skeletal remains by Katie Tucker

Methodology

An inventory of skeletal elements was compiled, and age and sex were attributed to each individual where possible. Metrical and non-metrical data were collected, and pathological changes were recorded and photographed where appropriate.

An assessment of age for the adult individuals was determined from, where possible, the changes to the pubic symphysis (Brooks and Suchey 1990), and the auricular surface of the ilium (Buikstra and Ubelaker 1994). Immature skeletons were aged from dental development, long bone length and epiphyseal fusion (Scheuer and Black 2000). The age of immature skeletons can be determined with a much greater degree of accuracy than that of adults, due to the fact that the growth of the bones and development of the teeth follow a relatively predictable course, up to the time when the final epiphyseal fusion takes place, around the age of 25. However, the degeneration of the pelvis of the adult skeleton depends on the sex, health and lifestyle of each individual, and tends to vary to a greater extent with increasing age. Therefore, the age of adult skeletons can only be assessed to within five to ten years, and cannot be reliably determined beyond 46+ years.

The age of the individuals was divided into a number of categories, starting with foetus (up to 40 weeks *in utero*), neonate (40 weeks *in utero* to one month), infant (one month to one year), younger childhood (1-6 years), older childhood (7-12), adolescent (13-18 years), young adult (19-25 years), young middle adult (26-35 years), old middle adult (36-45 years) and mature adult (46+ years). There may be overlaps between categories, or a broad category, such as adult, may be used where insufficient evidence was present to age an individual more accurately.

The gender of the adult individuals was determined from, where possible, the assessment of several sexually dimorphic features of the pelvis and skull (Buikstra and Ubelaker 1994). A five gender classification was used; female, ?female, undeterminable, ?male, male. Gender cannot easily be determined for immature individuals, as the skeleton only becomes truly sexually dimorphic during puberty. There have been several methods devised to try determine gender for immature skeletons but this was not attempted in the current work (Weaver 1980, Schutkowski 1993, Molleson *et al* 1998).

The statures of the adult individuals were calculated, where possible, from long bone lengths, which were placed into the regression formulae developed by Trotter (1970). The cranial index, which records the shape of the head, was also calculated, where possible, as given in Brothwell (1981).

The dentition, where it could be analysed, is recorded giving permanent and deciduous dentition respectively in the following manner:

Key

Upper right	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Upper left
Lower right	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	Lower left

Upper right	51	52	53	54	55	56	57	58	59	60	Upper left
-------------	----	----	----	----	----	----	----	----	----	----	------------

Lower right	70	69	68	67	66	65	64	63	62	61	Lower left
-------------	----	----	----	----	----	----	----	----	----	----	------------

- / tooth lost post-mortem
- X tooth lost ante-mortem
- jaw and teeth not present
- np tooth not present
- c caries in tooth
- a abscess
- e tooth erupting
- u tooth unerupted

The preservation, completeness, age, gender, stature and cranial index of each individual analysed, as well as any non-metric traits and pathologies observed, are catalogued at the end of this appendix.

Table 1: Age and gender distribution of the inhumations

	Male	?Male	?Female	Female	Unsexed	Total
Foetal						
Foetal/neonate					1	1
Neonate					1	1
Infant						
Younger childhood						
Older childhood						
Adolescent						
Young adult		1	1			2
Young middle adult				2		2
Old middle adult	2	2			2	6
Middle adult	1					1
Middle adult +		2				2
Mature adult	1	2	1			4
Adult		1	1		3	5
Total	4	8	3	2	5	24

Age

The distribution of the age categories and genders represented among the inhumations, are given in Table 1. There are only two sub-adult individuals forming 8.3% of the burials represented and these are both foetal or neonate. Of the adult individuals who could be assigned a more precise age category, two form 11.8% of the adults and sub-adults who could be assigned an age category and were young adults (19-25). Nine form 52.9% of the burials and were adult (26-45), while four form 23.5% of the burials and survived into mature adulthood (over 46 years). The low number of sub-adult individuals from the cemetery does not reflect the expected age distribution in a pre-modern cemetery where the childhood mortality rate is usually high. The east cemetery of Roman London reflects this expected age profile with 25% of individuals aged 18 or younger at the time of death (Werner 1998). A lack of sub-adult individuals is seen in a number of other Romano-British cemeteries, both rural and urban. The rural cemetery at Ruxox, Bedfordshire, had only two sub-adult individuals out of 31 skeletons forming 6.5% of the burials, both of these were of older children (Jackman 2004, 314). The rural cemetery at Bletsoe, Bedfordshire, had four sub-adults including two neonates, from a cemetery of 56 individuals, 7.1% of the burials present (Denston and Duhig 1994, 31). The rural site at Kempston, Bedfordshire, had 11 sub-adults from a cemetery of 92 individuals, comprising 12% of the burials present (Boylston and Roberts 2004, 336). By comparison urban cemeteries differ greatly. The numbers of sub-adults represented in the urban cemetery of Colchester was greater, with 112 sub-adults out of 614

skeletons, comprising 18.2% of the burials, although only six of these were younger than one year (Pinter-Bellows 1993).

Gender

The gender ratio of the burials is unusual when compared with a normal archaeological population that should have roughly equal numbers of males and females. Of the 19 adult individuals to whom gender could be assigned, 12 were male or possible male forming 63% of the burials present. The ratio is therefore 2.4:1. The rural cemetery at Bletsoe, Bedfordshire showed a ratio of 1.2:1 (Denston and Duhig 1994, 30). The ratio was 1.7:1 in the rural cemetery at Kempston and at the small burial ground at Old Place, Sleaford (Boylston and Roberts 2004, 337; Dodwell 1996, 51). The small burial group from Long Melford, Suffolk, also showed a male bias of 2:1 (Anderson 1997).

Stature

The stature was calculated for ten individuals, eight males and two females. The average male stature was 1.72m with a range of 1.68-1.79m, and the average female stature was 1.57m with a range of 1.52-1.63m. Table 2 shows a comparison between the statures from the present sample compared with other Romano-British cemeteries at Kempston (Boylston and Roberts 2004, 337), Sleaford (Dodwell 1996, 55), the London eastern cemetery (Conheaney 2000, 280) and Colchester (Pinter-Bellows 1993, 64). Average data for the period is presented from the work by Roberts and Cox (2003, 142).

Table 2: Stature comparison with other sites

Site	Type	Male mean (m)	Male range (m)	Female mean (m)	Female range (m)
Yaxley	rural	1.72	1.68-1.79	1.575	1.52-1.63
Kempston	rural	1.70	1.55-1.82	1.60	1.51-1.77
Sleaford	rural	1.69	1.61-1.74	1.605	1.55-1.66
London eastern cemetery	urban	1.69	1.58-1.80	1.56	1.45-1.72
Colchester	urban	1.68	1.55-1.90	1.56	1.42-1.71
average for period	both	1.69	1.59-1.78	1.59	1.50-1.68

Statures in the present sample are very similar to those from other sites, and there does not appear to be any difference between rural and urban cemeteries. If the internal and external burial groups from the present sample are separated before calculating stature, the male average stature from the internal group is 1.73m compared to 1.69m from the external group, which does suggest that there may be a slight difference between the groups.

SK7a and SK13 both exhibited mandibular tori, while SK16 and SK17 had non-osseous tarsal coalition, both of which are less common. A family link may be possible between the individuals, although SK7a and SK13 were buried some distance from each other, while SK16 and SK17 were buried close to each other but on opposite sides of the enclosure ditch.

