A Roman Farmstead and other Late Neolithic to Post-medieval Land-Use at Houghton Regis, Bedfordshire



by Mike Luke and Jo Barker

Albion Archaeology Monograph 7

A Roman Farmstead and other Late Neolithic to Post-medieval Land-use, at Houghton Regis, Bedfordshire: Site HRN3206

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Back: Reconstruction drawing by Cecily Marshall of how Roman farmstead SL59 might have looked during the mid-/late 3rd to early 4th century
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Metal-detecting was undertaken by Archie Gillespie and Mike Head, with dGPS survey by Mercedes Planas (Souterrain Archaeological Services).

All finds were processed under the supervision of Jackie Wells (Finds Officer), who also, along with Holly Duncan, undertook the initial finds identification during fieldwork. Processing of the ecofacts samples was mainly undertaken by Elizabeth Di Vincenzo under the supervision of Gary Edmondson. Digitisation of the site plans was undertaken by Ian Turner, assisted by Kathy Pilkinton.

Post-fieldwork
The post-fieldwork stages of the project were managed by Mike Luke. Contextual assessment and creation of a phasing hierarchy were undertaken by Jo Barker. The same specialists worked on both the assessment and the analysis/publication, and are duly acknowledged as contributors within this publication. All Albion projects are under the overall management of Drew Shotliff (Operations Manager), who also had the task of reading, commenting on, and editing the entire publication. Preliminary artefact identifications and catalogues were by Holly Duncan (formerly of Albion Archaeology) and samian identification by Jill Eyers (Chiltern Archaeology). In line with archival requirements, and to assist with identifications, all ironwork and selected non-ferrous objects were x-rayed by Pieta Greaves (Drakon Heritage and Conservation).

Photographs
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About this publication

Structure
Following this preamble, both the introduction and the discussion of results are presented in Chapter 1. Chapters 2–7 contain a phased chronological description of the evidence; the chapter numbers correspond to the Phases, e.g. Phase 4 is in Chapter 4 etc. These chapters each begin with an overview and a standardised Phase location plan. The text is typically arranged by Site Landscape (SL number), e.g. settlement, dispersed activity, field system etc., with sub-divisions for more significant Land-use Areas (L), e.g. enclosures/fields, cemetery, monument, and Groups (G), e.g. buildings, structures, water-pits etc. Plans, section drawings and plates accompany the text. Significant artefactual/ecofactual evidence is included where appropriate. The artefactual (Chapter 8) and ecofactual (Chapter 9) sections are supplemented by a number of detailed appendices.

Terminology and abbreviations
An understanding of the structural hierarchy is fundamental to an understanding of the layout and terminology used in this publication. It is described in more detail below (see Chapter 1: The archaeological background; Post-excavation analysis). The main elements comprise Phases (written in full), Site Landscapes (SL prefix), Land-use Areas (L prefix) and Groups (G prefix).

The majority of the feature fills were similar, so a generic description is given in the introduction (Chapter 1). On site, slight variations in colour, soil matrix and inclusions were used to distinguish between different fills. Such detail is only included in the text where it aids understanding of the evidence. In general, primary or lower fills tended to be lighter in colour and contain fewer stones. All measurements are metric.

The following terms and abbreviations are used throughout the publication:

Domestic focus: a concentration of buildings, other features and finds suggestive of a focus of activity, which for convenience has been described as 'domestic', but which might have included other activities, e.g. crafts, food-processing etc.

Building versus structure: the term building is used where unequivocal evidence exists. The term structure is used where an arrangement of postholes or slots suggests the probable presence of a building but where a convincing ground plan did not survive.

Ditch versus gully: used to distinguish the size of linear features, i.e. gully generally less than 0.7m wide and 0.4m deep, with ditches being larger.

Associated bone group (ABG): associated groups of bone at the time of deposition or, at the very least, part of the same animal

Phases and chronological periods
The indicative date ranges for each phase are as follows:

Phase 1: Early prehistoric (residual flint artefacts recovered from later features)
Phase 2: Late Neolithic/early Bronze Age *c*. 3000–2600 BC
Phase 3: Middle–late Bronze Age *c*. 1600–1000 BC
Phase 4: Early Iron Age *c*. 1000–400 BC
Phase 5: Late Iron Age/early Roman *c*. 100 BC–AD 100
Phase 6: Roman *c*. AD 100–400
Phase 7: Medieval *c*. 1150–1500
Phase 8: Post-medieval *c*. 1500–1750

Tables
Table numbering relates to the chapter number e.g. tables in Chapter 3 (Phase 3) are numbered 3.1, 3.2, 3.3 etc. The tables provide detailed information in an easy-to-view manner. Where possible, they have been standardised to allow quick and easy comparison between chapters.

Reconstructions
This publication includes two reconstruction drawings showing the Roman farmstead at different times in its development. Although based where possible on the archaeological evidence, these inevitably require a degree of artistic licence to make them meaningful.

Figures
Illustrations within each chapter are numbered in a unique sequence, e.g. Chapter 3 illustrations are numbered Figure 3.1, 3.2, 3.3 etc.

Drawing conventions

Plans

The plans are only labelled with those elements of the structural hierarchy (e.g. SL, L or G numbers) referred to in the text. Most plans distinguish between excavated and unexcavated parts of features by the use of shade. Where relevant, earlier features are shown in a different colour or tone.

Where possible, section drawings are included on the plans for ease of reference. They are greyed to help distinguish them from features shown on the plan. In general, section drawings on plans are not labelled in order to keep the figures uncluttered.

Sections

The majority of the section drawings are at a scale of 1:40. Different line types are used for 'cuts' and their fills. All sections are positioned in the horizontal plane, but no OD heights are given. They are usually either south- or west-facing; if necessary, the original drawing has been mirrored. Section drawings are only labelled where it will aid understanding of the text. Accordingly, the majority of fills are not labelled because they are not specifically mentioned in the text.

Appendices

Detailed information is presented in the appendices: pottery type series (Appendix I); coin catalogues (Appendix II); radiocarbon dates (Appendix III).

Date of writing

The text in this report was largely completed by November 2020.

Location of the archive

The archive has been deposited with The Culture Trust Luton (accession number LUTNM: 2018/19).

Summary

This report describes the results of Albion Archaeology's open-area excavation at site HRN3206, undertaken in 2018 and 2019 within the housing-led development known as Houghton Regis North 1 (HRN1), on the north-east outskirts of Houghton Regis in Central Bedfordshire. It formed part of a wider programme of archaeological investigations commissioned by the developer, the Houghton Regis Development Consortium (HRDC). The site was centred on TL 0348/2540.

Evaluation of the HRN1 development area and the Woodside Link gave an initial broad overview of the archaeological landscape, identifying heritage assets dating from the Mesolithic period to the modern day. The excavation within HRN3206 produced evidence for activity spanning the late Neolithic to the post-medieval periods; the majority of it relates to a Romano-British farmstead, which is now the most extensively investigated example in this part of Bedfordshire.

The earliest remains comprised a ring-ditch monument and isolated unurned cremation burial. Both are presumed to date to the late Neolithic/early Bronze Age (Phase 2). The ring-ditch is of particular interest because it comprised an earlier, smaller ring-ditch, which was completely encircled by a later ring-ditch and buried under an associated mound.

During the middle–late Bronze Age (Phase 3) a field system was established over the northern part of the excavation area. Two of its constituent ditches intersected at the ring-ditch monument, which was thus deliberately incorporated by the inhabitants into the new landscape of fields and not simply forgotten or ignored. Contemporary with and to the south of the field system was a dispersed spread of post-built structures, pits, postholes and eight burials. The latter comprised one inhumation and seven cremation burials. Potentially early Iron Age (Phase 4) settlement is represented by eight possible roundhouses.

During the late Iron Age/early Roman period (Phase 5) an enclosed farmstead was established in the northern half of the excavation area, in the same location as the middle–late Bronze Age (Phase 3) field system and away from the earlier settlements.

In the mid–late 1st century AD a new farmstead was established, *c*. 150m south of the late Iron Age/early Roman one. The new farmstead represents an abrupt change in the development of the landscape because it was established on previously unoccupied land and its alignment did not respect the pre-existing boundaries to the north. Deliberate planning is clear in the farmstead's original layout, with a trackway and adjacent enclosures to the north and south. The layout was substantially modified on three occasions, resulting in a gradual expansion northwards away from the trackway, which went out of use towards the end of the farmstead's life. The farmstead varied in size from *c*. 1.5ha to 2.1ha, although it may have extended beyond the development area to the west. The pottery and coin assemblages suggest that occupation continued to the end of the 4th century and probably into the early 5th century. Evidence for domestic activity, e.g. buildings, structures, water-pits, quarry pits and postholes, was identified. Of note is the possible evidence for two roundhouses, up to 13 rectangular buildings, and up to four different types of drying oven.

The location of the late Iron Age/Roman farmsteads on low-lying land near the Houghton and Ouzel Brooks would have been ideal for a mixed farming economy and this is supported by the artefactual and ecofactual evidence. Although the finds assemblage was large, including 92 coins, it is comparable to other farmsteads excavated elsewhere in Bedfordshire. However, a small number of the objects stand out from the normal profile one might expect on a rural farmstead, e.g. those associated with the military, with literacy, and with religion, in particular a small stone sculpture. The latter is a rare and exceptional find, which may have originally stood against a wall in a rural shrine.

In the medieval period (Phase 7) the excavation area and the land between the Houghton and Ouzel Brooks as a whole was under arable cultivation. During the post-medieval period a field system was established in the same location as the medieval fields.

Chapter 1

Introduction and discussion

1.1 INTRODUCTION

This publication presents the results of one of several archaeological investigations undertaken as part of the Houghton Regis North 1 development (Figs 1.1 and 1.2; Plate 1.1).

Planning and background to the investigations

In 2014, Central Bedfordshire Council granted outline planning consent for a large, housing-led urban extension to the north of Houghton Regis – a development known as Houghton Regis North 1 (HRN1). As the development lay within an archaeologically sensitive area (see *Archaeological background* below), the Central Bedfordshire Council Archaeology Team (CBC AT) advised that conditions should be placed on the consent in order to secure a programme of archaeological mitigation in advance of construction.

Location, topography and geology

The HRN1 development area lies in the northern hinterland of the Chilterns, on the Bedfordshire chalklands to the north of Houghton Regis (Fig. 1.1). Site HRN3206 was centred on TL 0348/2540, on the north-east edge of Houghton Regis.

The topography of the area is relatively flat, lying at 121–126m OD between the headwaters of the Houghton Brook (a tributary of the River Lea) and the Ouzel Brook (part of the Great Ouse drainage basin). From north-west to south-east the site straddles a series of geological strata dating to the Cretaceous Period (approximately 94 to 101 million years ago):

- West Melbury Marly Chalk Formation – Chalk
- Totternhoe Stone Member – Chalk
- Zag Chalk Formation – Chalk

Archaeological background

HRN1 forms part of a landscape to the north of Houghton Regis that contains a variety of heritage assets dating from the Mesolithic period to the modern day. The adjacent chalk ridgelines of the Chilterns have long been known to contain evidence for early prehistoric settlement and ritual activity (Holgate 1994, 31–42), but until recently our understanding of past land-use and settlement in the vicinity of HRN1 was based largely on surface artefact collection and small-scale excavations undertaken by The Manshead Society (Hudspith 1991; Hudspith 1995). These had identified scatters of Mesolithic, Neolithic and Bronze Age flint tools along the chalk ridge between Chalton and Wingfield and concentrations of Iron Age and Roman artefacts in the vicinity of Chalton Cross Farm and Houghton Park.

More recent archaeological investigations associated with the A5–MI Link Road (Brown 2020), the Woodside Link (Albion Archaeology 2018a; Barker forthcoming), and development at Thorn Turn (Albion Archaeology 2018b and 2019d) have highlighted the potential for Bronze Age, Iron Age and Roman settlement and land-use, particularly along the Ouzel and Houghton Brooks (Fig. 1.2).

The archaeological investigations

Pre-application geophysical survey (Stratascan 2012) and trial trenching (Albion Archaeology 2012) had resulted in the definition of 21 Archaeological Character Areas (ACA) within HRN1. The CBC AT advised that, if preservation *in situ* was not possible, then open-area excavation would be required to investigate and record archaeological remains that would be affected by the development. This was the case with site HRN3206, which encompassed elements of four ACAs (ACA11, ACA12, ACA13 and ACA14).

Open-area excavation

The fieldwork took place between 29 August 2018 and 26 February 2019 (Fig. 1.3). Ploughsoil and subsoil were mechanically removed under archaeological supervision, exposing the underlying geological strata. A pre-excavation plan was immediately created and used to formulate the excavation strategy. All hand excavation and recording were carried out in accordance with the Written Scheme of Archaeological Resource Management (Albion Archaeology 2017a) and Albion Archaeology's Procedures Manual (Albion Archaeology 2017b). All isolated archaeological features were half-sectioned with the exception of graves, which were fully excavated. Initial segments through ditches were distributed evenly along their lengths (Plate 1.2), although potentially significant variations in their upper fills, e.g. artefact or ecofact concentrations, were also targeted. Finds and ecofact processing was undertaken concurrently with fieldwork to maximise feedback into, and adjustment of, the excavation strategy.

The features contained fills that were generally firm, mid-grey-brown, silty clay, with occasional small to large-sized stones and charcoal flecks. Any fills that fall outside that 'norm' are described in more detail in Chapters 2–7.

Assessment and updated project design

An assessment and updated project design was produced in September 2019 (Albion Archaeology 2019b), summarising the results and identifying how the recovered data could address local, regional and national research priorities. In addition, it set out the methodological basis for the post-excavation analysis.

Post-excavation analysis

The overall approach involved the manipulation of all data within a fully integrated, computer-based system of analysis. All structural, artefactual and ecofactual data were entered onto an Access database, creating an interface with the digital drawings and images. This allowed rapid and flexible analysis of the data and facilitated the creation of the text and plans which form the basis of this publication.

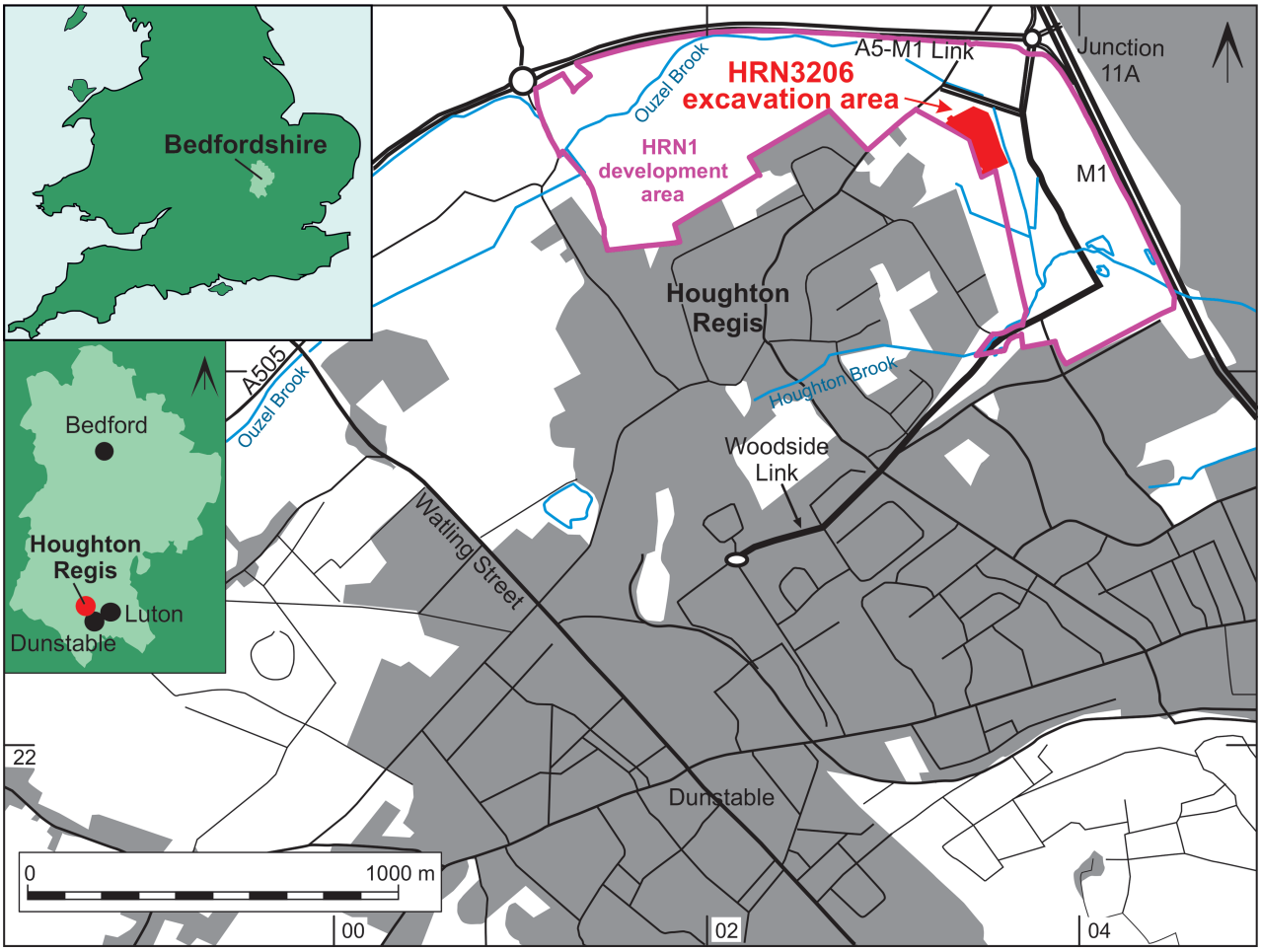


Figure 1.1: Location plan

The methodology for the contextual analysis is summarised below; an understanding of the contextual hierarchy is essential as it underpins the structure of this publication. Analytical methodologies for the artefacts and ecofacts are summarised in the relevant sections. The updated project design (Albion Archaeology 2019b) contains full details of the methodologies applied to each data set.

Contextual

In total, 3427 contexts were recorded on site. Albion Archaeology employs a standardised approach to detailed contextual analysis, requiring the assignment of contexts to a hierarchy. Each hierarchical level/element gradually becomes more interpretative and less detailed in nature. It should be borne in mind that it is the level within the structural hierarchy that is important, *not* necessarily the actual name of the hierarchical element (*e.g.* Phase, Site Landscape, Land-use Area *etc*.). An understanding of these terms is essential to the understanding of this publication.

During analysis, the contexts were combined into a hierarchy, comprising:

- **Phases:** broad, chronological divisions, e.g. mid- to late Bronze Age, late Iron Age/early Roman, post-medieval.
- **SL (Site Landscape):** a collection of spatially coherent Land-use Areas, e.g. settlement, activity focus.
- **L (Land-use Area):** a collection of broadly contemporary and spatially coherent groups, e.g. an enclosure, field.
- **G (Group)**: more interpretive entities, e.g. buildings, ditch lengths, pits clusters etc.
- **SG (Sub-group):** indivisible unit of interpretation, e.g. grave.

Phase, Site Landscape, Land-use Area and Group provide the main framework for presentation of the results within this publication.

Radiocarbon analysis

Scientific dating was attempted on key deposits to assist in finalisation of the site phasing (see Table A4). A total of eight radiocarbon determinations were undertaken by Scottish Universities Environmental Research Centre (SUERC) using Accelerator Mass Spectrometry (AMS). The samples were submitted in a number of stages, determined largely by the importance of achieving a date, the suitability of material and the completion of specialist analysis. Preference was given to material that was likely to be in a primary context, e.g. human burials. In other cases, preference was given to material from secure, undisturbed deposits; charred seeds were prioritised over charcoal owing to the potential longevity of wood.

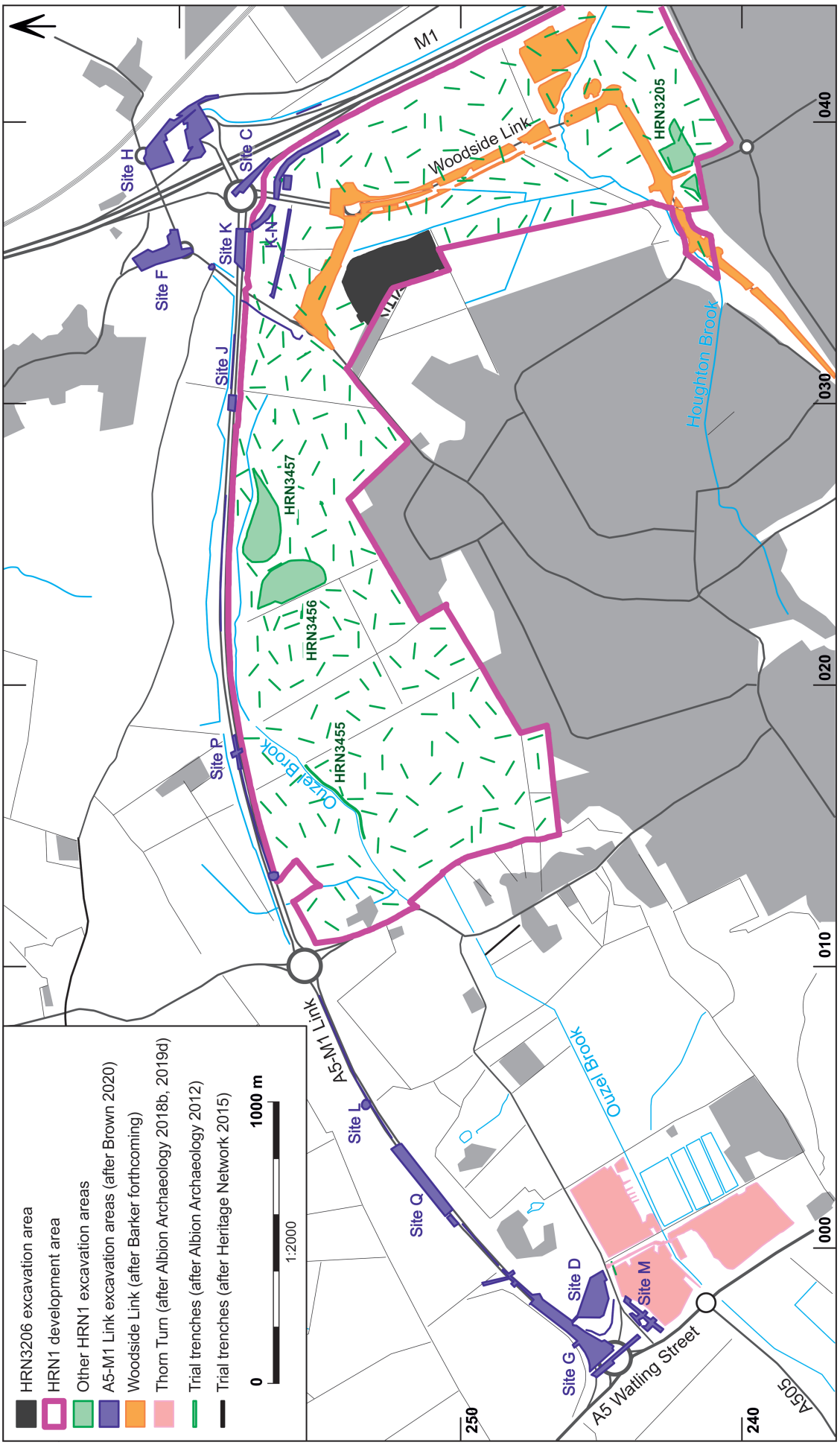


Figure 1.2: Other sites in the vicinity



Plate 1.1: Aerial view of the excavation area, looking north (October 2018)

1.2 DISCUSSION

by Mike Luke and Jo Barker, incorporating the conclusions and ideas of Dana Challinor, John Giorgi, Peter Guest, Martin Henig, Mark Maltby, Natasha Powers and Jackie Wells.

Introduction

The HRN3206 archaeological investigation recovered evidence for human activity spanning the late Neolithic to the post-medieval period. The most significant remains relate to late Iron Age/Roman farming communities. Also present was a late Neolithic/early Bronze Age ring-ditch monument and dispersed features of middle to late Bronze Age and early Iron Age date.

Evaluation of the HRN1 development area (Albion Archaeology 2012) and the Woodside Link (Albion Archaeology 2013) gave an initial broad overview of the archaeological landscape to the north and east of Houghton Regis, an area where little archaeological fieldwork had previously been undertaken. Subsequent archaeological investigations around the HRN3206 development area have provided, and continue to provide, more detailed archaeological background (Fig. 1.2). Open-area excavations have been undertaken at HRN3205 (Albion Archaeology 2019a; Luke and Barker forthcoming), HRN3455, HRN3456 and HRN3457 (Albion Archaeology 2019c; Luke and Pilkinton forthcoming), Woodside Link (Albion Archaeology 2018a; Barker forthcoming), and the A5-M1 Link (Brown 2020). It is now clear that HRN1 contains a number of late Iron Age/Roman settlements, of which HRN3206 is the most extensively excavated to date, but it also contains evidence for more dispersed Mesolithic, Neolithic, Bronze Age, and Anglo-Saxon activity.

Phasing of most of the features found at HRN3206 is based on the pottery assemblage, which can be broadly dated to the middle Bronze Age, late Bronze Age/early Iron Age, late Iron Age/early Roman and Roman periods. Radiocarbon determinations provide more precise dates in a number of cases, especially for burials.

The following discussion is organised into a number of themes: land-use continuity and discontinuity; settlement morphology and development; settlement components; ritual and beliefs; economic basis of settlements; and status and wealth in the late Iron Age and Roman periods

Land-use, continuity and discontinuity

The HRN3206 investigations produced evidence for a prolonged period of past land utilisation. Its compartmentalisation into specific phases can usefully characterise activity at a particular point in time and thereby highlight discontinuity. Conversely, this process can also hinder an appreciation of continuity in the landscape. The transition from one chronological period to the next is a common theme in national (Historic Environment Forum 2015), regional (Medlycott 2011), and county research agendas (Oake *et al*. 2007).

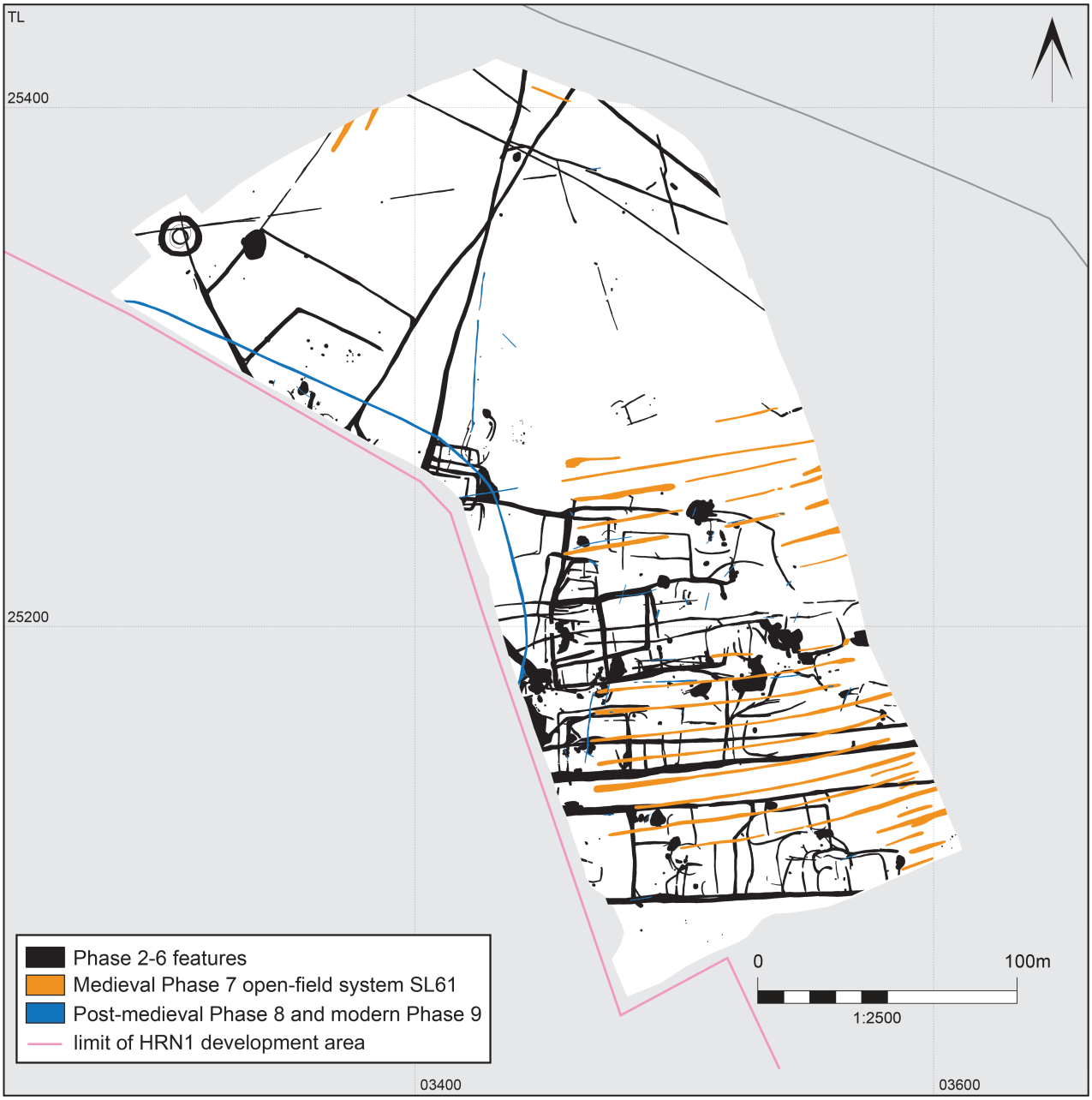


Figure 1.3: All-features plan



Plate 1.2: Commencement of hand-excavation, looking north

Late Neolithic/early Bronze Age (Phase 2) ring-ditch monument L1/L2 is the first evidence for human activity within the excavation area. It comprised an earlier, smaller ring-ditch, which was completely encircled by a later ring-ditch. Neither of the ditches, like those of a similar monument on the Woodside Link (Barker forthcoming), produced firm dating evidence. There was no evidence to suggest that any reworking or cleaning of the monument's ditches occurred after its construction. An isolated cremation burial, *c*. 200m to the south-east was radiocarbon-dated to the early Bronze Age. The presence of the monument and burial suggests that woodland clearance was well underway by this time. However, the dearth of struck flint and the absence of settlement-related features suggest that the excavation area was not settled at this time. On the A5-M1 Link, the majority of the struck flint was found on the slightly higher ground at the east end of the scheme (Brown 2020, 50). Fieldwalking

by the Manshead Archaeological Society has also located scatters of struck flint across a range of topographical locations in the vicinity (Hudspith 1991).

During the middle–late Bronze Age (Phase 3) field system SL52 was established over the northern part of the HRN3206 excavation area. Two of its constituent ditches intersected at ring-ditch monument L1/L2, which was thereby incorporated into the new landscape of fields and not simply forgotten or ignored. Similar occurrences are known at other sites, e.g. Biddenham Loop (Luke 2016, 120–5) and Barleycroft/Over, Cambs. (Evans and Knight 2001, 85). At the latter, some reused monuments served as 'nodal points' in the field system, which also appears to be the case at HRN3206. Late Bronze Age/early Iron Age pottery, along with a bone that was radiocarbon-dated to the early 1st millennium BC, were recovered from the outer ring-ditch, indicating that it was still partially open when the field system was established.

Contemporary with and to the south of the field system was a dispersed spread of post-built structures, pits, postholes and burials (SL53). Pottery characteristic of the late Bronze Age/early Iron Age was recovered, but radiocarbon-dating of a number of the burials to the middle Bronze Age makes it likely that this settlement had earlier origins than the pottery alone suggests. Similar, characteristically dispersed, middle–late Bronze Age/early Iron Age settlement evidence was found to the north-east and south-east on the Woodside Link (Barker forthcoming), A5-M1 Link (Brown 2020, 23–9), and at the Biddenham Loop (Luke 2016, 144–7).

Possible early Iron Age (Phase 4) settlement SL54 is represented by six possible roundhouses. None produced reliable dating evidence, but they were in the same area as the middle–late Bronze Age (Phase 3) unenclosed remains SL53, suggesting a degree of continuity. SL54 was located to the south of middle–late Bronze Age field system SL52, which presumably remained in use. The ditches defining the fields were relatively ephemeral but the longevity of field systems in the landscape is well known, e.g. Biddenham Loop (Luke 2016, 288).

During the late Iron Age/early Roman period (Phase 5), an enclosed farmstead SL55 was established in the northern half of the excavation area, away from the earlier settlements. This fits a pattern observed within The Chilterns landscape zone of the Central Belt by the Roman Rural Settlement Project, where only 17% of late Iron Age settlements had middle Iron Age precursors (Smith 2016, 150). Similarly, at Site G on the A5-M1 Link, *c*. 3.5km to the west, the intensity of activity on the middle Iron Age settlement was waning before the 1st century BC when it was eventually abandoned (Brown 2020, 59). The enclosed settlement SL55 at HRN3206 occupied the same area as middle–late Bronze Age (Phase 3) field system SL52. However, with the exception of one ditch, its constituent boundaries were on a different alignment, suggesting that the earlier fields were no longer in use.

In the mid–late 1st century AD, farmstead SL57 was established *c*. 150m south of the late Iron Age/early Roman (Phase 5) farmstead SL55. The Roman Rural Settlement Project observed that in the Central Belt only 20% of late Iron Age settlements were abandoned or, as at HRN3206, had shifted location by the Conquest (Smith 2016, 150). The new farmstead represents an abrupt change in the development of the landscape because it did not respect any of the earlier visible boundaries. Its layout was substantially modified on three occasions (SL58, SL59 and SL60). The presence of Romanised pottery in the ditches of the late Iron Age/early Roman farmstead SL55 may suggest that its enclosures continued to be utilised in some form by the occupants of the new farmstead.

In the medieval period (Phase 7), both HRN3206 and the land to the north of the Houghton Brook as a whole were under arable cultivation. While the furrows within the excavation area followed a similar alignment to the Roman (Phase 6) ditches, they did not correspond exactly. The medieval strip fields were still in use when the 1762 Houghton Regis Estate Map was drawn up (Bedfordshire Archives and Records Service ref. B553).

Settlement morphology and development

In some cases the individual settlements' full extent fell within the HRN3206 excavation area. However, it is clear from their layout and from geophysical survey (Stratascan 2012) of the wider area that the late Iron Age/early Roman (Phase 5) and Roman (Phase 6) farmsteads extended to the west beyond the limit of excavation.

Middle–late Bronze Age and early Iron Age

The middle–late Bronze Age (Phase 3) and early Iron Age (Phase 4) settlements are characterised by dispersed small pits and postholes. Two post-built buildings/structures (L16) may represent the core of middle–late Bronze Age settlement SL53. Similar, albeit more concentrated, evidence was found on the higher ground of Site H on the A5-M1 Link (Brown 2020, 23–9, fig. 2.2). Closer to HRN3206, a loose cluster of pits and postholes was identified on the Woodside Link, just to the north-east of field system SL52 (Albion Archaeology 2018a; Barker forthcoming). Contemporary isolated pits, including two possible water-pits, were found on Sites C, D, G, M and Q on the A5-M1 Link (Brown 2020, 29–33). Similar dispersed evidence for settlement has been observed at the Biddenham Loop where it appeared to be associated with field systems (Luke 2016, 142–8, fig. 4.1).

The small quantity of domestic debris present is not uncommon within settlements of this period and may indicate short-term or seasonal rather than permanent occupation. The possible early Iron Age settlement SL54 was unenclosed, comprising six possible roundhouses and a scatter of pits. Similar evidence, dated to the early Iron Age, was identified on the A5-M1 Link, although there 'the intensity of occupation increased into the earlier–middle Iron Age' (Brown 2020, 59), which is not the case at HRN3206. Little else can be said about settlement SL54; it is possible that the roundhouses were occupied sequentially, reflecting intermittent occupation, rather than representing a multi-roundhouse settlement.

Late Iron Age/early Roman

Late Iron Age/early Roman (Phase 5) farmstead SL55 was very different to the earlier dispersed settlement evidence. It comprised an enclosure system, whose regular layout suggests that it was a carefully planned development, set out along an extensive and repeatedly maintained NE–SW ditch. One of the sub-enclosures contained a probable domestic focus. This farmstead has some similarities with the settlement on Site G on the A5-M1 Link, although the latter originated earlier in the Iron Age (Brown 2020, 93, fig. 3.36). The SL55 enclosure system extended across an area of at least 1ha. Geophysical survey identified a continuation of its

ditches to the north-east (Stratascan 2012), as did trial trenching to the west (Heritage Network 2015).

Roman

In the mid–late 1st century AD farmstead SL57 was established. It was initially defined by enclosures situated on either side of an east–west trackway. This type of farmstead, with its agglomeration of enclosures and zoning of different activities, is classified by the Roman Rural Settlement project as a 'complex farmstead'. Along with 'enclosed farmsteads', they were the dominant settlement type within the Central Belt (Smith 2016, 151). The development of linear complex settlements has been linked to an increase in landscape management, and particularly to livestock farming (Smith 2016, 155).

The original farmstead SL57 was at least *c*. 1.5ha in extent (Plate 1.3). Its layout was substantially modified on three occasions (SL58, SL59 and SL60); the largest (SL59) was at least *c*. 2.1ha in extent (Plate 1.4) and the final iteration (SL60) was over 1.2ha. The sequence of layout changes presented here relies heavily on stratigraphic relationships. Substantial quantities of pottery were recovered, but it did not exhibit a clear chronological progression during the farmstead's life – due in part to the long-lived use of the same piece of land, which led to a significant degree of residuality and intrusiveness within the pottery and coin assemblages. The layout changes resulted in a gradual expansion northwards away from the trackway, which had gone out of use by the final layout SL60 (Fig. 1.4). Evidence for domestic activity, e.g. buildings, structures, pits and postholes, was identified in many of the enclosures; whilst others contained evidence for crop and animal carcass processing. The pottery assemblage (see Wells, Chapter 8) and coins (see Guest, Chapter 8) suggest that activity continued to the end of the 4th century and probably into the early 5th century. In contrast, the Roman farmsteads on the A5-M1 Link originated in the late Iron Age and had gone out of use by the 2nd century AD (Brown 2020, 359).

Deliberate planning is clear in the farmstead's original layout SL57, with a trackway and adjacent enclosures to the north and south. Thereafter, its development was gradual and perhaps more piecemeal than the division into SL58, SL59 and SL60 suggests. There is currently no evidence from investigations in the vicinity of HRN3206 to suggest that the trackway was anything other than an integral part of the farmstead's original layout. Similar arrangements are quite common in this period, e.g. Farmstead 4, Marsh Leys, Kempston (Luke 2011, 145–6, fig. 9.4); Farmsteads 10/14, 13 and SL54, Biddenham Loop (Luke 2016, 246–7, figs 5.26 and 5.27); Farmstead SL10–12, Land north of Biddenham (Albion Archaeology 2015) (Fig. 1.5).

Settlement components

The overall layout and development of the late Iron Age and Roman settlements within HRN3206 have been described above. They typically comprised a domestic



Plate 1.3: Reconstruction of how Roman farmstead SL57 might have looked during the mid-1st to mid-/late 2nd century, looking east



Plate 1.4: Reconstruction of how Roman farmstead SL59 might have looked during the mid-/late 3rd to early 4th century, looking east

focus, peripheral activity foci, enclosures/fields, track-/routeways, buildings/structures, water-pits, quarry pits and other pits. These settlement components are discussed in this section. (The evidence for the middle–late Bronze Age and early Iron Age settlements was too limited to identify domestic foci with any certainty. However, the two post-built structures and pits of middle–late Bronze Age (Phase 3) settlement SL53 covered an area of *c*. 0.2ha and may represent the domestic focus.)

Domestic foci

An attempt was made to identify a domestic focus within each settlement. At its simplest this is considered to be where the occupants actually lived, although this does not mean that only domestic activities took place in these areas. There is good evidence for other activities, such as crop-processing and small-scale metalworking, Clearly, other farming- and craft-related activities that have left no trace in the archaeological record would also have been undertaken.

Domestic foci were identified primarily on the basis of the presence of one or more buildings/structures, and/or other features and/or artefact clusters, e.g. a relative abundance of finds indicative of household, personal or craft activities (see Table 5.1). A similar attempt to identify domestic foci within settlements was made with the contemporary farmsteads at Marsh Leys, Kempston (Luke 2011, 145, fig. 9.4) and on the Biddenham Loop (Luke 2016, 248, figs 5.25–5.27).

The domestic focus within the late Iron Age/early Roman farmstead SL55 was clearly located in sub-enclosure L28; the other enclosures were largely devoid of evidence for internal activity. Sub-enclosure L28 contained two roundhouses, two post-built structures, a water-pit and other pits. Their layout indicates a degree of planning, e.g. no features were found in front of the entrance, and the roundhouses were located to the south-west on either side of a possible ditched, internal sub-division. The late Iron Age settlement at Site G on the A5-M1 Link also had a domestic focus within a single enclosure of a multiple enclosure system (Brown 2020, 93 and fig. 3.36).

The domestic foci within Roman farmstead SL57 and its later iterations SL58–60 were typically in multiple enclosures; these changed location as the farmstead developed (Fig. 1.4). The initial farmstead SL57 featured domestic foci on both sides of the trackway. To the south, the domestic focus, which included a roundhouse, was located in adjacent enclosures L153 and L159, separated by a possible routeway from enclosure L155, which may also have been part of the focus. To the north, a roundhouse situated adjacent to a possible livestock race was located within an apparently unpartitioned enclosure.

In the first modification to the farmstead's layout (SL58) there was a single domestic focus to the north of the trackway. It was defined on the basis of two possible buildings within adjacent enclosures L170 and L171. The domestic focus of the farmstead's second iteration (SL59) was probably located within enclosure L200, which contained a possible rectangular building; two possible buildings on a similar alignment immediately to the north may also have been part of it, although both were located near the crop-processing area. Two adjacent enclosures L197 and L227 that contained possible rectangular buildings may represent the domestic focus of the final iteration (SL60) of the farmstead.