Dentition

Dental diseases are some of the most commonly recorded pathological conditions in archaeological skeletons because of the high survival rate of teeth in the burial environment. Of the 24 individuals in the present sample, 14 had surviving dentition from a total of 218 teeth. Of these, 12 individuals (86%) had evidence for dental caries on 39 out of the 218 teeth (18%). If the internal and external groups are separated, 21%

of teeth from the internal group and 15% of teeth from the external group are affected, which may suggest a difference between the groups, although the sample is fairly small. Caries are caused by the actions of bacteria on food residue on teeth and are most often related to the consumption of high levels of sweet foodstuffs such as honey. At the Kempston rural cemetery, 8.2% of teeth were affected by caries, while at Bletsoe the figure was 6.7% (Boylston and Roberts 2004, 339; Dunston and Duhig 1994, 30). In the urban cemeteries of Colchester and Eastern London, the rates of carious teeth were 3.9% and 7.3% respectively (Pinter-Bellows 1993, 79; Conheaney 2000, 283). The present sample appears to have a higher number of affected teeth than normal for both rural and urban populations of the period, suggesting that there were more sweet foodstuffs in the diet of the Yaxley population and poor levels of dental hygiene.

Another indication of levels of dental hygiene is the presence of calculus deposits on the surfaces of teeth. Of the 14 individuals with dentition, 13 had some degree of calculus. When the internal and external groups are separated, 80.3% of teeth from the external group have calculus deposits, compared to 95.4% of the internal group. This again suggests a possible difference between the groups. The percentage of affected teeth at Kempston was 56.1%, while at Bletsoe, calculus was present in “about half” of the dentitions (Boylston and Roberts 2004, 339; Dunston and Duhig 1994, 31). In the eastern cemetery of Roman London, 75.4% of teeth were affected (Conheaney 2000: 284). The percentage from the present sample is similar to that seen in urban cemeteries rather than rural ones and suggests poor levels of dental hygiene. This is also implied by 79% of the individuals being affected by periodontal disease, which can be initiated by calculus irritating the gums. At Kempston, 69.9% of individuals were affected and at Bletsoe it was “widespread” (Boylston and Roberts 2004, 339; Dunston and Duhig 1994, 31). Dental abscesses are also a complication of dental caries and a lack of dental hygiene, the percentage of affected individuals at Yaxley was 14%. Similar percentages, 13% and 18%, were recorded at Colchester and Drifffield Terrace, York (Pinter-Bellows 1993, 85; Tucker forthcoming, 64).

Joints and muscular defects

Another very common pathological condition is degenerative joint disease and osteoarthritis. Of the 22 adult individuals, 13 (59.1%) had evidence for spinal joint disease. At Bletsoe this percentage was 50%, the same as at Old Place, Sleaford (Dunston and Duhig 1994, 31; Dodwell 1996, 99-107). At Drifffield Terrace, York, the percentage of adults affected was 40.5% (Tucker forthcoming, 64). The percentage of individuals with at least one extra-spinal joint affected in the present sample was also 59.1%. This compares to approximately 60% of the adults at Bletsoe and Old Place, Sleaford and 48.6% of adults at Drifffield Terrace, York (Dunston and Duhig 1994, 31; Dodwell 1996, 99-107; Tucker forthcoming, 64). This suggests that the population from Yaxley were subjecting their joints to similar amounts of wear and tear. The extra-spinal joints most commonly affected by degenerative changes at Yaxley were the hand, hip and shoulder. Similar patterns were observed at Kempston, the eastern London cemetery, Colchester and York. Joint disease was restricted to the older individuals, with neither of the young adults being affected and is to be expected as degeneration of the joints increases with age.

Schmorl's Nodes were observed on the vertebrae of nine individuals, 45% of those with vertebrae present. Of these, seven were male and only one was female. This bias towards males being affected was also recorded at Kempston and at Colchester (Boylston and Roberts 2004, 346; Pinter-Bellows 1993, 75). Schmorl's Nodes are probably related to stress and strain on the back from repeated bending and lifting, and the differences in percentages of affected males and females may reflect differences in heavy labour between the genders. None of the individuals in the external group had

evidence for Schmorl's Nodes, which may imply a difference in their occupational activity.

Evidence for strenuous activity among the remains is implied by the presence of activity related changes to the skeleton. Cortical defects, which occur at sites of muscle attachment and are due to repeated microtrauma through heavy use of a particular muscle or muscle group, were noted on elements from eight individuals, all male apart from an adult of indeterminable sex. They were most commonly seen at the attachment sites for the costoclavicular ligament on the clavicle and for *M. pectoralis major* and *M. teres major* on the proximal humerus. The muscles of the proximal humerus are involved in adduction and medial and external rotation of the arm, while the costoclavicular ligament stabilises the sternoclavicular joint in these actions, so it is probable that a number of individuals in the present sample were repeatedly involved in these types of movement. Cortical defects on the proximal humerus and clavicle were also noted in a number of males from Kempston and York (Boylston and Roberts 2004; 348, Tucker forthcoming, 65). Enthesophytes, which are deposits of new bone at sites of muscle attachment that can have degenerative or activity related causes were seen on elements from eight individuals, including six males and one female, comprising 36.4% of the adults. The most common sites were the attachments for *tendo calcaneus* on the calcaneus and for *M. rectus femoris* on the patella, which was also the finding at Kempston and the eastern London cemetery (Boylston and Roberts 2004, 347; Conheeny 2000, 285). Pronounced muscle attachments were also seen in five individuals, four of them male, forming 22.7% of the adults. The only sites affected by these were the attachments for *M. deltoideus* on the humerus and clavicle and for the thenar muscles in the hand. In addition, two individuals were recorded as having an asymmetry in the length of the humeri of more than 4mm, which reflects hypertrophy of one limb as a result of increased mechanical loading (Knüsel 2000, 383). More individuals may have been affected but the high level of bone fragmentation prevented the measurement of more paired humeri.

Another indication of possible stress on joints and sites of muscle attachment are avulsion fractures. These can occur when there is trauma to a site of a tendon or ligament attachment. A small fragment of bone can be pulled away by the ligament or tendon and then does not reattach during the healing process. One individual showed evidence for an avulsion fracture of the posterior of the talus. No muscles attach to this area but an avulsion fracture can occur here when the talus is compressed against the calcaneus. A number of other fractures were recorded among the population. Ten individuals, 41.7% of the total, had evidence for one or more healed fractures, which is higher than the percentage at Kempston at 29.9% and less than the 55% at Driffeld Terrace, York (Boylston and Roberts 2004, 341; Tucker forthcoming, 66). The most common sites of fractures in the present sample were the ribs and hands, which were also among the most common at Kempston, the eastern London cemetery and York (Boylston and Roberts 2004, 341; Conheeny 2000, 285; Tucker forthcoming, 66). Most fractures are caused accidentally while fractures of the ribs and of the hand are often interpreted as being a result of interpersonal violence (Hershkovitz *et al* 1996; Jurmain and Bellefemine 1997; Lovell 1997). The fact that they are the most common fractures and the majority of affected individuals are males may suggest a degree of violent treatment or an increased probability of accidents occurring through their working lives.

Another condition that may be associated with trauma is *osteochondritis dissecans*. This is a condition in which circulatory disturbance leads to necrosis of the bone of a joint. The bone fragment may subsequently detach from the rest of the bone leaving a rounded lesion on the joint surface. One individual demonstrated lesions consistent with the condition on both femoral condyles. This location is the most commonly recorded,

with individuals from Kempston and Colchester also being affected (Boylston and Roberts 2004, 348; Pinter-Bellows 1993, 91).

In addition to these forms of trauma, SK7a had been decapitated with the cranium and mandible buried beneath the right knee. Unfortunately, no cut marks were visible on the vertebrae. Decapitation is a fairly common in Romano-British cemeteries and was evident at Kempston (Boylston and Roberts 2004, 342-3). Here, as at many other sites, the method of decapitation was from the front of the neck and seemed to have been made with care and precision, indicating that the decapitation occurred after death (Philpott 1991, 80). On other, rarer, occasions, the cuts are to the back of the neck, interpreted as penal executions (Wells 1982, 194; Tucker forthcoming, 68). The lack of surviving cut marks for this individual make it impossible to determine the most likely interpretation.

Disease

Infectious diseases, in the form of porous woven bone and compact bone that cannot be attributed to a specific infective process were recorded on elements from three individuals, forming 12.5% of the population. The low percentage may be a result of post-mortem factors, rather than an indication of lower levels of infection as many elements were heavily encased in hard clay that appears to have removed fragile porous new bone in a number of cases. One individual exhibited new bone on the visceral surface of the ribs, caused by chronic chest infections. Four individuals from Kempston (4.6%) were affected, a very similar percentage, while a higher percentage of 17.5% was recorded at Driffeld Terrace, York (Boylston and Roberts 2004, 344; Tucker forthcoming, 66). Sinusitis, in the form of new bone in the maxillary antra, was present in two individuals (8.3%). The percentage at Kempston was much higher (20.7%), while at Colchester, it was much lower (1.7%) (Boylston and Roberts 2004, 344; Pinter-Bellows 1993, 79). These differences may be due to factors effecting preservation of the crania, as only broken maxillae can be assessed for the condition. Sinusitis is associated with infection from abscesses penetrating into the maxillary sinuses, or from irritation of the sinuses by sooty or dirty air. As neither of the affected individuals had evidence for abscesses, the latter is most likely to be the cause.

One other specific form of infection was recorded on the cranium of SK14. This individual had new bone in the sagittal and transverse sinuses on the endocranial surface of the parietals and occipital. This indicates an infection of the meninges of the brain (meningitis) that was still active at the time of death. It is possible that this infection may have lead to the death of the individual. They body was buried in an isolated position within the settlement, perhaps related to an unusual death.

Nutrition

Stress during childhood, either in the form of ill health or poor nutrition, is suggested by the presence of enamel hypoplastic lines on the teeth, caused by stress that prevents the laying down of enamel during dental development, and *cribra orbitalia*, porosity in the roof of the orbits due to anaemia. Seven individuals out of a total of 14 with surviving dentition (50%) had evidence for enamel hypoplasia of one or more teeth. Sixty-four individuals (27.2%) from Colchester were affected (Pinter-Bellows 1993, 88). A similar percentage was recorded at Kempston (Boylston and Roberts 2004, 339). SK21 exhibited *cribra orbitalia* (11.1% of those with the relevant elements present). This compares with 13.0% at Kempston and 9.9% at Colchester (Boylston and Roberts 2004, 345; Pinter-Bellows 1993, 87). This suggests that, while the levels of *cribra orbitalia* are very similar, these people may have experienced higher levels of stress during childhood. The position of the hypoplastic lines on the dentition was recorded in all cases and the results suggest that, while some individuals had multiple periods of stress that extended into their teens, many may be associated with weaning.

Evidence for neoplastic disease was seen in four individuals, three of which had benign tumours (osteomas) on the cortex of elements (12.5%). This benign form of neoplastic disease is the most commonly seen in archaeological skeletons. Three individuals (3.4%) with the condition were recorded from Kempston and five cases (0.86%) were recorded at Colchester (Boylston and Roberts 2004, 345; Pinter-Bellows 1993, 87). SK15 had a possible malignant neoplastic disease, forming a sharp edged destructive lesion on the occipital.

One adult male (SK8) had lesions of the feet that were suggestive of gout, a condition caused by a build-up of uric acid crystals in joints. It is associated with excessive alcohol consumption, obesity, kidney problems and high blood pressure, and is seen more in males than females. Obesity and diabetes may also be factors in another condition, Diffuse Idiopathic Skeletal Hyperostosis (DISH), which is also more common in males and manifests as large osteophytes of a “candle-wax” appearance with fusion of adjacent vertebrae and of new bone at ligamentous attachments. One adult male (SK7a) had lesions of the vertebrae that may have been an early manifestation of the condition.

3.2 The burial data by Katie Tucker

SK1 (68)

Age: young middle adult (26-35)
 Sex: female
 Stature: 1.52 ± 0.0355m (femur + tibia)
 Cranial index: -
 Preservation: moderate
 Completeness: the majority of the bones are present, apart from the right radius, left hand, most of the right tibia and left foot
 Dentition:

Upper right	1	2	3	4	5	6	7	8	-	-	-	-	-	-	-	Upper left	
Lower right	-	31	30	-	-	27	-	-	-	-	-	-	-	19	18	/	Lower left

Dental pathology: calculus (11/13), enamel hypoplasia of the canines, slight periodontal disease
 Non-metric traits: transverse foramen bipartite (left)
 Pathology: Schmorl’s Nodes (SN) of the lower thoracic vertebrae, possible anterior intervertebral disc herniation between L4 and L5.
 Intrusions: human foetal femoral shaft, 1 shaft fragment of animal bone

SK2 (70)

Age: adult
 Sex: -
 Stature: -
 Cranial index: -
 Preservation: good
 Completeness: only the ribs, vertebrae, left scapula, part of the pelvis and left femur and fragments of the cranium are present (the left arm recorded on the context sheet is now missing)
 Non-metric traits: L1 has an upper facet of the thoracic type

Pathology: Degenerative joint disease (DJD) of the thoracic vertebrae, SN of the thoracic and lumbar vertebrae, well remodelled fractures of two left rib shafts (one fragment has two closely spaced fractures) near to the vertebral end and of one unsided fragment. There is some misalignment of the ends with bony spurs.

Intrusions: human adult right capitate, right scaphoid and four left and two right ribs, human foetal left humerus, Fe nail

SK3 (76)

Age: middle adult or older (26+)

Sex: ?male

Stature: 1.70 ± 0.0337m (tibia)

Cranial index: -

Preservation: moderate

Completeness: the majority of the bones, apart from the sternum and most of the pelvis, are present

Dentition:

		c	c											c	c		
Upper right	/	2	3	-	-	-	-	8	9	10	11	12	13	14	15	16	Upper left
Lower right	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	Lower left

Dental pathology: caries (4/27), calculus (26/27), enamel hypoplasia of the incisors and canines, slight periodontal disease

Non-metric traits: mastoid foramen exsutural

Pathology: exostosis of bone on visceral surface of neck of one right rib, small area of healed non-specific infection (NSPI) on the left femur, possible small cyst of the right lunate, slight enthesophytes at the attachment site for *tendo calcaneus* on both calcanei.