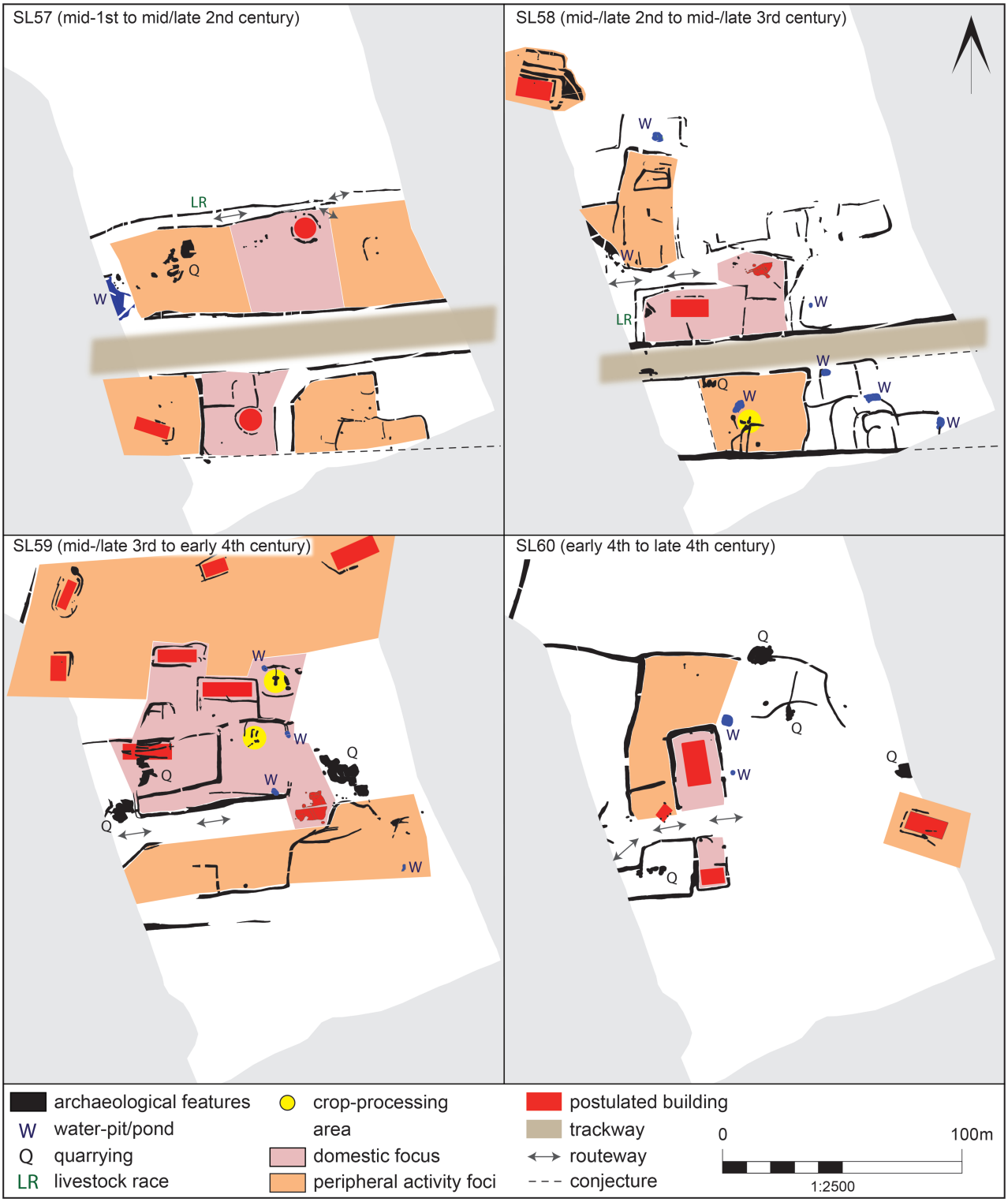


Figure 1.4: Comparative plans of the Roman (Phase 6) farmsteads SL57, SL58, SL59 and SL60

Peripheral activity foci containing possible buildings

A number of activity foci on the periphery of all four iterations of the Roman farmstead can be identified. However, this section concentrates on the observation made during analysis that possible rectangular buildings with different alignments to those within the domestic foci tended to be located on the farmstead periphery (Fig. 1.4). It is speculated that the majority of these functioned as non-domestic buildings, such as barns. The physical evidence for the buildings themselves is discussed below (p. 13–14).

The original farmstead SL57 contained a possible building in an enclosure adjacent to the domestic focus south of the trackway. It was aligned NW–SE, i.e. not parallel to the trackway or the enclosures. In farmstead SL58, an isolated building was located to the north-west of the main enclosure system; it may have served a ritual/religious purpose, which is discussed further below (p. 14). Spread across the unenclosed northern part of farmstead SL59 were four possible rectangular buildings. Their location, differing alignments to the enclosures and buildings

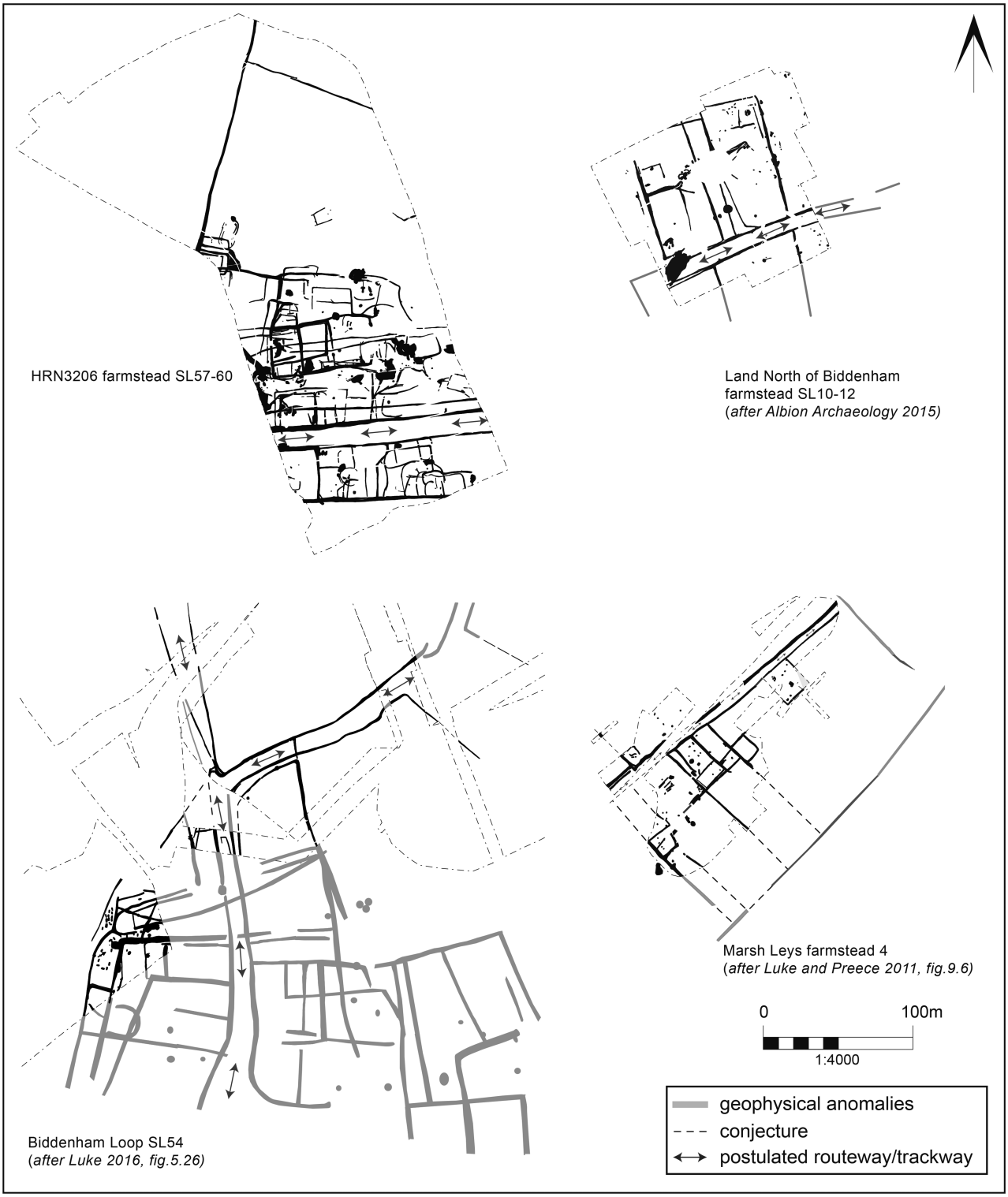


Figure 1.5: Comparison of Phase 6 (Roman) farmsteads SL57–60 to others with trackways in Bedfordshire

of the domestic focus, and the absence of other features in that area suggest they served a different function. The final layout of the farmstead SL60 featured an isolated building to the east, which was again on a different alignment to the buildings within the domestic focus.

Enclosures

Nearly all of the enclosures within the settlements were rectangular in plan and defined by ditches. The late Iron Age/early Roman (Phase 5) system comprised eight enclosures. The main enclosures had the appearance of a 'ladder'-type system, probably reflecting the system's planned rather than organic origins. Only one enclosure, which measured 73m × 70m, was fully exposed. Several enclosures had been sub-divided, including the one containing the domestic focus. The other enclosures contained very few features, although water-pits were present in the corner of two of them. These presumably functioned for at least part of the year as fields for grazing livestock.

The Roman (Phase 6) settlement was defined by an agglomeration of enclosures, with some evidence for

larger fields to the north in layout SL59. The enclosures were defined by ditches that were often re-dug on the same alignment, but on slightly different courses. From its establishment in the mid-1st century, the broad east–west alignment of the enclosures remained largely the same, even as the actual layout changed over time. The most significant influence on the earlier layouts was the east–west trackway: the initial farmstead SL57 had regularly laid out enclosures to both north and south. However, the later iterations of the farmstead (SL58–SL60) were more irregular and extensive, probably indicating change and development in a more organic, piecemeal fashion.

The most obvious activities evidenced within the enclosures include crop-processing, quarrying and the possible buildings which may have been barns (see below). However, many of the enclosures had no internal features and are presumed to have been paddocks or even enclosed gardens. In farmstead SL58, the curved layout of some of the enclosures to the south of the trackway was suggestive of animal corals. The use of some of the enclosures for livestock management is further indicated by the presence of livestock races in farmsteads SL57 and (possibly) SL58.

The identification of 'obvious' entrances, in the form of breaks in the ditches to provide access from the trackway to the enclosures or between individual enclosures, has proved problematic. This is undoubtedly partly due to extensive re-cutting and later truncation, but it is also possible that other methods, such as planks laid across the ditches, provided access.

No convincing access points into the adjacent land were identified within the late Iron Age/early Roman (Phase 5) farmstead SL55. A definite entrance in the form of a *c*. 5m-wide gap in the ditch did provide access from sub-enclosure L28 into the main enclosure L21. A narrow slot on its west side may have been associated with a gate.

Despite the level of re-cutting and truncation within the Phase 6 Roman enclosure ditches, it has been possible to establish the position of some entrances. The majority of these were between enclosures, rather than between the trackway and the enclosures. Exceptions were in farmstead SL58 where access to trackway L169 was provided by *c*. 12m- and 4m-wide gaps in the north sides of enclosures L157 and L160 respectively. No similar gaps were present between the trackway and enclosures to the north. Access between enclosures was often in the corners, but could also occur in the sides. Entrances associated with several SL59 enclosures – often those which may have contained rectangular buildings – featured postholes or small pits, suggesting that they may have been controlled by gates.

Trackways/routeways

There is no clear evidence for trackways/routeways associated with any of the settlements prior to the Roman Phase 6. A major element of the Roman farmsteads SL57 and SL58 was an east–west-aligned trackway, around which the enclosures appear to have been laid out. The trackway did not retain its former significance in layout SL59 and was definitely no longer in use in SL60 (Fig. 1.4). It was defined by two parallel ditches that in SL57 (L163) were *c*. 23m apart, but in SL58 (L169) were deliberately narrowed to 13m apart. Trackways often form an integral part of complex-type farmsteads in the region, e.g. farmstead SL10–12, land north of Biddenham (Albion Archaeology 2015); farmstead 4 at Marsh Leys, Kempston (Luke 2011, 145–6, fig. 9.4); farmstead SL54 on Biddenham Loop (Luke 2016, 246–7, figs 5.26 and 5.27); Site 8, A421 Great Barford Bypass (Poole 2007a, 96–144); Haddon, Peterborough/Cambridgeshire (Hinman 2003, 32, fig. 13) (Fig. 1.5).

Other possible routeways within the farmstead are indicated by gaps between enclosures, e.g. a possible north–south-aligned routeway L151 by a *c*. 7m-wide corridor between enclosures L152 and L155 (SL58), a possible east–west routeway by the largely blank zone between enclosures L170 and L191/L212 to the north (SL58), and a possible east–west routeway by another blank zone between enclosures L226/L227 and L197/L222 (SL60).

Buildings/structures

In the following discussion, evidence for buildings has been divided into roundhouses, post-built structures and postulated rectangular buildings.

Roundhouses

Ten possible roundhouses were identified: six are early Iron Age (Phase 4); two are late Iron Age/early Roman (Phase 5); and two are Roman (Phase 6) (Fig. 1.6; Table 1.1). The Roman examples are best defined, the others being more speculatively based on the presence of short lengths of curving gully.

The gullies were generally concave in profile, 0.2–0.9m wide and usually less than 0.3m deep. This suggests that they functioned as drains around the buildings rather than as wall foundation trenches. The surviving evidence suggests most of the roundhouses would have been 9–10m in diameter. Most of the gully circuits were incomplete, but possible entrances were tentatively identified on the basis of gaps or terminals.

Several roundhouses appeared to have two entrances; this included one of the best preserved (G381 (SL57)) and is not likely to be just an effect of truncation. The possible entrances faced in almost all directions except south-west. The common trend across Britain is for roundhouses to have east-, north-east- or south-east-facing entrances (Oswald 1997, 87–95, figs 10.1 and 10.2) and this pattern was repeated at HRN3206. Small pits and/or postholes adjacent to possible entrances in roundhouses G32, G381 and G494 may be associated with doorways. The two *c*. 3m-spaced pits associated with G381 (SL57) were the most convincing door-post locations.

Roundhouses are synonymous with the Iron Age, but their continued use on Roman farmsteads, such as SL57, is now widely recognised. Comparable examples in Bedfordshire include roundhouse G67 at Biddenham Loop (Luke 2008, 58) and roundhouse L8 at Luton Road, Wilstead (Luke and Preece 2010, 152). It is believed that while rectangular buildings were the dominant building type by the early 2nd century in England's Central Zone (as defined by the Roman Rural Settlement Project), circular buildings were still erected in some areas into the 4th century, albeit alongside rectangular ones (Smith 2016, 168).

Post-built structures

Clusters of postholes and pits allowed the identification of five possible post-built structures: G109 and G114 are middle–late Bronze Age (Phase 3); G36 and G42 are late

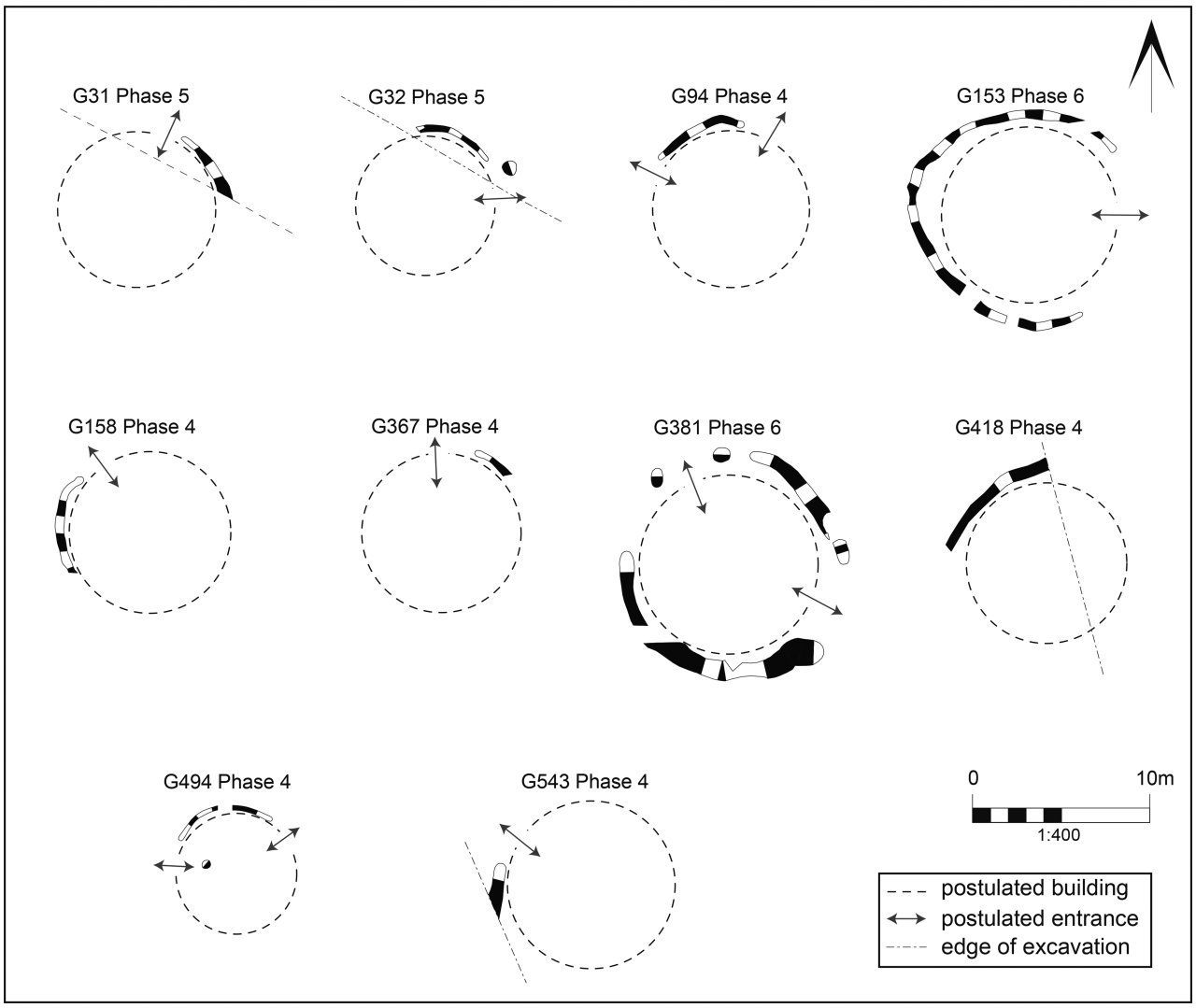


Figure 1.6: Comparative plans of roundhouses

G	Projected internal diameter (m)	Gully width:depth (m)	Gully profile	Possible entrances	Associated features	Pottery (sherds:kg)	Animal bone (frags:kg)	SL	Phase
31	9	0.3–0.9:0.3	U-shaped	NE	–	6:0.05	5:0.06	55	5
32	8	0.3:0.1	U-shaped	E	Pit	1:0.02	–	55	5
94	9	0.4:0.1	Concave	NW & NE	–	–	–	54	4
153	10	0.4–0.6:0.2	Concave	E	–	37:0.4	17:0.12	57	6
158	9	0.5:0.2	Steep-sloping, concave	NW	–	–	5:0.07	54	4
381	10	0.7–1.3:0.5	Concave	NW & SE	2 adjacent pits	92:1.44	49:0.97	57	6
367	9	0.4:0.1	Concave	N	–	–	–	54	4
418	9	0.7:0.2	Steep-sloping, concave	n/a	–	–	19:0.06	54	4
494	7	0.2:0.1	Concave	W & NE	Posthole	–	3:0.04	54	4
543	–	0.8:0.2	Concave	NW	–	–	–	54	4

Table 1.1: Summary of possible roundhouses (all phases)

Iron Age/early Roman (Phase 5); and G545 is Roman (Phase 6) (Fig. 1.7).

Only structure G42 (Phase 5) conformed to the four-post, square arrangement synonymous with Bronze Age and Iron Age settlements in southern Britain. Traditionally, these have been interpreted as raised storage buildings or granaries (Bersu 1940, 97; Wainwright 1968, 112–16; Gent 1983, 246–52). At HRN3206, this is supported by the nature of the charred plant assemblage from one of the structure's constituent postholes and nearby features. Other interpretations have been advanced: watch towers, chicken pens, excarnation platforms, etc. (Ellison and

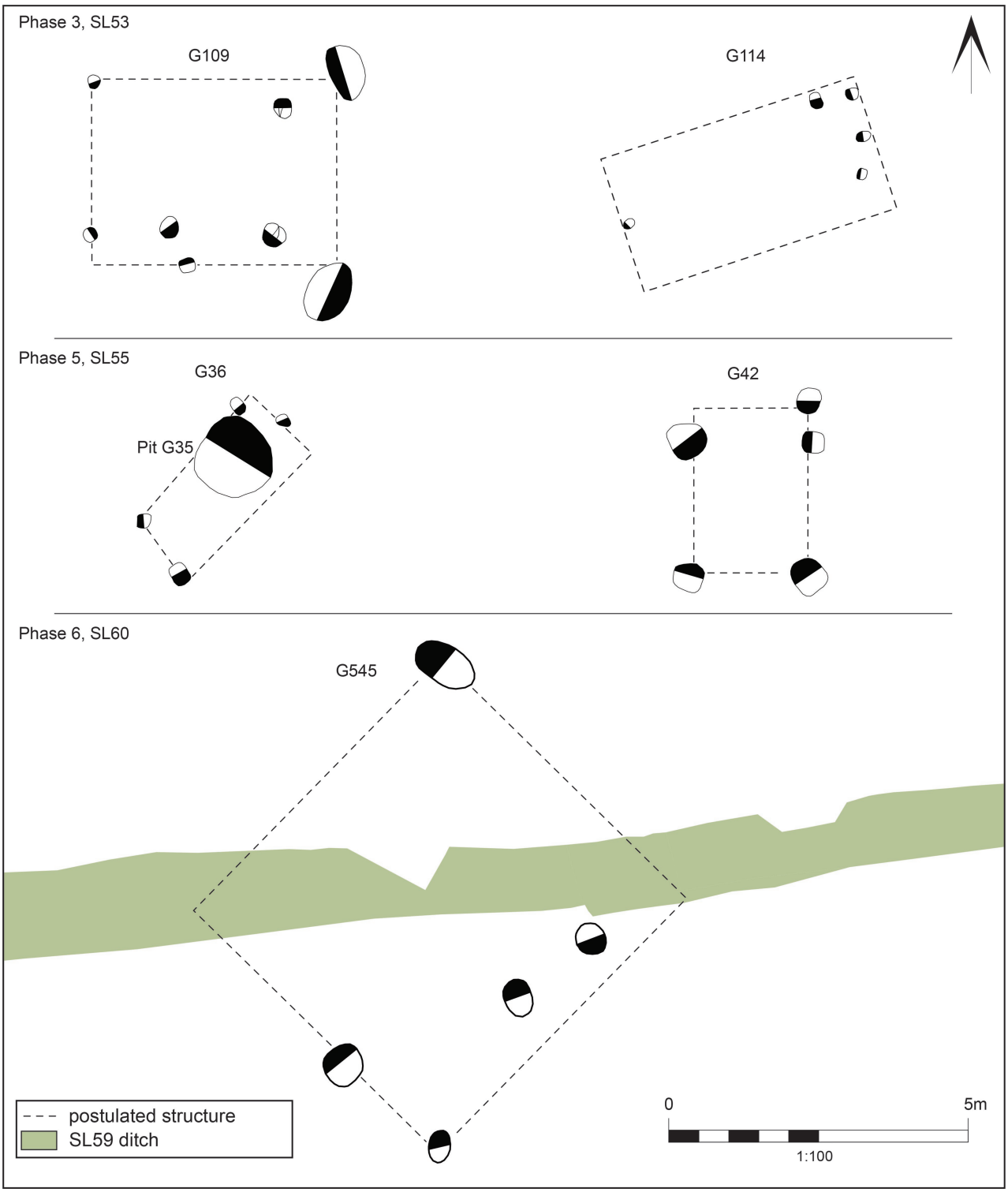


Figure 1.7: Comparative plans of post-built structures

Drewett 1971; Knight 1984, 154–5), and the possibility that they may represent entrances/porches associated with roundhouses, for which no other evidence survives, can also not be discounted (Luke 2008, 36).

The precise layout of structure G545 is uncertain, especially given its proximity to a SL59 ditch, but the others were rectangular in plan and varied in size from 2.5 × 1.4m (G36) to 4.2 × 3.1m (G109). Postholes defining the structures varied in number from four to eight and did not always obviously form part of the walls. Structures G109 and G114 were the only type of possible middle–late Bronze Age (Phase 3) building; for this reason they are considered to be possible dwellings. A contemporary rectangular post-built structure HS3 was found at Site H on the A5-M1 Link (Brown 2020, 25, fig. 2.2).

Postulated rectangular buildings

The apparent absence of evidence for rectangular buildings, in contrast to roundhouses, has been noted on many sites in the region, e.g. Wavendon Gate (Williams *et al*. 1996, 86), Biddenham Loop (Luke 2008, 61), Marsh Leys, Kempston (Luke 2011, 155). It is likely that

rectangular buildings were constructed in a way that left little sub-surface evidence. Of course, the only surviving evidence for roundhouses is typically not the wall foundations but a drainage gully that would have been located outside the walls and which tends to survive all but the most severe later truncation.

As part of the HRN3206 analysis, an attempt was made to postulate the location of rectangular buildings, even though the results are often speculative. Three criteria were used: the shape and size of enclosures; the presence of short lengths of gullies; and localised, shallow hollows in the ground where the surface appeared to have been worn down.

BASED ON THE SHAPE AND SIZE OF ENCLOSURES

The size and shape of ten rectangular and one oval enclosure suggest that they may have contained buildings (Fig. 1.8, Table 1.2). These occurred in the Roman (Phase 6) farmsteads SL57 (G140), SL58 (G141), SL59 (G137, G142, G143, G144, G145 and G146) and SL60 (G147, G148 and G149). Several of the enclosures appeared to be open on one side, e.g. G142, G143, G147.

Most of the enclosures were broadly E–W aligned, and less than 25m long and 9m wide. The concave profile of their defining ditches indicates that they served as drains around the putative buildings, rather than representing foundation trenches. Similar evidence for the location of possible rectangular buildings has been put forward at a number of sites: Site 8 on the A421 Great Barford Bypass (Poole 2007a, 119, 138); Marsh Leys, Kempston (Luke 2011, 155–7, fig. 9.14); and Higham Road, Burton Latimer, Northamptonshire (Luke and Barker 2019, 10–13, fig. 1.5). Although enclosure L224 was oval in plan, it too may have enclosed a rectangular building G137, as suggested for comparable enclosures at Ivy Chimney, Witham F3203, Essex (Turner 1999, 41, fig. 37) and Stretton Road, Great Glen, Leicestershire (Luke *et al*. 2015, 11–12, fig. 1.7).

The possible location of doorways is indicated by gaps in the ditches. Postholes were situated near the possible entrances to buildings G142 and G143, but are not convincing as door-posts. Short lengths of gully that may have served as drains from the interior of the buildings were found in G137, G145 and G147.

It was noted above that there appears to be a difference in alignment between the possible rectangular buildings within the domestic foci and those on the periphery of the farmsteads. It was suggested that the majority might have functioned as non-domestic buildings, such as barns. Further inferences can be drawn in two cases. Possible building G141 lay in an isolated location to the north-west of the main enclosure system of farmstead SL58. It was surrounded by a ditch, which had been re-dug on a number of occasions (L40–3), and a stone surface (the only one present within the excavation area). The building was located on the limit of excavation, making it particularly difficult to determine its function. Stone sculpture RA296 was recovered from a nearby (later) feature; if it originated from G141, then is it possible that the building could have served a ritual or religious purpose? It is interesting to note that the nearest possible building (G137) in the next iteration SL59 of the farmstead was the one within oval enclosure L224: the oval enclosure F3203 at Ivy Chimney, Witham, Essex was interpreted as a possible temple, based on the large number of coins and other metal objects that it produced (Turner 1999, 41). Other than the sculpture, there is no such supporting artefactual evidence at HRN3206 but the apparent juxtaposition of these two possible rectangular buildings does appear significant.

BASED ON THE PRESENCE OF SHORT LENGTHS OF GULLIES/SLOTS

Two possible rectangular buildings were identified using this criterion (Fig. 1.9, Table 1.2). G139 (SL58) comprised a single 12m-long gully. Its position within its surrounding enclosure suggests that it may have been dug as a foundation trench for the north wall of a building (even though it had an almost V-shaped profile). G138 (SL59) comprised a series of gullies, which were not parallel to each other and which had concave profiles. They may have functioned as drains or floor supports for a building.

Similar evidence for possible rectangular buildings in the region has been adduced at West Haddon, Northants. (Mason 2006, 41–5, figs 9–10); Ivy Chimneys, Witham, Essex (Turner 1999, fig. 25); Hill Farm, Wilshamstead, Beds. (Ingham 2010, 174, fig. 5); and Marsh Leys, Kempston (Luke 2011, 155, fig. 9.14). Of the five examples at the latter, three had gullies that could have served as wall foundation trenches and two had gullies that could have served as floor supports.

BASED ON THE PRESENCE OF WORN HOLLOWS IN THE GROUND SURFACE

These hollows with flattish bases perhaps represent the least convincing of the possible rectangular buildings. G136 (SL58) was oval in plan, 9 6m, and 0.1m deep. G341 (SL59) comprised an L-shaped hollow, covering an area of *c*. 15 × 15m; it was 0.2m deep (*see* Fig. 6.14 section d). G136 featured a number of postholes and small pits around its edge, and gullies within it that may represent structural elements. However, these did not form any coherent pattern.

These features may represent the interiors of buildings, either deliberately lowered (as in Anglo-Saxon sunken-featured buildings) or worn down through use. Building 50 at Gorhambury, Herts. comprised a rectangular, 12.5 × 3m hollow that also had no evidence for walls; it was dated to the late 3rd century (Neal *et al*. 1990, 75, fig. 99).

Water-pits and pond

Fifteen possible water-pits were identified: two associated with late Iron Age/early Roman Phase 5 farmstead SL55 and 13 with Roman Phase 6 farmsteads SL58–60 (Table 1.3). In addition, a 20m-wide and 0.5m-deep feature, interpreted as a pond G338 (L181), was found in farmstead SL57, which contained no water-pits. Ponds are known from other contemporary rural settlements, e.g. Campbell Park, Milton Keynes (Barker 2019, 65, 68), although they are not as common as water-pits.

The water-pits were typically circular or oval in plan, ranging in diameter from 2m to 12m, and steep-sided. The shallowest example was 0.8m deep; the deepest was at least 2.3m deep and was not excavated to its full depth. However, the majority were 3–4m in diameter and more than 1.1m deep. In general, those with the smaller diameters had the steeper sides, e.g. G307 (SL58), G461 (SL59), G431 (SL60). The shallower ones may have been designed to hold water on a seasonal basis or after heavy rainfall. The more common deep, steep-sided ones would

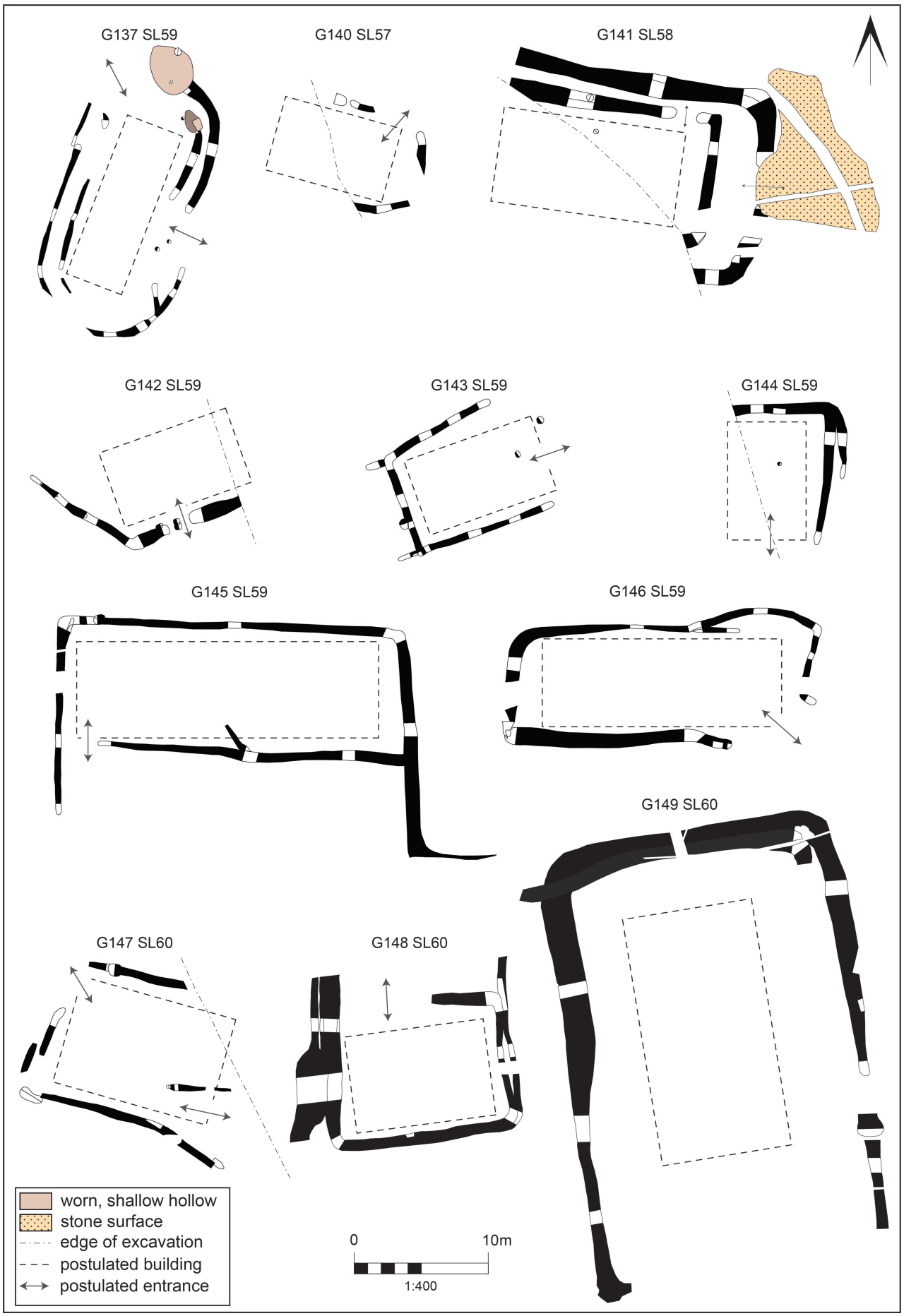


Figure 1.8: Comparative plans of Roman (Phase 6) possible rectangular buildings indicated by the shape and size of a defining enclosure

G	Approx. Extent (m)	Alignment	Gully width (m)	Gully depth (m)	Gully profile	?Entrance	Associated features	Pottery (sherds:kg)	Animal bone (frags:kg)	Other finds (kg or number*)	SL	L	Location
137	15 × 6	NNE–SSW	0.2–0.8	0.2	Concave	E & NW	2 postholes	19:0.23	14:0.12	0.7kg tile 3 nails Fe fragment (RA297)	59	224	Periphery
138	20 × 7	E–W	0.6–0.9	0.1–0.3	Concave	–	–	1:0.01	3:0.2	–	59	200	Domestic focus
139	12 × ?	E–W	0.4	0.1	V-shaped	–	–	2:0.01	–	–	58	170	Domestic focus
140	>8 × 7	WNW–ESE	0.3–0.8	0.1–0.2	Concave	NE		15:0.15	31:0.15	Fe nail 2 Fe hobnails (RA243 and RA244)	57	156	Periphery
141	>15 × 9	WNW–ESE	0.7–0.9	0.1	Concave	NE & E	1 posthole	3:0.03	54:2.68	0.3kg tile	58	41	Periphery
142	12 × 8	ENE–WSW	0.6–1	0.4–0.6	V-shaped	N & SE	2 postholes	–	27:0.2	–	59	52	Periphery
143	10 × 8	ENE–WSW	0.4–0.5	0.2–0.3	V and U-shaped	NE	2 postholes	1:0.01	1:0.03	–	59	53	Periphery
144	10 × 6	N–S	0.6–0.8	0.2	Concave	S	1 posthole	8:0.23	3:0.1	0.1kg tile	59	44	Periphery
145	25 × 9	E–W	0.3–0.7	0.1–0.2	U-shaped	SW	Short ditch	24:0.34	119:1.2	0.33kg tile Fe nail Fe fragment (RA373)	59	207	Domestic focus
146	21 × 8	E–W	0.4–1.3	0.2–0.3	U-shaped	SE	–	14:0.14	49:0.86	1.6kg tile Fe nail 3 Fe hobnails	59	217	Domestic focus
147	15 × 10	ENW–WSE	0.5–0.6	0.1	Concave	NW & SE	Short ditch Two pits	2:0.01	44:0.07	Fe nail 0.04kg fired clay Vessel glass fragment	60	223	Periphery
148	12 × 9	E–W	0.4–0.9	0.2–0.6	V-shaped	N	–	8:0.05	9:0.07	0.04 fired clay	60	227	Domestic focus
149	20 × 10	NNW–SSE	0.6–2.2	0.2–1	Concave	E	–	94:1.4	119:5.35	0.78kg tile and brick Ceramic crucible (RA290) Fe handle terminal (RA289) Fe staple (RA288) Quern (RA341) 2 nails 0.15kg ferrous smithing slag	60	197	Domestic focus

Note: * one item unless stated

Table 1.2: Summary of Roman (Phase 6) possible rectangular buildings

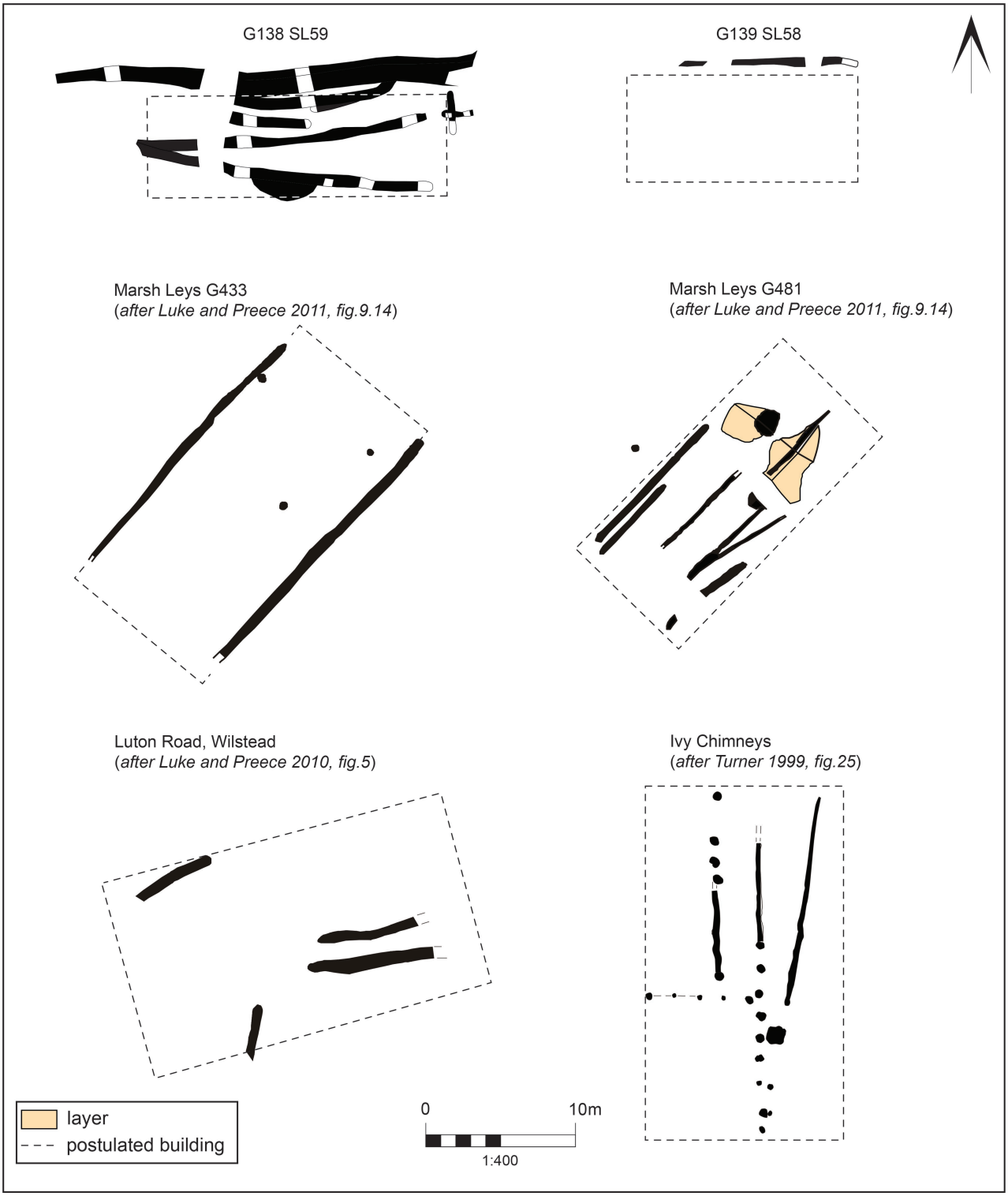


Figure 1.9: Comparative plans of Roman (Phase 6) possible rectangular buildings indicated by structural slots/gullies

have needed a bucket on a rope to extract the water. A similar interpretation was made for the water-pits at Marsh Leys, Kempston (Luke 2011, 157) and Wavendon Gate, Milton Keynes (Williams *et al*. 1996, 64–6). The area around the deeper part of three water-pits was either worn away by trample around the edge of the pit or was deliberately lowered in an attempt to enable better access during construction or use, e.g. G433 (L222, SL59) (*see* Fig. 6.22 section d), G522 (L209, SL59) (*see* Fig. 6.18 section a, Plate 6.8) and G525 (L219, SL58). There was no clear evidence for maintenance of the water-pits; it is presumed that this was necessary on a regular basis to prevent silting-up.

The water-pits were located on the periphery of farmsteads rather than at their core (Fig. 1.4), usually within *c*. 20m of buildings. Most were located near the edges of enclosures and were sometimes dug into ditch terminals, e.g. G461 and G522 (SL59). Others, such as G236 (L160) and G525 (L219) (both SL58) were situated more centrally within their respective enclosures. Water-pits G236 (L160, SL58), G461 (L196, SL59) and G522 (L209, SL59) were situated within 11m of drying ovens.