Intrusions: animal phalanx

SK4 (78)

Age: mature adult (46+)

Sex: ?female

Stature: -

Cranial index: -

Preservation: moderate

Completeness: parts of the cranium and mandible, left clavicle, both scapulae, ribs, vertebrae, pelvis, both arms, both femorae, and right tibia are present

Dentition:

						c								c			
Upper right	1	-	-	-	-	6	-	-	9	10	11	X	X	X	15	16	Upper left
Lower right	32	31	30	29	28	-	-	-	-	-	/	21	20	19	18	17	Lower left

Dental pathology: caries (2/17), calculus (12/17), slight to moderate periodontal disease

Non-metric traits: none observed

Pathology: Osteoarthritis (OA) of the spine

Intrusions: animal tooth

SK5 (80)

Age: adult

Sex: -

Stature: 1.79 ± 0.0337m (tibia)

Cranial index: -
 Preservation: moderate
 Completeness: the majority of the bones, apart from most of the pelvis, ribs, vertebrae, left hand and feet, are present (some parts of this skeleton have possibly accidentally been assigned to SK16)
 Non-metric traits: none observable
 Pathology: DJD of the right shoulder, slight cortical defect on a fragment of proximal humerus, either at the attachment site for *M. teres major* or *M. pectoralis major*.
 Intrusions: human adult tibia fragment and left ulna fragment, three fragments of animal bone

SK6 (82)

Age: old middle adult (36-45)
 Sex: undeterminable
 Stature: -
 Cranial index: -
 Preservation: moderate
 Completeness: the majority of the bones are present
 Dentition:

			c	c													
Upper right	-	2	3	4	5	6	7	8	X	10	11	X	13	X	X	-	Upper left
Lower right	X	X	X	X	28	27	26	25	24	23	22	21	20	X	X	X	Lower left

Dental pathology: caries (7/19), calculus (17/19), large amounts of calculus on maxillary right molars with occlusal surfaces covered, slight to severe periodontal disease
 Non-metric traits: parietal foramen (right)
 Pathology: OA of the spine and hands, DJD of both hips and the right foot, possible small cyst on the right lunate, *osteocondritis dissecans* of the distal joint surfaces of both femorae, cortical defect at the attachment site for *M. teres major* on the left humerus, pronounced attachment for *M. deltoideus* on both clavicles.
 Intrusions: human adult femoral head

SK7a (84)

Age: old middle adult (36-45)
 Sex: ?male
 Stature: -
 Cranial index: -
 Preservation: good
 Completeness: the majority of the bones, apart from the sternum and most of the right humerus, are present
 Dentition:

				c							c	c	c				
Upper right	-	-	-	4	/	6	7	X	9	10	11	12	13	X	/	-	Upper left
Lower right	32	31	30	29	28	27	26	25	24	23	22	21	20	X	18	17	Lower left

Dental pathology: caries (7/23), calculus (23/23), slight to severe periodontal disease
 Non-metric traits: mandibular torus
 Pathology: OA of the spine, DJD of the left hand, osteophytic development on the right side of two thoracic bodies that may represent very early DISH (Diffuse Idiopathic Skeletal Hyperostosis), SN of one thoracic vertebra, well remodelled fracture of the

distal shaft of the left ulna with no obvious misalignment, new bone on the visceral surface of three unisided rib fragments, indicating a chest infection active at the time of death, enthesophytes at the attachment site for the anterior longitudinal ligament on C1, for *M. gluteus minimus* on the right femur, for *M. rectus femoris* on the left patella, and for *tendo calcaneus* on the left calcaneus, pronounced attachment for *M. adductor policis* on both MC3s.

SK7b (84)

Age: adult
 Sex: ?female
 Stature: -
 Cranial index: -
 Preservation: moderate
 Completeness: parts of the cranium, left scapula and arm, vertebrae, pelvis, both femorae, right fibula and foot are present
 Non-metric traits: mastoid foramen exsutural
 Pathology: OA of the spine, DJD of the left hip, slight enthesophytes at the attachment site for *M. rectus femoris* on the left patella.
 Intrusions: number of fragments of animal bone

SK8 (86)

Age: old middle adult (36-45)
 Sex: ?male
 Stature: 1.75 ± 0.0337m (tibia)
 Cranial index: -
 Preservation: moderate
 Completeness: the majority of the bones, apart from the left clavicle, mandible, sternum and most of the cranium, are present
 Non-metric traits: tibial squatting facet (left)
 Pathology: OA of the spine and both hands, SN of the thoracic and lumbar vertebrae, probable gout of both feet, cortical defect at the attachment site for *M. soleus* on the left tibia.

SK9 (88)

Age: middle adult or older (26+)
 Sex: ?male
 Stature: 1.68 ± 0.0432m (radius)
 Cranial index: -
 Preservation: good
 Completeness: the cranium and mandible, vertebrae, ribs, sternum, scapulae, clavicles, both arms and part of the pelvis are present
 Dentition:

													c	c			
Upper right	-	2	X	4	/	6	/	8	/	/	11	/	13	14	X	16	Upper left
Lower right	32	31	30	29	28	/	/	25	24	/	/	21	20	19	18	17	Lower left
	c	c	c														

Dental pathology: caries (5/20), calculus (20/20), slight periodontal disease
 Non-metric traits: mastoid foramen exsutural, double superior atlas facets, posterior atlas bridge (left), transverse foramen bipartite (right)
 Pathology: DJD of the spine and both shoulders, SN of the mid thoracic to upper lumbar vertebrae, possible anterior herniation of the intervertebral disc between T11 and T12, well remodelled fracture of the midshaft of the right ulna (distal shaft lost post-mortem)

so impossible to assess misalignment), thickening of the lateral border of the right scapula with osteophytes at the attachment site for *M. triceps* that may represent a well remodelled fracture of the border, sinusitis of the left maxillary antrum, ankylosis of the manubrium and sternal body, cortical defect at the attachment site for the costoclavicular ligament on both clavicles and for *M. pectoralis major* on the right humerus, pronounced attachment for *M. deltoideus* on both humeri.

SK10 (90)

Age: mature adult (46+)

Sex: ?male

Stature: 174cm (ulna) (as given in Brothwell (1981))

Cranial index: -

Preservation: moderate

Completeness: parts of the cranium, ribs and vertebrae, right humerus, both lower arms and hands, pelvis, both femorae, left lower leg and foot are present

Non-metric traits: none observed

Pathology: OA of the spine, DJD of both wrists, the left hand and both hips, remodelled fracture of one unisided rib fragment, remodelled fracture of the shaft of the right MC4 with no misalignment, remodelled fracture of the shaft of the right MC1 with the distal end displaced proximally and subsequent shaft thickening (the distal shaft is lost post-mortem so impossible to assess shortening of the bone), remodelled fracture of the shaft of one proximal hand phalanx with the distal end displaced slightly dorsally, osteoma on the proximal shaft of the left tibia, localised area of shaft expansion and compact bone on the mid-shaft of the left tibia and slight compact bone of the shaft of the left fibula indicating healed NSPIs

SK11 (92)

Age: adult

Sex: -

Stature: -

Cranial index: -

Preservation: good

Completeness: only some ribs, part of the right arm and left ulna, parts of both femorae and part of the left lower leg are present

Non-metric traits: none observable

Pathology: none observed

SK12 (94)

Age: middle adult (26-45)

Sex: male

Stature: -

Cranial index: -

Preservation: moderate

Completeness: some ribs and vertebrae, the left clavicle and scapula, left arm, part of the pelvis and both legs are present

Non-metric traits: distal septal aperture (left)

Pathology: DJD of the spine, small cortical defect at the attachment site for the costoclavicular ligament on the left clavicle, slight enthesophytes at the attachment site for *M. gluteus minimus* on the right femur.