Pit	Dimensions (m)	Depth (m)	Contemporary pottery (sherds:kg)	Animal bone (quantity:kg)	Other finds (kg or number)	L	SL	Phase
48	12 9	2	25:0.48	37:0.7	0.02 tile 0.55 fired clay	21	55	5
106	4 3	2	–	4:0.04	–	22	55	5
210	4.5 3	1.3	50:0.87	197:5.25	0.3 tile 1 Cu 4th-century coin (RA106) 1 nail	157	58	6
211	6.5 3.5	1.25	113:1.6	84:1.1	4 late 3rd-century coins (RA90 and RA92), 2 with legend CONSECRATIO (RA174 and RA223) 1 Cu offcut (RA175) 1 Cu (leaded) waste 3 Fe fragments (RA89, RA91 and RA178) 1 Fe hobnail (RA180) 2 Fe knives (RA179 and RA181) 13 Fe nails 1 Fe stud (RA176) 2 Fe tacks 2 Fe objects (RA88 and RA177) 4 fragments vessel glass	157	58	6
212	5.5 3.4	1.1	164:3.19	372:8.58	0.01 ferrous slag 1 Cu later 3rd-century coin with legend CONSECRATIO (RA314) 1 Cu 2nd–4th-century bracelet (RA159) 1 Cu late 3rd–4th-century bracelet (RA155) 1 Cu wire earing (RA157) 1 Cu scrap (RA156) 2 Cu wire fragments (RA158) 1 Fe handle (RA160) 16 Fe hobnails (RA210 and RA224) 1 Fe ring (RA162) 1 Fe sheet fragment (RA163) 1 Fe object (RA161) 22 Fe nails	159	58	6
236	6.7 3.7	1	66:0.88	120:0.67	1 Fe rectangular buckle (RA152) 1 Fe hobnail (RA209) 2 Fe nails (RA153) 1 Fe ?tracer (RA154)	160	58	6
303	2	1.1	60:0.65	206:2.8 (incl. ABG8 and ABG9)	0.09 tile 1 Fe nail 3 Fe hobnails (RA285) 1 Fe loop headed spike (RA370)	175	59	6
307	1.8 2.3	>2	52:1.26	140:2.44	7 fragments (1.9kg) brick and tile 1 Fe object (RA261) 1 Fe nail	173	58	6
360	1.7 1.3	>1.5	20:0.43	12:0.27	2 Fe nails 0.06 oyster shell	212	58	6

Pit	Dimensions (m)	Depth (m)	Contemporary pottery (sherds:kg)	Animal bone (quantity:kg)	Other finds (kg or number)	L	SL	Phase
431	2.1	3	65:0.98	169:4.93 (incl. ABG13 and ABG14)	1.28 tile 3 Fe nails	222	60	6
433	5.7	>2	12:0.2	17:0.47	0.45 tile 1 Cu coin reverse shows Vesta (RA222) 1 Fe cleat (RA221) 1 Fe object (RA346)	222	60	6
454	3.6 3.2	>0.8m	122:2.14	66:2.12 (incl. ABG10)	brick and tile 17 Fe nails (including RA229 and RA228) 0.1 slag oyster and mussel shell 1 Fe punch or chisel (RA226) 1 Fe knife (RA231) 1 Fe spearhead (RA225) 5 Fe fragments/objects (RA227, RA230, RA232, RA368 and RA369) 18 Fe hobnails (RA233, RA367 and RA375)	196	59	6
461	3.2 2	>2.3	58:0.8	32:0.4	0.2 tile 4 Fe nails (including RA74) 3 Fe objects (RA71, RA72 and RA73)	196	59	6
522	2.8 2.3	>1.1	2:0.06	3:0.3	–	209	59	6
525	5.6	>2.2	15:0.47	24:1.1	0.5kg tile 1 Cu coin reverse has legend SALVS PVBLICA (RA315)	219	58	6

Table 1.3: Summary of water-pits (all phases)

The water-pits produced large and varied finds assemblages, reflecting their relatively large size and capacity to receive rubbish after their primary use was over. It may also be significant that five of the 15 associated bone groups (comprising the partial remains of cattle, sheep, goat, horse and dog) were discovered in water-pits. In addition, five of the eight coins from water-pits bore legends and images that were associated with divinity, health and wellbeing. The possibility that these may have been votive offerings is discussed in more detail below (Ritual and beliefs). Only pit G212 (SL58) contained waterlogged plant remains, which were indicative of nearby wet grassland/meadows and grazing livestock (*see* Giorgi, Chapter 9).

The presence of water-pits on contemporary farmsteads is relatively common: three at Luton Road, Wilstead (Luke and Preece 2010, 153); one at East Stagsden (Dawson 2000, 50–1); two at Haddon (Hinman 2003, 37–8); and one at Wavendon Gate (Williams *et al*. 1996, 64–6). The presence of 13 water-pits within the Roman settlement at HRN3206 is perhaps unusual, although 25 were found at Marsh Leys, Kempston (Luke 2011, 157).

Quarry pits

Several discrete areas of quarrying, measuring *c*. 20 × 10m, were identified within Roman Phase 6 farmsteads SL57–60 (Fig. 1.4). Quarry pits were characterised by irregular profiles and relatively shallow depths. They were typically clustered in specific areas and appeared to target the chalky clay. They were always located on the periphery of domestic foci and presumably provided raw material for the construction of buildings and other structures. Many were later reused for rubbish disposal, sometimes on a large scale, e.g. those in L183 (SL57) and L232 (SL59).

Some of the pits were isolated, discrete features, e.g. those in the western part of L181 (SL57). However, most of the quarrying was characterised by areas of what appeared to be 'intercutting' pits, e.g. L232 (SL59) and L225 (SL60), created by the repeated excavation of new pits and the simultaneous partial backfilling of earlier pits with unusable arisings. Similar spatially restricted areas of quarrying are known on other sites in the county, e.g. Marsh Leys, Kempston (Luke 2011, 158) and Great Barford Site 8 (Poole 2007a, 107). At Roughground Farm, Glos., quarrying was confined to a 70 × 30m area, next to a major boundary ditch between two groups of enclosures (Allen *et al*. 1993, 109–10).

Other pits

In common with other late Iron Age/Roman farmsteads, the function of the smaller pits at HRN3206 is uncertain. They occurred in relatively small numbers and were typically oval, 0.5–2m in diameter and no more than 0.7m deep. Perhaps unsurprisingly, they mainly occurred within both the domestic foci and the peripheral activity areas.

It is possible that many of these pits were originally dug as small, intermittent quarries to extract clay but a few steep-sided, flat-bottomed examples may have originated as storage pits, e.g. G364 (L232, SL59). Whatever their original function, some were subsequently used for the disposal of domestic debris, e.g. G46 (L28, SL55). This is commonly seen on other late Iron Age and Roman farmsteads, e.g. Marsh Leys, Kempston (Luke 2011, 158).

Ritual and beliefs

The majority of the evidence for ritual and beliefs derives from a late Neolithic/early Bronze Age monument and middle Bronze Age human burials. Also discussed here are at least one animal burial, two votive objects and a small number of possible 'unusual' deposits.

Late Neolithic/early Bronze Age monument

Monument L1/L2 comprised an initial, *c*. 5m-diameter ring-ditch L1 that was subsequently infilled and sealed by a mound created from the upcast of a larger ring-ditch L2 (Fig. 1.10). The slightly angular shape in plan of the inner ring-ditch, its small diameter and its narrow 0.7m wide, steep-sided profile (*see* Fig. 2.2, sections d–g) all suggest it may have held a timber structure, like the larger sub-circular monuments on the Biddenham Loop (Luke 2016, 39).

The 15m-diameter outer ring-ditch seemed to mirror the shape in plan of the inner ring-ditch but it was much wider (up to 2.7m) and was clearly dug to extract material for a mound. There was no buried soil horizon beneath the mound, indicating that the area had been cleared of topsoil before the monument was constructed. No burials were found, although any inserted into the upper levels of the mound would have been destroyed by later ploughing.

The only finds derived from the later fills of the outer ring-ditch and consisted of late Bronze Age/early Iron Age pottery and a horse bone that was radiocarbon-dated to the early 1st millennium BC. They are associated with the monument's subsequent integration into a middle–late Bronze Age field system. The monument's assignment to the late Neolithic/early Bronze Age is, therefore, based on comparison with better-dated ring-ditch monuments elsewhere (Luke 2007, 45), although an earlier date is not impossible.

A very similar double-circuit ring-ditch was investigated *c*. 1km to the south-east on the Woodside Link (Albion Archaeology 2018a; Barker forthcoming). There too the smaller inner ring-ditch was completely enclosed by a larger outer ring-ditch (Fig. 1.10). Both ditches were also somewhat angular in plan, but no mound material or dating evidence was present. A study of multiple-ring-ditch monuments in Northamptonshire found that the smallest, innermost ditches were the oldest, with the outer ditches representing later additions (Deegan 2007, 56).

The majority of known ring-ditch monuments in Bedfordshire occur near the rivers Great Ouse and Ivel, with a smaller number on the chalk uplands nearer Houghton Regis, e.g. Five Knolls, Dunstable (Dyer 1991), and Barton-le-Clay (Clark 1991). Only a handful are known elsewhere in the county (Luke 2007, 42), but the examples from HRN3206 and Woodside Link add to their numbers.

Human burials

Ten human burials, all but one cremations, were found; the majority were radiocarbon-dated to the middle Bronze Age (*see* Table A4). The early Bronze Age and late Iron Age/early Roman period were represented by one cremation burial each. Given the scale of settlement in the late Iron Age and Roman period, the absence of associated burials is surprising. In the Central Belt, however, burials are often located on the periphery of settlements (Smith

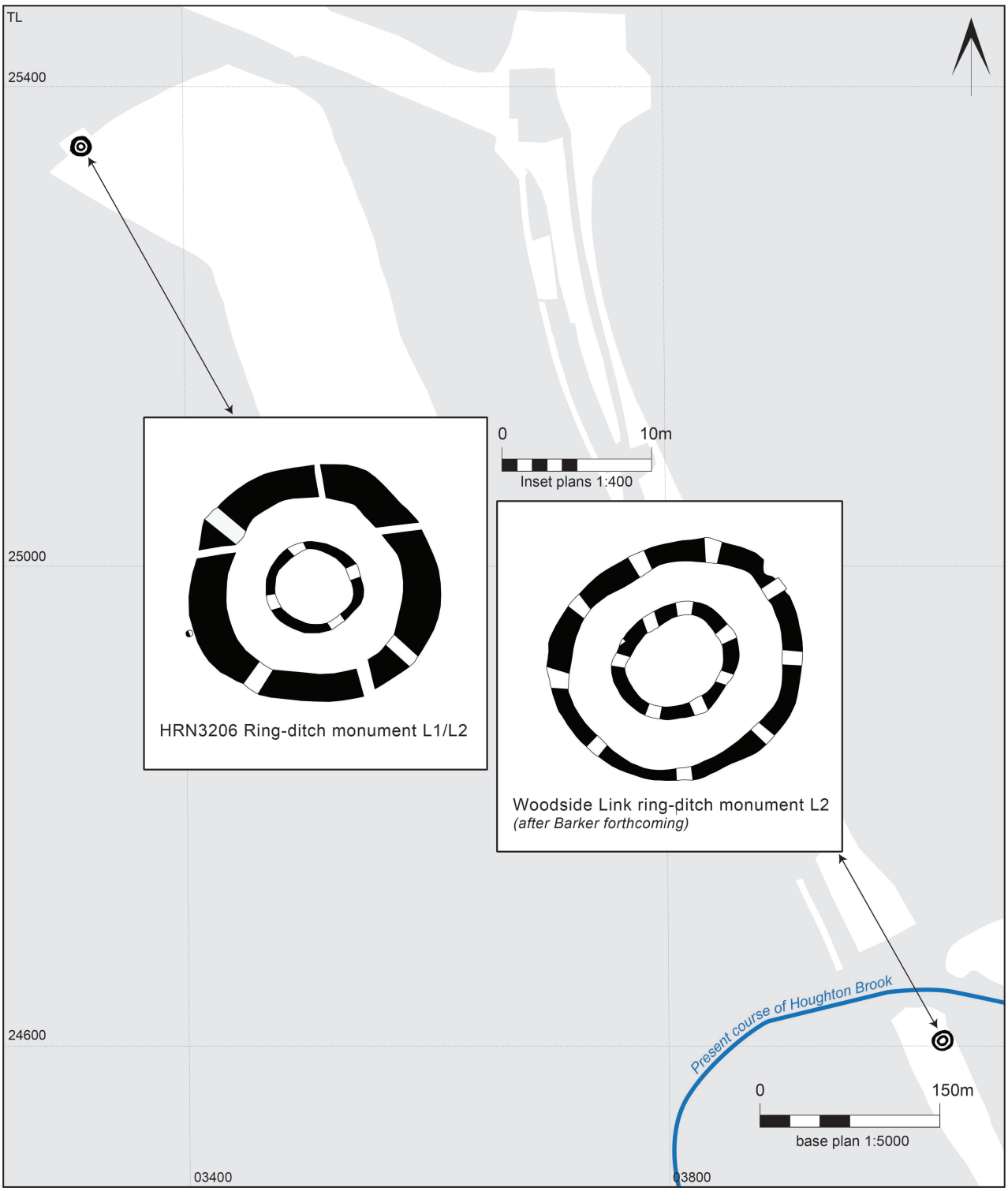


Figure 1.10: Comparative plans of the HRN3206 and Woodside Link ring-ditch monuments

2018b, 231, 243–5) and it is likely, therefore, that the cemeteries used by the farmsteads' inhabitants lie outside the HRN1 development area.

Cremation burials

The early Bronze Age cremation burial G497 lay in apparent isolation, *c*. 220m south-east of the Phase 2 ring-ditch monument L1/L2. Little can be said about it other than that it was unurned, with no grave goods and with no evidence for an associated ditch or mound. The latest cremation burial SG141 was also isolated, 90m from the late Iron Age/early Roman farmstead. It was placed in an undiagnostic, grog-tempered pottery vessel. The remainder of the burials were middle–late Bronze Age in date and are the focus of this discussion.

Radiocarbon dates were obtained from five of the seven middle–late Bronze Age cremation burials. One was positioned adjacent to Phase 2 ring-ditch monument L1/L2. The remainder formed two small cemeteries in the south-east (L12) and south-west (L14) corners of the excavation area. The larger cemetery L12 comprised four graves, three of which contained urned cremation burials.

The urns were in all cases incomplete and heavily truncated; only a middle Bronze Age Deverel-Rimbury Bucket Urn from burial SG149 was identifiable (*see* Wells, Chapter 8). Vessels of this period are generally poorly represented within the county; three fragmentary examples were recovered from non-funerary deposits on the Biddenham Loop (Wells 2016a, 2). All the other Phase 3 cremation burials did not appear to have been deposited in any form of container.

Of the seven burials, five contained the cremated remains of an adult or probable adult; one was that of a sub-adult; and one was unidentifiable. Only one individual was sexed as a probable male. The sub-adult burial SG65 was situated near the earlier ring-ditch monument that had been incorporated into the corner of a middle–late Bronze Age field.

None of the burials contained the complete cremated remains of an individual. The range of bone weights was 26–816g, well below the 1600–3600g that would be expected from the cremation of an adult (*see* Powers, Chapter 9). This is often the case with cremation burials recovered from archaeological investigations, e.g. Biddenham Loop (Powers 2016, 13–15, table 19) and King's Hill, Broom (Dodwell 2007, 97). Later truncation of the graves means that the quantity of the bone originally deposited remains unknown.

Grave goods were not identified in any of the graves. However, cremation burial SG148 (L12) contained seven calcified and one charred animal bone, possibly sheep/goat or pig (*see* Maltby, Chapter 9). The fact that some of the animal bone was calcined suggests that it was on the pyre and may have derived from offerings or from feasting associated with the cremation ritual. Animal bone associated with middle Bronze Age burials is relatively rare, but, where known, often comprises immature sheep/goat, pig and bird (Dodwell 2007, 97).

Small pit G150 (L18), *c*. 25m from cemetery L14, contained calf bones (ABG1) that could represent 'a ritual deposition of a young calf or a more prosaic disposal of a carcass that was not exploited for food' (Maltby, Chapter 9). The feature had no apparent funerary function, but could be related to some part of the burial ritual, such as feasting.

Inhumation burial

The one inhumation SG229 (L9) from the excavation area was radiocarbon-dated to the middle Bronze Age. It was located adjacent to the contemporary cremation cemetery L12, indicating that both burial rites were practised during this period. The grave contained an adult male laid in a crouched position.

Animal burials

The one definite animal burial was the complete articulated skeleton of a young cow (ABG15), recovered from a grave dug into the corner of the ditch defining possible Phase 6 building G566 (L147) in farmstead SL60. Complete animal skeletons are commonly found on Roman sites, e.g. Site H on the A5-M1 Link (Brown 2020, 365), and Marsh Leys, Kempston (Luke and Preece 2011, 64). The association of the burial with a building suggests it could represent a foundation deposit, with the animal slaughtered in commemoration of the construction of the building. Maltby noted the occurrence of sheep ABGs in postholes and floor layers associated with Roman buildings at Winchester (Maltby 2010, 152–8).

Artefacts with religious associations

Stone sculpture RA296 (*see* Henig, Chapter 8 and Plates 8.20 and 8.21) was recovered from a ditch associated with the final layout SL60 of the Roman Phase 6 farmstead. It was of a probable male figure.

> There is inevitably some ambiguity as to whether a god, even a minor genius was intended or a votary. If it were placed before a shrine with a major image in it, it would probably have stood for the person who carved it or had it carved; but if it stood by itself in a place of honour, perhaps in a specially prepared niche, it was presumably a household god receiving the gift of the person or persons who lived there … The back of the block has been smoothed so the sculpture may have stood against a wall in a building, possibly a rural shrine. (Henig, Chapter 8)

No obvious shrine or sacred space was identified within farmstead SL60. However, the sculpture was found close to the location of a peripheral, earlier possible building G141 (SL58), defined by a number of ditch circuits and associated with the only surviving stone surface found within the excavations (Fig. 1.8). Smith notes that although rarely identified, shrines and sacred spaces are typically located on the periphery of farmsteads (Smith 2018a, 148). It cannot be stated with certainty that building G141 was a shrine (p. 14), but Smith also observes that in this region complex farmsteads are more likely to contain sacred spaces and religious objects than smaller farmsteads (ibid, 202).

A votive cast copper alloy cockerel figurine RA334 (*see* Plate 8.13) was recovered from quarry pit G363 (L232) within Phase 6 farmstead SL59. 'The object may be part of a miniature sculptural group depicting the god Mercury, who was invoked by merchants, thieves and travellers, and could have occupied a small household shrine or niche' (*see* Wells, Chapter 8). Numerous examples are known from Roman sites, including Colchester (Crummy 1992, 240, fig. 6.41).

'Structured' deposits

It has long been recognised in Iron Age (Hill 1995), and to a lesser degree Roman (Fulford 2001), studies that certain deposits may be associated with ritual activity rather than simply representing dumps of rubbish. The interpretation of these deposits as being the result of 'ritual' or 'functional' behaviour is inevitably contentious, although it is generally accepted that in many past societies this may be an artificial divide (Morris 2010, 266). A small number of deposits from HRN3206 could be described as, at the very least, 'unusual'. They were found in pits and ditches assigned to the middle–late Bronze Age (Phase 3), the late Iron Age/early Roman (Phase 5) and the Roman (Phase 6) periods.

ANIMAL BONE

Assemblages of animal bone identified as being associated at the time of deposition or, at the very least, part of the same animal have been allocated an ABG (associated bone group) number in this publication (Table 1.4). ABGs were recovered from ditches and pits assigned to Phases 3, 5 and 6. The majority derived from Roman Phase 6 farmstead SL57–60.

In Iron Age and Roman Britain, animals played a key role in religious practice and belief; the evidence

ABG	Phase	SL	L	G	Feature type	Species	Frags	Description	Interpretation
1	3	53	18	150	Pit	Cattle (calf)	4	Right hindlimb including distal epiphysis of a femur and complete tibia, calcaneus and astragalus. No evidence of butchery	Possibly ritual associated with nearby burials
2	5	55	28	46	Large pit	Cow (young adult)	5	Cervical vertebrae. No evidence of butchery	Possibly ritual
3			28	46	Large pit	Dog (adult)	13	Upper forelimbs, ribs and small portions of cranium and tibia. No evidence of butchery	Possibly ritual
4	6	57	154	181	Ditch	Cow	19	Cattle. Vertebrae from at least two animals some of which may have been deposited while still articulated. No evidence of butchery	Disposal of waste
5			184	395	Ditch of livestock race	Cattle (adult, female)	51	All major bones. Chop marks suggest lower limb had been removed	Ritual possibly associated with livestock race
6			184	387	Ditch of livestock race	Dog (adult, probably female)	5	Both pelves, lumbar vertebrae and possible metapodial. No evidence of butchery	Possible disturbed burial associated with livestock race
7		58	41	112	Pit	Cattle (young adult)	5	Four tarsals and metatarsal of the right hind foot and other bones possibly from the same animal. No evidence of butchery	Probably disposal of waste near building G141
8		59	175	303	Water-pit	Cattle (juvenile calf)	7	Four vertebrae and three ribs	Possibly ritual
9			175	303	Water-pit	Horse (neonatal foal)	4	Distal portion of a radius, two metacarpals and the first phalanx	Possibly ritual
10			196	454	Water-pit	Sheep (juvenile lambs)	11	Eleven limb bones from at least two animals	Possibly ritual
11			232	364	Quarry pit	Cattle (young adult)	4	Four vertebrae from a young adult	Disposal of waste
12		60	197	429	Pit/ditch	Cattle (Adult)	3	Skull and associated maxillae and horn cores	Possible ritual near building G149
13			222	431	Water-pit	Goat (adult male)	3	Pair of complete horn cores attached to a fragment of skull, with slight charring near the base of the horn cores	Possibly ritual
14			222	431	Water-pit	Dog miniature type (adult)	6	Cranial elements, pelvis, ulna and tibia of a miniature type	Possibly ritual
15			223	566	Pit	Cow (young)	18	Skeleton.	Burial near possible building G147

Table 1.4: Summary of associated bone groups (ABG) (all phases)

suggests that animal sacrifice was commonplace (Allen 2018, 192). Some 60–70% of the structured deposits found on Roman sites (ibid, 193) comprise animal bone. When found in shrines, temples or sacred places their association with ritual or religious activity appears self-evident. In other contexts, however, it can be difficult to determine whether ABGs are associated with ritual or everyday activities. As noted above, 'ritual and mundane' may not have been distinct concepts in the past, and Allen highlights that the normal everyday slaughter and consumption of animals may have been treated as a ritual (ibid, 193).

The middle–late Bronze Age Phase 3 ABG1 was found in a small pit G150 (see above, p. 22). 'Whether this group represents a ritual deposition of a young calf or a more prosaic disposal of a carcass that was not exploited for food is impossible to determine based on this isolated find, although the proximity of the pit to cremation cemetery L14 should be noted' (Maltby, Chapter 9).

The remaining 14 ABGs derived from the late Iron Age Phase 5 (SL55) and Roman Phase 6 (SL57–60) farmsteads. They occurred both within the domestic foci and in more peripheral areas. Two were associated with livestock race L184 and three were near possible buildings. Cow (eight) dominated the ABGs, followed by dog (three), with single instances of sheep, goat and horse. Cow, horse and dog are the most common species associated with these types of deposits on complex farmsteads (Allen 2018, 193).

- ABG4: cow vertebrae from at least two animals from sub-division ditch G181 (L181, SL57). Some of the vertebrae may have been deposited whilst still articulated. Although no butchery marks were observed on the bones, by their nature they are likely to represent animal-processing waste.
- ABG5: 51 bones of a probable cow recovered from short ditch/trench G395 (L184, SL57). This ABG is significant because, for some reason, carcass-processing was abandoned and the remaining parts of the carcass were discarded in one of the 'sorting' elements of possible livestock race L184.
- ABG6: both pelves, vertebrae and possible metapodial of an adult dog from terminal of ditch G387 (L184, SL57). There was no evidence of butchery and this ABG probably represents a disturbed burial. It was in the terminal of one of the ditches associated with possible livestock race L184 (as was ABG5).

- ABG7: right hind foot and other bones possibly from the same cow from pit G112, dug into a gully defining possible building G141 (L41, SL58). Although no butchery marks were observed on any of the bones and although its proximity to a building which may have served a ritual function (*see* p. 14) is intriguing, this deposit is interpreted as the disposal of animal-processing waste.
- ABG11: four cow vertebrae from a young adult in quarry pit G364 (L232, SL58). Although no butchery marks were observed on any of the bones, they are interpreted as animal-processing waste.
- ABG12: largely intact cow skull from pit/ditch G429 (L197, SL60). The absence of teeth in this jaw and evidence for some weathering indicate that the skull had not been buried immediately after slaughter and may have been exposed for some time. It may, therefore, be significant that it was found in a pit/ditch at the corner of enclosure L197, which contained possible rectangular building G149.
- ABG15: complete but fragmentary skeleton of a young cow within pit G566 (L223, SL60). This burial's relationship with possible building G147 is discussed above (p. 22).
- The remaining seven ABGs were found within late Iron Age/early Roman (Phase 5) and Roman (Phase 6) large pits, some in association within metal artefacts. They are discussed together in the following section.

WITHIN WATER-PITS/LARGE PITS

Ten large pits associated with late Iron Age/early Roman (SL55) and Roman (SL58–SL60) farmsteads contained ABGs and/or metal artefacts, including coins, personalia and tools (Table 1.5). The occurrence of these items together may indicate that they were 'structured' deposits. They were usually found in secondary or tertiary fills, so, in the case of the water-pits, after the feature's primary use had ended.

Seven ABGs were recovered from large pits: two (cow, dog) from pit G46 in late Iron Age/early Roman (Phase 5) farmstead SL55; and five (cow, horse, goat, dog, sheep) from three water-pits (G303, G431 and G454) in Roman (Phase 6) farmstead layouts SL59–60. Four of the ABGs belonged to young adult, juvenile or neonatal animals. In addition to the ABGs, single bones of young or neonatal animals were also found in four pits.

Five of the six coins recovered from water-pits 'bore legends and images that were associated with divinity, health and wellbeing' (Guest, Chapter 8). The coins were generally deposited when the pits had partially infilled and none came from a primary fill. Had they derived from primary fills, it would be easier to argue that they were votive offerings, intended to ensure the 'continued supply of life-giving water' (ibid). As they were found in secondary and tertiary fills, when the pits are unlikely to have contained water, they could perhaps be viewed as evidence for 'closure/thanks' offerings.

Other artefacts present within the pits included personalia, e.g. brooches, bracelets; iron tools, e.g. knives, a punch or chisel, an iron spearhead; and hobnails. Where the latter were present in numbers they probably represent the deposition of whole shoes.

Alongside animal remains, coins and personal items are the commonest component of votive assemblages in Roman Britain; tools and military items, including spearheads, also appear in these types of deposits (Smith 2018a, 171–4). Water-pits, like wells and shafts, have a long association with 'ritually motivated structured deposits' in both the Iron Age and the Roman period, with an increase in the use of wells and water-pits noticeable from the end of the 1st century onwards (ibid, 184–91, 194–5). Sixteen coins were recovered from a pond at Campbell Park, Milton Keynes and although they did not bear any interesting inscriptions, they were associated with other potential votive objects, including items of jewellery, the partial remains of a sub-adult cow, and a nail cleaner and pick (Barker 2019, 30).

It is not easy to distinguish ritual deposition from discard carried out for other reasons. 'The placement of animals in shafts and wells is a common trait associated with the Roman period' (Allen 2018, 194), but even where very large numbers of ABGs occur (e.g. 170 from one well in Oakridge, Hampshire) there is often a debate as to whether they derive from ritual practices (ibid, 194–5). The majority of the finds assemblages from pits at HRN3206 comprised large quantities of pottery sherds, broken artefacts, and fragments of animal bone. These could be interpreted as the result of dumping rubbish into a convenient hole in the ground. However, there were unusual aspects in terms of ABGs and the metal artefacts, especially the coins. While the evidence is at best ambiguous, in combination, it is sufficient to suggest that some of these assemblages are the result of ritualistic behaviour.

Economic basis of settlements

Evidence for the economic basis of the Bronze Age, Iron Age and Roman settlements can be derived from a number of sources. The artefact assemblages shed light on both farming and craft activities, while the ecofacts indicate which animals and plants were exploited. The combined evidence suggests that the farmsteads' inhabitants were engaged in mixed agriculture, with a smaller focus on a range of crafts. The location of the late Iron Age/Roman farmsteads on low-lying land in the vicinity of the Houghton Brook was ideal for a mixed farming economy.

Environment and landscape management

The nature of the settlements and their associated fields, the plant and wood remains, and the animal bone assemblages provide some insights into the nature of the environment and landscape management.

The Mesolithic is regarded as the period in which woodland clearance began in England, but environmental evidence indicates that the Chilterns area was still covered by mixed deciduous woodland up until the 4th millennium BC. Pockets of cleared woodland along the ridges and on the scarp of the Chilterns are hinted at by flint scatters and evidence for domestic activity (Holgate 1994, 32–3), and by the early Bronze Age it is likely that the scarp of the Chilterns was grassland. The situation within the HRN1 development area, and the land to the north of the Chilterns in general, at this time is unclear. At the very least there were probably pockets of cleared land as suggested by flint scatters (Hudspith 1991; Hudspith 1995); ring-ditch monument L1/L2 and an isolated early Bronze Age cremation burial SG497 within HRN3206; and the second ring-ditch monument on the Woodside Link (Barker forthcoming).

The presence of a tuber of the wild grass onion couch in early Bronze Age cremation burial SG497 indicates the presence of grassland either within HRN3206 or close-by. The burial also provides the earliest secure evidence from the excavation area for arable cultivation: a modest amount of cereal debris from hulled spelt wheat and free-threshing wheat. A spelt wheat glume base was also recovered from the ring-ditch defining monument L1, but as it is just a single item, it could be intrusive from later activity.

Middle–late Bronze Age (Phase 3) field system SL52 represents the first evidence for land enclosure. Its full extent was not established, as the fields extended beyond the excavation area to the north, east and west. The fields were defined by ditches, which although they had undergone significant truncation, were probably originally relatively insubstantial. They would probably have been reinforced by hedges and/or banks. Cereal debris and a larger quantity of wild plant/weed seeds from Phase 3 features provides firmer evidence of arable cultivation.

The enclosure system created as part of late Iron Age/early Roman (Phase 5) farmstead SL55 included a number of large enclosures. These were devoid of evidence for activity other than water-pits in their corners; they are presumed to have been used for animal grazing. It seems possible that the Phase 5 enclosures remained in use throughout the Roman period, although an extensive field boundary associated with farmstead SL59 did cut across them. The enclosures associated with Roman (Phase 6) farmsteads SL59 and SL60 were all quite small and were probably used for animal management (see below). Water, for both human and animal consumption, was provided by water-pits within the late Iron Age (Phase 5) and Roman (Phase 6) farmsteads; nearby water courses may also have been used, possibly on a seasonal basis.

Access to woodland resources for fuel and building material was a necessity for all phases of settlement. Woodland could also provide food sources, such as hazelnuts and berries, for humans and animals. Oak was the commonest species found in the environmental samples from all phases of activity within the excavation area. Ash, field maple and shrub species, such as hawthorn group, purging buckthorn and blackthorn/cherry, were also present (*see* Challinor, Chapter 9). Shrub species imply the presence of open woodland and hedgerow-type habitats.

Farming

By the late Iron Age the area had a well-organised agricultural landscape, which had probably originated in the middle Bronze Age.

Cultivation: the plant evidence

Features from most phases of activity within the excavation area produced charred plant remains. The richest assemblages were late Iron Age (Phase 5) and Roman (Phase 6) in date. They provide the best evidence for cultivation practices and, coupled with an increase in land enclosure and the appearance of drying ovens in Phase 6, support the regional pattern of intensive production of cereals in the Roman period (Lodwick 2017, 12). Linked to this more intensive cultivation is the possible evidence for over-cropped soils, low in nitrogen, implied by the presence of leguminous seeds including vetch/tare/vetchling and medicks/clovers (*see* Giorgi, Chapter 9).

Assemblages recovered from the earlier phases of activity (Phases 2–4) were generally smaller and included a large number of unidentifiable grains. Despite this, some variation in the cereals exploited during each phase can be discerned and often confirm local, regional and more general trends in southern Britain.

Cereals were represented in small numbers (> 5 grains) within the late Neolithic/early Bronze Age (Phase 2) and middle–late Bronze Age (Phase 3) charred plant assemblages. They indicate the cultivation of both free-threshing wheat and hulled spelt wheat, the latter becoming increasingly important during the Bronze Age (Giorgi, Chapter 9). The cultivation of spelt wheat continued in Phases 5 and 6, but was now accompanied by barley (six-row) and occasionally emmer wheat. Grains of oat were also present, but it was unclear whether it represented a cultivated or wild species. During the late Iron Age/early Roman period in southern Britain, hulled wheat (mainly spelt) and hulled barley became the main cultivated cereals and this was borne out in the assemblages recovered from farmsteads SL55 (Phase 5) and SL57–60 (Phase 6). Similar assemblages were also recovered from adjacent investigations, e.g. HRN3205 (Giorgi 2019a; forthcoming (a)), Woodside Link (Giorgi 2018; forthcoming (b)) and Site H on the A5-M1 Link (Fryer 2020, table 6.36); they all fit a region-wide trend (Lodwick 2017, 26–8, fig. 2.16).

The cultivation of well-drained calcareous soils, matching those found within the wider HRN1 development area, was indicated by weed seeds, such as cleaver, black bindweed and field madder, which were present in assemblages from most phases. The exploitation of damper soils, presumably those adjacent to the Houghton Brook, was indicated by the presence of spike-rush and sedge in the Roman Phase 6 assemblage. The autumn sowing of crops during the Bronze Age, Iron Age and Roman period was implied by the presence of cleaver; as a hardy crop, spelt was probably sown during this season in the Roman period (Giorgi, Chapter 9). Spring sowing of crops was tentatively implied by the presence of black bindweed and narrow-fruited cornsalad.

Charred cereal remains recovered from Phases 3–6 were indicative of debris from the final stages of crop-processing (including drying and de-husking) and food preparation. A few weed seeds from the Roman Phase 6 assemblage also suggested the latter stages of crop-cleaning (ibid). Rich concentrations of grain and chaff suggest that these activities were being undertaken within the excavation area during Phases 5 and 6. The paucity of cereal debris in middle–late Bronze Age (Phase 3) features implies that these activities were most likely taking place outside the excavation area; the assemblage was suggestive of re-deposited debris. In late Iron Age/early Roman (Phase 5) farmstead SL55, the drying of fully processed grain and de-husking was undertaken in domestic focus L28. Two four-post structures suggest that grain may also have been stored in this area of the farmstead.

Cultivation: crop-processing

The presence of four possible drying ovens and rich assemblages of grain and chaff suggest that specific areas, often enclosed, of Roman Phase 6 farmstead SL57–59 were set aside for crop-processing activities. In the second iteration of the farmstead SL58 this took place in an enclosure to the south of the trackway;

Pit	Fill	Contemporary pottery (sherds:kg)	ABGs and other 'unusual' individual animal bones	Coins	Other metal objects	Other finds (no. and/or weight in kg)	L	SL
G46	Secondary	418:7.69	Cervical vertebrae from a young adult cow (ABG2) Partial remains of adult dog (ABG3) Chicken ulna Immature sheep femur	–	–	18 fragments of fired clay (1.73kg)	28	55
	Tertiary	–	–	–	Cu brooch (RA319)	–		
G210	Primary	9:0.12	Ewe horn core Fragment of boar mandible	–	–	Poss. flue tile (0.03kg)	157	58
	Secondary	19:0.4	–	–	–	2 fragments of tegula (0.28kg)		
	Tertiary	22:0.36	Ewe horn core	4th-century coin (RA106)	–	1 nail		
G211	Primary	10:0.18	–	–	–	–	157	58
	Secondary	11:0.12	–	Radiate of the deified Claudius II, reverse has legend CONSECRATIO (RA223)	–	4 fragments vessel glass		
	Tertiary	92:1.32	–	Radiate of the deified Claudius II, reverse has legend CONSECRATIO (RA174)	2 Fe knives (RA179 and RA181)	Fe hobnail (RA180) Fe stud (RA176) 15 Fe nails Cu offcut (RA175) Cu (leaded) waste 2 Fe fragments (RA177, RA178)		
G212	Secondary	48:0.88	Radius of puppy	–		2 fragments of tile (0.07kg)	159	58
	Tertiary	116:2.3	Chicken femur	Radiate of the deified Claudius II, reverse has legend CONSECRATIO (RA314)	2nd–4th-century bracelet (RA159) Late 3rd–4th-century bracelet (RA155) Cu wire earring (RA157/158) Fe ring (RA162) Fe handle (RA160)	16 Fe hobnails (RA210, RA224) 22 Fe nails Cu scrap (RA156) 2 Fe fragment/object (RA161, RA163) 0.01 ferrous slag 7 fragments of tile (1kg)		
G236	Primary	19:0.29	–	–	Fe rectangular buckle (RA152)	–	160	58
	Secondary	13:0.14	–	–	–	Fe hobnail (RA209) Fe nail		
	Tertiary	33:0.36	–	–	Fe ?tracer (RA154)	Fe nail (RA153) 3 fragments of tegula (0.28kg)		
G303	Primary	1:0.03	–	–	–	–	175	59
	Secondary	45:0.48	Chicken scapula Three teeth of neonatal sheep	–	Fe loop-headed spike (RA370)	1 fragment of tegula (0.09kg)		
	Tertiary	14:0.14	Vertebrae and ribs of juvenile calf (ABG8) Radius, two metacarpals and first phalanx of neonatal horse (ABG9)	–	–	3 Fe hobnails (RA285) Fe nail 0.02 ferrous slag		

Pit	Fill	Contemporary pottery (sherds:kg)	ABGs and other 'unusual' individual animal bones	Coins	Other metal objects	Other finds (no. and/or weight in kg)	L	SL
G431	Secondary	27:0.49	Horn cores and attached skull fragment of adult goat (ABG13)			Fe nail 3 fragments of tegula and brick (0.32kg)	222	60
	Tertiary	38:0.5	Partial remains of miniature adult dog (ABG14)	–	–	2 Fe nails 4 fragments of tegula (0.96kg)		
G433	Secondary	11:0.22	Metacarpal of neonatal calf	Sestertius of the deified Faustina II, reverse shows Vesta (RA222)	Fe cleat (RA221)	Fe object (RA346) 4 fragments of tegula and imbrex (0.45kg)	222	60
	Tertiary	1:0.01	–					
454	Secondary	86:1.5	–	–	Fe punch or chisel (RA226) Fe knife (RA231) Fe spearhead (RA225)	13 Fe hobnails (RA233, RA367) 2 Fe nails (RA228 and RA 229) 5 Fe fragments/objects (RA227, RA230, RA232, RA368, RA369) 2 fragments brick and tegula (0.35kg) 0.1 slag 0.67 oyster and mussel shell	196	59
	Tertiary	36:0.62	Limb bones from two juvenile sheep (ABG10)	–	–	5 Fe hobnails 4 Fe nails 1 fragment tegula (0.13kg) 0.01 ferrous slag and lining		
525	Secondary	8:0.17	–	–	–	–	219	58
	Tertiary	7:0.3	–	Radiate of Carausius, reverse has legend SALVS PVBLICA (RA315)	–	4 fragments of tegula and imbrex (0.5kg)		

Key: ABG = associated bone group

Table 1.5: Summary of artefacts and ecofacts from late Iron Age/Roman (Phase 5) and Roman (Phase 6) large pits

subsequently, in SL59, it was undertaken in two adjacent enclosures on the farmstead's northern periphery. Drying ovens are more common on complex farmsteads, like SL57–60, than on other types of Roman farmsteads and this is particularly marked in the Central Region (Lodwick 2017, 58, fig. 2.45). All the possible drying ovens at HRN3206 had suffered considerable truncation by modern ploughing.

Possible drying oven G169/170 (SL58) was tentatively interpreted as a bowl- or long-hearth type (Fig. 1.11). This is the simplest form of Roman drying oven and usually comprises a stokehole and oven chamber linked by a straight flue (Lodwick 2017, 55–6; Morris 1979, fig. 25). It shared similarities to oven 1 at Foxholes Farm, Hertford (Partridge 1989, 34–6, fig. 16) and to an oven at Wakerley, Northamptonshire (Jackson and Ambrose 1978), although these examples featured a lining. Comparable ovens without linings include oven 10067 at Great Barford Bypass site 8 (Poole 2007a, 114, fig. 4.26) and oven 2 at Foxholes Farm, Hertford (Partridge 1989, 36, fig. 17) (Fig. 1.11). The Great Barford example had small, right-angled flues at the end of the main elongated flue, giving it a T-shaped appearance; oven 2 at Foxholes Farm tapered to a point with no evidence to suggest a turn in the flue.

Drying ovens G400 and G519 (SL58) had suffered significant truncation (*see* Plates 6.4 and 6.7), but the surviving areas of crushed chalk were sufficient to identify them as examples of the 'rectangular' type (G400) and the 'reversed tuning fork' type (G519) (Morris 1979, 83–107). Crushed chalk with puddle clay was used to construct oven 2 at Foxholes Farm, Hertford (Partridge 1989, 36, fig. 17) and the ovens on the Woodside Link (Albion Archaeology 2018a; Barker forthcoming). Rectangular-type drying ovens, some with an asymmetrical flue (comparable to G400), have been investigated at HRN3205 (Luke and Barker forthcoming) and Woodside Link (Barker forthcoming) (Fig. 1.12). Reversed tuning fork types similar to G519 have been found at Cogenhoe, Northamptonshire (Moore 2017, 101–6) and Orton Hall Farm, Cambridgeshire (Mackreth 1996, 75–7) (Fig. 1.13).

The fourth possible drying oven G403 (SL58) at HRN3206 (*see* Fig. 6.15) was even more incomplete than the others and is, therefore, difficult to interpret. It may have been a long-hearth or bowl-type oven.

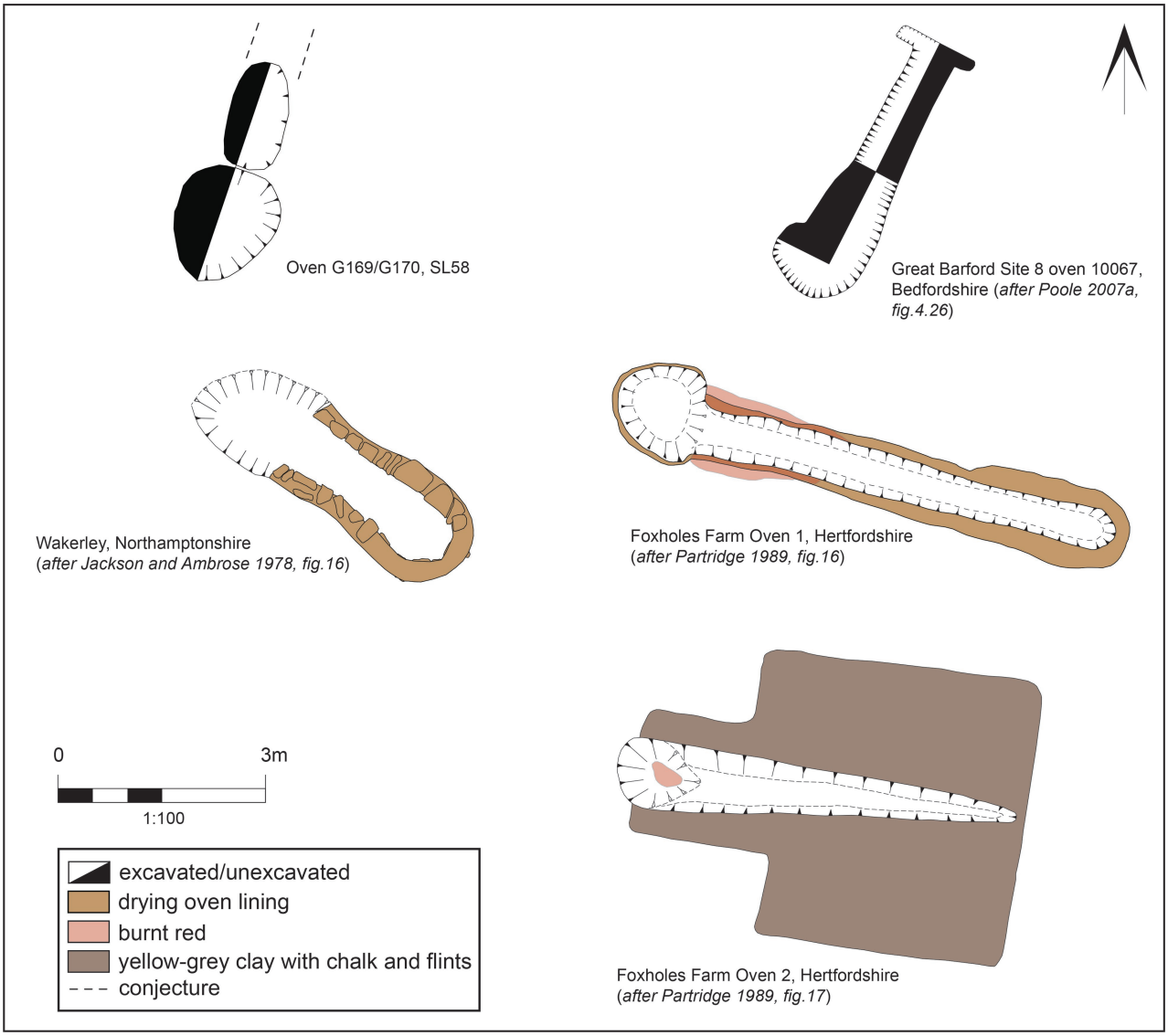


Figure 1.11: Comparative plans of Roman long-hearth/bowl-type drying oven G169/170 and other regional examples

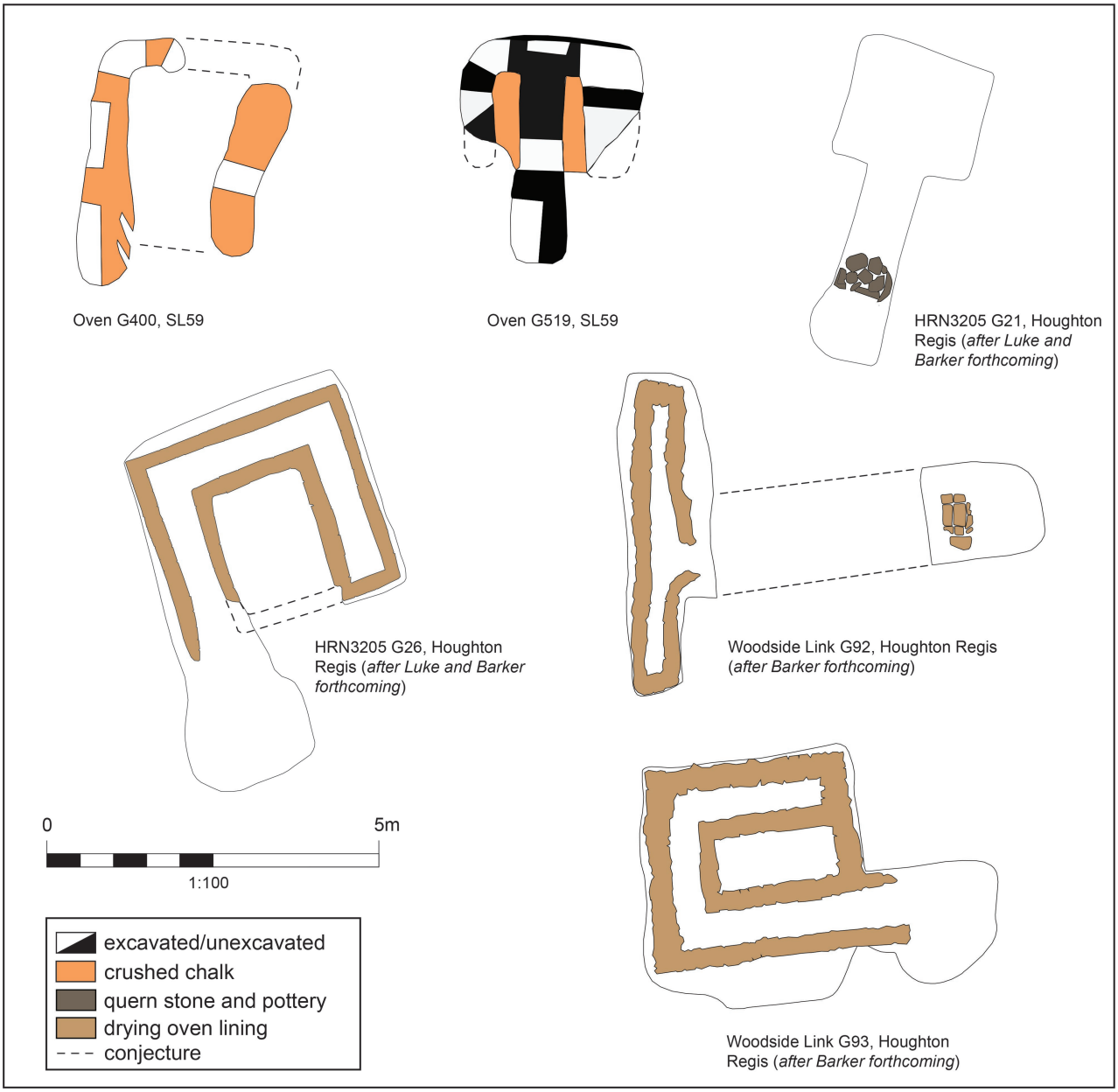


Figure 1.12: Comparative plans of rectangular Roman drying-ovens G400 and G519 with others from HRN1 and Woodside Link

As is often the case with drying ovens, no finds that could securely date their use were found. Only G169/170 produced pottery and that was from the backfill. Based on the sequence of the Roman farmsteads, oven G169/170 was probably in use from the mid-/late 2nd century, and G400 and G519 from the mid-/late 3rd century. Although only broad ranges, these dates do correspond with the pattern of use observed by Lodwick, with few drying ovens in use in the 1st century but an increase during the 2nd and 3rd centuries, including the development of multi-flue ovens (Lodwick 2017, 58–9, fig. 2.46).

All the HRN3206 ovens were situated within individual enclosures, as were oven G21 at HRN3205 (Luke and Barker forthcoming) and the ovens at Woodside Link (Barker forthcoming). Ovens G169/170 and G519 were in circular enclosures; in the case of G519, it appeared as if the enclosure had been specifically created for the oven. The character of the enclosure ditches indicates that they were dug for drainage rather than to hold timbers, although the enclosure around oven G169/170 was associated with an earlier roundhouse (SL57). Water-pits were situated within 11m of the ovens: water-pit G236 near oven G169/170; water-pit G461 near oven G400; and water-pit G522 near oven G519. Pits and tanks are often found close to drying ovens (Morris 1979, 15–6), e.g. the timber-lined tank at HRN3205 (Luke and Barker forthcoming), and a link with malting is often suggested (Lodwick 2017, 63).

Drying ovens are most commonly found on complex-type farmsteads in this region, with their usage peaking in the mid–late 3rd century (Lodwick 2017, 58–60, fig. 2.46). In contrast to the ovens within HRN3206 (which were within a farmstead, albeit on the periphery), the drying ovens found on the Woodside Link (Barker forthcoming) and at HRN3205 (Luke and Barker forthcoming) appeared to form a distinct crop-processing area, adjacent to a trackway and *c*. 100m from the nearest farmstead. Three possible drying ovens were also uncovered at

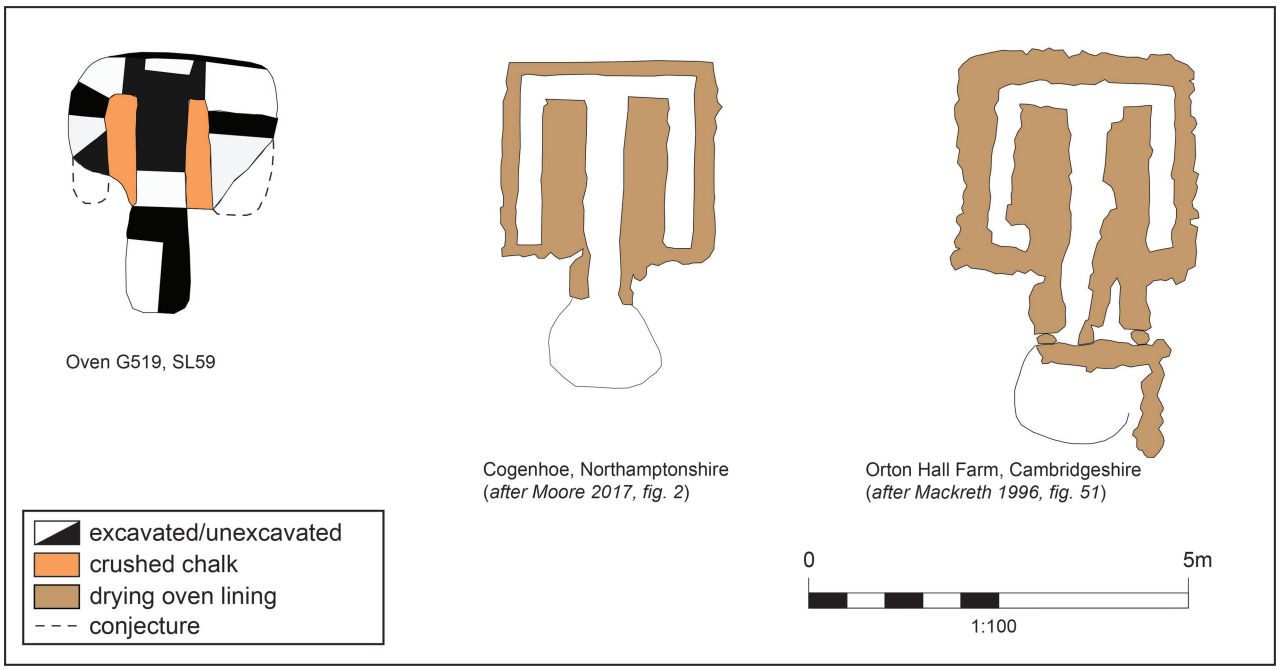


Figure 1.13: Comparative plans of Roman 'reversed tuning fork'-type drying oven G519 with examples from Cogenhoe and Orton Hall Farm

Puddle Hill, *c*. 3km to the south-west of the excavation area and close to the course of Watling Street. However, the details are somewhat vague, as the report was based on the field notes of excavations undertaken between 1951 and1965 (Matthews and Warren 1992, 21, 35).

Oven G169/170 contained very rich and high concentrations of charred plant remains. Grains were the dominant component of these assemblages but there was a good amount of hulled wheat chaff in one of the samples, and relatively few weed seeds in any of them. Several of the grains had germinated and there were also small numbers of loose detached coleoptiles. Most of the grains, however, were too poorly preserved and unidentifiable to establish if there were enough germinated grains to suggest that the remains represented grains being malted within their spikelets and accidentally burnt in the process. The other possibility is that the grains had accidentally sprouted and were being deliberately burnt as waste. Overall there is sufficient evidence to demonstrate that the parching and drying of cereal crops was taking place and it is possible that malting was taking place as well (Giorgi, Chapter 9). Of ovens G400, G519 and G403, only the latter contained a modest-sized assemblage, consisting mainly of charred grain. However, a rich charred plant assemblage that contained a large amount of chaff with fewer grains was recovered from an enclosure ditch adjacent to ovens G400 and G403. This represents accidentally burnt debris from the de-husking of hulled wheat, possibly cleared out from the nearby ovens (ibid).

The archaeobotanical evidence indicates that similar ovens in Roman Britain were utilised primarily to dry glume wheats for de-husking (predominantly spelt), and to dry grain as part of the malting process (Lodwick 2017, 55–8). This is supported by the charred plant remains from two of the ovens on HRN3206 (G169/170 and G400) which suggest that they were used to dry spelt wheat. Germinated grains were recovered from oven G169/170 (SL58) and adjacent features; the evidence is not conclusive but it may suggest that this oven was also used in the malting process (Giorgi, Chapter 9).

Cultivation: artefactual evidence

As is often the case, e.g. Marsh Leys, Kempston (Luke 2011, 162), the Roman farmsteads SL57–60 produced only a small number of artefacts that might be associated in some way with cultivation.

The majority of the farmsteads produced artefactual evidence for crop-processing in the form of fragments of quernstones. Farmstead SL57 produced three bun-shaped rotary querns and a millstone RA265. All were found in activity foci to the north of the trackway. The eastern part of farmstead SL59 produced a few fragmentary rotary quern stones. The five rotary quern fragments from farmstead SL60 had a more dispersed distribution.

The only other artefacts with a link to horticulture/cultivation were a small pruning hook RA198 from farmstead SL58, and a probable bill-/reaping hook blade RA236 from farmstead SL59.

Animal husbandry: animal bone evidence

Animals are represented in the faunal assemblages from all phases of activity identified on site. Represented species comprise cattle, sheep/goat, pig, horse, dog, domestic fowl and a limited range of wild species. The small assemblages from Phases 2–4 (ranging from 6 to 13 elements identified to species) mean that the majority of the evidence for animal husbandry is gleaned from the late Iron Age/early Roman Phase 5 and Roman Phase 6 faunal assemblages.

Cattle (varying from 38.7–67%), followed by sheep/goat (varying from 32.1–26%), dominate the late Iron Age/early Roman (Phase 5) and Roman (Phase 6) farmsteads. The four main domesticates (cattle, sheep/goat, pig and horse) are also represented in the assemblages from Phases 2–4, but in much smaller quantities. A predominance of cattle over sheep/goat is consistent with the majority of late Iron Age and Roman sites in the

vicinity, e.g. Sites H and Q on the A5-M1 Link (Gordon 2020, 429–31, tables 6.38 and 6.39).

Analysis of the age at death of the cattle and sheep/goat from Roman (Phase 6) assemblages suggest that they were being bred at the farmsteads. The same may be true of horse, based on the presence of a foetal horse. Interestingly, 55% of the cattle bone assemblage is dominated by mature and elderly adults, mostly males, and suggests that a large proportion of cattle were kept as working animals. The majority of sheep/goat within the late Iron Age/early Roman (Phase 5) and Roman (Phase 6) farmsteads died between 12–36 months, implying a focus on meat production.

Cattle and sheep kept at the Roman Phase 6 farmsteads were 'a good size by Roman standards'; the presence of large cattle and sheep is suggested by several limb bones (Maltby, Chapter 9). Moreover, the variable size of the livestock suggests that the animals derived from several sources, tentatively suggesting the importation of new, improved stock. Changes in the size and stockiness of livestock have been noted at sites across Roman Britain, and evidence points to the introduction of larger specimens to Britain during this period (Allen 2017, 104). This is thought to be linked to the increased focus on agricultural production and surplus at this time, with larger, more robust animals providing an increased meat yield, as well as stronger working animals; 'more efficient plough cattle would also have been important on sites where cereals were intensively farmed' (ibid). Larger animals have not been noted on all farmsteads/settlements in the region, suggesting that the inhabitants of farmsteads SL57–60 were unusual in having access to improved livestock. The proximity of the Roman small town at Dunstable (*Durocobrivis*) and Watling Street is perhaps a factor in this.

Horse and pig were also present in Phases 5 and 6, but formed only a small percentage of the animals kept at the farmsteads (less than 14%). Pig declined considerably between the late Iron Age/early Roman (Phase 5) (14%) and Roman (Phase 6) periods, providing just 3% of the identified mammal assemblage in the latter. While this is a common pattern on Roman sites in Bedfordshire, the percentage at HRN3206 is exceptionally low and suggests that for the inhabitants 'pork and bacon was of little importance in their diet'(Maltby, Chapter 9).

Evidence for horse in the late Iron Age/early Roman (Phase 5) farmstead SL55 and Roman (Phase 6) farmsteads SL57–60 is 5% and 9%, respectively. These figures are similar to those at Marsh Leys, Kempston (Maltby 2011, 123–7) and Biddenham Loop (Maltby 2008, 238–9, 284), for example. Horses were usually kept for riding or as pack animals, but a substantial proportion of the horse bone from Roman (Phase 6) farmsteads SL57–60 was from relatively young animals. The overall death profile suggests that many of them died before the end of their natural lifespan. No butchery marks were present on the bones, but it is likely that horse flesh was eaten by the inhabitants (Maltby, Chapter 9).

It is clear that dogs were kept at the Roman (Phase 6) farmsteads SL57–60 and there is no evidence that they were butchered. They are presumed to have been primarily work animals, such as sheepdogs, but one miniature type was identified. Small assemblages of articulated bones were found in ditches and pits, but the number of gnawed bones suggests that not all of them were given a burial.

The presence of domestic fowl was noted in the late Iron Age/early Roman (Phase 5) and Roman (Phase 6) farmsteads, consisting of one and 13 bones respectively. Domestic fowl were introduced to Britain during the Iron Age, but are only found in small numbers on Roman rural sites (ibid). A hen and cockerel are represented in the Roman (Phase 6) faunal assemblage and cut marks on one individual indicates that they were eaten by the farmsteads' inhabitants.

A substantial number of bones of low meat value indicate that cattle were slaughtered and butchered at Roman (Phase 6) farmsteads SL57–60 (ibid). Evidence of butchery of sheep/goat is less frequent and restricted to marks associated with dismemberment. Both blade and knife marks were noted on cattle, whereas knife marks were only noted on sheep/goat. The use of knives in carcass processing was a common feature of Iron Age practices and continued into the Roman period, whereas the use of blades and cleavers is a common and distinctive feature of Roman butchery techniques (Maltby 2016b, 793–4). While the use of fine-bladed knives for processing was evident at farmsteads SL57–60, the use of heavier blades was more frequent. Filleting with a heavy blade was noted on several cattle femur shafts and reflects new techniques and equipment used by specialist butchers (Maltby, Chapter 9). Such evidence is commonly encountered on military and larger nucleated sites, although evidence was also identified at the roadside settlement at Kempston Church End (Maltby 2016a, 21–2) and at Marsh Leys, Kempston (Maltby 2011, 128). A number of trimmed scapula also reflect the use of new methods, although it is unclear whether they were processed on site or imported from elsewhere. The use of these new butchery methods would have 'increased the speed of processing and were thus favoured by butchers dealing with large numbers of carcases' (Maltby 2016b, 793).

Animal husbandry: artefactual evidence

The only artefact recovered with a link to animals is ox goad RA130 from Roman farmstead SL59. This could have had a multitude of uses, including as a prod to round-up cattle or as a guide/prod for an oxen pulling a plough or a cart.

Animal husbandry: evidence for stock control and management

Indirect evidence for stock control and management comes in the form of trackways, enclosures, water-pits and possible livestock races.

As discussed above (p. 11), trackways were an integral part of the layouts of the first two Roman farmsteads SL57 and SL58. The one associated with the initial farmstead SL57 was 23m wide, which seems excessive, unless it served as a droveway. Allen and Smith have suggested that trackways would have helped control the movement of animals beyond farmsteads (2016, 33). The reason for the dramatic reduction in the width of the trackway in farmstead SL58 is unclear. It could have been related to a shift from cattle to sheep husbandry, although the animal bone assemblage offers little support to this hypothesis.

The creation of ditched enclosures and fields from the middle–late Bronze Age (Phase 3) onwards is presumed to be associated with animal husbandry. The nature and arrangement of the enclosures within the Roman farmsteads suggests that they were associated with the herding of cattle or sheep into different paddocks or holding pens

where they could be counted and separated (Allen and Smith 2016, 33). Very few entrances into enclosures were identified, but some (especially within SL57 and SL58) did have noticeably curved boundaries, perhaps more suited to livestock control. Based purely on the number of enclosures within farmstead SL58, it can be suggested that animal husbandry peaked during the mid-/late 2nd to mid-3rd century. This may also explain why farmstead SL58 contains the largest number of water-pits.

Integral to the northern boundary of farmstead SL57 was an arrangement of ditches suggestive of a livestock race. They formed a 4m-wide, *c*. 135m-long corridor that narrowed to a 2m-wide pinch point where a single ditch/trench G395 continued the alignment. This was centrally positioned and consisted of a steep-sided, E–W-aligned ditch which ran for 6m. This tapering layout suggests that the ditches formed a livestock race, with ditch/trench G395 acting as a 'funnel' or 'crush' to direct the flow of animals to the north or south. A *c*. 2.5m-wide corridor on the west side of enclosure L170 (SL58), which narrowed to *c*. 0.8m on the north side, may also represent a livestock race, although the evidence is not as convincing at that for race L184.

Based largely on his interpretation of droveways and enclosures on the excavations at Fengate, Peterborough, Francis Pryor has led the way in developing our understanding of historical livestock management. There, he identified a 'crush' that facilitated the corralling of livestock into three adjacent paddocks or fields (Pryor 2017, 100–5, fig. 52). A similar arrangement was seen at Biddenham Loop (Luke 2016, 127, fig. 4.7). Those two examples are Bronze Age in date but they demonstrate the longevity of this method of livestock control and sorting. The animals (certainly sheep but possibly cattle too) were driven down the 'race', which, as it narrowed, created a 'crush' where individual animals could be inspected by people standing on either side of the 'race'. Animals could then be sorted through drafting gates, indicated by the gaps in the ditches in the case of L184. Portable fencing and hurdles would have been used to create collecting pens adjacent to the crush. A similar arrangement of routeways, including crushes and enclosures, was seen on the Roman farmstead at Hill Field, Wilshamstead (Ingham 2010, 220–2, fig. 24).

It may be significant that two of the 14 ABGs from the Roman (Phase 6) farmsteads derived from the crush end of the livestock race: a probable cow (ABG5) from short ditch/trench G395 and a partial adult dog (ABG6) from the terminal of southern ditch G387. The possibility that these ABGs were offerings has been discussed above (p. 23–4).

Hunting and fishing

Although very limited, most of the evidence for the exploitation of wild species derived from the animal bone assemblage. Red deer is evidenced by three bones and a piece of worked antler offcut, and roe deer by only one bone. Single bones of red deer were recovered from late Neolithic/early Bronze Age (Phase 2) ring-ditch monument L2 (although the bone was radiocarbon-dated to the late Bronze Age) and from a ditch defining late Iron Age/early Ronan (Phase 5) farmstead SL55. Only five wild bird bones were present: a duck the size of a wild mallard, a wader the size of a plover, and three wing bones of a sparrowhawk. The latter was probably collected for its feathers. Despite sieving, no fish bones were recovered, which is typical of Roman sites in the region. Hunting wild mammals for food seems to have been a rare pastime for most of the inhabitants of the HRN3206 farmsteads (Maltby, Chapter 9).

In the wider region, wild animal and/or fish bones are either absent or found only in small numbers on farmsteads: e.g. at sites H and Q on the A5-M1 Link (Gordon 2020, 429); Marsh Leys, Kempston (Maltby 2011, 127); Great Barford Sites 4 and 8 (Holmes 2007, 358). In the case of animals such as deer it is possible that their apparent low frequency is real and reflects a lack of suitable woodland habitat in the vicinity. It is also possible that they were partly butchered at the kill site, rather than in settlements, for ease of transport. However, this cannot explain the absence of fish and the low numbers of birds. It has been suggested that hunting might have been the preserve of landowners or the higher classes (Luke and Preece 2011, 166; Mackreth 1996, 225); it is also possible that wild species were considered to be sacred and their exploitation was taboo (Luke 2016, 328).

Metal-working

Approximately 5kg of metallurgical residues were recovered from the Roman Phase 6 farmsteads SL58–SL60, suggesting that both the production (smelting) and smithing of iron were undertaken by the inhabitants. Limited evidence for copper-alloy working is suggested by scraps and offcuts recovered from farmstead SL58 and a fragment of ceramic crucible from farmstead SL60.

The majority of the iron-working debris (*c*. 4kg) was recovered from farmstead SL59; it comprised ferrous smelting and smithing slag, slag cakes and furnace lining. No evidence of a furnace or associated structures was identified within the excavation area. However, due to the polluting and possibly ritualised status of smelting, iron production is usually found away from the core of farmsteads (Smith 2017, 185), as was observed at Marsh Leys, Kempston (Luke 2011, 163). Similarly, the metal-working debris from SL59 was almost all recovered from quarry pits L232 and L244, which were on the periphery of the farmstead. The only object to have a possible association with metal-working was a punch (RA226), recovered from enclosure L196 on farmstead SL59 (Wells, Chapter 8). The actual scale of the iron-working is not easily deduced from the evidence available but the quantity of debris recovered is considerably smaller than the 38kg at Marsh Leys, Kempston (Young 2011) and the 25.6kg at Bancroft, Milton Keynes (McDonnell 1994); this may suggest that it was not a regular activity within the HRN3206 farmsteads.

Other craft activities

The main evidence for non-agricultural activities is associated with metal-working (described above). From farmstead SL59 there is a little evidence for textile-processing (iron wool comb RA 227) and wood-working (two drill-bits RA116 and RA247, and a serrated iron blade from a possible bow saw RA242). One antler off-cut from farmstead SL60 had clearly been worked. The evidence fits the regional pattern whereby most rural craft activities are under-represented in the archaeological record because their by-products do not survive and their tools are rarely disposed of or lost. Even at sites where a greater amount of evidence for crafts exists, it is uncertain whether they were undertaken by the inhabitants or perhaps during visits by itinerant specialists.

Status and wealth in the late Iron Age and Roman periods

The following section discusses some of the more salient indicators of status and wealth in the late Iron Age/early Roman (Phase 5) and Roman (Phase 6) periods. Some insights into the inhabitants trade/external contacts and status/wealth can be derived from the structural, artefactual and ecofactual data-sets. In the Roman period, to some extent, such evidence is intrinsically linked to an individual's readiness/ability to 'buy into' new fashions, without necessarily reflecting wholesale adoption of all aspects of Roman culture and beliefs. There is no evidence to suggest that the local population was anything other than of British origin, although it would be difficult to prove otherwise.

The layout of the Phase 5 and Phase 6 settlements is comparable to others in the region. Although the Roman farmsteads are categorised 'complex-type', these are quite common in the region (Allen and Smith 2016, 28–33). The initial layout appears to have been planned, although not necessarily by the actual inhabitants as it might have been undertaken by an absentee landowner. The farmsteads, like others in the region, practised a mixed farming economy. The change from using roundhouses to rectangular buildings in the Roman period is sometimes viewed as an indicator of 'wealth' and 'status': Hingley has suggested that this shift could represent 'the desire of individuals or families to acquire symbols of wealth and civilisation' (Hingley 1989, 34). It is, therefore, of interest that no roundhouses were apparently built after the mid-/late 2nd century.

Imported goods, including animals, provide evidence not just of access to markets, but also, especially with regards to artefacts, of the wealth of the inhabitants. In the Roman period, this was also, to some extent, an indication of their willingness to adopt Roman fashions. Such products would probably have been purchased in the main at local markets or from travelling sellers. A wide range of regional, national and continental products were available during the Roman period as a result of political stability and improved communications within the Empire.

Roman pottery from the Phases 5 and 6 farmsteads was dominated by locally manufactured coarse wares, predominately in shell- and sand-tempered fabrics (Wells, Chapter 8). Access to trade and markets was evident in Phase 6 with the presence of continental (2% of sherd count) and regional wares (12% of sherd count), albeit in low numbers. The percentage of continental wares is comparable to other farmsteads in Bedfordshire, e.g. Marsh Leys, Kempston (2%: Luke 2011, 166) and Luton Road, Wilstead (3%: Wells 2010a, 136). The quantity of regional wares (12%) was slightly higher than some farmsteads, e.g. Marsh Leys, Kempston (8%: Luke 2011, 166), and Luton Road, Wilstead (8%: Wells 2010b, 136), and much higher that at farmsteads such as Biddenham Loop (4%: Wells 2008, 271), and Hill Farm, Wilshamstead (4%: Wells 2010b 186). This may reflect HRN3206's location *c*. 3.7km from Watling Street. An accessible supply of pottery is also probably implied by the lack of reused or repaired vessel sherds (Wells, Chapter 8).

Some of the objects found indicate the ways in which at least some of the inhabitants dressed and displayed themselves. That at least some people wore Roman-style footwear is indicated by the presence of multiple hobnails within all four Phase 6 farmsteads (Wells, Chapter 8). Other objects, such as brooches (RA59, RA61, RA125, RA129, RA281; Plate 1.5), were used to secure garments; while dress accessories such as bracelets (RA123/RA133, RA134, RA155, RA159; Plate 1.6), finger rings (RA119, RA121), part of a possible earring (RA157), and a dog canine amulet (RA286: Plate 8.2) were also recovered. A single hair pin (RA324) may suggest the adoption of Roman hairstyles. Objects associated with personal grooming include part of a toiletry set (RA17), a leaf-shaped copper alloy nail cleaner (RA60) and parts of possible mirrors (RA115, RA355 and RA356). Too few artefacts were recovered to allow significant conclusions to be drawn, but their presence does suggest 'a desire not just for personal hygiene, but also for the wish to present oneself as clean and respectable to others' (Brindle 2018, 6). The presence of these objects suggests a willingness on the part of the inhabitants (and the financial ability) to adopt some aspects of Roman culture. Brindle has demonstrated that these objects are more common in complex farmsteads, like SL57–60, than on other types of farmstead (ibid, 46). This is only one aspect of the increasing evidence for social stratification but of course the equation between, say, an object type and a single aspect of identity is known to be too simplistic (Eckardt 2014, 20–1; Brindle 2018, 46).



Plate 1.5: Selected brooches: RA59, RA61, RA125, RA129 and RA281



Plate 1.6: Selected bracelets: RA123/133, RA134, RA155 and RA159

A small number of artefacts hint at some form of 'military' connections for some of the farmsteads' inhabitants (Wells, Chapter 8). These objects include a small iron spearhead (RA10), a possible socketed bolthead (RA173)

and another possible spearhead (RA225) (Plate 1.7). In addition, a cast copper alloy mount with an iron shank (RA269: Plate 8.4), a rectangular buckle frame (RA152), a copper alloy circular stud with enamelled decoration (RA110: Plate 8.15), a copper alloy belt buckle (RA44: Plate 8.18) and a cast copper alloy phallic strap mount (RA335: Plate 8.19). It seems possible, therefore, that some of the inhabitants had served in the military. Black believes that such service was an important way, especially in the early Roman period, for villa owners to further their ambitions (1994, 109–10). Such a route was not restricted to the more senior members of the British elite because historical sources make it clear that British auxiliaries were in existence from at least AD 69 (*Tacitus Hist*. I. 70.2).



Plate 1.7: Spearhead RA10, possible bolthead RA173 and spearhead RA225

Evidence for written communication was found in the form of two possible styli (RA11 and RA251: Plate 8.12). These could suggest the presence of at least one literate inhabitant or someone keeping accounts. Equally, their limited number could suggest that they had been lost by a visitor to the farmstead.

Ninety-two Roman coins were recovered from a part of Bedfordshire where comparatively few Roman rural settlements have been investigated (Plate 1.8); those excavations that have occurred tended to produce smaller quantities of coins compared to other sites in the wider region.

> It has been suggested that the contrast in coin-recovery patterns between the Milton Keynes area and some parts of Bedfordshire is evidence for a more monetised economy in the former – based on a villa landscape and a more Romanised identity – while the population of the latter were less likely to be connected to an economic system that required the regular exchange of coinage (Meade 2010, 53 and 131–5; Brown 2020, 348). While this may turn out to be the case at the broad, regional scale, the coins from HRN3206 show the local picture is unlikely to be quite so simple and that some inhabitants in this part of south Bedfordshire did have access to Roman coinage and probably used it in their everyday lives. (Guest, Chapter 8).



Plate 1.8: Selected Roman coins: RA20, RA23, RA45, RA50, RA85, RA97, RA222 and RA268

In summary, evidence for status, wealth or the adoption of Roman culture is never particularly clear-cut (Taylor 2001, 50; Hingley 1989, 159–61) and should not be viewed too simplistically (Eckardt 2014, 20–1; Brindle 2018, 46). While the large overall finds assemblage from HRN3206 is comparable to other 'complex farmsteads', a few of the objects do stand out from the normal profile one might expect, particularly those associated with the military, with literacy and with religion in the form of sculpture RA296.

Chapter 2

Late Neolithic/early Bronze Age (Phase 2)

2.1 OVERVIEW

The earliest evidence for human activity within the excavation area (SL51) comprised ring-ditch monument L1/L2, an adjacent posthole L3, and a seemingly isolated, unurned cremation burial L4 (Fig. 2.1). The monument was on low-lying ground, *c*. 200m south of the current course of the Ouzel Brook, while the burial was *c*. 220m further to the south-east.

The only possibly contemporary pottery recovered comprised ten undiagnostic prehistoric sherds (0.08kg) from the outer ring-ditch. Assignment of the monument to this period is, therefore, based primarily on its similarity to better-dated monuments elsewhere in the region. The cremation burial was radiocarbon-dated to the early Bronze Age (Table A4).

2.2 RING-DITCH MONUMENT L1/L2

Double ring-ditch L1/L2 was not identified by the evaluation, although with hindsight it can be discerned on one of the greyscale plots of the geophysical survey (Stratascan 2012, fig. 9).

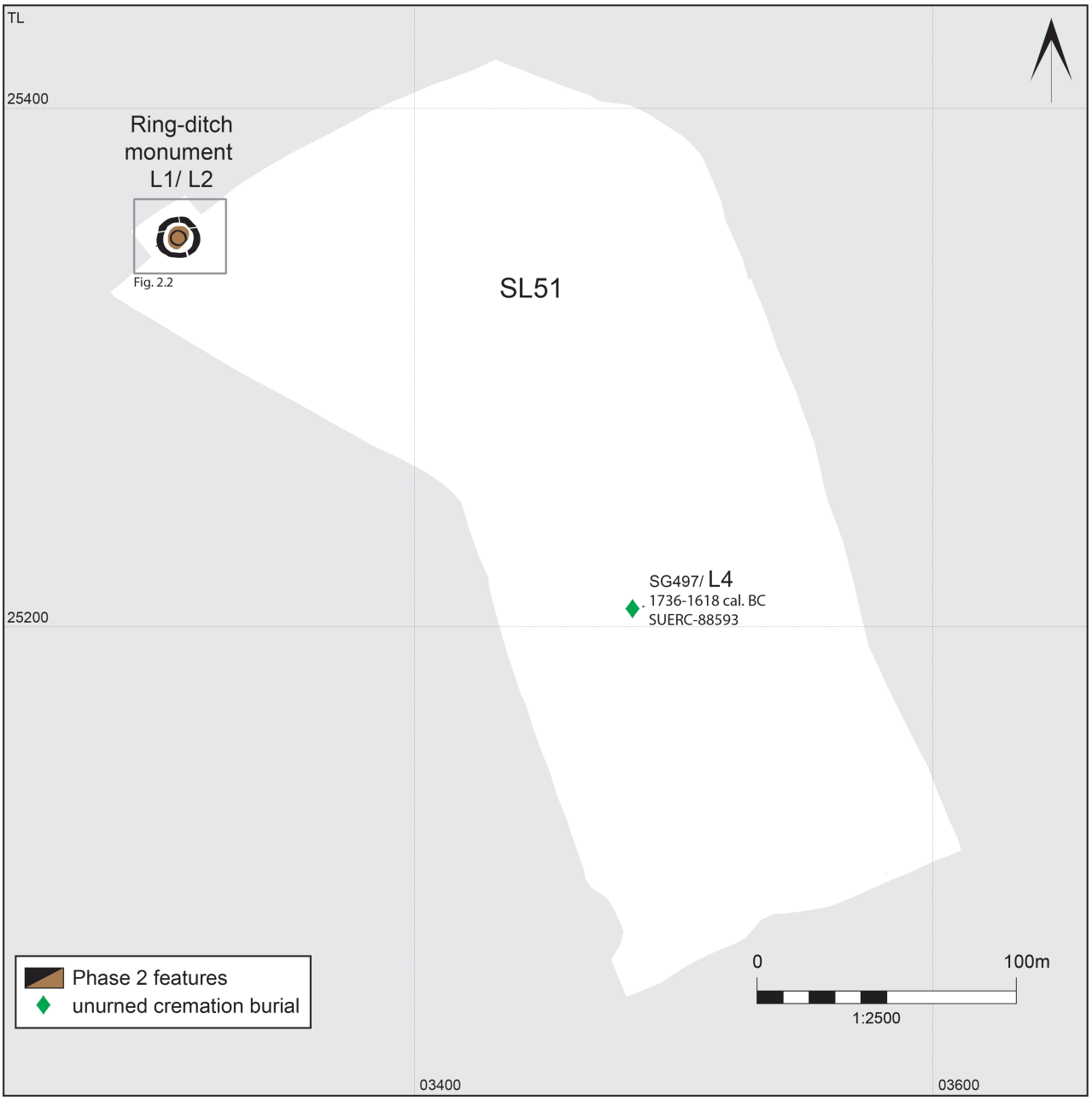


Figure 2.1: Overall plan of late Neolithic/early Bronze Age (Phase 2) features

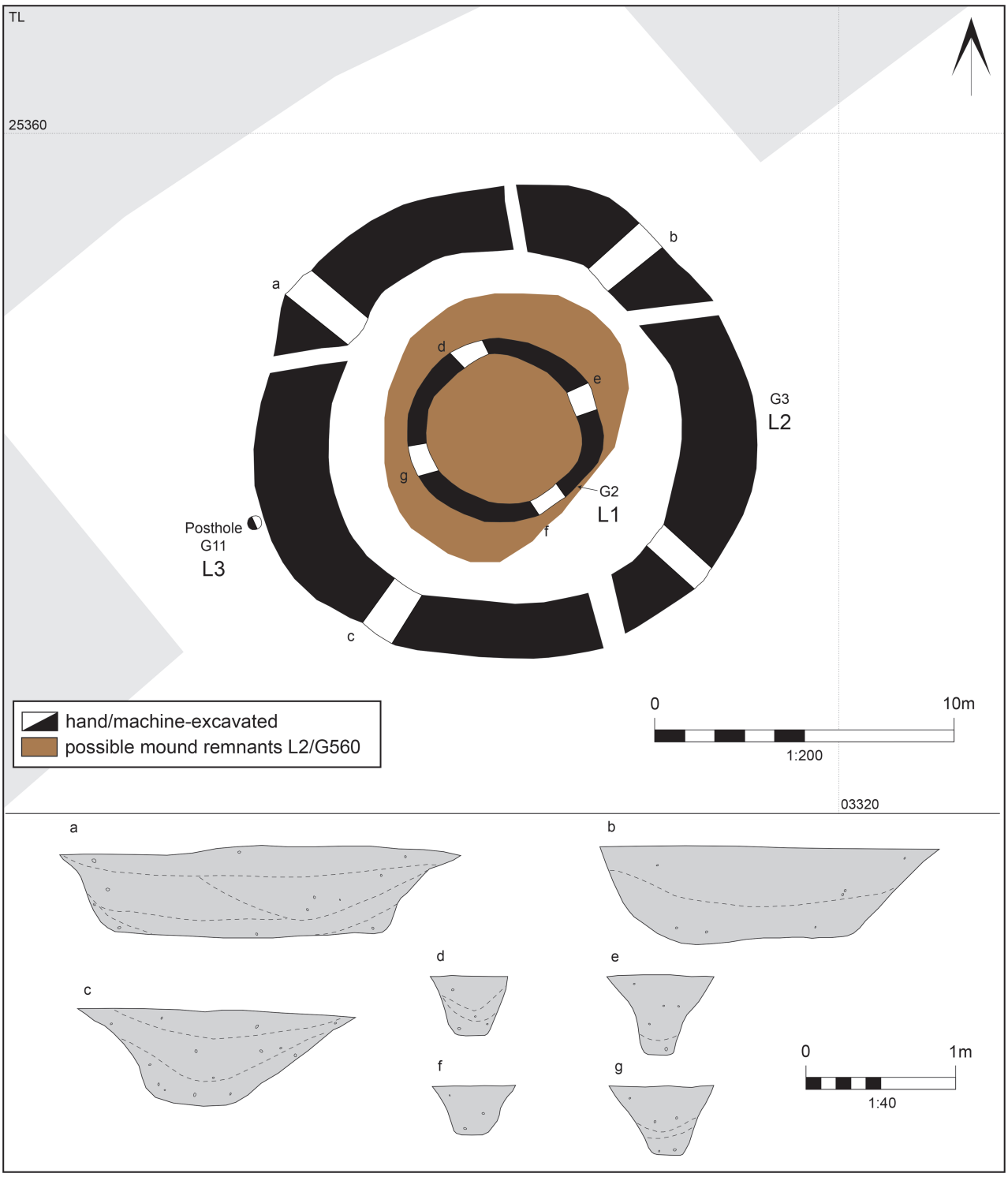


Figure 2.2: Detailed plan of late Neolithic/early Bronze Age (Phase 2) ring-ditch monument L1/L2, with selected

Initially, only the outer ring-ditch G3 (L2) was visible during the investigation. The inner ring-ditch G2 (L1) only appeared after layer G560 (L2) was removed from the interior of the outer ring-ditch (Fig. 2.2). It is, therefore, likely that the inner ring-ditch was the earlier of the two.

Ring-ditch monument L1

Inner ring-ditch G2 was 0.6–0.8m wide and 0.5m deep, with steeply sloping sides and a flat base (Fig. 2.2, sections d–g). It was 25% hand-excavated; the remainder was machined-out with a toothless bucket under archaeological supervision to ensure that no burials or other features had been missed. Although described here as a ditch, the feature's narrow, steep-sided profile may suggest that it actually held a timber structure. It defined a sub-circular, almost polygonal, area with an internal diameter of 5m (Plate 2.1).

The ditch had infilled with a light yellow-brown silty clay, similar to the natural geology. The uniform fills gave no indication of the presence of a timber structure or a mound/bank adjacent to the ditch.

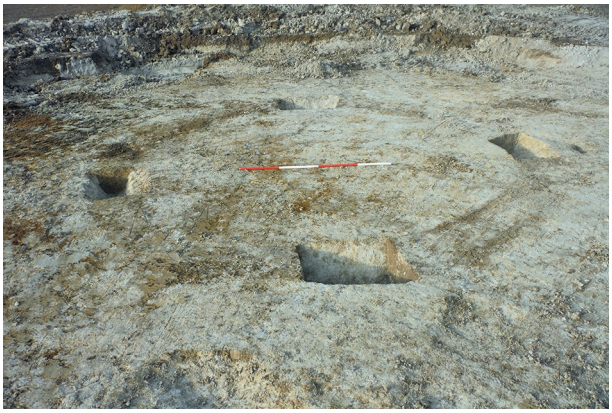


Plate 2.1: Ring-ditch G2 (L1, SL51), looking north. Scale 2m

Ring-ditch L2 and posthole G11/L3

Outer ring-ditch G3 had an internal diameter of 15m and completely enclosed ring-ditch G2. It defined a sub-circular, almost polygonal area like G2. However, G3 was much wider (1.9–2.7m) than the inner ring-ditch and was probably dug to extract material for an associated mound or bank. Like the inner ring-ditch it had a flat base, but was slightly deeper (0.6–0.8m) and had less steep sides (Fig. 2.2, sections a–c). It was subject to 12% hand-excavation, after which the remainder was machine-excavated. The lower and middle fills were friable, light yellow-brown silty clay; the upper fill was white-grey silty clay

A layer of firm, mid-orange-brown silty clay covered most of the area defined by ring-ditch G3. It was absent from a *c*. 1.5m-wide band next to the ditch itself and completely sealed the inner ring-ditch. It is interpreted as the remnants of a mound, derived from the excavation of the outer ring-ditch. If this interpretation is correct, it indicates that the inner ring-ditch was not open at the same time as the outer ring-ditch. No buried soil was found beneath the mound.