Intrusions: one fragment of animal bone

SK13 (96)

Age: mature adult (46+)
 Sex: male
 Stature: 1.71 ± 0.0299m (femur + tibia)
 Cranial index: -
 Preservation: good
 Completeness: the majority of the bones are present
 Dentition:

Upper right	-	2	-	-	5	-	-	-	-	10	11	12	-	-	15	X	Upper left	
Lower right	np	/	/	29	28	27	/	X	X	/	22	/	X	X	18	np	Lower left	
				c							c							

Dental pathology: caries (3/11), calculus (11/11), enamel hypoplasia of the incisors and canines, slight to severe periodontal disease
 Non-metric traits: lambdoid wormians (right), mandibular torus, tibial squatting facet (right), transverse foramen bipartite
 Pathology: OA of the spine, DJD of both shoulders, the right hip and the left knee, SN of the mid thoracic to lower lumbar vertebrae, the bodies of T6, T8 and T9 are wedged slightly antero-posteriorly, remodelled fracture of the left transverse process of T8, remodelled fractures of the head of two right ribs, remodelled fracture of the distal shaft of a proximal hand phalanx that has disrupted the joint surfaces of the proximal and medial hand phalanges, healed fracture of the plantar side of the MT5 facet on the left cuboid, possible cyst on the right hamate, the right humerus is 4mm longer than the left, cortical defect at the attachment site for the costoclavicular ligament on both clavicles, enthesophytes at the attachment site for the costotransverse ligament on three left and four right ribs, for *M. biceps* on the right radius, for *M. semitendinosus* and *M. biceps* on both ischia, for *M. rectus femoris* on both patellae, for the patellar ligament on the right tibia, for the interosseous ligament on both fibulae, and for *tendo calcaneus* on both calcanei.
 Intrusions: human foetal/neonate cranial fragment, two fragments of animal bone

SK14 (108)

Age: mature adult (46+)
 Sex: ?male
 Stature: -
 Cranial index: -
 Preservation: good
 Completeness: the majority of the bones, apart from the left clavicle, sternum and most of the cranium, right hand and foot, are present
 Dentition:

Upper right	-	-	3	-	-	6	7	8	9	10	11	12	13	14	15	-	Upper left
Lower right	32	31	30	29	28	27	-	-	-	-	/	21	20	19	18	/	Lower left

Dental pathology: caries (2/21), calculus (20/21), enamel hypoplasia of the incisors
 Non-metric traits: parietal foramen, mastoid foramen exsutural (left)
 Pathology: OA of the left hand, SN of the thoracic and lumbar vertebrae, remodelled fractures of three unsided rib fragments with some antero-posterior misalignment, button osteoma on a parietal fragment, new bone in the groove for the superior sagittal sinus on the endocranial surface of the parietals and the occipital and for the right

transverse sinus on the occipital, which represent an infection of the meninges (meningitis).

Intrusions: two fragments of animal bone

SK15 (119)

Age: young middle adult (26-35)

Sex: female

Stature: 1.63 ± 0.0355m (femur + tibia)

Cranial index: -

Preservation: good

Completeness: the majority of the bones, apart from the sternum and most of the cranium, are present

Dentition:

Upper right	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Upper left
Lower right	-	/	/	/	/	/	26	/	-	-	/	/	/	/	18	np	Lower left

c

Dental pathology: caries (1/3), calculus (3/3), enamel hypoplasia of the molars, slight to moderate periodontal disease

Non-metric traits: mastoid foramen exsutural (left), femoral plaque, tibial squatting facet

Pathology: OA of the spine and right shoulder, DJD of both hands, both hips and both feet, possible anterior intervertebral disc herniation between L4 and L5, healing fracture of the proximal joint surface of one medial hand phalanx with the anterior fragment displaced slightly distally, sharp edged irregular lesion with no reactive bone in the diploë of the occipital that has broken through both surfaces, possibly indicating some form of neoplastic disease

SK16 (130)

Age: old middle adult (36-45)

Sex: male

Stature: 1.79 ± 0.0337m (tibia) (this may be misleading as the tibiae are very long compared to the femorae)

Cranial index: -

Preservation: moderate

Completeness: the majority of the bones, apart from the sternum, right foot and most of the cranium and vertebrae, are present (some parts of this skeleton may actually belong to SK5)

Dentition:

Upper right	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Upper left
Lower right	/	31	/	29	/	27	-	-	/	/	22	21	/	-	-	-	Lower left

c

c

Dental pathology: caries (2/5), calculus (5/5), slight to moderate periodontal disease

Non-metric traits: femoral plaque (right), tibial squatting facet (left), non-osseous tarsal coalition of MT3 and lateral cuneiform (left)

Pathology: DJD of the left shoulder, both hips, and right ankle, SN of the lower lumbar vertebrae, some compact bone on the shaft of the left tibia and diffuse compact bone on the shaft of the left fibula, indicating a healed NSPI, healing fracture of the distal joint surface of the left tibia with the posterior portion displaced distally, ankylosis of a proximal and medial hand phalanx with loss of the joint surfaces and with the medial

phalanx fused in a flexed position towards the palm. The ankylosis is probably traumatic in nature as there is limited reactive bone on the shafts, groove on the head of the left MT5 that may be for the tendon of *M. flexor digiti minimi brevis*, enthesophytes at the attachment site for the interosseous ligament on the right tibia.

Intrusions: human older childhood/adolescent left tibia shaft, femoral shaft fragments, humerus shaft, cranial fragments

SK17 (131)

Age: old middle adult (36-45)

Sex: male

Stature: 1.68 ± 0.0299m (femur + tibia)

Cranial index: -

Preservation: good

Completeness: the majority of the bones are present

Dentition:

		c															
Upper right	-	2	3	4	5	6	7	8	9	-	11	12	13	/	-	X	Upper left
Lower right	32	31	/	29	28	27	X	X	X	X	22	21	20	/	/	17	Lower left

Dental pathology: caries (4/20), calculus (15/20), enamel hypoplasia of the molars and premolars, slight to severe periodontal disease, penetrating abscess with slight reactive bone into the right palatine process superior of the socket for I2

Non-metric traits: non-osseous tarsal coalition of MT3 and lateral cuneiform (right)

Pathology: OA of the spine, DJD of both shoulders, both hands, the left temporomandibular joint (TMJ) and the left knee, remodelled fracture of the distal shaft of the right fibula with slight overlap of the ends and posterior displacement of the distal shaft, disruption of the joint surfaces of a proximal and medial hand phalanx with subsequent OA that is probably due to a well remodelled fracture, avulsion fracture of the posterior of the right talus, localised areas of shaft expansion with compact bone on the left tibia that probably represent ossified haematomas, possible cyst on the head of the left MC2, porosity of the attachment site for *M. subscapularis* that probably represents rotator cuff disease, lesion on the proximal joint surface of the proximal phalanx for the left MT1, congenital fusion of the left triquetral and lunate, cortical defect at the attachment site for the costoclavicular ligament on both clavicles, and for *M. pectoralis major* on both humeri, pronounced attachment for the thenar muscles on the left trapezium and for *M. deltoideus* on the left humerus

Intrusions: human adult left MT4, three fragments of animal bone

SK18 (133)

Age: young adult (19-25)

Sex: ?female

Stature: -

Cranial index: -

Preservation: moderate

Completeness: parts of the ribs and vertebrae, right scapula, humerus and hand, pelvis and both femorae are present

Dentition:

Upper right	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Upper left
Lower right	-	-	-	-	-	-	26	-	-	-	-	-	-	-	-	-	Lower left

Non-metric traits: none observed
 Pathology: none observed
 Intrusions: human adult male mandible with caries, calculus and EH

SK19 (135)

Age: old middle adult (36-45)
 Sex: undeterminable
 Stature: -
 Cranial index: -
 Preservation: moderate
 Completeness: parts of the ribs, vertebrae and cranium, left lower arm and hand, pelvis, both legs and feet are present
 Non-metric traits: femoral plaque, tibial squatting facet (left)
 Pathology: OA of the spine, DJD of the hands and both hips, remodelling fracture of one unisided rib fragment, lesion of the proximal joint surface of the proximal phalanx for MT1, button osteoma on one proximal hand phalanx, slight enthesophytes at the attachment site for *tendo calcaneus* on the right calcaneus

SK20 (143)

Age: adult
 Sex: ?male
 Stature: -
 Cranial index: -
 Preservation: excellent
 Completeness: only the cranium is present
 Dentition:

														a	c		
Upper right	np	/	/	4	5	6	7	8	9	10	11	/	/	X	/	16	Upper left
Lower right	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Lower left