The only other possibly contemporary feature was posthole G11 (L3) (0.5m in diameter and 0.2m deep), which lay immediately to the south-west of the outer ring-ditch.

2.3 UNURNED CREMATION BURIAL SG497/L4

A circular grave (0.5m in diameter and 0.2m deep) containing an unurned cremation burial was located *c*. 220m to the south-east of ring-ditch monument L1/L2. It contained 224.1g of cremated bone from an adult, with all areas of the body represented. The bone was mixed with a firm dark brown-grey silty clay and burnt stones. A radiocarbon date of 1736–1618 cal BC at 95.4% probability (SUERC–88593) obtained from the cremated bone demonstrates that the burial is early Bronze Age in date (Table A4).

Chapter 3

Middle–late Bronze Age (Phase 3)

3.1 OVERVIEW

During the middle–late Bronze Age (Phase 3) field system SL52 was established over the northern part of the excavation area. Two of its constituent ditches intersected at the late Neolithic/early Bronze Age (Phase 2) ring-ditch monument L1/L2. To the south of the fields, evidence for dispersed activity SL53 took the form of a spread of burials, post-built structures, pits and post-holes. The distribution of Phase 3 features indicates that further remains of this date survive beyond the limits of the excavation area.

Assignment of features to Phase 3 was based mainly on the middle Bronze Age pottery from cremation cemetery L12 (SL53), and the late Bronze Age/earliest Iron Age pottery from non-ditch features of field system SL52 and SL53. Six burials (Table 3.1) were radiocarbon-dated to the middle Bronze Age (Table A4) so it is possible that some of the undiagnostic flint-tempered pottery from Phase 3 features is also middle Bronze Age in date. In Bedfordshire, an absence of diagnostic pottery and other artefacts can make it difficult to identify positively middle Bronze Age activity. For example, the ditches of field system SL52 produced no datable artefacts; its assignment to Phase 3 is based largely on its stratigraphic relationships with Phase 2 ring-ditch monument L1/L2 and Phase 5 farmstead SL55.

3.2 FIELD SYSTEM SL52

Ephemeral traces of field system SL52 covered at least 1.8ha, extending beyond the excavation area to the north, east and west. Its southern limit was broadly defined by a change in land-use with the appearance of domestic-type features in dispersed activity area SL53. The corners of fields L10 and L19 were laid out on the late Neolithic/early Bronze Age ring-ditch monument L1/L2, which must have still been visible in some form.

At least three, probably rectilinear, fields (L10, L11 and L19) on a broadly east–west/north–south alignment were identified. They were defined by intermittent lengths of ditch, 0.3–1.3m wide and 0.1–0.3m deep (Fig. 3.1 sections a, c and e), which had been truncated by modern ploughing. Two of the ditches had clearly been partially re-dug at least once (Fig. 3.1 sections a and e) on the same course and alignment.

The only suggestion of internal partitioning was curvilinear ditch G107 in field L15. Figure 3.1 shows possible entrances into the fields where gaps in the ditches (16–27m wide) were defined by more convincing ditch terminals. However, the majority of the gaps are considered to be the product of truncation.

Evidence for activity within the fields was limited to two pits in field L10, two pits in field L11 and an unurned cremation burial SG65/L8 in field L10. The near-juxtaposition of the burial and the late Neolithic/early Bronze Age ring-ditch monument reinforces the suggestion that this earthwork still held meaning to the people who lived in its vicinity at this time. A radiocarbon date of 976–834 cal BC at 95.4% probability (SUERC–89916) was obtained from a horse bone in the upper fill of the ring-ditch (Table A4), which must still have been silting up in the late Bronze Age; it is, therefore, possible that the field system was established in the late rather than the middle Bronze Age.

Unurned cremation burial SG65/L8

A circular grave was positioned *c*. 10m to the south of the Phase 2 late Neolithic/early Bronze Age ring-ditch monument. It contained 26.2g of cremated bone from a sub-adult, half from the vault of the cranium (see Powers, Chapter 9, Table 9.39). This was mixed with a firm dark brown-grey silty clay, oak charcoal and burnt stone. The bone produced a radiocarbon date of 1434–1298 cal BC at 95.4% probability (SUERC–88595), placing the burial in the middle Bronze Age (Tables 3.1 and A4).

3.3 DISPERSED ACTIVITY AREA SL53

To the south of field system SL52, evidence for dispersed activity covered an area of *c*. 250 × 150m. Immediately next to the fields were dispersed pits and two post-built structures L16. Further south, on the limit of excavation, were six cremation burials (L12 and L14), an inhumation L9 and non-funerary features L18.

Assignment to this phase was made on the basis of the presence of contemporary pottery within three L16 pits and radiocarbon-dating of the burials (Table 3.1 and A4). The undated pits were assigned to Phase 3 on the basis of their distribution in relation to dated features.

Cremation cemetery L12 and inhumation L9

Four cremation burials L12 and a single inhumation L9 were situated in the south-east corner of the excavation area.

Cremation cemetery L12

Cemetery L12 comprised four cremation burials, three clustered and one (SG152) *c*. 20m to the north-west. Three produced middle Bronze Age radiocarbon dates (Tables 3.1 and A4) and SG149 contained a middle Bronze Age Deverel-Rimbury Bucket Urn.

Burials SG148, SG149 and SG152 were urned; SG150 was unurned (Table 3.1; Plate 3.1). The graves were generally 0.4–0.7m in diameter and less than 0.2m deep; they contained *c*. 1.9kg of cremated human bone, mixed with burnt stones and oak charcoal. Of the identified individuals three were adults, including one male. Most areas of the body were represented in each burial, but the quantity of bone fell below the expected weight from the cremation of an adult (Powers, Chapter 9). The low bone weights are probably due to later truncation, as the largest quantity of bone (816.2g) derived from the deepest (0.5m) grave SG148. The predominance of bones from the left side of the face in burial SG150 suggests that the individual may have been laid ‘on the pyre with his head lying on one side, possibly in a

SL	L	SG	Burial rite	Urn (sherd:weight (kg))	Grave size (m)	Depth (m)	Bone weight (g)	Age	Sex	Possible pyre goods	Radiocarbon date (at 95.4%)
52	8	65	Cremation	–	0.6 0.4	0.2	26.2	Sub-adult	N/D	–	1434–1298 (SUERC–88595)
53	9	229	Inhumation	N/A	0.9 0.6	0.1	–	Adult	Male	–	1413–1267 (SUERC–88594)
	12	148	Cremation	Flint-tempered F01A (43:0.6)	0.6	0.4	816.2	Adult	N/D	Seven calcified and one charred animal bone, possibly sheep/goat or pig	1416–1290 (SUERC–90830)
		149	Cremation	Deverel-Rimbury Bucket Urn F01A (12:0.3)	0.7	0.1	371.4	Adult	N/D	–	–
		150	Cremation	–	0.4	0.1	654.2	Adult	?Male	–	1388–1217 (SUERC–88591)
		152	Cremation	Flint-tempered F01A (18:0.4)	0.4	0.1	42.4	N/D	N/D	–	1423–1287 (SUERC–91343)
	14	248	Cremation	–	0.4	0.1	203.2	Adult	N/D	–	1207–1016 (SUERC–88592)
		249	Cremation	–	0.3	0.1	131.8	Adult	N/D	–	–

Table 3.1: Summary of Phase 3 middle–late Bronze Age burials

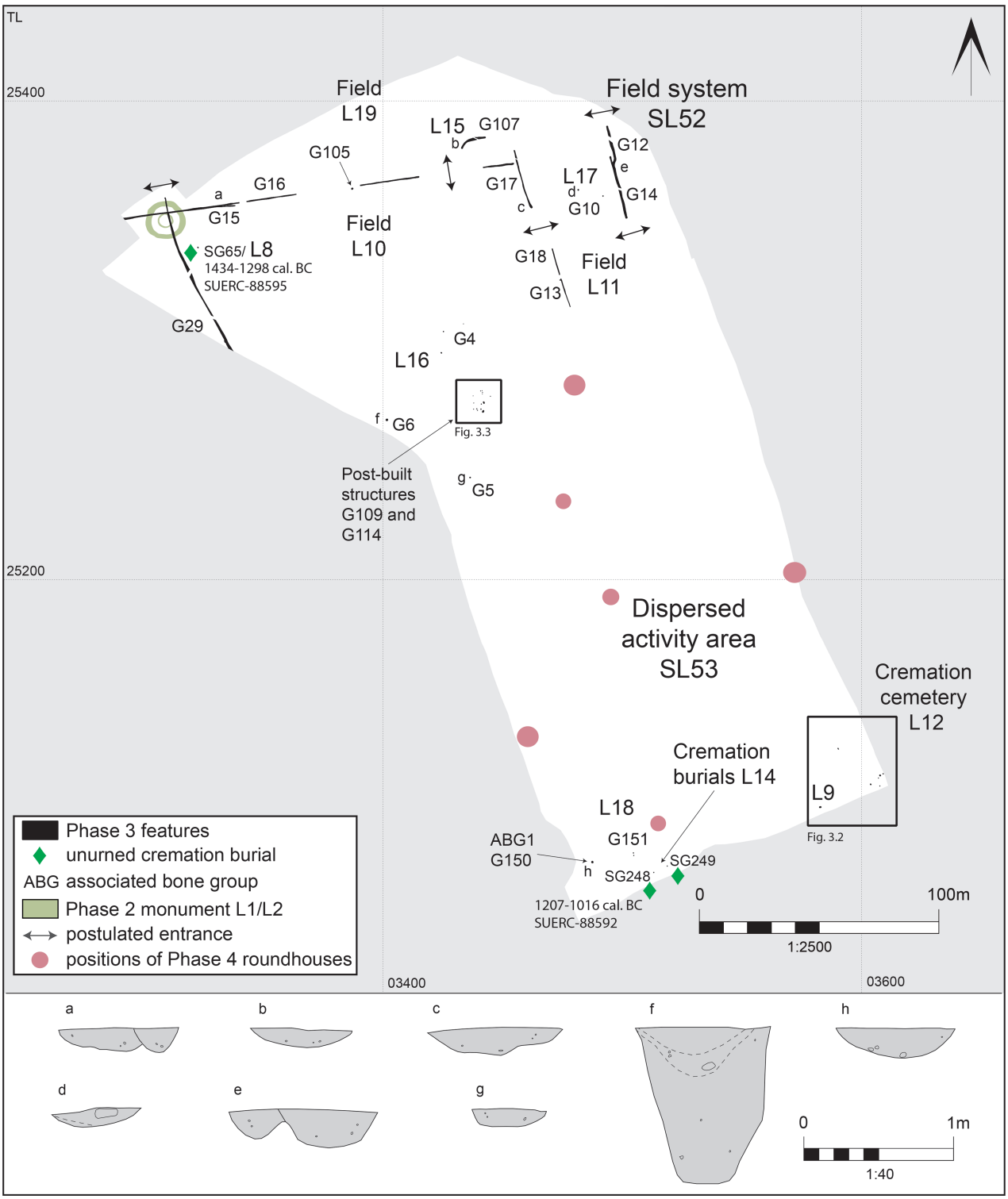


Figure 3.1: (*Above*) Overall plan of middle–late Bronze Age (Phase 3) field system and domestic features, with selected sections



Plate 3.1:(*Left*) Urned cremation burial SG149 (L12, SL53). Scale 0.5m



Plate 3.2: Inhumation SG229 (L9, SL53), looking south-east. Scale 0.5m

crouched or 'sleeping' position' (ibid). No grave goods were identified.

Two postholes G9 in the main cluster of burials did not produce any dating evidence, but they may be associated with the cemetery in some way.

Inhumation burial SG229 (L9)

Inhumation burial SG229 comprised an oval grave (0.9 × 0.6 × 0.1m) that contained the skeleton of a middle-aged male (Plate 3.2). He had been laid in a crouched position, with his head to the west and feet to the east. No grave goods or evidence of a coffin were identified but one of the bones provided a middle Bronze Age radiocarbon date (Tables 3.1 and A4).

Cremation burials L14 and non-funerary features L18

Two unurned cremation burials L14 and a scatter of non-funerary features L18 were identified in the south-west corner of the excavation area (Fig. 3.1), *c*. 70m to the west of cremation cemetery L12.

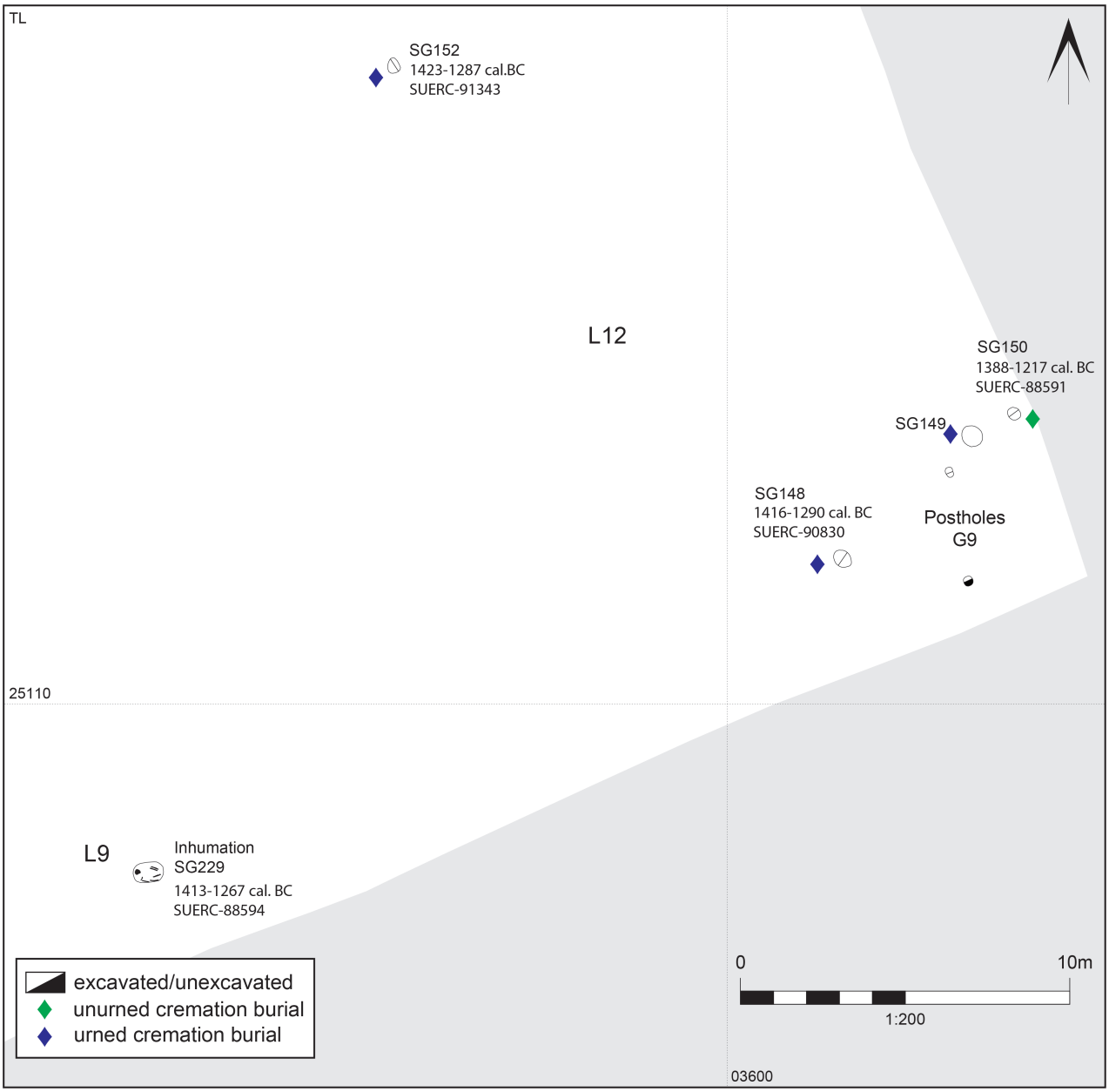


Figure 3.2: Detailed plan of middle–late Bronze Age (Phase 3) cremation cemetery L12 and inhumation L9

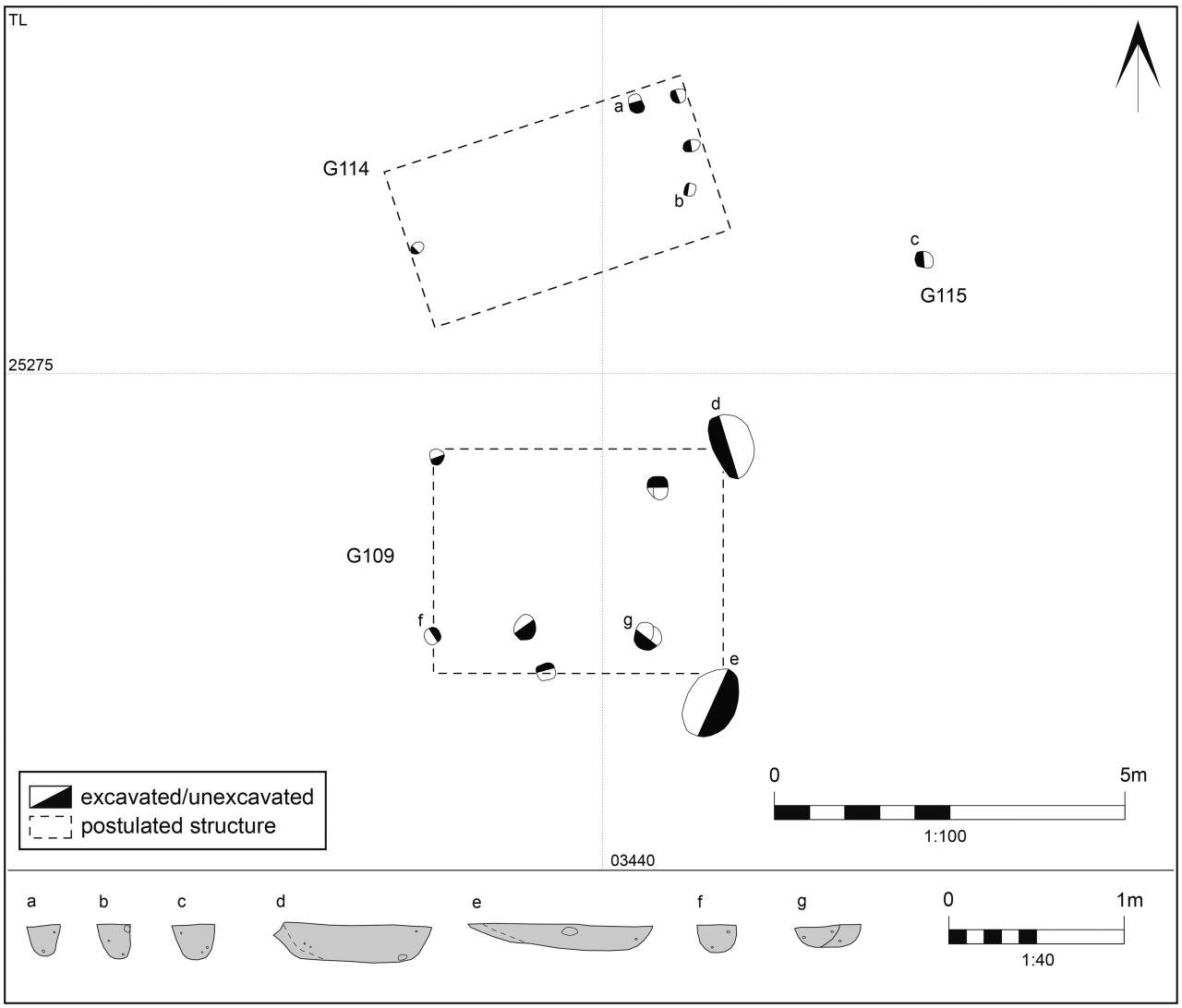


Figure 3.3: Detailed plan of middle–late Bronze Age (Phase 3) post-built structures G109 and G114, with selected sections

Unurned cremation burials L14
Graves SG248 and SG249 were *c*. 6m apart and had clearly been truncated; they were 0.3–0.8m in diameter but only 0.1m deep. Each contained cremated bone from an adult (*c*. 0.3kg in total), mixed with burnt stones and oak charcoal.

Bone from burial SG248 produced a late Bronze Age radiocarbon date (Tables 3.1 and A4), slightly later than those from cemetery L12.

Non-funerary features L18
Pit G150 (0.9m in diameter and 0.2m deep) and a pair of postholes G151 (0.3–0.4m in diameter and 0.2m deep) were *c*. 10–25m from the cremation burials but had no obvious association with them. Although bones from a calf (ABG1) were found in the pit it is unclear 'whether this group represents a ritual deposition of a young calf or a more prosaic disposal of a carcass that was not exploited for food' (Maltby, Chapter 9; Table 1.4).

Dispersed features L16
Two post-built structures (G109 and G114) and five pits (G4, G5 and G6) were spread across a *c*. 60 × 50m area immediately to the south of field system SL52. Late Bronze Age/early Iron Age pottery was recovered from three of the pits and from post-built structure G109.

From a broadly rectangular arrangement of postholes and pits, Figure 3.3 picks out two possible post-built structures G109 and G114, parallel to each other and *c*. 2.5m apart. However, it is also possible that these features were actually part of the same structure. G109 is perhaps the more convincing of the two, forming a 4.2 × 3.1m structure. Two postholes could represent the west wall, with two larger pits (1 × 0.5–0.6 × 0.1m) marking the corners to the east. Some 86 pottery sherds (1kg) were recovered from these features. The adjacent structure G114 was defined by five small postholes, suggesting it may have been *c*. 4.1 × 2.1m in extent (Plate 3.3).

Five dispersed pits (G4 (3), G5 (1) and G6 (1)) lay in the vicinity of the post-built structures. Their diameters (0.2–0.9m) and depths (0.1–1.1m) varied. Three produced a total of *c*. 2.6kg of pottery, the majority coming from pit G5 (Plate 3.4).



Plate 3.3: Post-built structure G114 (L16, SL53) during cleaning, looking south-west



Plate 3.4: Late Bronze Age/early Iron Age pottery within pit G5 (L16, SL53). Scale 0.4m

Chapter 4

Early Iron Age (Phase 4)

4.1 OVERVIEW

Possible early Iron Age activity is represented by an unenclosed settlement SL54, established in the same area as the Phase 3 middle–late Bronze Age unenclosed activity area SL53 and to the south of field system SL52 (Fig. 4.1). The settlement comprised roundhouses and pits, covering an area of *c*. 200 150m. None of these features produced reliable dating evidence. It is clear that

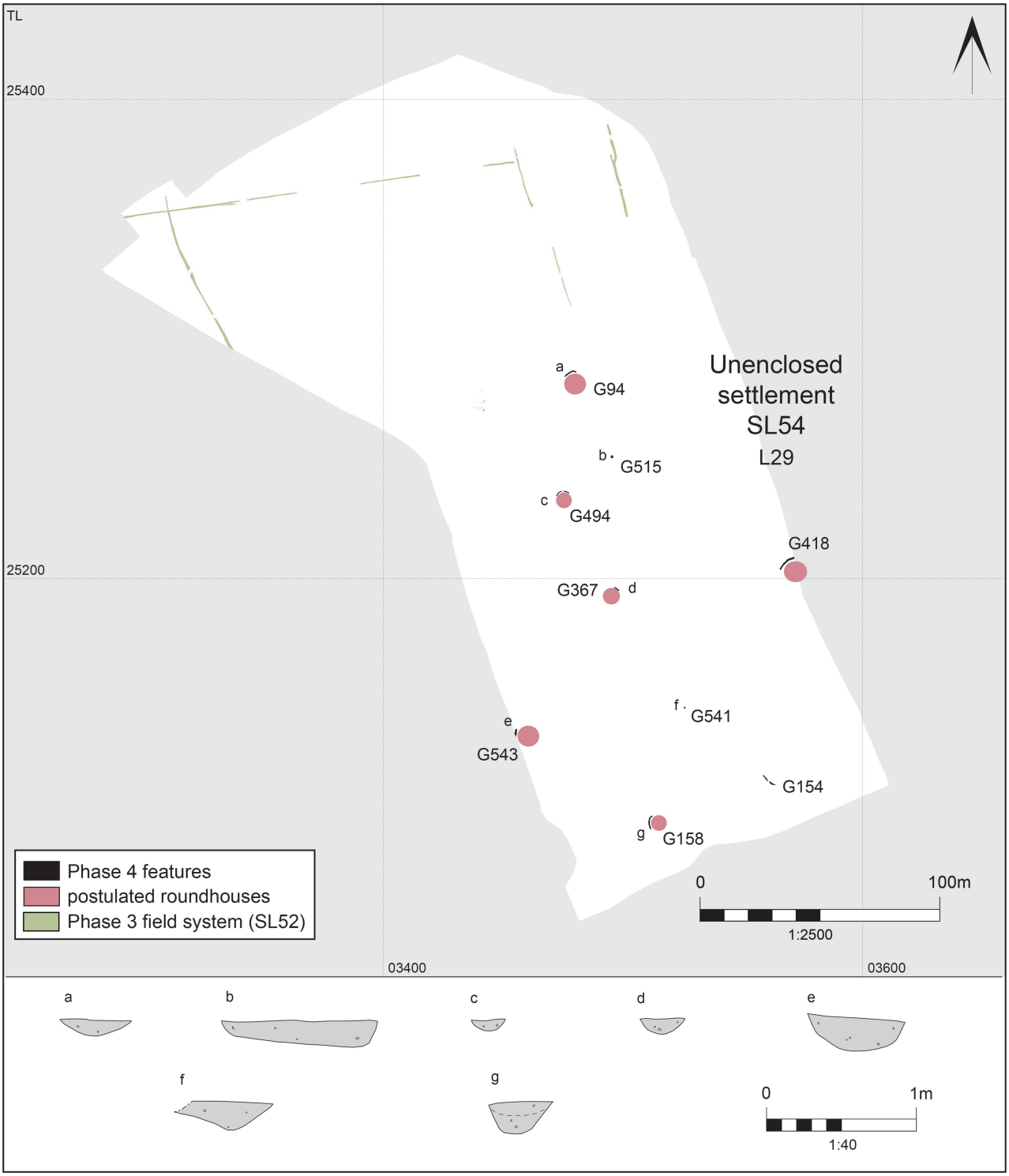


Figure 4.1: Overall plan of early Iron Age (Phase 4) unenclosed settlement, with Phase 3 ditches and selected sections

they are stratigraphically earlier than Phase 6 (Roman) features, but it is possible that at least some of them were contemporary with the middle–late Bronze Age remains. It is not certain whether all the roundhouses were in use at the same time or whether their distribution is the result of the repeated rebuilding of one or more structures. Two of the roundhouses extended beyond the limit of excavation, suggesting that more of this settlement lies to the east and west.

4.2 UNENCLOSED SETTLEMENT SL54

SL54 comprised six roundhouses G94, G158, G367, G418, G494 and G543, one short ditch length G154, and two pits G515 and G541.

The roundhouses were represented by heavily truncated curvilinear gullies (Table 1.1). The concave profiles and shallow depths (0.1–0.2m) 0f these gullies (Fig. 4.1 sections a, c, d, e and g) suggest that they did not have a structural function, but rather enclosed the site of a building. The projected diameter of the gullies ranged from *c*. 9m (G94) to 9m (G418). All the gullies were truncated but the tentative identification of terminals (Fig. 1.6 and Table 1.1) suggests the presence of north-, north-east-, east- and west-facing entrances.

Ditch G154 is interpreted as the remnant of an enclosure or boundary, as it was slightly straighter than the gullies defining the roundhouses.

Pits G515 and G541 were assigned to this phase on the basis of their proximity to roundhouses. They had very different profiles. Although truncated, pit G515 (1.0m in diameter and 0.2m deep) had a wide U-shaped profile (Fig. 4.1 section b) and therefore other than depths shares some similarities to Iron Age storage pits identified on contemporary sites in the region. Pit G541 was much smaller and had an asymmetrical profile (Fig. 4.1 section f).

Chapter 5

Late Iron Age/early Roman (Phase 5)

5.1 OVERVIEW

During the late Iron Age/early Roman period an enclosed farmstead SL55 was established in the northern half of the excavation area, with an unenclosed activity focus SL56 to the south. The farmstead occupied the same area as Phase 3 middle–late Bronze Age field system SL52, although its constituent boundaries were on a different alignment. SL56 was in the same area as Phase 4 early Iron Age unenclosed settlement SL54.

Some 32 features were assigned to Phase 5 on the basis of the late Iron Age/early Roman pottery (924 sherds, 15.3kg) that they produced. In a few cases, spatial

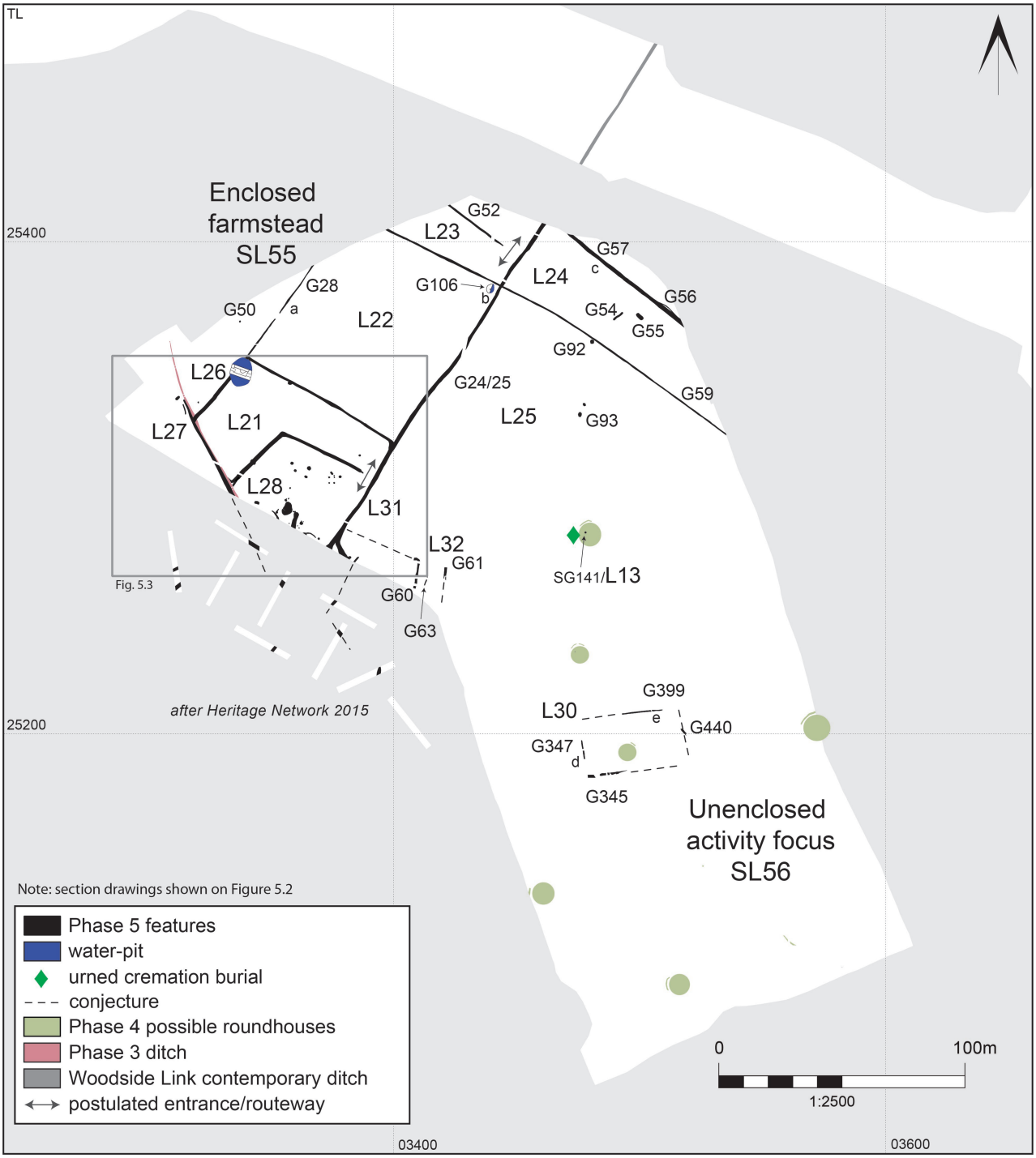


Figure 5.1: Overall plan of late Iron Age/early Roman (Phase 5) enclosed farmstead and other features, with Phase 4 possible roundhouses



Plate 5.1: Enclosure ditches G26/G27 and G25 (L21, SL55), looking north-east. Scale 1m

positioning in relation to better-dated features was used as the basis for phasing features that produced no dating evidence. A small number of metal artefacts were also recovered from ditches and pits associated with enclosed farmstead SL55, principally from domestic focus L28. These included two copper alloy brooches (RA125 and RA319), one of which was dated to *c*. AD 25–55); a socketed spud or hoe (RA120); and nails (Wells, Chapter 8).

5.2 ENCLOSED FARMSTEAD SL55

Farmstead SL55 comprised a NE–SW-aligned enclosure system that covered an area of at least 1ha and extended beyond the excavation area. Its main axial ditch was recorded on the Woodside Link to the north-east (Fig. 5.1; Plate 5.1). Its eight constituent enclosures (L21, L22, L23, L24, L26, L27, L31 and L32) were all generally rectangular in shape (Table 5.1). The presence of possible roundhouses and post-built structures in sub-enclosure

SL	L	Description	Approx. size length:width (m)	Water pit	Roundhouse/ structure	Pottery (sherds:kg)	Animal bone (quantity:kg)	Other finds (kg or number)
55	21	Enclosure	70:>50	G48	–	121:2.1	84:1.3	0.47 brick 1.0 fired clay Brooch RA125 Spud/hoe RA120
	22	Enclosure	70:70	G106	–	1:0.01	4:0.04	–
	23	Enclosure	>50:30	–	–	1:0.08	–	–
	24	Enclosure	>100:40	–	–	1:0.01	1:0.01	–
	26	Enclosure	>80:20	–	–	–	–	–
	27	Enclosure	>40:20	–	–	–	–	–
	28	Domestic focus	40:>30		Roundhouses G31 and G32 Post-built structures G36 and G42	739:12.6	250:3.15 (AGB2 and ABG3)	4.5 fired clay Brooch RA319 3 nails Saddle quern RA344
	31	Enclosure	30:>10	–	–	11:0.2	10:0.1	–
	32	Enclosure	10:>20	–	–	4:0.05	1:0.03	Hobnail RA378 Fe frag RA300
56	13	Urned cremation burial	N/A	–	–	48:0.2	–	0.08 human bone
	25	Pits	N/A	–	–	–	–	–
	30	Enclosure	40:20	–	–	9:0.1	8:0.1	0.04 fired clay
					Total	936:15.4	4.76	–

Table 5.1: Summary of Phase 5 Land-use Areas

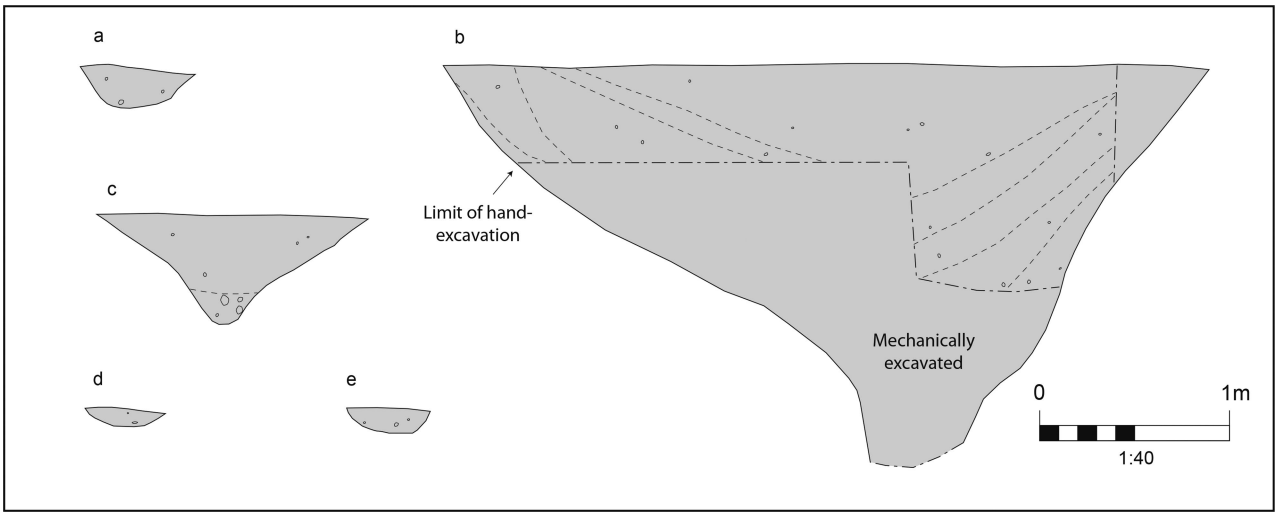


Figure 5.2: Selected sections from Fig. 5.1

L28 suggests that it was part of the farmstead's domestic focus. Trial trenching on a separate development (Heritage Network 2015) suggests that the domestic focus and enclosure system extend to the south-west.

The enclosures were defined by ditches 0.4–2m wide and 0.2–0.9m deep (Fig. 5.2 sections a and c). Those defining enclosure L21, which contained the domestic focus L28, had been re-dug at least once on the same course (Fig. 5.3 sections a and d; Plate 5.1). The interiors of enclosures L23 and L24 were sub-divided by NW–SE-aligned ditches. Short ditches in enclosures L24, L27, L31 and L32 also hint at internal partitioning.

Overall, the regular layout of the Phase 5 enclosure system suggests that it was a carefully planned development, laid out along extensive and maintained NE–SW ditch G24/25 (Fig. 5.1). Only ditch G30, which defined the west side of enclosures L21 and L26, clearly followed the course of a Phase 3 middle–late Bronze Age ditch, suggesting some survival of the earlier boundaries into the late Iron Age (Fig. 5.3).

Water-pits, small pits and postholes in several of the enclosures are indicative of internal activity; they tended to be close to the ditched boundaries. Water-pits G48 (L21) and G106 (L22) were defined on the basis of their depths (*c*. 2m) (Table 1.3), but they did not contain water-logged plant remains. Water-pit G48 measured 9 × 12m and was the larger of the two (contrast Fig. 5.2 section b with Fig. 5.3 section b). Both were located in the corners

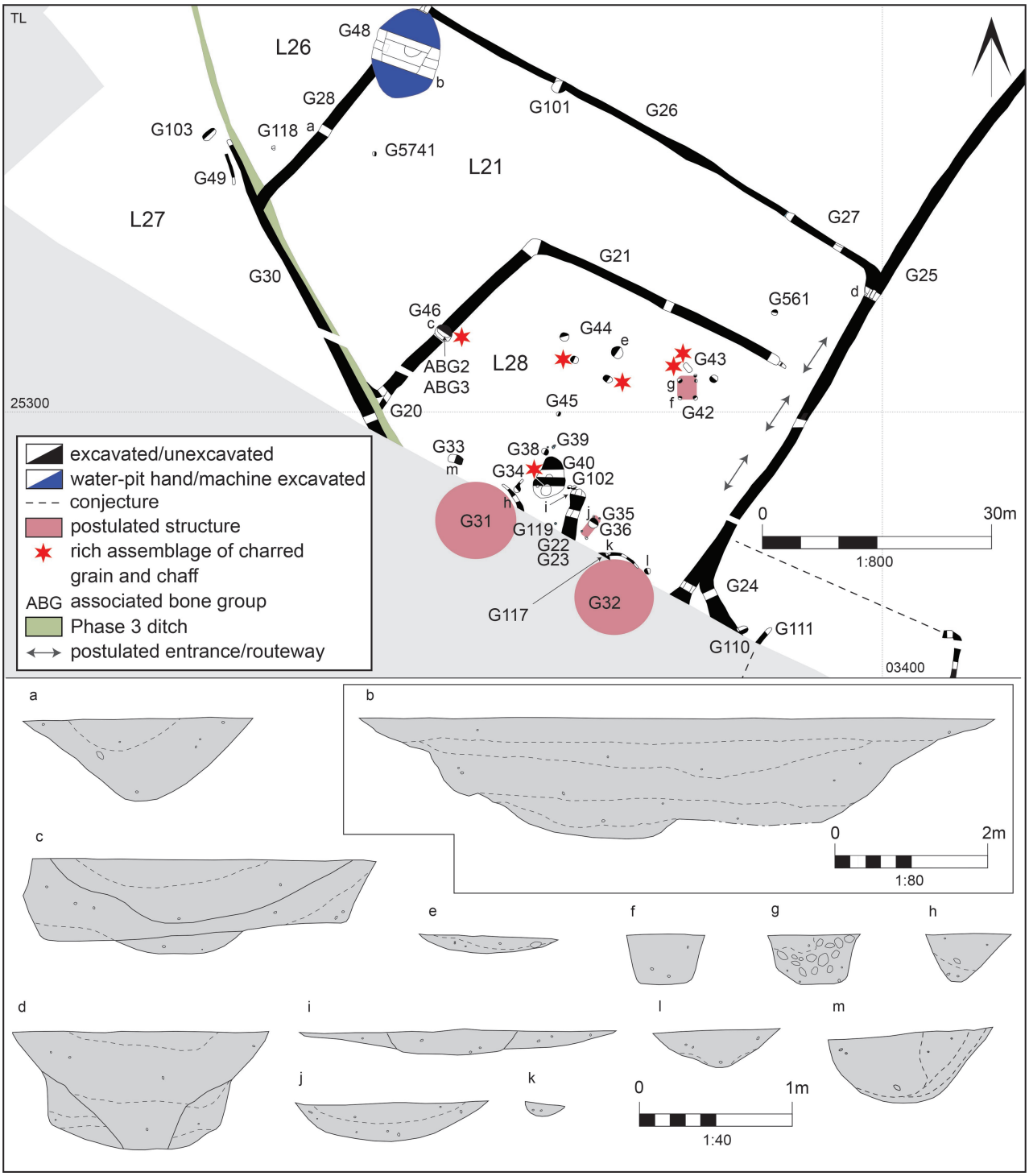


Figure 5.3: Detailed plan of late Iron Age/early Roman (Phase 5) domestic focus L28, with selected sections

of their respective enclosures, with G48 actually incorporated into the enclosure ditch.

Domestic focus L28

Domestic focus L28 was within a sub-enclosure of enclosure L21. It contained two possible roundhouses G31 and G32; two post-built structures G36 and G42; and dispersed and clustered pits G34, G35, G38, G43, G44 and G46 and postholes G39, G102 and G119. The majority of the farmstead's pottery (736 sherds, 12.6kg) and animal bone assemblage (250 fragments, 3.15kg) derived from this area. L28 was the main area for bone deposition within this phase, with evidence that the processing of animal carcasses and subsequent deposition of food waste was focused here (Maltby, Chapter 9). Six rich charred plant assemblages (Fig. 5.3) suggest that different activities associated with the final stages of crop-cleaning and food preparation were taking place within L28 (Giorgi, Chapter 9).

The sub-enclosure was at least 40m square and defined on three sides by ditches G20, G21 and G24. Access from the main enclosure L21 was via a *c*. 5m-wide gap in the north-east corner. A narrow slot on the west side of the access may have been associated with a gate.

A short length of north–south-aligned ditch G22 (re-dug as G23) may represent an internal partition. The two possible roundhouses G31 and G32 were situated on either side of this boundary. Five postholes: G38 (1), G39 (2) and G102 (1); and a shallow depression G40 (possibly caused by trampling) were located near the terminus of the ditch.

Possible roundhouses G31 and G32

Roundhouses G31 and G32 were defined by curvilinear gullies on the very edge of the excavation area (Table 1.1 and Fig. 1.6). The gullies, which had U-shaped profiles, were 0.3–0.9m wide and 0.1–0.3m deep (Fig. 5.3 sections h and k). Their projected diameters were *c*. 9m and 8m respectively. Breaks in the gullies may indicate north- and east-facing entrances; these could be the result of plough truncation but a posthole associated with roundhouse G32 may represent the remains of an entrance structure.

Post-built structures G36 and G42

Structures G36 and G42 were indicated by a rectangular (2.5 × 1.4m) and a square (2.1 × 2.2m) array of postholes (Plate 5.2). The postholes were 0.3–0.6m in diameter and less than 0.3m deep (Fig. 5.3 sections f and g). Structure G36 was adjacent to roundhouse G32; it encompassed pit G35 which was 0.3m deep, although the latter's off-centre position suggests it may not have been contemporary. The north-west posthole of G42 contained 11.6kg of reddened and fire-crazed stones. No *in-situ* burning was evident on the sides of the feature, so it is possible that the burnt stones were reused as post-packing.



Plate 5.2: Part of post-built structure G42 within domestic focus L28 (SL55), looking north. Scale 1m

Other pits

Nine pits G33 (1), G35 (1), G43 (2), G44 (4) and G46 (1) were spread across the interior of the sub-enclosure. Pit G46 and clusters G43 and G44 were located away from the roundhouses.

The pits were typically circular or oval in plan, 0.9–1.3m in diameter and 0.2–0.5m deep. The largest, G46 (2.3m in diameter and 0.6m deep), had been dug into the north-west boundary ditch. It produced a large assemblage of pottery (418 sherds, 7.7kg) and animal bone (64 fragments, 1.1kg). The latter included vertebrae from the neck of a young adult cow (ABG2) and 13 from the same adult dog (ABG3) (Table 1.4).

5.3 UNENCLOSED ACTIVITY FOCUS SL56

The area to the south of farmstead SL55 contained dispersed features, including pits L25, urned cremation burial L13, and small enclosure L30. Little can be said about the non-funerary features – the two adjacent pits G93 were less than 1.0m in diameter and 0.2m deep.

Urned cremation burial SG141 (L13) was in a circular grave, *c*. 0.7m in diameter and 0.1m deep, *c*. 90m from domestic focus L28. It produced 81.7g of cremated bone and the remains of a grog-tempered vessel, representing the burial urn. The remains were probably of an adult (Powers, Chapter 9). The grave was shallow and the low bone weight is likely to be the result of truncation. A tiny fragment of vessel glass was found within the grave; it may represent the remains of a pyre good but, given its size, is more likely to be intrusive.

Small enclosure L30 was defined by truncated ditch lengths G345, G347, G399 and G440 (Figs 5.1 and Fig. 5.2 sections d and e, Table 5.1). A possible entrance in the south-west corner was indicated by a *c*. 2m-wide gap in the enclosure ditch adjacent to a terminal. Other gaps in the enclosure boundaries are likely to be the product of truncation. No internal features were identified.

Chapter 6

Roman (Phase 6)

6.1 OVERVIEW

In the mid–late 1st century AD, a farmstead was established *c*. 150m south of the late Iron Age/early Roman Phase 5 farmstead SL55 (Fig. 6.1). It was initially defined by enclosures situated on either side of an east–west-aligned trackway (Plate 6.1). The evaluation results indicate that some ditches, including those defining the trackway, continue to the east; however, the small number of both geophysical anomalies (Stratascan 2012) and features in the trial trenches (Albion Archaeology 2012; 2013) suggest that this area lies beyond the farmstead's domestic core. The situation to the west, which is outside of the HRN1 development area, is less certain.

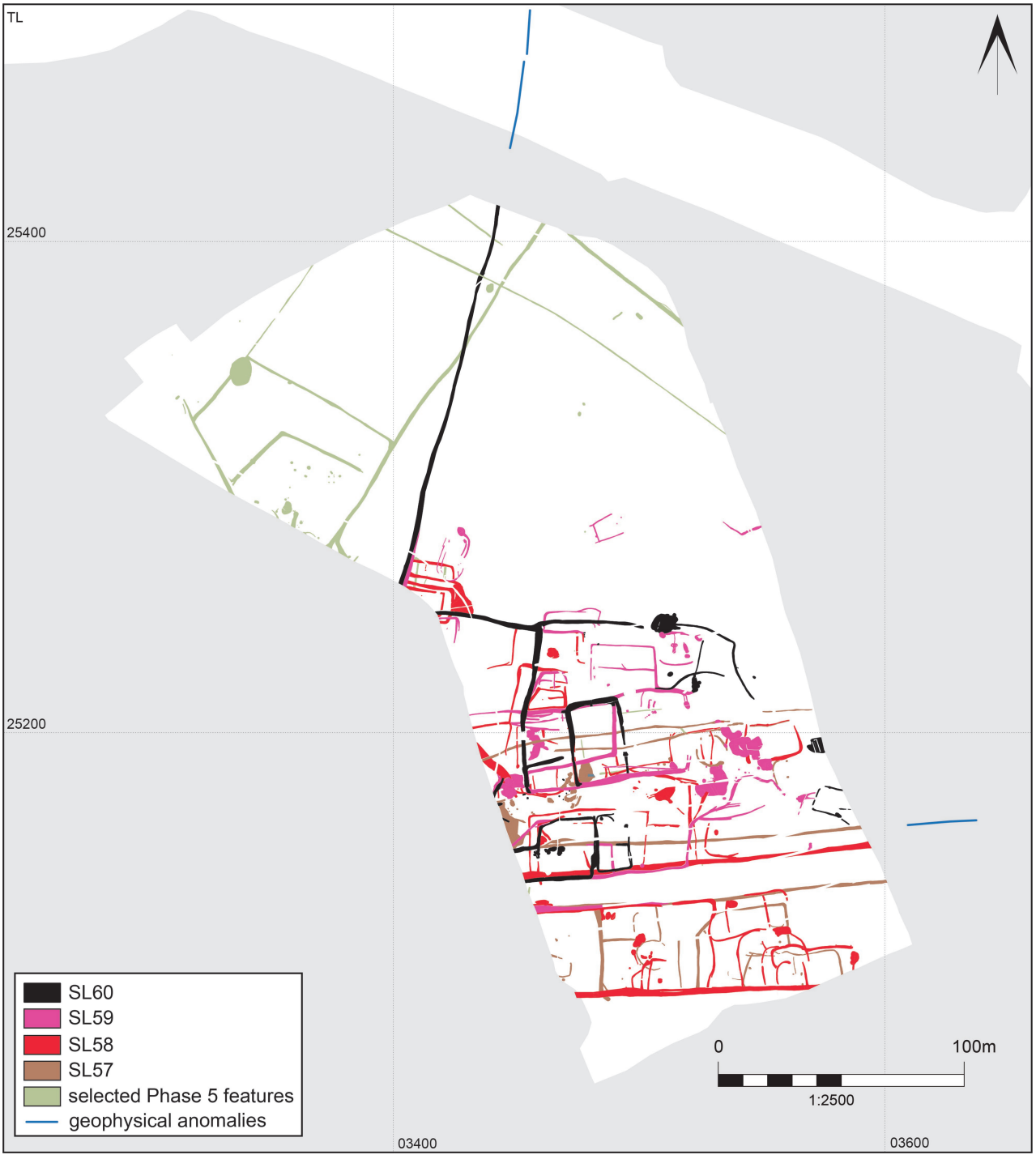


Figure 6.1: Combined plans of Roman (Phase 6) farmstead SL57 and its three modifications SL58, SL59 and SL60



Plate 6.1: Aerial view of trackways L163 and L169, looking west

The original farmstead SL57 was at least *c*. 1.5ha in extent. Its layout was substantially modified on three occasions (SL58, SL59 and SL60); the largest, SL59, was at least 2.1ha in extent (Plate 6.2). Further, smaller alterations to the farmstead's configuration occurred frequently. The sequence of layout changes presented here relies heavily on stratigraphic relationships. Substantial quantities of pottery were recovered, but it did not exhibit a clear chronological progression during the farmstead's life, due in part to the long-lived use of the same piece of land, which led to a significant degree of residuality and intrusiveness within the pottery and coin assemblages.

The pottery assemblage comprised 5123 sherds (88.3kg) which included late Iron Age wares occurring alongside fully Romanised ones. The latter span the entire Roman period, with the bulk of the material dating from the later 1st to 3rd century (Wells, Chapter 8). Fifty-eight coins spanning the 2nd to the later 4th century were also recovered (Table A2). The coin profile indicates that the farmstead was still in use in the later 4th and possibly the early 5th century (Guest, Chapter 8). Other artefacts included personal items, such as bracelets, brooches, finger rings and a belt buckle; hobnails; tools, such as a socketed mortise chisel, a saw blade and a punch; objects with military connections, such as a bolt head blade, spearheads and a mount/stud; evidence of literacy in the form of a stylus; quern stones and millstones; and objects associated with ritual/religion, such as a votive cockerel figurine and a votive carving (Wells, Chapter 8, Henig, Chapter 8).

6.2 ESTABLISHMENT OF FARMSTEAD SL57 (MID-1ST TO MID-/LATE 2ND CENTURY)

Farmstead SL57 was laid out along both sides of an east–west-aligned trackway L163, with enclosures extending *c*. 40m to the north and south. A possible livestock race L184 (parallel to the trackway) defined its northern limit. Ditches associated with SL58 had removed all traces of its southern boundary, which is assumed to have been in a similar position to that of the later farmstead (Figs 6.2 and 6.3).

Most of the identified enclosures (L152, L153, L154, L155, L156) lay to the south of the trackway (Fig. 6.2). This apparent disparity is probably partly a result of a greater degree of truncation by later features to the north of the trackway. Two roundhouses were identified, one on either side of the trackway; there was also a possible rectangular structure to the south. Quarry pits and a pond were found to the north, while both areas contained dispersed pits and postholes.

The pottery assemblage (1077 sherds, 14kg) suggests that the initial layout of the farmstead was in use throughout the 1st and into the later 2nd century (Wells, Chapter 8). A range of other artefacts were found (Table 6.1) and with the exception of a few hobnails, the distribution of personal items was restricted to deposits north of the trackway. Unusual artefacts include two with military connections: a narrow leaf-shaped bolt head blade (RA173, Plate 8.3), and a mount/stud (RA269, Plate 8.4) (Wells, Chapter 8).



Plate 6.2: Aerial view of farmsteads SL57–60, looking north-west

Trackway L163

The east–west-aligned trackway was defined by two parallel ditches, *c*. 23m apart; no evidence for any kind of surfacing was found. The ditches were 1.2–1.7m wide and 0.4–0.6m deep (Fig. 6.2 sections a and b); both continued beyond the limit of excavation to the east and west. To the east, a 30m-long continuation of the northern trackway ditch was identified as a geophysical anomaly (Fig. 6.1) but the trackway was not recorded on the Woodside Link, a further *c*. 100m to the east. Throughout the Roman period, the trackway corridor was scrupulously maintained, with no features dug within it.

Enclosures south of the trackway (L152, L153, L154, L155 and L156) and routeway L151

The enclosures to the south of trackway L163 were mainly rectangular in plan and variable in size (Fig. 6.3). They were defined by ditches that were *c*. 1m wide and 0.4m deep (Fig. 6.3 sections a, d, e and g; Fig. 6.4 section b). Some had been re-dug at least once, but the recut always followed the same course and alignment as the original ditch. Some of the enclosures were partitioned by internal ditches, e.g. G181 within enclosure L154. The majority of the visible gaps in the ditch lengths were the product of later truncation; no definite access routes between the enclosures were identified. However, it is likely that their entrances led on to the trackway and into adjacent enclosures. A possible north–south-aligned routeway L151 was indicated by a *c*. 7m-wide corridor between enclosures L152 and L155.

Evidence for internal activity was present in most of the enclosures. Adjacent enclosures L152 and L156 contained a roundhouse G153 and a possible rectangular structure G140 respectively (Plate 6.3). The presence of other structures is hinted at by short lengths of narrow, U-shaped gullies, e.g. G159, G183, G240, G241 in enclosures L153 and L155; however, the evidence is inconclusive. In addition, there were eleven pits, G205, G206 (3), G207, G208, G209 (2), G238, G237 and G243 and three postholes, G174, G216 and G562. The pits were generally circular in shape, 0.4–1.4m in diameter, 0.1–0.3m deep (Fig. 6.3 section f) and often situated close to enclosure boundaries. They produced small assemblages of pottery (27 sherds, 0.3kg) and animal bone (35 fragments, 0.46kg), compared to the enclosure ditches, which were the main source of finds in this part of the farmstead. Posthole G216 (enclosure L156) contained four hobnails (RA245), whilst an iron chisel (RA190) was recovered from pit G207 in enclosure L154. One noteworthy group of animal bones was found in sub-division ditch G181 of enclosure L154: 19 vertebrae, some of which may still have been articulated at the time of deposition, from at least two adult cows (ABG4).

Roundhouse G153

The location of this roundhouse was suggested by a sub-circular gully within enclosure L152. The building would have had an internal diameter of *c*. 10m and an entrance on the east side where there was a *c*. 9m-wide gap in the gully. The gully itself was 0.4–0.6m wide and 0.1–0.2m

SL	Extent (ha)		Enclosures		Fields		Trackway/ routeway	Possible buildings	Water-pits (unless stated)		Drying ovens	Pottery (sherds:kg)	Animal bone (frags:kg)	Other finds (kg or number)
Establishment of farmstead SL57	1.5	7	L152 L153 L154	L155 L156	L181 L186	-	L151 L163	3	G140 (RB) G153 (RH) G381 (RH)	1	Pond G338	-	1077: 45	941:17.16 (incl. ABGs 4– 6)	3.2 brick and tile 0.9 fired clay 0.02 ferrous slag 0.01 fuel ash 1 millstone fragment (RA265) 3 bun-shaped querns (RA 216, RA217 and RA262) 3 Cu coins (RA49, RA98 and RA145) 1 Cu ring (RA139) 1 Cu strap fragment (RA56) 2 Cu hobnails (RA59 and RA121) 1 Cu stud (RA269) 1 Cu waste/miscast (RA57) 1 Fe blade or socket (RA173) 1 Fe mortise chisel (RA190) 24 Fe nails 18 Fe hobnails (RA 193, RA146, RA165, RA243, RA244, RA245, RA276 and RA376) 4 Fe strap fragments (RA147, RA148, RA211 and RA287) 1 perforated dog canine (RA 286)

SL	Extent (ha)		Enclosures			Fields	Trackway/ routeway	Possible buildings		Water-pits (unless stated)		Drying ovens	Pottery (sherds:kg)	Animal bone (frags:kg)	Other finds (kg or number)
First layout modification SL58	1.8	21	L40 L41 L42 L43 L157 L158 L159	L160 L170 L171 L172 L173 L174 L191	L192 L193 L202 L205 L211 L212 L219	-	169	3	G139 (RB) G141 (RB) G136 (HB)	7	G210 G211 G212 G236 G307 G360 G525	1	G169/170	2077:45.02	2333:46.8 (incl. ABG 7)	15.3 brick and tile 3.0 fired clay 0.02 vitrified clay 0.35 ferrous slag 1 rotary quern fragment (RA339) 1 stone object (RA277) 28 Cu coins (RA18, RA27, RA29, RA30, RA50, RA53, RA54, RAs81– 87, RA90, RA92, RA97, RA106, RA107, RA112, RA164, RA174 , RA314, RA316, RA 223, RA315, RA347 and RA348) 1 Cu spoon (RA94) 3 Cu bracelets (RA143, RA155 and RA159) 2 Cu brooches (RA122 and RA317) 1 Cu earing (RA157) 1 Cu awl (RA105) 1 Cu hand saw (RA333) 1 Cu tip of spearhead (R113) 1 Cu object from toiletry set (RA17) 1 Cu stud (RA349) 1 Cu wire (RA158) 1 Cu offcut (RA175) 1 Cu waste (RA156) 2 lead vessel repairs (RA95 and RA117) 1 Fe cauldron hanger (RA307) 1 Fe pruning hook (RA198) 1 Fe buckle (RA152) 159 Fe hobnails ((RA180, RA184, RA186, RA188, RA189, RA192, RA202, RAs206-RA210, RA219, RA220, RA224, RA275, RA337 and RA365) 1 Fe double-spiked loop and ring (RA204) 1 Fe handle (RA160) 1 Fe ring (RA162) 2 Fe ferrule (RA257 and RA258) 1 Fe modelling tool (RA310) 4 Fe knives (RA166, RA179, RA181, and RA205) 1 Fe tracer (RA154) 1 Fe blade fragment (RA151) 3 Fe tapering bar/waste (RA177, RA169 and RA374) 15 Fe strip/strap/sheet fragments (RA89, RA91, RA149, RA163, RA168, RA178, RA183, RA194, RA195, RA203, RA293, RA299, RA304, RA366 and RA371) 10 Fe objects (RA88, RA161, RA196, RA201, RA261, RA298, RA303, RA311 and RA326) 148 Fe nails 1 bone hairpin (RA338) 2 flint flakes 0.5 oyster shell 0.01 vessel glass

SL	Extent (ha)	Enclosures			Fields	Trackway/ routeway	Possible buildings	Water-pits (unless stated)	Drying ovens	Pottery (sherds:kg)	Animal bone (frags:kg)	Other finds (kg or number)
Second layout modification SL59	2.1	13	L44 L52 L53 L175 L178	L196 L199 L200 L207	L209 L216 L217 L224	2	L49 L51	L179	8	G137 (RB) G138 (RB) G142 (RB) G143 (RB) G144 (RB) G145 (RB) G146 (RB) G341 (HB)	4	G303 G454 G461 G522	3	G400 G403 G519	1349:20.3	1656:31.7 (incl. ABGs 8– 11)	6.03 brick and tile 7.7 fired clay 0.28 vitrified clay 3.9 ferrous slag 3 rotary quern fragments (RA259, RA306 and RA343) 1 whetstone (RA185) 1 Ag coin (RA15) 5 Cu coins (RA23, RA62, RA66, RA67 and RA101) 1 Cu cockerel figurine (RA334) 2 Cu bracelets (RA134 and RA332) 1 Cu brooch (RA61) 1 Cu hairpin (RA324) 1 Cu hand mirror (RA115) 1 Cu nail cleaner (RA60) 1 Cu enamelled stud (RA110) 1 Cu stud (RA51) 1 Cu knife handle (RA114) 1 Cu object (RA126) 1 PBA pan weight (RA48) 50 Fe hobnails (RA103, RA132, RA233, RA260, RA285, RA364, RA367 and RA375) 1 Fe stylus (RA251) 1 Fe chain link (RA71) 1 Fe collar ferrule (RA342) 1 Fe billhook/reaping hook (RA236) 1 Fe ox goad (RA130) 1 Fe handle (RA308) 2 Fe knife blades (RA231 and RA241) 2 Fe drill bits (RA116 and RA247) 1 Fe lanceolate terminal or awl (RA379) 1 Fe wool-comb (RA227) 1 Fe metalworking punch (RA226) 2 Fe spearheads (RA10 and RA225) 8 Fe objects (RA72, RA104, RA218, RA215, RA232, RA240 and RA368) 14 Fe fragments (RA73, RA230, RA237, RA248, RA249, RA250, RA253, RA254, RA255, RA321, RA325, RA369 and RA373) 1 Fe saw fragment (RA242) 100 Fe nails 0.01 vessel glass (RA63) 0.9 Oyster and Mussel shell

SL	Extent (ha)	Enclosures			Fields	Trackway/ routeway	Possible buildings	Water-pits (unless stated)	Drying ovens	Pottery (sherds:kg)	Animal bone (frags:kg)	Other finds (kg or number)
Third and final layout modification SL60	1.2	8	L197 L198 L208	L220 L222 L223	L226 L227	1	L50	180	3	G147 (RB) G148 (RB) G149 (RB)	2	G431 G433	-	620:8.99	1511:32.5 (incl. ABGs 12–15)	6.5 brick and tile 0.96 fired clay 0.03 Oyster shell 0.5 ferrous slag 1 stone sculpture (RA296) 5 rotary quern fragments (RA284, RA341, RA340, RA345 and RA377) 1 whetstone (RA264) 13 Cu coins (RA16, RA20, RA21, RA22, RA24, RA25, RA26, RA45, RA46, RA109, RA124, RA222 and RA267) 2 Cu bracelets (RA123 and RA133) 1 Cu buckle (RA44) 1 Cu phallic strap mount (RA335) 1 Cu mount (RA356) 1 Cu strap end (RA47) 1 Cu cast rod (RA58) 1 PBA vessel repair (RA52) 2 Fe hobnail (RA69 and RA263) 44 Fe nails 1 Fe knife blade (RA266) 1 Fe looped terminal of handle (RA289) 9 Fe objects/fragments (RA131, RA182, RA187, RA297, RA320, RA322, RA323, RA346 and RA372) 1 shale spindle whorl (RA212) 1 ceramic crucible fragment (RA290) 1 amulet or rubbing/polishing stone (RA313) 1 vessel glass (RA318)
										Total				5123:88.3	128.17	-

Key: RH = roundhouse, RB = rectangular building, HB = hollow building, ABG = associated bone group

Table 6.1: Summary of Phase 6 farmsteads SL57–60

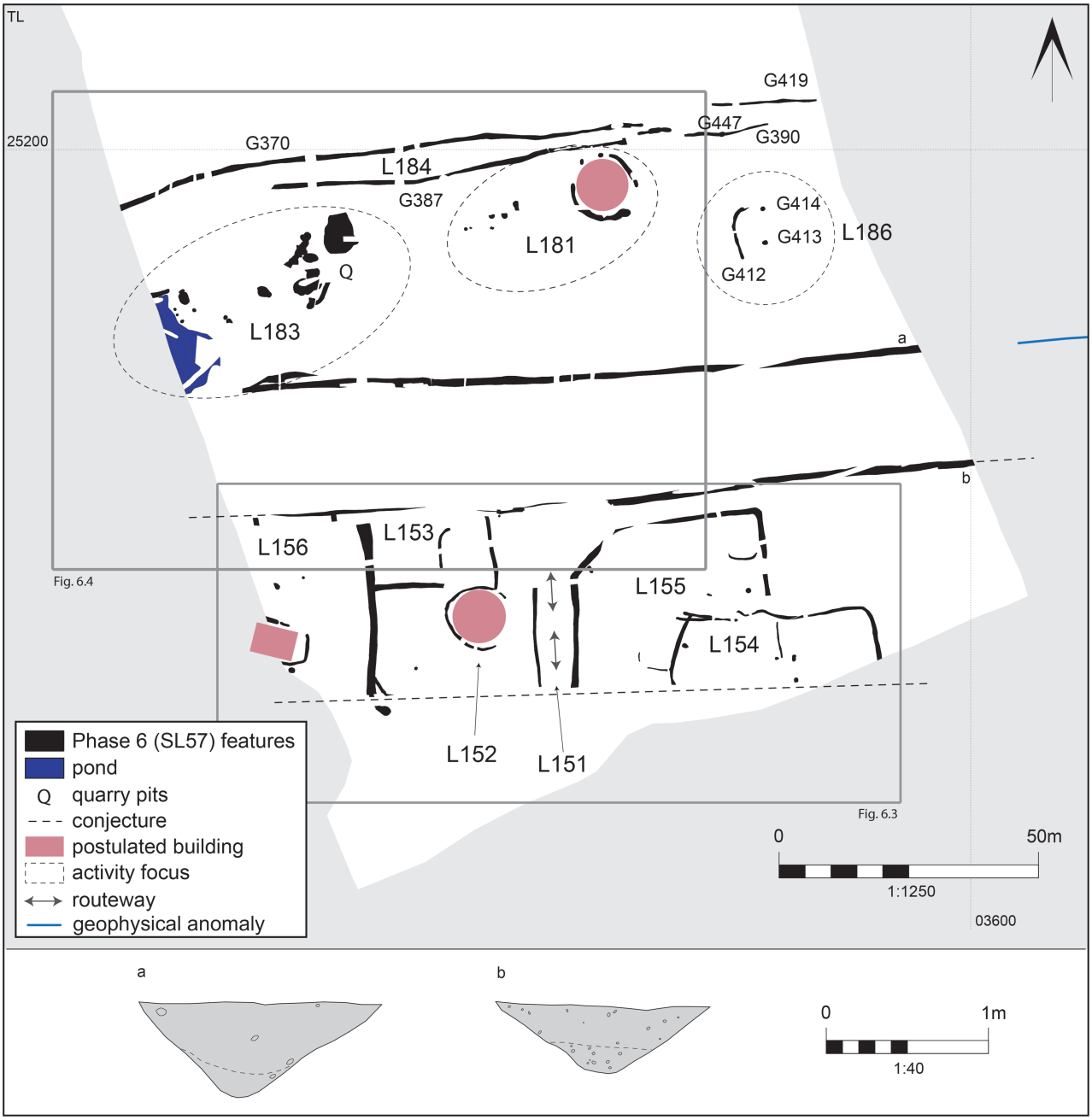


Figure 6.2: Overall plan of Roman (Phase 6) farmstead SL57, with selected sections

deep, with a concave profile (Fig. 6.3 sections b and c). It is more likely to have served as a drain, rather than representing a foundation trench.

Possible rectangular structure G140

The rectangular arrangement of ditches G217, G218 and G219 (in enclosure L156) suggests the presence of a structure on the limit of excavation. It would have been at least 8m long, with a maximum width of 7m and a possible entrance in the north-east corner (Table 1.2). The ditches were 0.3–0.8m wide and 0.1–0.2m deep; again, they are likely to represent drains around the building.

Enclosure north of the trackway (L181)

The land to the immediate north of the trackway appeared to comprise a single, large rectangular enclosure L181 (>140m long by 40m wide) (Fig. 6.4). It was defined to the north by ditches associated with a possible livestock race L184 (described below). In contrast to the enclosures to the south of the trackway, there was very little evidence for internal sub-division, although the enclosure's three activity foci may have been defined by ditches or fences that were subsequently truncated by later boundaries (Fig. 6.2). From west to east, the activity foci comprised: an area of dispersed quarry pits, a pond, a ditch and postholes (L183); a roundhouse and a cluster of small pits (L181); and two pits and a curvilinear ditch (L186). The only definite building was roundhouse G381 (described below).

Clustered within a 40 × 25m area, activity focus L183 comprised: a possible pond G338 (described below); nine quarry pits G329, G330, G332, G333, G336, G457 (2), G458 and G544; a ditch G339; and six postholes G337 and G328. The pits were dispersed across the area

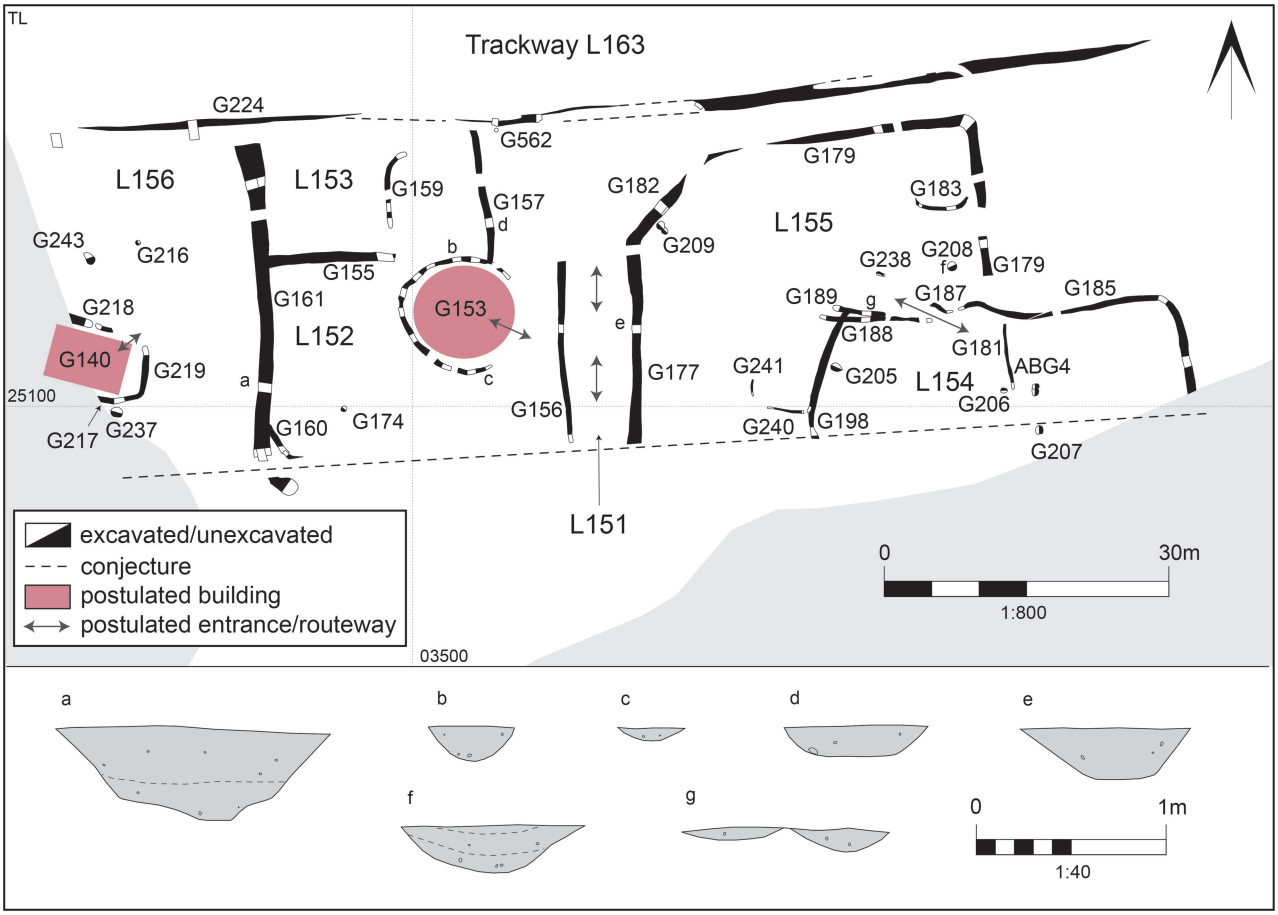


Figure 6.3: Detailed plan of the enclosures south of the trackway in Roman (Phase 6) farmstead SL57, with selected sections

to the east of the pond. They had been dug into the underlying chalk and several were intercutting, varying in depth from 0.1m to 0.5m and often irregular in plan and profile; for these reasons they are interpreted as quarry pits. They produced a large assemblage of pottery (325 sherds, 4.1kg) and animal bone (130 fragments, 2.2kg), along with fragments of quern stone (RA216) and millstone (RA265), a copper alloy brooch (RA59) and a dog canine amulet (RA286, Plate 8.2).

The central activity focus in the enclosure comprised: roundhouse G381; pits G536, G453 and G455 (2); and postholes G450 (2) and G451 (2); the features were clustered in a 35 × 20m area (Fig. 6.5). The pits and postholes were typically 0.1m deep, but pits G453 and G455 were *c*. 0.4m deep and over 1.1m in diameter (Fig. 6.5 section g).

To the east, activity focus L186 comprised a short curvilinear ditch G412, which was *c*. 0.6m wide and *c*. 0.3m deep (Fig. 6.2). Two nearby pits G413 and G414 were spaced *c*. 6m apart; they were 0.8m in diameter and *c*. 0.3m deep. Another pit, G447, was located further north and dug into ditch G390.

Roundhouse G381 (L181)

The existence of this roundhouse is suggested by two curved ditches that formed a partial circle with an internal diameter of 10m. The ditches were 0.7–1.3m wide and 0.2–0.5m deep (Fig. 6.5 sections e and f); they are assumed to represent drains around the building. Potential north- and south-east-facing entrances are indicted by 9m- and 5m-wide gaps in the ditch circuit. The north entrance seems very close to the livestock race L184, but the presence of two *c*. 3m-spaced pits (Fig. 6.5 section d) that may be associated with a doorway suggests it could well be genuine. The ditches produced pottery (92 sherds, 1.44kg) including 2nd-century samian (Wells, Chapter 8).

Possible pond G338 (L183)

G338 was a 20m-wide and at least 0.5m-deep depression on the limit of excavation (Fig. 6.4). Its gradually sloping sides may have been created by livestock accessing the water. One of its fills produced a rich assemblage of charred plant remains (Giorgi, Chapter 9; sample no. 42) and a dog canine amulet (RA286). A short length of ditch G339 to the north of the pond suggests that it may have been partially enclosed.

Possible livestock race L184

Integral to the farmstead's northern boundary was an arrangement of ditches suggestive of a livestock race (Fig. 6.4). It was defined by a series of parallel E–W ditches (G370, G387, G390 and G419) that were 0.5–1m wide and 0.2–0.4m deep (Fig. 6.4 section a; Fig. 6.5 sections a and b). They formed a 4m-wide, *c*. 135m-long corridor that narrowed to a 2m-wide pinch point where a single, 6m-long, steep-sided, E–W ditch/trench G395 continued the alignment (Fig. 6.5 section c). This tapering layout



Plate 6.3: Aerial view of enclosures L152 and L156 with roundhouse G153 in foreground, looking north-west

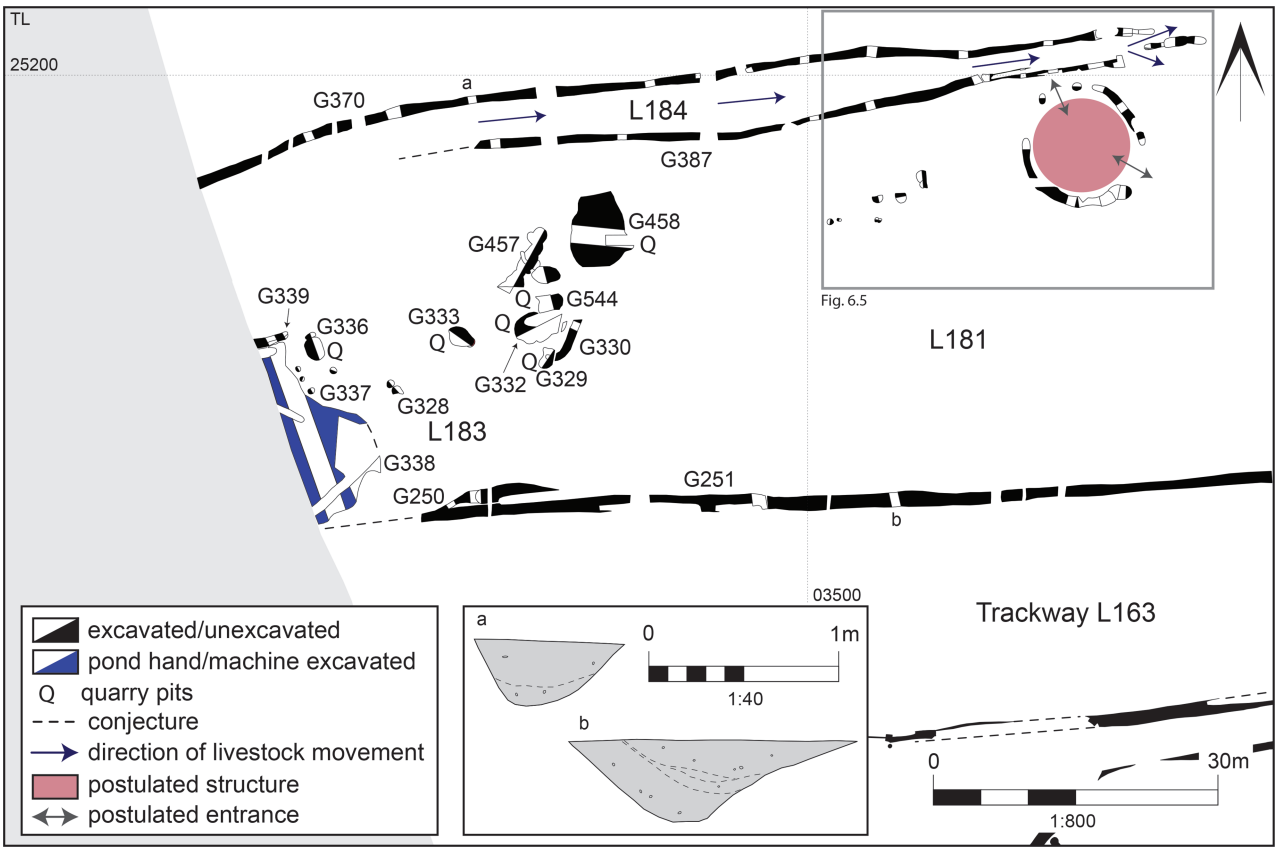


Figure 6.4: Detailed plan of the enclosures north of the trackway in Roman (Phase 6) farmstead SL57, with selected sections

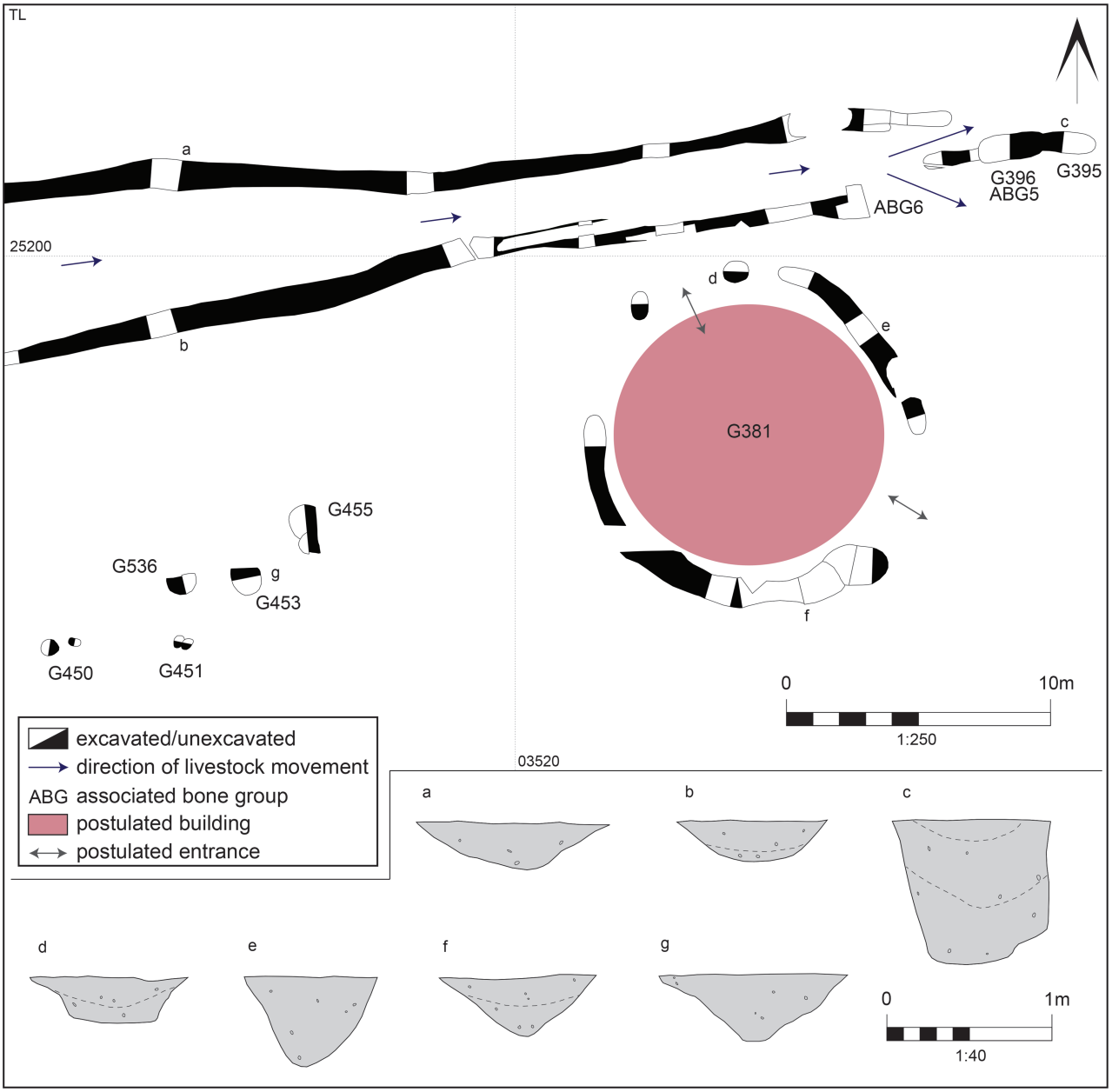


Figure 6.5: Detailed plan livestock race L184 and roundhouse G381, with selected sections

suggests that the ditches formed a livestock race, with ditch/trench G395 acting as a 'funnel' or 'crush' to direct the flow of animals to the north or south. A further short trench G396 (2.6 1 × 0.9m), dug into ditch/trench G395, was probably associated and broadly contemporary.

The ditches of the race produced a large quantity of pottery (4.9kg) and an animal bone assemblage dominated by cattle. The majority of the latter came from ditch/trench G395 and included ABG5, an adult cattle (probably female) with chop marks (Maltby, Chapter 9). Ditch G387 produced a mandible of a neonatal calf and elements of an older calf. The terminal of the same ditch produced several bones from an adult probably female dog (ABG6) which may have been a disturbed burial.