Dental pathology: caries (1/9), calculus (8/8), slight to severe periodontal disease, penetrating abscess into the maxillary antrum with no reactive bone superior of the socket for the left M1
 Non-metric traits: mastoid foramen exsutural
 Pathology: sinusitis of the right maxillary antrum

SK21a (279)

Age: young adult (19-25)
 Sex: ?male
 Stature: 1.71 ± 0.0299m (femur + tibia)
 Cranial index: -
 Preservation: good
 Completeness: the majority of the bones are present
 Dentition:

Upper right	/	2	3	4	5	6	7	/	9	10	11	12	13	14	15	-	Upper left
Lower right	32	31	30	29	28	27	26	25	24	/	22	21	20	19	18	17	Lower left

c

Dental pathology: caries (1/28), calculus (26/28), enamel hypoplasia of the incisors, canines and premolars

Non-metric traits: parietal foramen (right), tibial squatting facet (right), transverse foramen bipartite

Pathology: SN of the mid thoracic to lower lumbar vertebrae, possible posterior intervertebral disc herniation between L5 and S1, slight antero-posterior wedging of the body of T8 associated with slight destruction of the anterior and inferior of the body, *cribra orbitalia* of both orbits, the right humerus is 6mm longer than the left, cortical defect at the attachment site for *M. pectoralis major* on the left humerus (also possibly present on the right but obscured by taphonomic damage), and for the costoclavicular ligament on the right clavicle, enthesophytes at the attachment site for the costotransverse ligament on four left and two right ribs, pronounced attachment for *M. deltoideus* on both clavicles

SK21b (279)

Age: foetal/neonate (around 40 weeks gestation)

Preservation: good

Completeness: part of the right radius, both femorae, and part of the left tibia are present

Pathology: areas of porous woven bone on the shaft of the left femur indicating an NSPI active at the time of death

SK22 (281)

Age: neonate (40-42 weeks)

Preservation: good

Completeness: parts of the cranium and mandible, ribs, vertebrae, right scapula, both clavicles, both humeri and left lower arm, both hands and left leg are present

Pathology: none observed

Intrusions: two fragments of animal bone

APPENDIX 4 – FAUNAL DATA

Date ranges: Iron Age (1st century BC to late 1st century AD), Early Roman (late 1st to mid-2nd centuries), Roman (mid-2nd to 3rd centuries), Late Roman (4th century)

Table 1: Anatomical distributions of all cattle bone elements

Bone elements	Iron Age	Iron Age to Roman	Early Roman	Roman	Later Roman	Totals
horn core		1	1	1	5	8
horn core + part skull					3	3
skull = cranium	1	1			1	3
skull fragments		4	1		17	22
premaxilla		3				3
maxilla	1		1	2	4	8
mandible	3	7	2	23	28	63
incisor				4	5	9
upper cheektooth	5	2		11	22	40
lower cheektooth	2	4		17	18	41
canine						0
hyoid	1					1
vertebra		2		2	7	11
cervical	4	1	1	2	16	24
thoracic	1			5	27	33
lumbar			1	1	6	8
sacrum					2	2
caudal					1	1
rib	16	10	8	14	67	115
sternum						0
clavicle						0
scapula	2	2	1	8	17	30
humerus	3	4	2	5	18	32
radius	2	2	3	9	16	32
ulna	1	1		3	3	8
carpals						0
metacarpus		1	1	7	21	30
innominate	3	5		5	23	36
femur	1			3	27	31
tibia	1	4	1	6	18	30
fibula						0
patella						0
calcaneum			1	3	6	10
astragalus	1			5	3	9
tarsals					1	1
metatarsus		4	1	5	16	26
metapodial						0
phalanx I	1	3		3	14	21
phalanx II				1	2	3
phalanx III		1	1		3	5
sesamoid						0
long bone shaft frags	4	6	2	9	4	25
Totals	53	68	28	154	421	724

Table 2: Anatomical distributions of the sheep bone elements

Bone elements	Iron Age	Iron Age to Roman	Early Roman	Roman	Later Roman	Totals
horn core		1				1
horn core + part skull				1		1
skull = cranium						0
skull fragments					1	1
premaxilla						0
maxilla		1			1	2
mandible	2	5	2	3	6	18
incisor		1		1	1	3
upper cheektooth	1	3	1	3	11	19
lower cheektooth	1	1		2	7	11
canine						0
hyoid	1					1
vertebra						0
cervical	1				2	3
thoracic						0
lumbar						0
sacrum						0
caudal						0
rib	3	4			7	14
sternum						0
clavicle						0
scapula		1			1	2
humerus	1	2		3	3	9
radius	2	4			5	11
ulna				1	1	2
carpals						0
metacarpus	1	8	1	2	5	17
innominate	1			3	2	6
femur	1	1		1	1	4
tibia	2	3		3	4	12
fibula						0
patella						0
calcaneum				1	2	3
astragalus						0
tarsals			1			1
metatarsus	2	4		3	6	15
metapodial	1					1
phalanx I					7	7
phalanx II					1	1
phalanx III						0
sesamoid						0
long bone shaft frags	2	3	1		10	16
Totals	22	42	6	27	84	181

Table 3: Anatomical distributions of the pig bone elements

Bone elements	Iron Age	Iron Age to Roman	Early Roman	Roman	Later Roman	Totals
skull = cranium			1			1
skull fragments	1				1	2
premaxilla						0
maxilla						0
mandible	4			2	2	8
incisor	1		1	1	1	4
upper cheektooth						0
lower cheektooth	2				1	3
canine	2		1		1	4
hyoid						0
vertebra						0
cervical						0
thoracic						0
lumbar						0
sacrum						0
caudal						0
rib	1					1
sternum						0
clavicle						0
scapula	1					1
humerus	2				1	3
radius		1			2	3
ulna	2				1	3
carpals						0
metacarpus	1					1
innominate						0
femur						0
tibia					1	1
fibula						0
patella						0
calcaneum						0
astragalus						0
tarsals						0
metatarsus						0
metapodial						0
phalanx I						0
phalanx II						0
phalanx III						0
sesamoid						0
long bone shaft frags						0
Totals	17	1	3	3	11	35

Table 4: Anatomical distributions of the horse bone elements

Bone elements	Iron Age	Iron Age to Roman	Early Roman	Roman	Later Roman	Totals
skull = cranium						0
skull fragments		1				1
premaxilla					1	1
maxilla			1		1	2
mandible	1				2	3
incisor				1	11	12
upper cheektooth		9	1	5	20	35
lower cheektooth		3	1	3	1	8
canine						0
hyoid						0
vertebra						0
cervical						0
thoracic					4	4
lumbar				6	2	8
sacrum				1		1
caudal						0
rib					10	10
sternum						0
clavicle						0
scapula		1				1
humerus				1	1	2
radius	1		1	2	2	6
ulna						0
carpals					1	1
metacarpus		2	1	3	3	9
innominate			1	3	2	6
femur				1	4	5
tibia		1		1	3	5
fibula						0
patella						0
calcaneum				1		1
astragalus				2	2	4
tarsals						0
metatarsus		1	1		3	5
metapodial	1					1
phalanx I				1	1	2
phalanx II						0
phalanx III						0
sesamoid						0
long bone shaft frags						0
Totals	3	18	7	31	74	133

Table 5: Horse bones measurements (mm) and withers heights (m)