6.3 FIRST MODIFICATION SL58 TO THE FARMSTEAD'S LAYOUT (MID-/LATE 2ND CENTURY TO MID-/LATE 3RD CENTURY)

The first significant modification to the farmstead's layout comprised the reorganisation of the enclosures adjacent to the trackway and the extension of the enclosure system to the north. The farmstead was now at least 1.8ha in extent but clearly extended beyond the excavation area to the west (Fig. 6.6). The enclosures south of the trackway replicated those of the original layout (SL57); those to the north were far more extensive. For ease of description, the enclosures next to the trackway (south and north) are discussed first, followed by those further to the north around enclosure L41 (Fig. 6.7). The latter were not physically linked to the main enclosure ditches within the excavation area but were clearly part of the same system. The other main elements of farmstead SL58 comprised three buildings to the north of the trackway, seven water-pits (four north of the trackway)

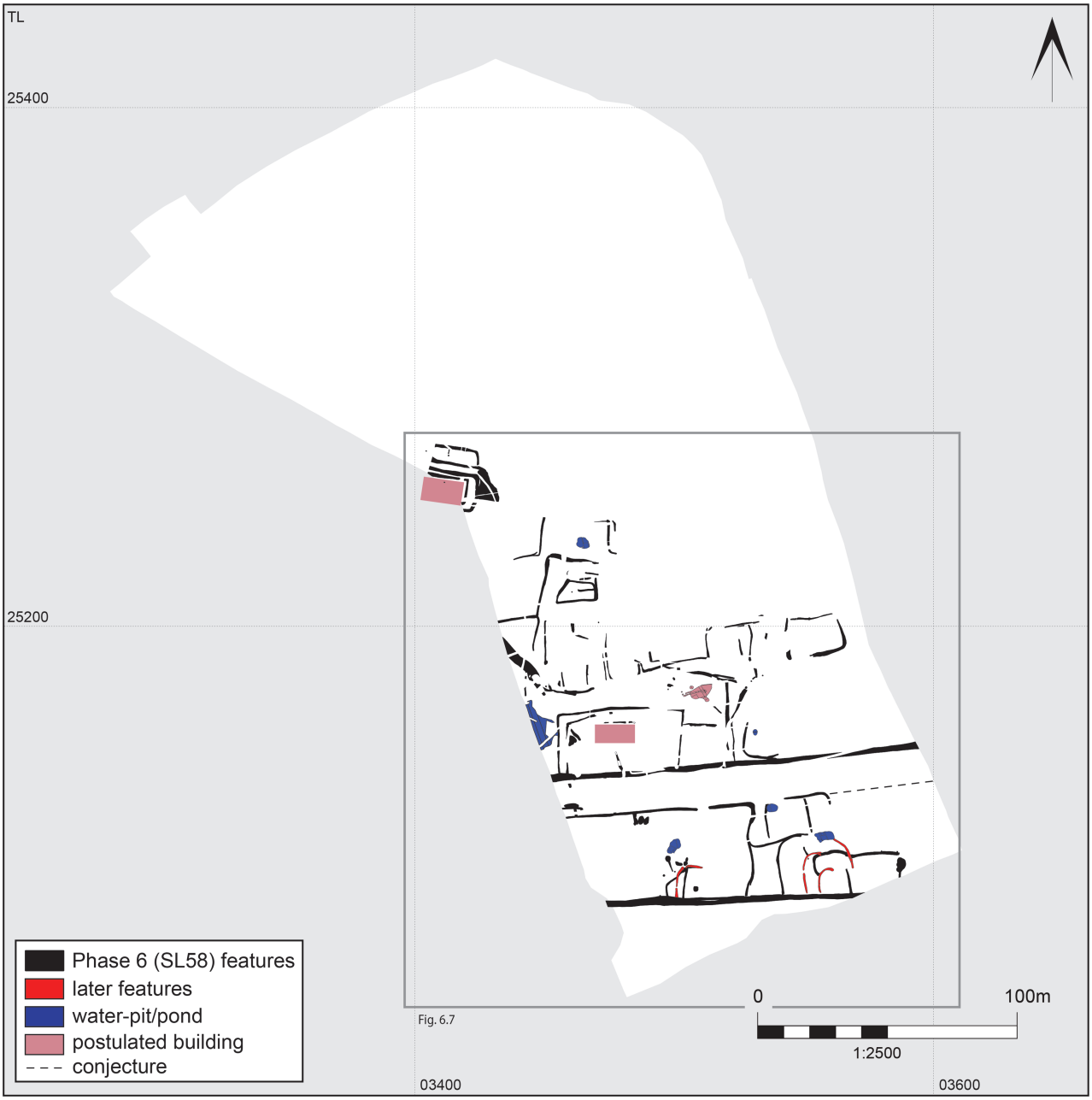


Figure 6.6: Overall plan of the first modification SL58 to the layout of the Roman (Phase 6) farmstead

and a possible crop-processing area to the south of the trackway.

The southern limit of the farmstead was defined by a substantial boundary ditch L167 (Fig. 6.7). It was 2.1–3.5m wide and 0.7–1m deep (Fig. 6.8 section e). The original ditch G220 had been re-dug at least twice (as G221 and G222). There was no single equivalent boundary on the north side.

Much of the pottery assemblage (2077 sherds, 45kg) post-dates the mid-/later 2nd century (Wells, Chapter 8). Other finds included 407 other artefacts, the largest number from any of the farmstead layouts. In contrast to SL57, the majority derived from the enclosures south, rather than north, of the trackway (Table 6.1, Wells, Chapter 8). One unusual find was a possible copper alloy hand saw blade (RA333, Plate 8.5) from northern enclosure L202.

Trackway L169

The original course of the routeway through the farmstead was defined by new ditches. These reduced its width to *c*. 13m, as ditch G260 on the north side encroached onto the original routeway. It was re-dug at least twice as G261 and G262 (*see* Fig. 6.10). The south side was defined by ditches G227, G232 and G233, which were dug along the course of the original ditch (Fig. 6.8). To the west, the position of short ditch lengths G225 and G228 may indicate a further narrowing of the trackway but they were too close to the limit of excavation to be certain (Fig. 6.7).

Enclosures south of the trackway

Reorganisation and replacement of enclosure boundaries to the south of the trackway led to the creation of four new enclosures: L157, L158, L159 and L160 (Figs 6.7 and 6.8). The layout of enclosure L160 suggests that at



Figure 6.7: Overall plan of the first modification SL58 to the layout of the Roman (Phase 6) farmstead, with L numbers

least some of the earlier SL57 boundaries remained in use, whereas those in the vicinity of enclosures L157, L158 and L159 had almost certainly been replaced.

The largest enclosure L160 was rectangular in plan, at least 64m long (excluding the retained SL57 boundary) and 32m wide. Ditches G162 and G163 defined a small sub-enclosure to the south (Fig. 6.9). It was later modified/redefined by ditches G164 and G166 (L161) (Fig. 6.9). To the east, enclosures L157, L158 and L159 were smaller in size and featured more internal partitions. The curving shape of these enclosures and their narrow entrances may suggest that they were designed to control the movement of livestock. Although the boundary ditches of enclosures L158 and L159 were modified by the digging of new ditches, e.g. G199, G201, G202 (L166), the curving layout of the original enclosures was retained. Access to trackway L169 was through *c.* 12m- and 4m-wide gaps in the north sides of enclosures L157 and L160 respectively.

The majority of evidence for internal activity came from enclosure L160. It comprised a possible drying oven G169/170 (see below); water-pit G236 (see below); six other pits G172, G168, G213, and G215 (3); and two postholes G173 and G175. The enclosures to the east contained three possible water-pits G210, G211 and G212 (see below). The pits and postholes within enclosure L160 formed two clusters. Three pits G215, adjacent to the northern boundary, were irregular in plan,

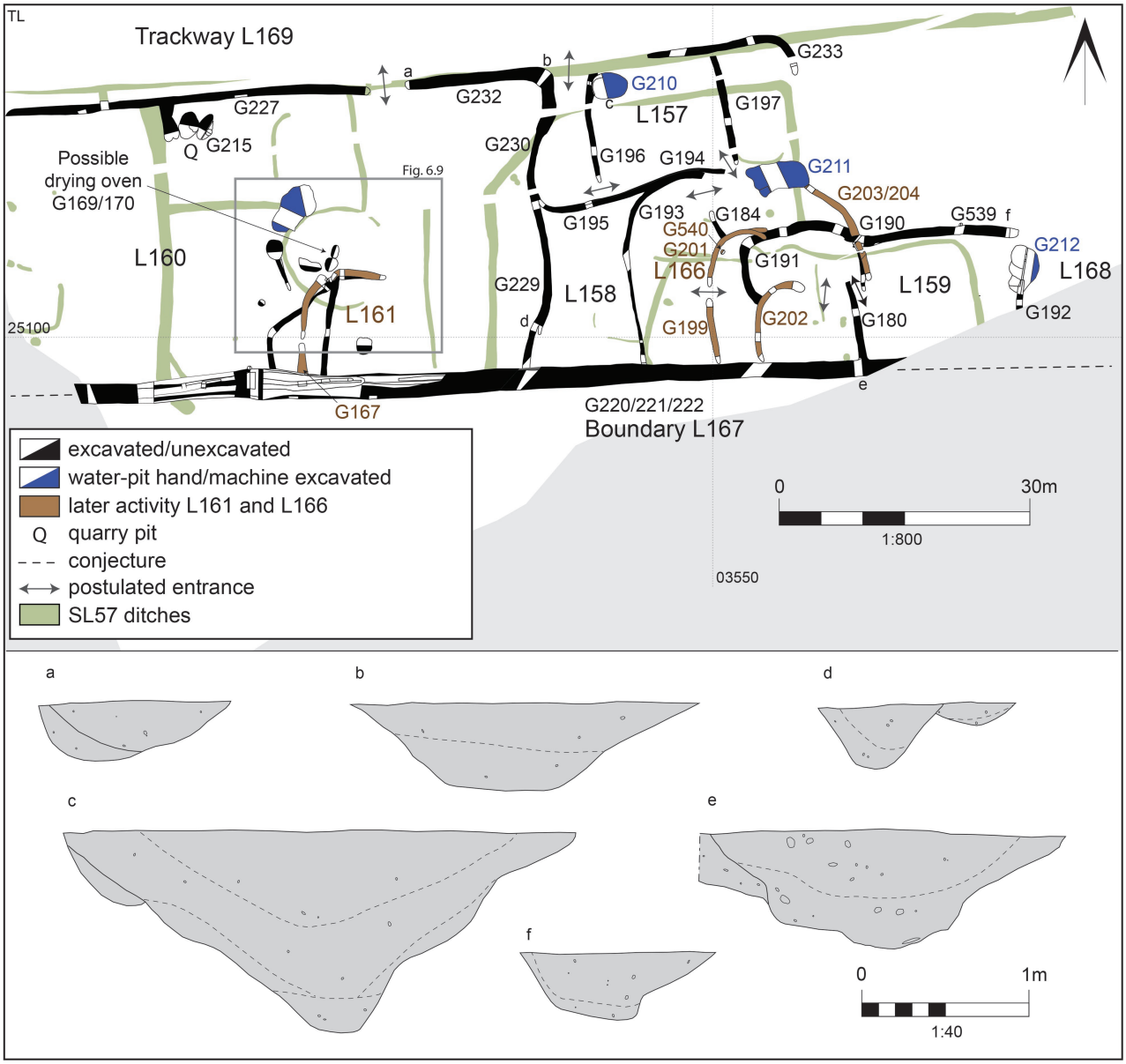


Figure 6.8: Detailed plan of the enclosures south of the trackway in Roman (Phase 6) farmstead SL58, with selected sections

c. 1.3m in diameter and 0.4m deep; they were probably the result of quarrying. The other more centrally located cluster was near water-pit G236 and possible drying oven G169/170. It comprised three pits G172, G168 and G213, and two postholes, G173 and G175 (Fig. 6.9). Pit G172 also produce a rich charred plant assemblage that contained more chaff than grain and few weed seeds, suggestive of being mainly debris from the de-husking of hulled spelt wheat (Giorgi, Chapter 9). Overall, more than half of the pottery (1101 sherds, 28.6kg) and animal bone (1433 fragments, 25.1kg) assemblage recovered from farmstead SL58 derived from enclosures south of the trackway (Table 6.1). Personal items, such as bracelets RA143, RA155 (Plate 8.9) and RA159 (Plate 8.8), hobnails and a possible earring RA157 also occurred more frequently in this part of the farmstead.

Water-pits G210, G211, G212 and G236

The four steep-sided water-pits were oval in shape, 4.5 × 3m in extent and over 1.3m deep (Fig. 6.8 section c and Fig. 6.9 section a; Table 1.3); they were larger than the water-pits to the north of the trackway. Waterlogged plant remains were only present in G212 and were indicative of the presence of wet grassland/meadows and grazing livestock nearby (Giorgi, Chapter 9).

Three radiates of the deified Claudius II were recovered from water-pits G211 (L157) and G212 (L159). All three coins (RA174, RA223 and RA314) bore the legend CONSECRATIO ('consecration' or 'dedication') around an image of the funerary altar erected for the deceased and divine emperor. These coins may have been deliberately chosen for deposition in these special locations (Guest, Chapter 8).

Possible drying oven G169/170

Positioned centrally within enclosure L160 were two almost interlinked features G169/170 (Fig. 6.9); although not recognised as such during fieldwork, they may represent a bowl- or long-hearth-type drying oven. This is the simplest form of Roman drying oven and usually comprises a stokehole and oven chamber linked by a straight flue (Lodwick 2017, 55–6). G169/170 comprised

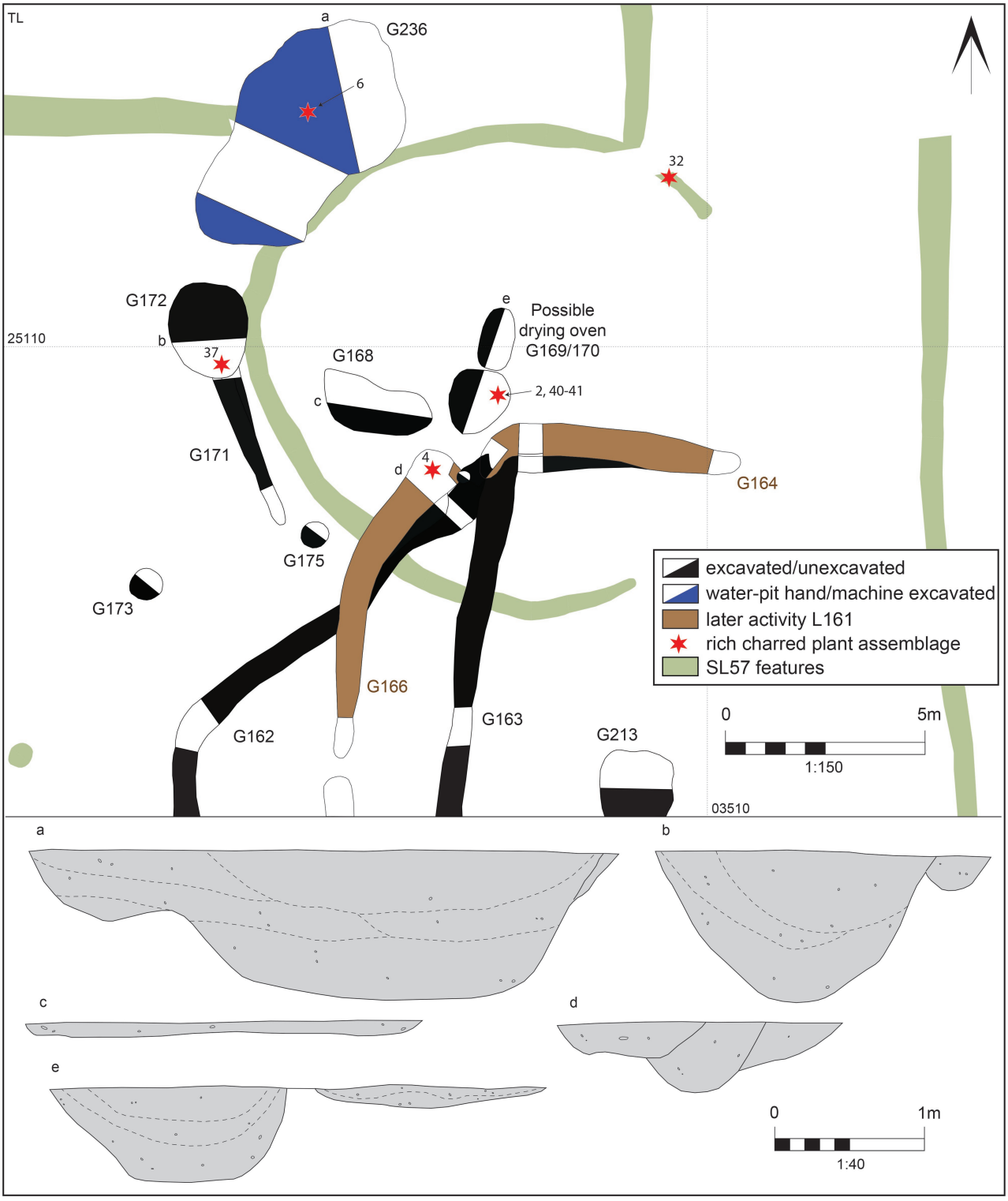


Figure 6.9: Detailed plan of possible drying oven G169/170 and its environs, with selected sections

a bulbous NE–SW-aligned pit that was 1.6m long, 0.4m wide and 0.2m deep, with scorching on its sides and base; it is interpreted as the flue. At its south-west end was a large pit, 1.7m in diameter and 0.6m deep (Fig. 6.9 section e), which is likely to have been the stokehole.

Ecofact samples 2, 40 and 41 from the possible stokehole contained very rich and high concentrations of charred plant remains, dominated by grains, some of which had germinated, but with hulled wheat chaff in one of the samples. Further assemblages of almost fully processed and de-husked hulled spelt wheat and de-husking debris were recovered from nearby water-pit G236 (sample 6), pit G172 (sample 37) and ditch G166 (sample 4), indicating that this area was a focus of crop-processing activities (Giorgi, Chapter 9). Charcoal of oak, ash and hazel was also recovered from the possible stokehole (Challinor, Chapter 9).

The location of the possible drying oven coincided with roundhouse G153 (assigned to the original layout SL57 of the farmstead) and it may be that the remains of the structure were used to screen the crop-processing activity. A rich assemblage of charred grain, wheat chaff

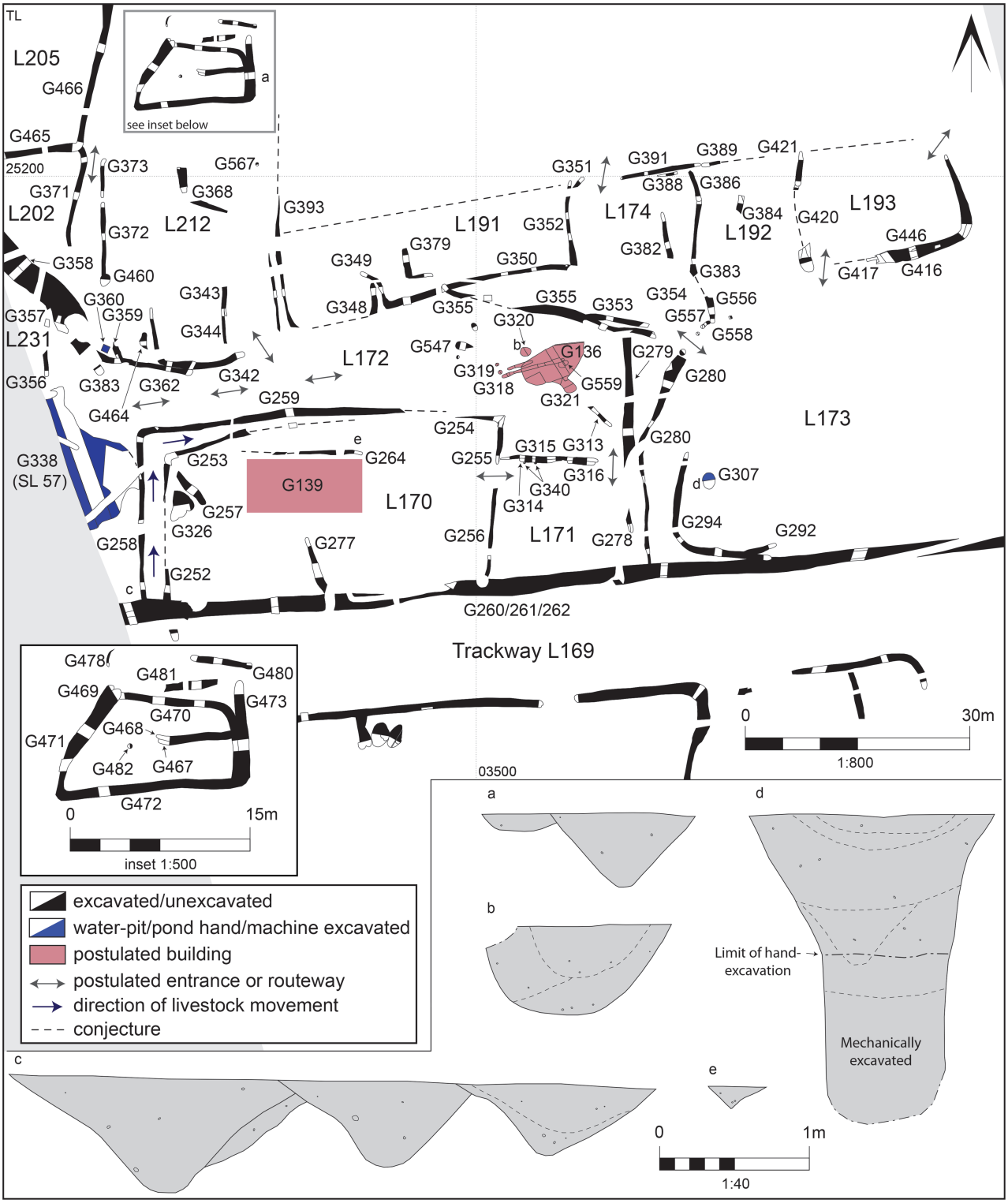


Figure 6.10: Detailed plan of the enclosures north of the trackway in Roman (Phase 6) farmstead SL58, with selected sections

and a few weed seeds was recovered from the upper fill of the Phase 5 roundhouse ditch (sample 32, Giorgi, Chapter 9, Table 9.27).

Enclosures north of the trackway

A block of at least 13 new enclosures (L170, L171, L172, L173, L174, L191, L192, L193, L202, L205, L211, L212 and L219) was established adjacent to the trackway, covering an area of *c*. 1.1ha (Figs 6.10 and 6.11). It is possible that pond G338 (SL57) remained in use.

The new enclosures were generally rectangular in plan and varied in size (*c*. 16 × 14m to 45 × 25m). Many of their ditches had been re-dug several times on the same course. Gaps in the ditches, often located in the corners, indicate access points between enclosures (Fig. 6.10). Next to the main (from the north-west) entrance into enclosure L173 were three postholes and a short slot-type feature, suggestive of an entranceway structure or gate. Possibly due to extensive re-digging, no causeways were identified in the trackside ditch but it seems likely that

there would have been access into enclosures L170, L171 and L173 from trackway L169.

A largely blank zone between enclosures L170 and L191/L212 appears to have functioned as a routeway, leading into enclosure L172 and giving access to possible building G136 at its east end.

Short lengths of ditch within enclosures L173, L191 and L212 may represent sub-divisions, perhaps livestock pens; they could even represent the location of buildings. A *c*. 2.5m-wide corridor on the west side of enclosure L170, narrowing to *c*. 0.8m on the north side, may represent a livestock race; however, the evidence is not as convincing at that for race L184 (SL57).

Although only limited evidence for buildings was recovered (see below), many of the enclosures contained evidence for internal activity in the form of water-pits (see below), other pits, and postholes; others, such as L171 and L193, were devoid of any such evidence. The assemblage of pottery (816 sherds, 14kg) and animal bone (536 fragments, 11.56kg) was lower than that recovered from enclosures to the south of the trackway, but the presence of coins (RA27, RA29, RA30, RA315 and RA316), a quern stone (RA339), a possible cauldron hanger (RA307), nails and hobnails are similarly suggestive of domestic activity.

Possible buildings

No definite buildings were identified, although their presence can be inferred from evidence such as the shape and dimensions of some of the enclosures, e.g. L193. Two further possible examples are discussed here.

Rectangular enclosure L170 was adjacent to the trackway and contained a 12m-long gully G264 that may have defined the north side of a rectangular building G139 (Fig. 6.10). The gully was 0.4m wide and 0.1m deep, with a steep-sided, almost V-shaped profile (Table 1.2), suggesting it was more likely to have been a drain than a foundation trench.

In enclosure L172, a more speculative candidate G136 consists of a worn hollow G321, 9 × 6 × 0.1m deep, with a flattish base that may have formed within a building. Beneath its fill were two short slots G318 and a small pit G559 (Fig. 6.10). Two postholes G319 and a pit G320 to the north and west may be associated. Other interpretations of these features are possible, but in the absence of more concrete evidence for buildings, they should at least be considered.

Water-pits

Features G307, G360 and G525 were over 1.5m deep and are, therefore, interpreted as water-pits (Table 1.3).

Water-pit G307 was located in the south-west corner of enclosure L173, G360 in the south-west corner of enclosure L212, and G525 in the centre of enclosure L219 (*see* Figs 6.7 and 6.11). G307 (Fig. 6.10 section d) and G360 were *c*. 1.5m in diameter with near-vertical sides. G525 was 5.6m in diameter but also had a steep-sided, central shaft; however, no evidence for a stone or timber lining was found.

Water-pit G525 produced a coin of Carausius, with the reverse legend SALVS PVBLICA and showing the standing Salus (goddess of welfare, health and prosperity) feeding a serpent in her arms (RA315). It may have been deliberately deposited in the feature (Guest, Chapter 8).

Enclosures on the north-west periphery of the farmstead

The most northerly element of farmstead SL58 was enclosure L40, which extended beyond the limit of excavation. Within the excavation area at least, it was not connected to the main enclosure system. The enclosure appears to have been rectangular in plan and to have been redefined at least twice (L42, L43).

Only the ditches on the north and part of the east sides of the original enclosure L40 survived later truncation (Fig. 6.11). The enclosure was at least 17m long E–W; its ditches were 0.8–1.2m wide and under 0.4m deep (Fig. 6.11 section a). Short ditch length G66 and posthole G67 were the only evidence for internal activity.

The enclosure was subsequently modified as L42 and then L43; with each modification it moved slightly southwards. In its final form it enclosed a rectangular area that measured at least 17m E–W, which may indicate the location of a rectangular building (see below). To the east, partly within the enclosure entrance, was a stone surface G572, comprised of chalk fragments extending over a 13 × 9m area (Plate 6.4). This produced a range of material, some of which had presumably been intentionally incorporated into the surface: pottery (81 sherds, 1.3kg), animal bone (123 fragments, 3.8kg), tile (23 fragments, 2.56kg), a fragment of lava quern (RA339) and numerous metal artefacts. The latter included 27 nails, fragments of iron (RA298, RA299, RA301, RA303 and RA304) and an iron staple (RA302).

Possible building G141

Within enclosure L43 a possible rectangular building G141 (L41) was defined by flat-bottomed gullies G70/71, G72 and G245. Its postulated extent would be 9m wide (N–S) and over 15m long (Table 1.2). The gullies were only 0.1m deep with shallow profiles (Fig. 6.11 sections b and c); it is possible that they represent foundation trenches, as the enclosure ditches themselves would have provided drainage. A possible entrance was indicated by a 1.5m-wide gap in the north-east corner, although this would have given access only to a narrow gap between the building and the enclosure ditch. A small pit G112 dug into gully G70/71 contained cattle bones including at least five from the right hind foot of the same animal (ABG7, Maltby, Chapter 9).

6.4 SECOND MODIFICATION SL59 TO THE FARMSTEAD'S LAYOUT (MID-/LATE 3RD CENTURY TO EARLY 4TH CENTURY)

At this stage in its lifespan the farmstead extended over 2.1ha with alterations to the layout of existing enclosures and expansion northwards (Figs 6.12–6.14). Eight possible buildings, four water-pits and two crop-processing areas were located on the northern periphery of the farmstead, away from the SL58 trackway. Although there is some evidence for recutting of the trackside ditches (L179, Fig. 6.12 section e) these are not well-dated and not enough to suggest that it retained its former significance. In addition, no new enclosures were identified to the south of the trackway. Fields L49 and L51 were also established to the north of the farmstead in the same location as, but on a different alignment to, the late Iron Age/early Roman (Phase 5) ditched enclosures associated with settlement SL55.

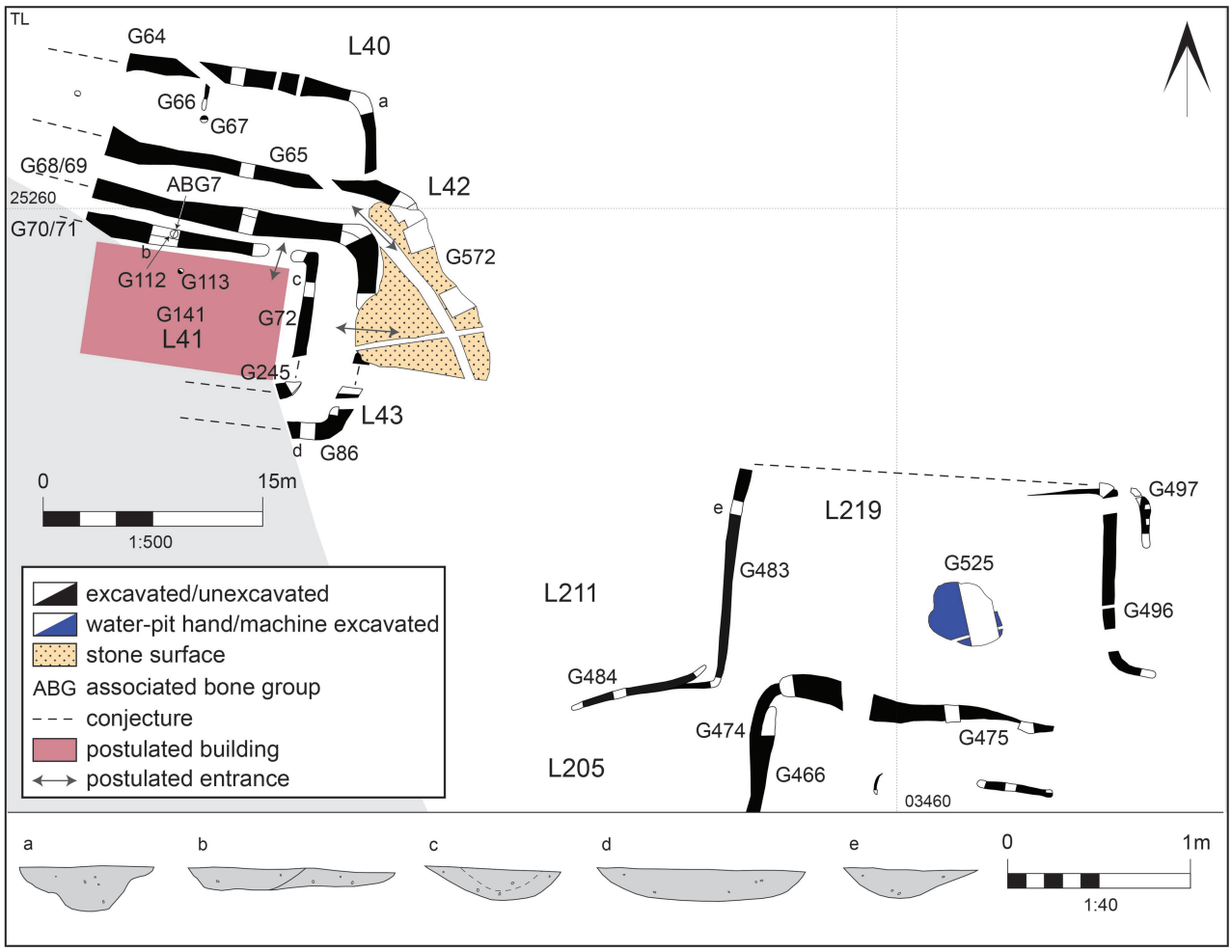


Figure 6.11: Detailed plan of the enclosures on the north-west periphery of Roman (Phase 6) farmstead SL58, with selected sections

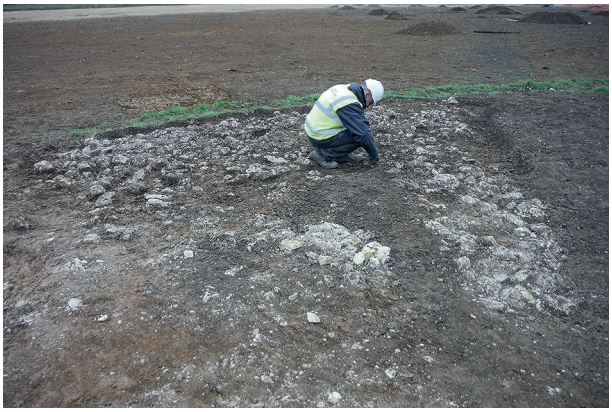


Plate 6.4: Stone surface G572 (L43, SL58) during cleaning

The pottery assemblage (1349 sherds, 20.3kg) was dominated by mid- to late Roman coarse wares (Wells, Chapter 8), suggesting that this modification to the farmstead's layout occurred around the mid- to late 3rd century. Of the other artefacts present (Table 6.1), perhaps the most unusual were an iron stylus (RA251, Plate 8.12), a votive cockerel figurine (RA334, Plate 8.13), and a small number of military items including two spearheads (RA10, Plate 8.16 and RA225, Plate 8.14) (Wells, Chapter 8).

Enclosures adjacent to the trackway

Six new interlinked enclosures L175, L178, L196, L199, L200 and L216 were established adjacent to the north side of the trackway (Figs 6.13 and 6.14). They generally retained the layout of earlier enclosures and it is feasible that some of the SL58 ditched boundaries remained in use. Where new boundaries were created, their ditches were generally wider (1–1.9m) than those of the 2nd-/3rd-century farmstead (Fig. 6.13 sections b and d). Some of the ditches were re-dug at least twice on the same or similar course (Fig. 6.13 section c). Access between the enclosures was often via large gaps in their sides and corners (Fig. 6.13).

The majority of the enclosures were rectangular in shape, with the notable exception of the sinuous north side of enclosure L175 (Fig. 6.14). The reason for this is unclear, but the enclosure may have been associated with livestock management, similar to the curvilinear enclosures of the 2nd-/3rd-century farmstead.

No definite buildings were located in this part of the farmstead, but two possibilities, in enclosures L178 and L200, are discussed below. There were two truncated drying ovens in enclosure L196 (see below). Other evidence for internal activity included water-pits (see below), other pits and postholes.

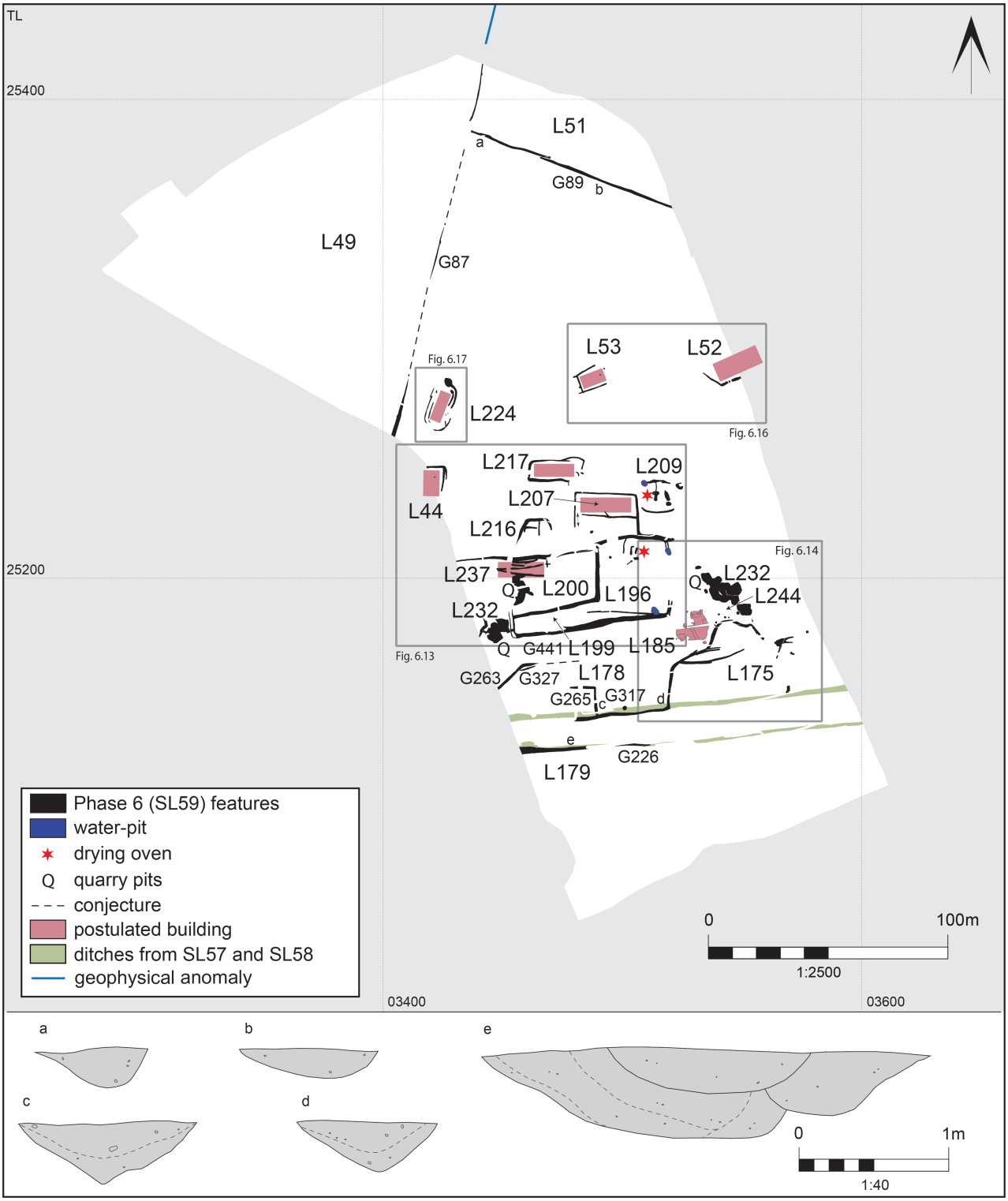


Figure 6.12: Overall plan of the second modification SL59 to the layout of the Roman (Phase 6) farmstead, with sections

L232 comprised three areas of discrete, closely spaced or intercutting pits, covering *c*. 12 × 8m within enclosure L200 (Fig. 6.13), *c*. 15 × 9m adjacent to it (Fig. 6.13), and *c*. 30 × 12m to the east of enclosure L196 (Fig. 6.14). All were in the vicinity of possible buildings. Most of the pits had variable depths (0.2–1.1m), irregular layouts and uneven bases (Fig. 6.14 section b), suggesting that they were dug to quarry the chalky clay. Quarry pit G364, adjacent to enclosure L200, contained four vertebrae of a young adult cattle (ABG11). Pit G397 was unusual in that it had steep sides and a flat base (Fig. 6.14 section a) but given its proximity to the quarry pits it is assumed to have served a similar function.

Possible buildings

The speculative evidence for two possible buildings is considered here (Table 1.2).

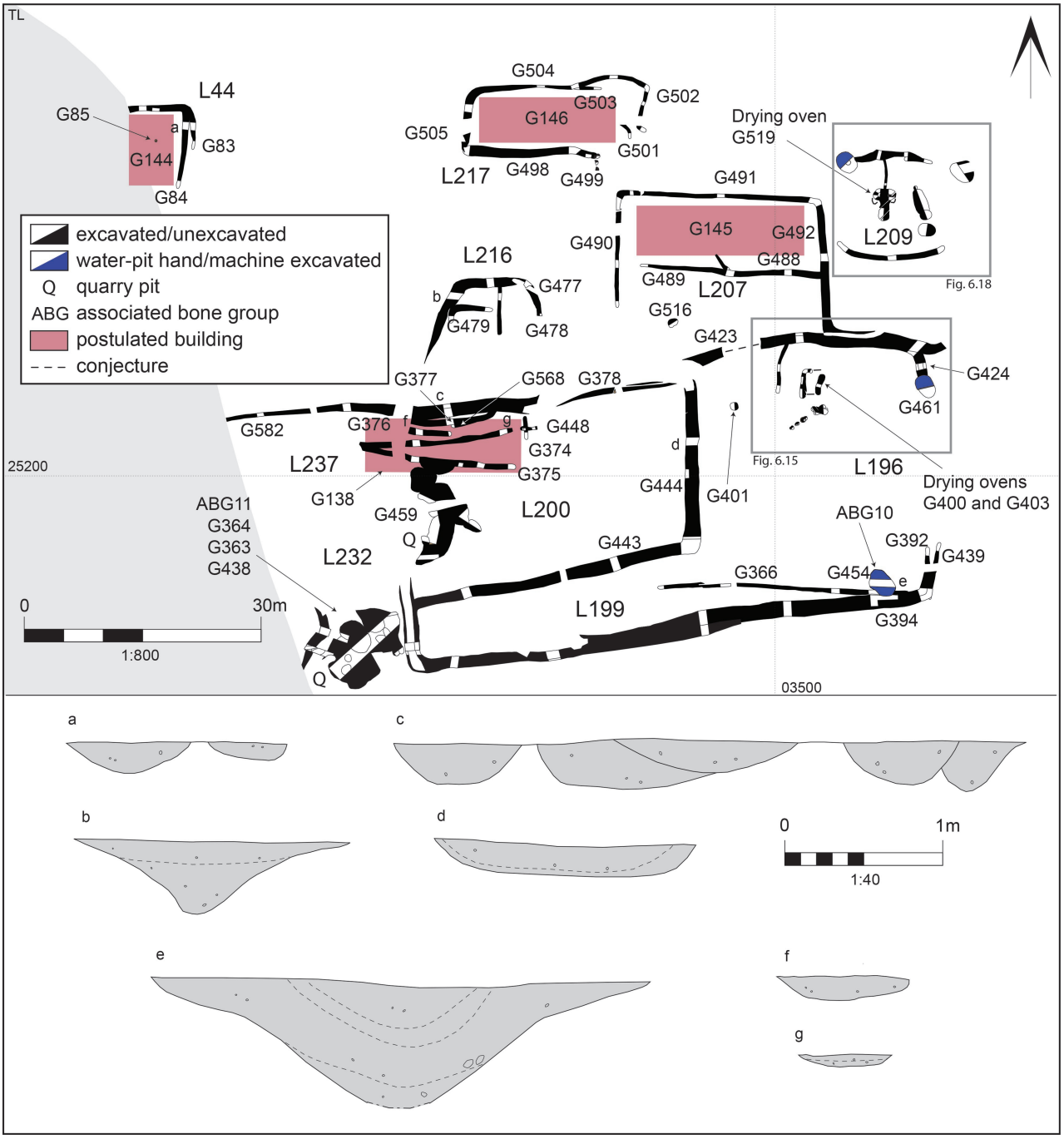


Figure 6.13: Detailed plan of the enclosures north of the trackway in Roman (Phase 6) farmstead SL59, with selected sections

A series of adjacent gullies G374–6 (L237) in the north part of enclosure L200 were 0.6–0.9m wide and less than 0.3m deep with concave profiles (Fig. 6.13 sections c, f and g). They were not parallel and their concave profiles is not obviously characteristic of foundation trenches; however, they may represent drains or even floor supports associated with a rectangular building G138 that could have been *c*. 20 × 7m in extent. Two areas of probable quarry pits were located nearby.