Period	Bone element	GL	GLI	GLC	LI	Bp	SD	Bd	BT	Withers height (m)
Late Iron Age to Roman transition	Metacarpus III	209			196	48.0	31.2	45.9		1.256
Early Roman (late 1st to mid-2nd century)	Metatarsus III	241			233	43.7	24.9	42.7		1.242
Roman (mid-2nd to 3rd century)	Humerus		270	262			34.6	77.8	69.8	1.315
	Metacarpus III	223			212	48.5	33.0	49.3		1.359
Later Roman (4th century)	Metacarpus III	208			199	63.4	35.1			1.276
	Radius	303			297	73.4	34.9	67.3		1.289
	Tibia	326			299.0	87.7	37.7	69.5		1.304

Measurements (mm) follow the system of von den Driesch, estimated withers heights (m) calculated after the method of Kiesewalter (von den Driesch 1976)

Table 6: Ageing of the horses by their dentition and epiphyseal fusion in leg bones

Period	Part of the anatomy	Estimated age at death
Late Iron Age to Roman transition	Jawbone (anterior portion) with unerupted permanent canine (male)	under 4-5 yrs (time of eruption of canine)
Early Roman (late 1st to mid-2nd centuries)	Radius shaft with both proximal and distal epiphyses unfused/detached	under 15-18 months
	Upper cheek tooth not yet in wear	under 2 yrs
	Maxilla with upper P2, P3 and P4	over 20 yrs
Roman (mid-2nd to 3rd centuries)	Two isolated upper molar teeth (same animal)	9-10 yrs
Later Roman (4th century)	Isolated upper premolars and molars (same animal)	7-8 yrs
	Parts of maxilla and jawbone with incisors and upper/lower cheek teeth	11-12 yrs
	Jawbone (anterior portion with incisors) and left lower cheek teeth, presence of canine indicates male animal	11-12 yrs
	Isolated much worn upper incisors and upper cheek teeth (same animal), P1 "wolf tooth" present	over 20 yrs

Ageing of the incisors based on criteria of The American Association of Equine Practitioners 1966; Ageing of the premolar and molar teeth based on the method of Levine 1982; Age of epiphyseal fusion in the radius based on several authorities (Amorosi 1989, 43).

Table 7: Cattle bone measurements (mm) and withers heights (m)

Period	Bone element	GL	Bp	SD	Bd	DSW	Withers height (m)
Roman (mid-2nd to 3rd centuries)	Metcarpus III	194.0	55.5	33.2	62.1	55.7	1.189
	Metcarpus III	208.0	63.4	35.1			1.275
	Metatarsus III	219.0	50.7	30.5	60.5	54.9	1.193
	Radius	316.0	91.7	46.9			1.359
Later Roman (4th century)	Metcarpus III	188.0	53.1	30.4	54.4	49.2	1.152
	Metcarpus III	195.0	62.3	35.0			1.195
	Metcarpus III	200.0	60.7	33.5	61.4	56.0	1.226
	Metcarpus III	201.0	51.6	36.8	68.4	60.8	1.232
	Metcarpus III	203.0	63.1	37.6	69.0	63.1	1.244
	Metatarsus III	219.0	44.8	25.5	50.9	46.7	1.193
	Metatarsus III	225.0	52.6	30.8	63.8	56.9	1.226
	Metatarsus III	234.0	52.4	31.0	64.9	59.8	1.275

Measurements (mm) follow the system of von den Driesch, except for DSW = distal shaft width; Estimated withers heights (m) calculated using the method of Fock for metapodials and that of Matoesli for the radius (von den Driesch 1976)

Table 8: Ageing of the cattle mandibles (Bond and O'Connor 1999, 346)

Period	N	J	I	SA1	SA2	A1	A2	A3	E
Iron Age		1	1					2	
Late Iron Age to Roman transition			1		1			1	
Early Roman (late 1st to mid-2nd centuries)	no data								
Roman (mid-2nd to 3rd centuries)						2	2	4	1
Later Roman (4th century)		2		2				7	

Key to categories: N = neonatal, J = juvenile, I = immature, SA = sub adult, A = adult, E = elderly

Table 9: Ageing of the sheep mandibles (Payne 1973)

Period	A	B	C	D	E	F	G	H	I
Iron Age			1			1		1	
Late Iron Age to Roman transition						1	2		
Early Roman (late 1st to mid-2nd centuries)			1	1					
Roman (mid-2nd to 3rd centuries)	1	1							
Later Roman (4th century)			1			2	2		

Key to categories: A = 0 - 2 months, B = 2 - 6 months, C = 6 -12 months, D = 1 - 2 years, E = 2 - 3 years, F = 3 - 4 years, G = 4 - 6 years, H = 6 - 8 years, I = 8 - 10 years

Table 10: Ageing of the pig mandibles (Bond and O'Connor 1999, 351)

Period	N	J	I1	I2	SA1	SA2	A1	A2	A3
Iron Age			1				3		
Late Iron Age to Roman transition	no data								
Early Roman (late 1st to mid-2nd centuries)	no data								
Roman (mid-2nd to 3rd centuries)	no data								
Later Roman (4th century)					1				

Key to categories: N = neonatal, J = juvenile, I = immature, SA = sub adult, A = adult

Table 11: Frequencies of the main meat-yielding species based on NISP data from all hand collected and sieved material

Period	Cattle	Sheep	Pig	Sample size
Iron Age	57.6%	23.9%	18.5%	92
Late Iron Age to Roman transition	61.3%	37.8%	0.9%	111
Early Roman (late 1st to mid-2nd centuries)	74.3%	17.1%	8.6%	35
Roman (mid-2nd to 3rd centuries)	83.7%	14.7%	1.6%	184
Later Roman (4th century)	81.6%	16.3%	2.1%	516

APPENDIX 5 – ENVIRONMENTAL DATA

Key to categories: x = 1–10 specimens, xx = 10–100 specimens, xxx = 100+ specimens, pmc = possible modern contaminants, b = burnt

Date ranges: 1 = Iron Age, 2 = Early Roman (late 1st to mid-2nd centuries), 3 = Roman (mid-2nd to 3rd centuries), 4 = Late Roman (4th century)

Table 1: Charred plant macrofossils and other remains from the pit fills

Sample No.	1	2	4	6	8	13	17	21	29	30	31	33	37
Context No.	15	32	127	359	358	305	350	465	477	457	487	455	665
Feature No.	16	34	128	329	329	306	351	466	478	458	488	456	666
Date	1	1	3	2	2	4	4	4	2	2	3	2	1
Cereals													
<i>Avena</i> sp. (grains)							x						
(awn frags.)							x						
<i>Hordeum</i> sp. (grains)							xcf						
<i>Triticum</i> sp. (grains)			x				x		x				
(glume bases)							xx					x	
(spikelet bases)							xxx		x				
(rachis internodes)							x		x				
<i>T. dicocum</i> Schubl. (glume base)							xcf						
<i>T. spelta</i> L. (glume bases)							xxx	x					
<i>T. aestivum/compactum</i> type (rachis nodes)							x						
Cereal indet.(grains)					x		x	x	x			x	
(sprout frags.)							xx						
Herbs													
<i>Anthemis cotula</i> L.							x						
<i>Bromus</i> sp.							x		x				
<i>Centaurea</i> sp.							x						
<i>Chenopodium album</i> L.	x												
Chenopodiaceae indet.	x						x						
Fabaceae indet.			x		x			x	x				
<i>Galium aparine</i> L.									x				
<i>Fallopia convolvulus</i>					x		x						

(L.)A.Love													
<i>Malva</i> sp.	x												
<i>Medicago/Trifolium/Lotus</i> sp.	x								xcf				
<i>Persicaria maculosa/lapathifoilia</i>	x												
<i>Plantago lanceolata</i> L.	x												
Small Poaceae indet.	xx				x			x					
Large Poaceae indet.								x					
<i>Prunella vulgaris</i> L.	xcf												
<i>Rumex</i> sp.								x					
<i>Stellaria graminea</i> L.	x												
<i>S. media</i> (L.)Vill.	x												
Wetland/aquatic plants													
<i>Eleocharis</i> sp.	x								x				
<i>Lemna</i> sp.					xxpmc								
Other plant macrofossils													
Charcoal <2mm	xx	x	x	x	x	x	x	xxx	xx	x		x	xx
Charcoal >2mm	x							xxx		x			xx
Charred root/stem				x					x				
Indet.inflorescence frags.								x					
Indet.seeds	x		x										
Molluscs													
Open country species													
<i>Pupilla muscorum</i>			x										
<i>Vallonia</i> sp.			x	x	x						x		
<i>V.costata</i>					x								
<i>V. excentrica</i>	x		x					x					
<i>V.pulchella</i>					x							x	
Catholic species													
<i>Cochlicopa</i> sp.					x								
<i>Trichia hispida</i> group											x	x	
Marsh/freshwater slum species													

<i>Lymnaea</i> sp.												X	
<i>V. angustior</i>												X	
<i>V. antivertigo</i>												X	
<i>Vertigo</i> sp.					X	X							
Freshwater obligate species													
<i>Armiger crista</i>					X								
<i>Lymnaea peregra</i>					X								
Other materials													
Black porous 'cokey' material			X				xxx	xx	X			X	
Black tarry material								X					
Vitrified material								X					
Sample volume (litres)	40	40	20	20	40	40	40	40	40	40	40	40	40
Volume of flot (litres)	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
% flot sorted	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Table 2: Charred plant macrofossils and other remains from the ditch fills

Sample No.	9	10	11	12	14	15	16	18	19	20	23	27	32	34	35	36	39
Context No.	307	143	21	334	309	72	23	66	121	389	513	515	479	604	598	630	612
Feature No.	308	144	22	335	310	73	24	67	122	390	514	516	480	605	599	632	613
Date	2	3	4	4	1	4	4	3	4	4	2	4	3	4	2	4	4
Cereals																	
<i>Hordeum</i> sp. (grains)									x				x				
<i>Hordeum/Secale cereale</i> type (rachis node)						x											
<i>Triticum</i> sp. (grains)	x					x	x	x	x	x		x	x	x		x	x
(glume bases)			x			x	x	xx	x		x	x		x		xx	x
(spikelet bases)						x		x				x		x			
(rachis internodes)								x									
<i>T. spelta</i> L. (glume bases)						x	x	xx	x			x				x	x
Cereal indet. (grains)					x	x	x	x				x	x	x		xx	xx
Herbs																	
<i>Anthemis cotula</i> L.									x							x	x
<i>Atriplex</i> sp.													x			x	
<i>Bromus</i> sp.						xcf		x	xcf					xcf		x	x
<i>Centaurea</i> sp.																xcf	
Fabaceae indet.																	x
<i>Galium aparine</i> L.													x				
Small Poaceae indet.	x						x	x	x				x			x	x
Polygonaceae indet.						x											
<i>Ranunculus</i> sp.																x	
<i>Rumex</i> sp.								x	xcf							x	x
Wetland plants																	
<i>Carex</i> sp.																x	x
<i>Cladium mariscus</i> (L.)Pohl	x																
<i>Eleocharis</i> sp.		x	x			x											
Other plant macrofossils																	
Charcoal <2mm	x	x	x	x	x	xx	xx	x	xx	x	xxx	xx	x	x	x	xx	xxx
Charcoal >2mm						x					xx					x	x

Charred root/stem						x			x								x	
Indet.seeds			x		x	x			x				x	x			x	x
Molluscs																		
Woodland/shade loving species																		
<i>Aegopinella</i> sp.		x															x	
<i>Carychium</i> sp.		x															x	
<i>Punctum pygmaeum</i>			x															
<i>Vitrea contracta</i>		x																
Zonitidae indet.		x				x								x				
Open country species																		
<i>Cepaea</i> sp.							x											
<i>Pupilla muscorum</i>		x				x										x		
<i>Truncatellina cylindrica</i>						x			x									
<i>Vallonia</i> sp.		xx	x		x	x	x	x	xx	x						x	x	xx
<i>V. costata</i>	x	x					x		xx								x	x
<i>V. excentrica</i>	x		x						x								x	
<i>V. pulchella</i>			x			x				x				x			x	x
Catholic species																		
<i>Cochlicopa</i> sp.			x															
<i>Trichia hispida</i> group							x	x	x									x
Marsh/freshwater slum species																		
<i>Lymnaea</i> sp.			x			x	x	x										x
<i>L. truncatula</i>							x		x									
<i>Vertigo</i> sp.							x		x	x						x		x
<i>V. angustior</i>		xx																
<i>V. antivertigo</i>		x	x										x		x		x	xxb
Freshwater obligate species																		
<i>Anisus leucostoma</i>						x												
<i>Armiger crista</i>					x													

Other materials																	
Black porous 'cokey' material					x	x	x	xx	xx	x		xx		x		xx	xx
Black tarry material												x					
Vitrified material									x								
Sample Volume (litres)	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
Volume of flot (litres)	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
% flot sorted	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %

Table 3: Charred plant macrofossils and other remains from the other features

Sample No.	3	5	7	22	24	25	26	40
Context No.	74	248	332	504	505	543	544	622
Feature No.	75	150	333	506	506	506	506	623
Feature type	Pond	Q pit	R2 gully	Kiln	Kiln	Kiln	Kiln	R4 gully
Date	3	4	1	2	2	2	2	1
Cereals								
<i>Hordeum</i> sp. (grains)				xcf				x
<i>Triticum</i> sp. (grains)				x				x
(glume bases)								
<i>T. spelta</i> L. (glume base)						xcf		x
Cereal indet. (grains)				x		x		xx
Herbs								
<i>Anthemis cotula</i> L.								
<i>Atriplex</i> sp.								
<i>Bromus</i> sp.								
<i>Centaurea</i> sp.								
<i>Chenopodium album</i> L.			x					
<i>Fallopia convolvulus</i> (L.)A.Love								xcf
<i>Galium aparine</i> L.				x				x
<i>Lithospermum arvense</i> L.					xcf			
Small Poaceae indet.								x
<i>Ranunculus</i> sp.								
<i>Raphanus raphanistrum</i> L. (siliqua)								x
<i>Rumex</i> sp.								
Wetland plants								
<i>Carex</i> sp.								
<i>Cladium mariscus</i> (L.)Pohl				x				
Other plant macrofossils								
Charcoal <2mm			x	x	x			x
Charcoal >2mm				x				
Charred root/stem			x					

Indet.seeds							x	
Molluscs								
Woodland/shade loving species								
<i>Aegopinella</i> sp.								
<i>Carychium</i> sp.								
Zonitidae indet.		x						
Open country species								
<i>Vallonia</i> sp.	x							
<i>V. costata</i>								
<i>V. excentrica</i>								
<i>V.pulchella</i>		x						
Catholic species								
<i>Cochlicopa</i> sp.		x		x				
Trichia hispida group	x	x						
Marsh/freshwater slum species								
<i>Vertigo</i> sp.		x			x			
<i>V. antivertigo</i>								
Freshwater obligate species								
<i>Armiger crista</i>	xx							
Other materials								
Black porous 'cokey' material				xx			x	x
Black tarry material			x					x
Sample volume (litres)	40	40	40	40	40	40	40	30
Volume of flot (litres)	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
% flot sorted	100%	100%	100%	100%	100%	100%	100%	100%

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