Building G341 (L185) is tentatively postulated on the basis of an 'L-shaped' worn hollow (Fig. 6.14). It covered an area of *c*. 15 × 15m, was 0.2m deep with a fairly flat base (Fig. 6.14 section d). Two small pits G309 and four postholes G310, G405 (two adjacent) and G406 were located around the edge of the depression and may represent structural elements, although they did not form any coherent pattern. A cluster of five postholes G407, G408, G409 (two adjacent) (L244) to the east may also represent associated structural elements. One of the areas of quarry pits L232 within SL59 was located *c*. 10 to the north-east.

Drying oven G400 and possible oven G403 (L196)

Two heavily truncated, possible drying ovens were located in enclosure L196 (Plate 6.5).

Two linear areas of crushed chalk and dark soil G400, less than 0.1m deep, may represent the site of a rectangular-type drying oven (Morris 1979, 168, fig. 11). The stokehole was probably located at the south-west corner with the main flue extending northwards and returning

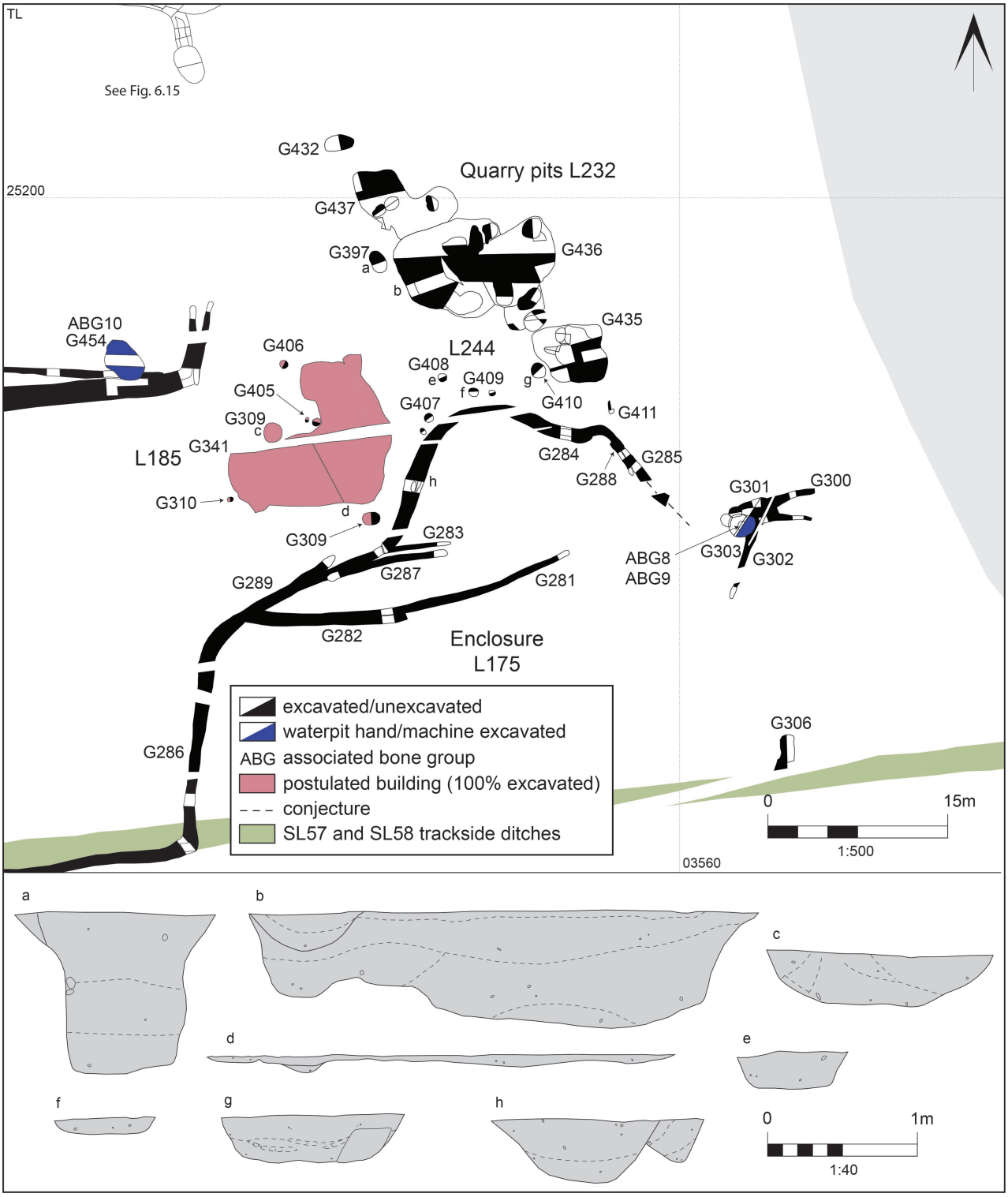


Figure 6.14: Detailed plan of the enclosures adjacent to the north side of the trackway in Roman (Phase 6) farmstead SL59, with selected sections

on the east side of the structure (Fig. 6.15 sections c and d). The oven would probably have been *c*. 3.2 × 3m in extent (Plate 6.6).

Immediately to the south, a *c*. 2m-long, *c*. 0.3m-deep, bulbous linear area of scorching and crushed chalk may represent a second oven G403 (Fig. 6.15 section f, Plate 6.7). Its differing alignment suggests that it is a separate, possibly long-hearth or bowl-type oven, rather than a part of oven G400. The heavy scorching and denser charcoal deposit at the east end indicate the location of the stokehole. Three NE–SW-aligned post-holes G402 to the south-west may represent part of an associated structure.

N–S-aligned ditches to the west and east (G398 and G422/424 respectively) indicate that the drying ovens were at least partially enclosed within a sub-enclosure, linked to the main enclosure ditch G423. Water-pit G461 (see below) was located *c*. 11m east of the two ovens.

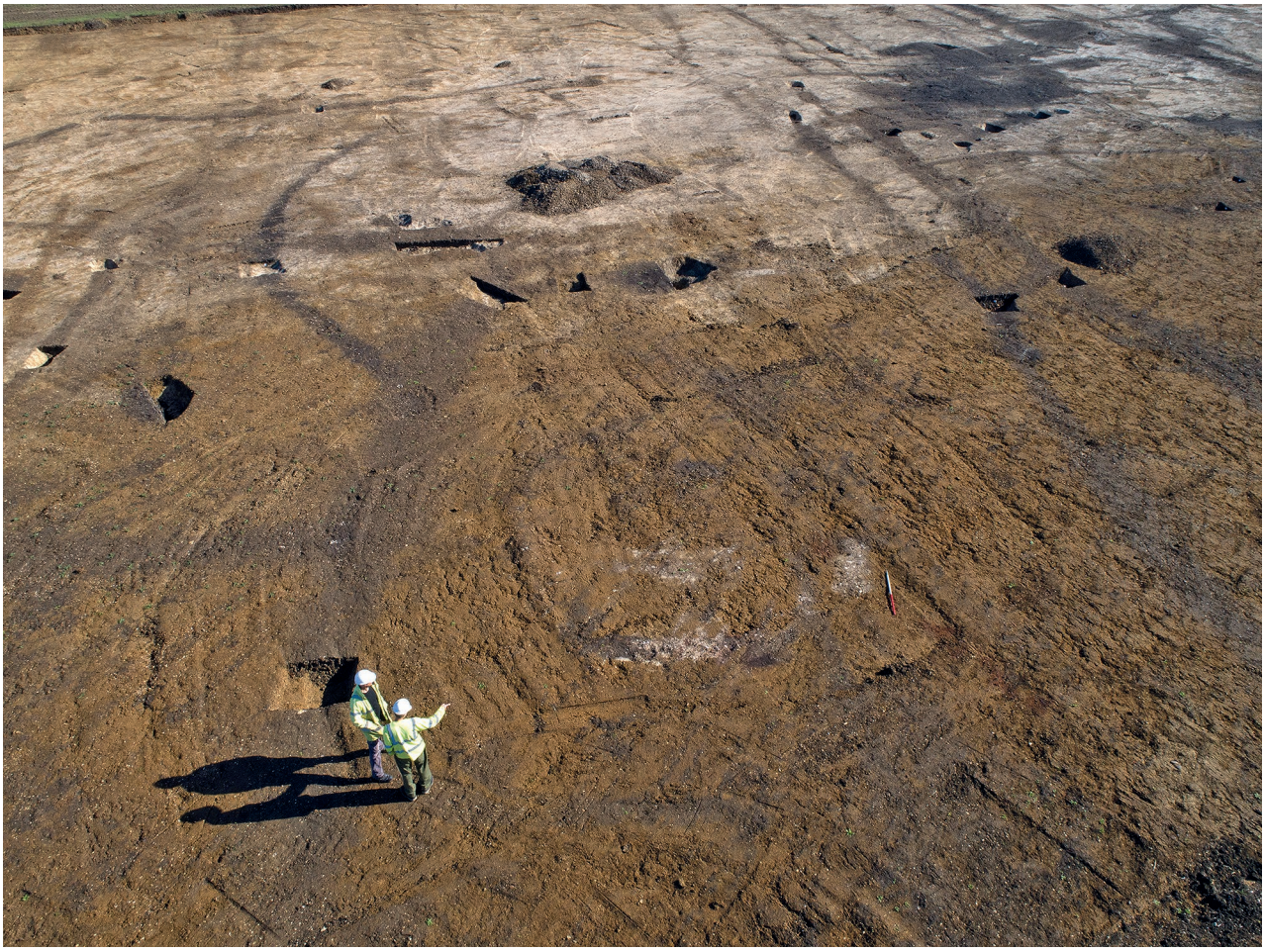


Plate 6.5: Aerial view of drying ovens G400 and G403 within enclosure L196, looking east. Scale 1m

Of the samples from the two ovens, only sample 58 from G403 (Fig. 6.15) contained a modest-sized assemblage consisting mainly of charred grain. However, a rich charred plant assemblage that contained a large amount of chaff with fewer grains was recovered from the adjacent enclosure ditch G423 (sample 121). This represents accidentally burnt debris from the de-husking of hulled wheat, possibly cleared out from the nearby drying ovens (Giorgi, Chapter 9).

Water-pits G303, G454 and G461

The depths (>0.8–2.3m) and steep-sided profiles of pits G303 (L175), G454 and G461 (both L196) suggest that they represent water-pits (Table 1.3, Fig. 6.13 section e, Fig. 6.15 section e), although no waterlogged deposits were present. Water-pits G454 and G461 had been dug into ditched boundaries close to the east-facing entrance of enclosure L196 (Fig. 6.13). Eleven limb bones representing at least two juvenile lambs (ABG10) were found in water-pit G454 (Table 1.4).

On the east side of enclosure L175, water-pit G303 was associated with a number of small, short ditches that may have drained water into it. It contained a substantial assemblage of animal bone (206 fragments, 2.8kg) that included the bones from a juvenile calf (ABG8) and a neonatal foal (ABG9) (Table 1.4, Fig. 6.14).

Enclosures on the northern periphery of the farmstead

Evidence for activity on the northern periphery of the farmstead comprised seven small and dispersed enclosures L44, L52, L53, L207, L209, L217 and L224 (Fig. 6.12). Five were rectangular in plan and, on that basis, it is suggested that they may have contained buildings. Enclosures L224 and L209 were more sub-oval in plan. L224 may have contained a rectangular building and a drying oven was situated in the centre of enclosure L209. There was only one water-pit G522 in this area.

Possible rectangular buildings G142, G143, G144, G145 and G146

Five E–W- or NE–SW-aligned rectangular enclosures (L44, L52, L53, L207 and L217) ranged from 10 × 6m to 25 × 9m in extent (Table 1.2, Plate 6.8). They were defined by ditches that were 0.2–1m wide and 0.1–0.6m deep, with U- or V-shaped profiles (Fig. 6.13 section a; Fig. 6.16 sections a, b, d and e). It is tentatively suggested that they represent the location of rectangular buildings (G142, G143, G144, G145 and G146), although they contained no features that could be wall lines. Isolated postholes were found within enclosures L44 (Fig. 6.13) and L53 (Fig. 6.16), as were postholes possibly associated with an entrance in the causeway across the ditch of enclosure L52 (Fig. 6.16). Enclosures L44, L52 and L53 appeared to have one unenclosed side, perhaps indicating which side the entrance was on. Gaps in ditches suggest entrances on the south side of some enclosures, e.g. L52, L207 and L217.

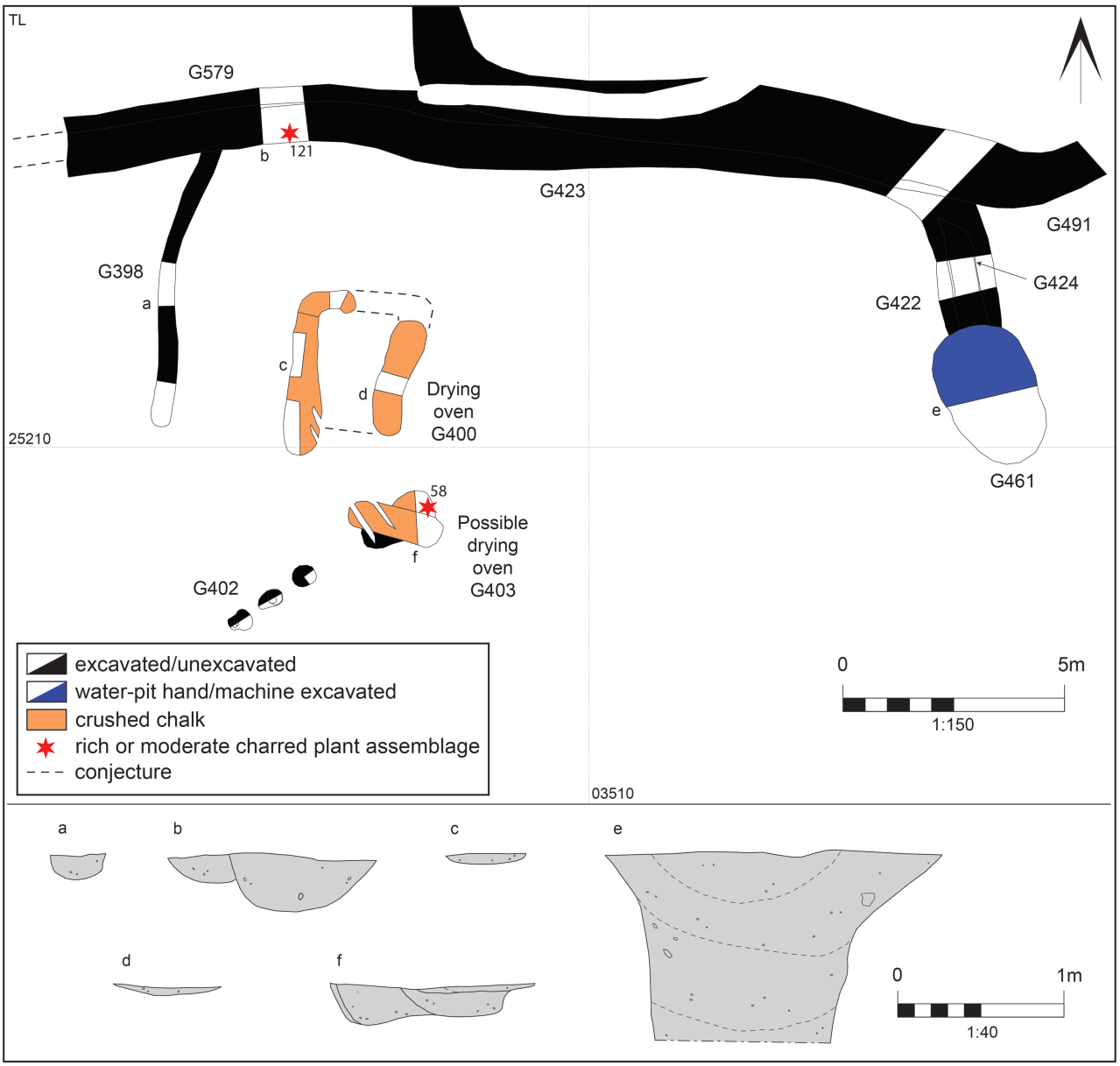


Figure 6.15: Detailed plan of drying ovens G400 and G403 and their environs, with selected sections

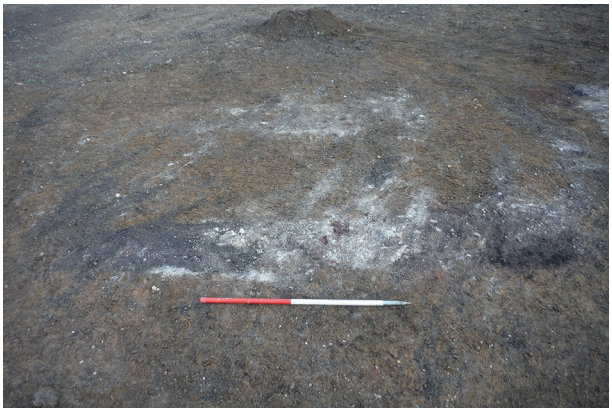


Plate 6.6: Rectangular drying oven G400 (L196, SL59), looking east. Scale 1m

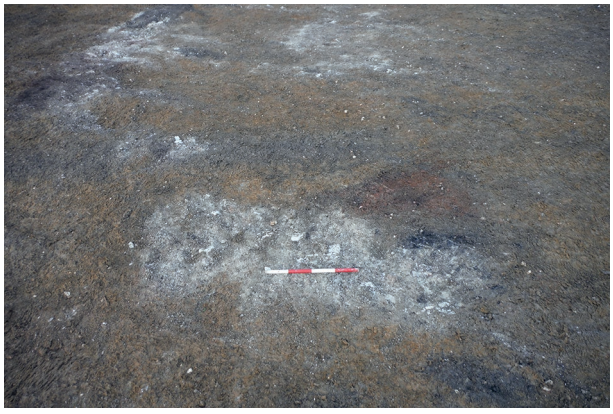


Plate 6.7: Possible drying oven G403 (L196, SL59), looking north. Scale 0.4m

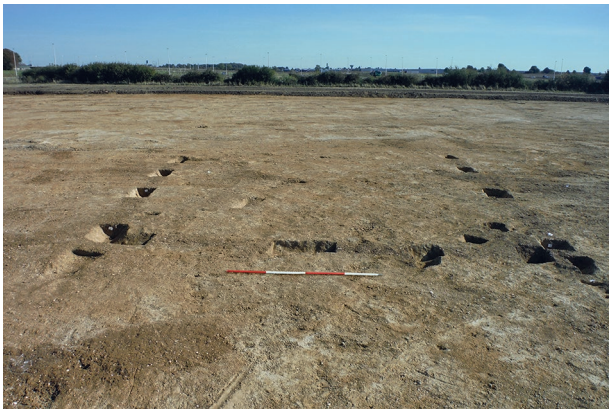


Plate 6.8: Possible rectangular building G143 (L53, SL59), looking north-east. Scale 2m

Sub-oval enclosure L224

This enclosure stood out from the others in SL59 because of its sub-oval shape and NNE–SSW alignment. It was parallel to ditch G87 which defined field L49 (Fig. 6.12). The enclosure was delimited by outer ditches G75 and G76, which defined a *c*. 20 × 11m area. An inner, partial circuit of ditches G73 and G74 defined an area *c*. 15 × 6m area that may represent the location of a building G137. The ditches, which were 0.2–0.8m wide and less than 0.2m deep, with concave profiles (Fig. 6.17 sections a–e), were more characteristic of drains around a building than actual foundation trenches.

Gaps of *c*. 4m and *c*. 5m in the ditch circuits suggest entrances on the east side and north-west corner, respectively. Other apparent gaps are the result of truncation. Two postholes G78 (Fig. 6.17 section f) near the east entrance may be associated with an entrance structure, as may a small pit G104 and three postholes G82 near the postulated north-west entrance. Two *c*. 0.1m-deep, oval depressions G77 and G81 at the north end of the enclosure may be the result of trample adjacent to the entrance. The location and alignment of short ditch-length G97 may suggest that it served to drain the space outside the south-east corner of the possible building.

Drying oven G519 (L209)

Drying oven G519's central location within enclosure L209 suggests the latter may have been purpose-dug to contain it. The enclosure was *c*. 13m in diameter and defined on the north and south sides by curved ditches (Fig. 6.18) that were 0.6–1.2m wide and less than 0.4m deep (Fig. 6.18 sections b, i and j).

The heavily truncated drying oven was probably of the 'reversed tuning fork' type (Fig. 6.18 sections d, e and g; Plate 6.9). The N–S-aligned flue turned on itself in both directions at the north end to form an 'E' shape. The stokehole at the south end of the main flue had scorched sides. The only evidence for lining was areas of crushed chalk on either side of the main flue. No charred plant remains were present within the samples.

A narrow, concave gully G518 connecting the north side of the oven to enclosure ditch G520 may represent a drain (Fig. 6.18 section c). Like drying oven G400 (L196), this oven was close to a water-pit G522 (see below). Four other pits G242 (2), G513 and G517 to the east of the oven may have been dug to quarry clay; they were less than 0.3m deep (Fig. 6.18 section f and h).

Water-pit G522 (L209)

This water-pit was oval in plan, *c*. 2.8 × 2.3m, with a cone-shaped central shaft, *c*. 0.8 in diameter and over

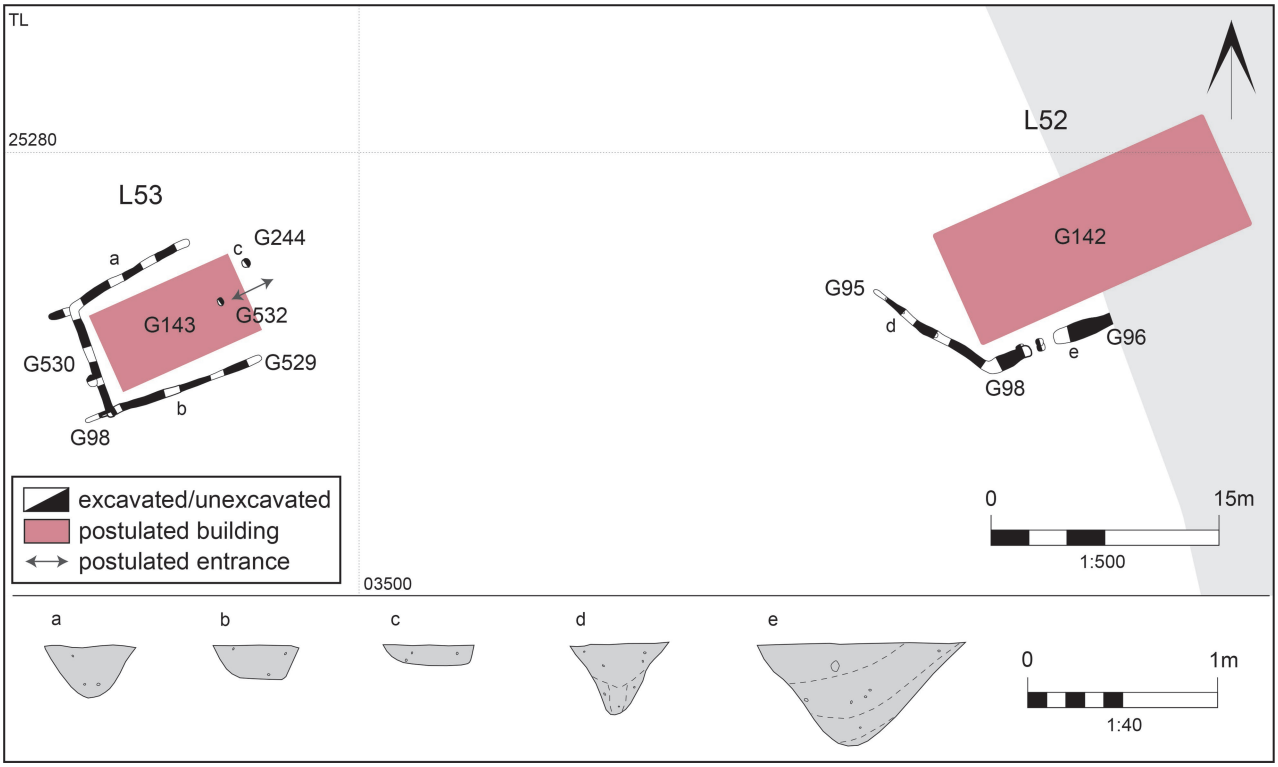


Figure 6.16: Detailed plan of enclosures L52 and L53 containing possible buildings in Roman (Phase 6) farmstead SL59, with selected sections

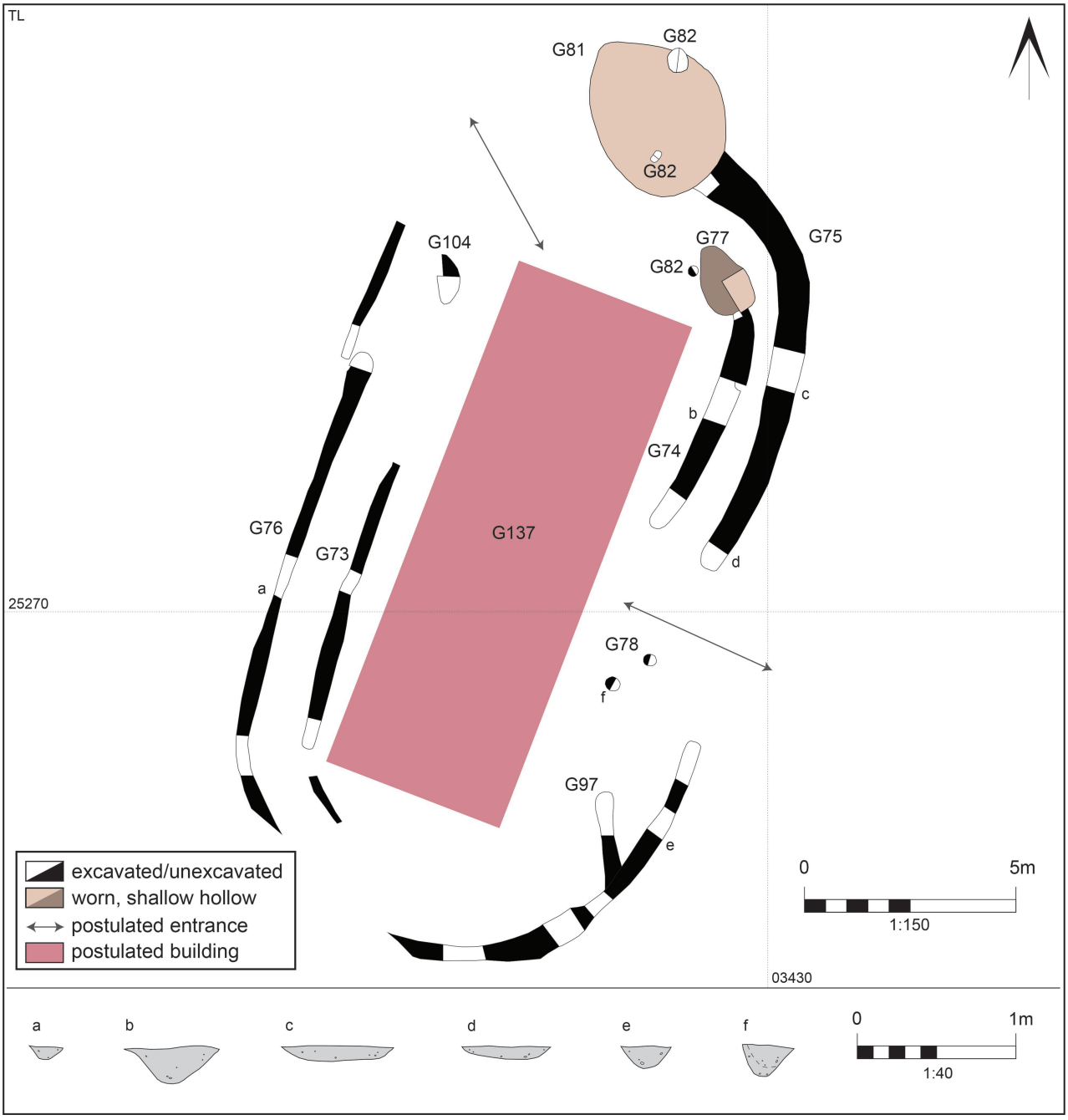


Figure 6.17: Detailed plan of oval enclosure L224 in Roman (Phase 6) farmstead SL59, with selected sections

1.1m deep (Fig. 6.18 section a, Plate 6.10, Table 1.3). No waterlogged deposits were present, but the feature's depth suggests that it was dug to hold water.

Fields L49 and L51

Two fields were established to the north of the main farmstead area (Fig. 6.12). At >30 × 90m and >160 × 130m they were noticeably larger than the enclosures to the south and they produced very few finds. Their defining ditches G87 and G89 were 0.6–1.6m wide and 0.2–0.6m deep with concave profiles (Fig. 6.12 sections a and b). Both fields extended beyond the limit of excavation; the continuation of ditch G89 was identified as a geophysical anomaly to the north-east.

6.5 THIRD AND FINAL MODIFICATION SL60 TO THE FARMSTEAD'S LAYOUT (EARLY 4TH CENTURY TO LATE 4TH CENTURY)

The third and final modification SL60 to the farmstead's layout extended over 1.2ha and was located solely to the north of the former trackway. It contained three possible buildings and two water-pits. Eight enclosures were created through a combination of new ditched boundaries and the modification of existing ones: L197, L198, L208, L220, L222, L223, L226 and L227 (Fig. 6.19). Enclosures L226 and L227 were located adjacent to the former trackway. It is speculated that a routeway may have existed in the blank zone between enclosures L226/L227 and L197/L222. The northern extent of the farmstead was defined by a new ditched boundary L221. The main ditch of the pre-existing fields to the north was

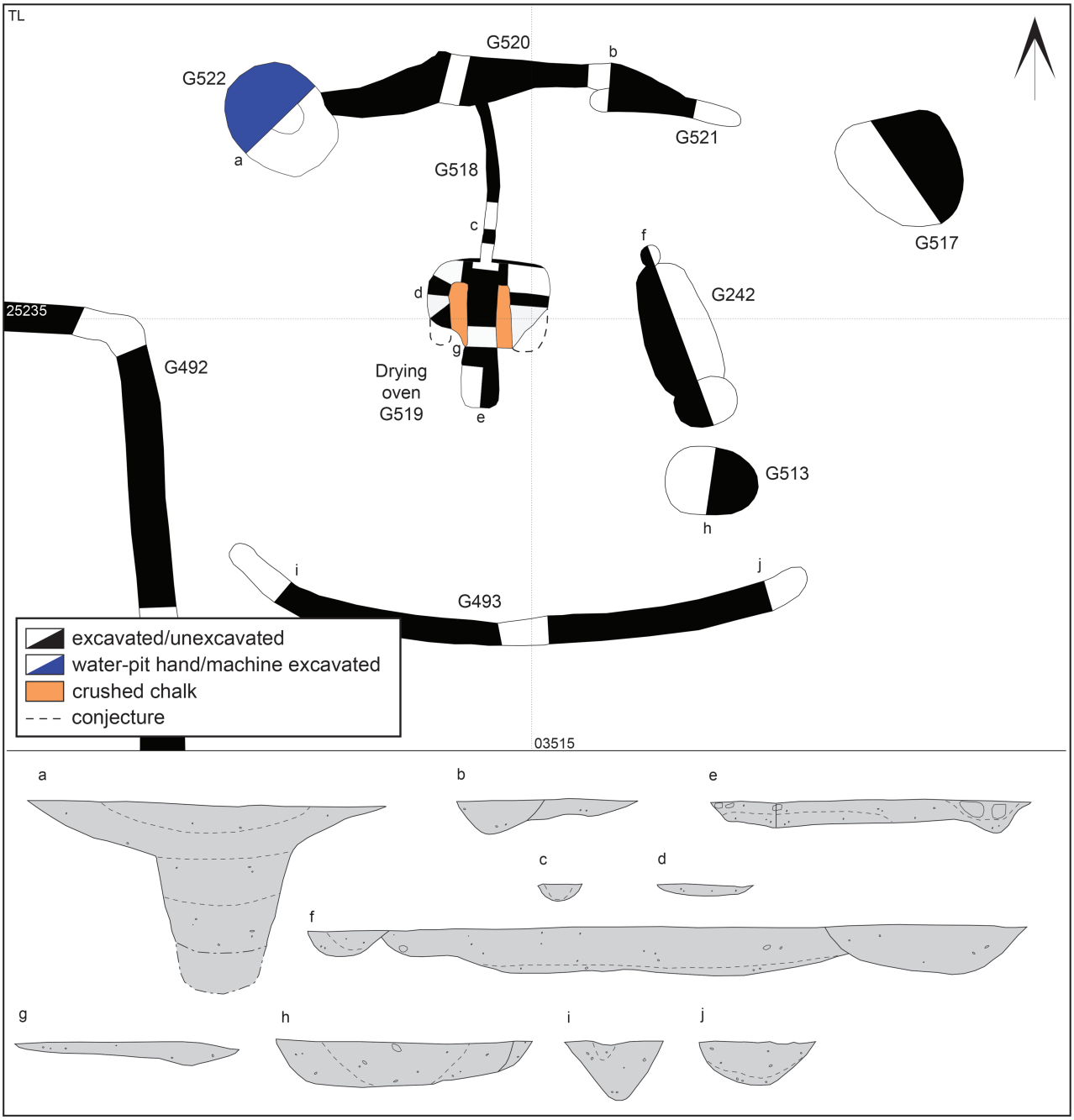


Figure 6.18: Detailed plan of drying oven G519 and its environs, with selected sections

re-dug (L50) (Fig. 6.19 section a), suggesting that they remained in use.

SL60 produced less pottery (620 sherds, 9kg) compared to the previous iterations of the farmstead (Table 6.1), but it included later 3rd–4th-century oxidised and Nene Valley colour-coated wares (Wells, Chapter 8). Some 35 4th-century coins were present, not all stratified within features assigned to SL60, including Valentinianic coins of the AD 360s and 370s and a very worn Theodosian coin struck AD 388–402 (Guest, Chapter 8), suggesting that activity continued to the end of the 4th century and probably into the early 5th century. Unusual other artefacts include items with possible military association, e.g. belt buckle RA44 (Plate 8.18) and phallic strap mount RA335 (Plate 8.19), but of particular interest is a votive carving crudely fashioned from local Totternhoe Clunch (RA296, Plates 8.20 and 8.21) (Henig, Chapter 8).

Enclosures adjacent to the former trackway

Three new rectangular enclosures L223, L226 and L227 were established adjacent to the former trackway L180 (Fig. 6.19). To the west, adjacent enclosures L226 and L227 had been created within enclosures of the earlier farmstead SL59 (Fig. 6.20). Enclosure L223 was in a more isolated location to the east and on a slightly different alignment to the rest of the farmstead (Fig. 6.21). Their constituent ditches were 0.6–1.8m wide and 0.3–0.7m deep (Fig. 6.20 sections a, c, d and e). The ditches of L226 were larger than those of the adjacent enclosure L227, although the latter had been re-dug at least once on the same alignment. There were no entrance gaps in the south side of the enclosures, again suggesting that the trackway was no longer in use. The north-east corner of enclosure L227 appeared to feature an entrance (Fig. 6.20), as did the north-west corner of L223 (Fig. 6.21).



Plate 6.9: 'Reversed tuning fork'-type drying oven G519 (L209, SL59), looking north. Scale 1m



Plate 6.10: Water-pit G522 (L209, SL59), looking north-west. Scale 1m

The southern part of enclosure L227 and enclosure L223 may have contained rectangular buildings (see below). Three pits G305, G565 and G566 associated with L223 are described below. Other evidence for internal activity included two individual pits G291 (L226) and G323 (L227), and three clusters of quarry pits G322 (L227), G324 and G325 (both L226). The quarry pits appeared to intercut, probably indicating different episodes of extraction. They were characterised by irregular profiles and depths (0.3–0.7m) (Fig. 6.20 section b). Pit G291 was located within an enclosure ditch – it may represent quarrying out of the sides of the ditch next to possible building G148. Little can be said about pits G546 and G554, to the north of enclosure L226, other than that they are situated on the north side of the possible routeway. G554 was the largest; it extended beyond the limit of excavation and so may have been a ditch.

Possible rectangular buildings G147 (L223) and G148 (L227)

Notwithstanding an absence of structural features, the arrangement of ditches defining enclosure L223 suggests the presence of a *c*. 15 × 10m building G147 (Fig. 6.21). The ditches were less than 0.3m wide and 0.2m deep with concave profiles (Fig. 6.21 sections b and d), not characteristic of foundation trenches. A short length of gully G299 at the building's east end may have served as a drain (Fig. 6.21 section e). Three pits were dug into the enclosure ditch. Oval pit G566 in the south-west corner measured 1.8 × 0.8 × 0.25m (Fig. 6.21 section c). It contained the articulated but fragmentary skeleton of a young cow (ABG15). The shape and size of the pit suggests that it may have been purposefully dug as a grave. The other two pits contained no such remains and may have been dug as quarries, although G565 was quite regular in profile (Fig. 6.21 section a).

The *c*. 12 × 9m sub-enclosure in the southern part of enclosure L227 could also have contained a rectangular building G148 (Fig. 6.20), but again, no structural evidence for a building was present.

Farmstead's northern boundary L221

Boundary ditches G506 (recut on the same alignment as G507) and G511 defined the northern extent of the farmstead's enclosures. This boundary was up to 1.6m wide and 0.6m deep (Fig. 6.22 section a), but it progressively narrowed and shallowed to the east where it was only 0.7m wide and 0.2m deep (Fig. 6.22 section b). A 3m-wide break in the ditch, adjacent to quarry pits G523 (L225), would have given access to fields L50.

Part of a stone sculpture RA296 (Henig, Chapter 8, Plates 8.20 and 8.21) was recovered from ditch G507 close to the western limit of excavation (Fig. 6.19).

Enclosures L197, L198, L208, L220 and L222

Five enclosures lay *c*. 15m north of enclosures L226 and L227 (Fig. 6.22). Their extent was defined to the north by farmstead boundary L221 and to the south by the ditches of the former farmstead SL59. The enclosures were generally rectangular in plan and were defined on most sides by ditches, some of which were recuts of SL59 ditches. The new ditches were 0.7–2.2m wide and 0.2–1m deep, with the larger examples to the west (Fig. 6.22 section c). Gaps in the ditches, typically 3–5m wide, allowed access between the enclosures.

No obvious buildings were identified within the enclosures. A cluster of postholes G545 may indicate the presence of a post-built structure and enclosure L197 may have contained a rectangular building (both described below). Other evidence for internal activity included two water-pits G431 and G433 (see below), clusters of quarry pits G523 and G524 (L225), and five small pits G512, G514, G546 (2) and G550. The latter were generally situated close to the enclosure boundaries. Three pits, G514 and G546 (2), had steep-sided, U-shaped profiles but were less than 0.6m deep. Pit clusters G523 and G524 (both assigned to L225) to the east of the enclosures represent areas of quarrying, given their

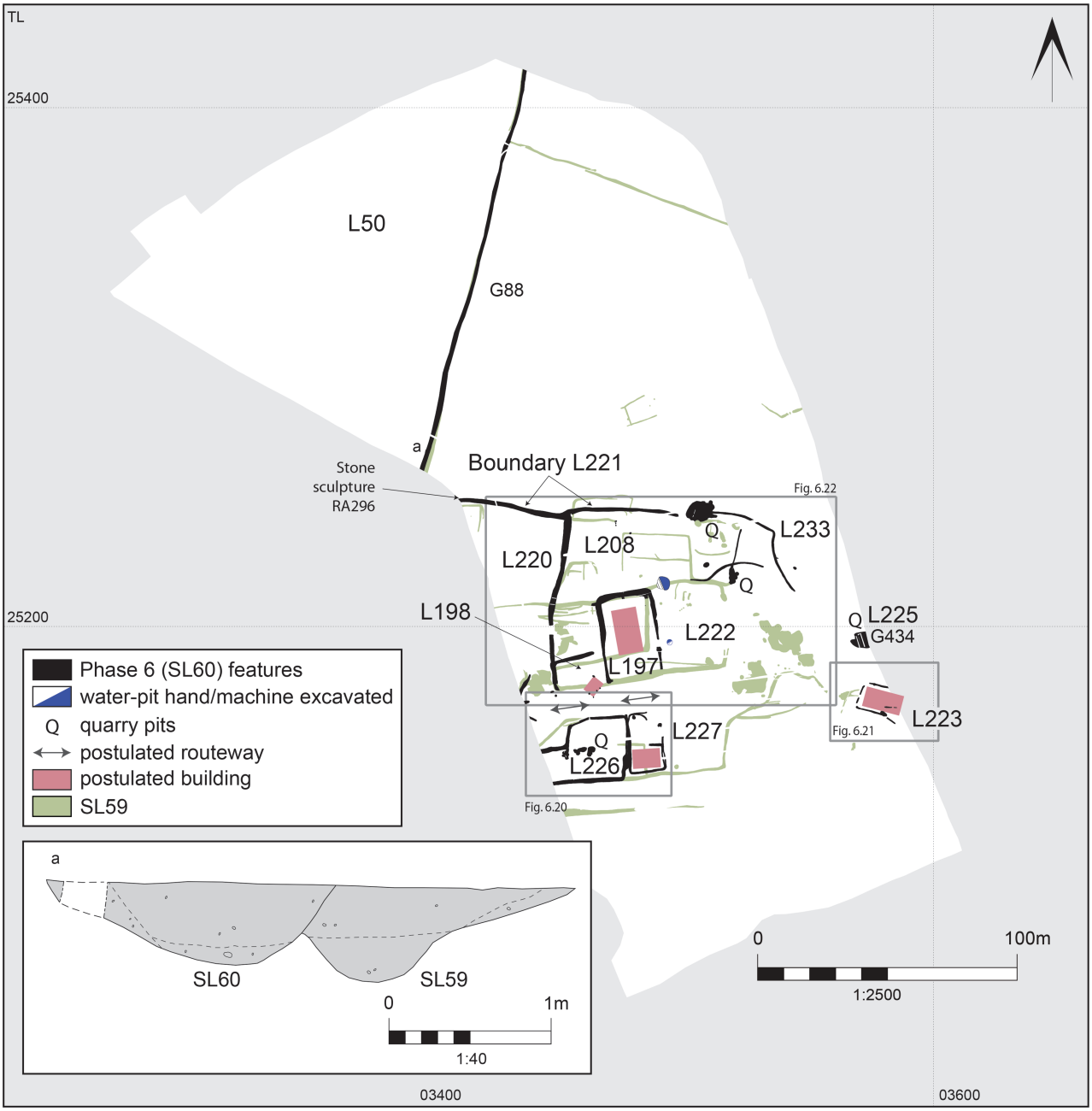


Figure 6.19: Overall plan of the third and final modification SL60 to the layout of the Roman (Phase 6) farmstead, with selected section

intercutting nature, irregular profiles and variable depths (0.2–1.6m).

Possible buildings G149 (L197) and G549 (L198)
The shape and size of enclosure L197 suggests that it may have contained a rectangular building G149. The ditches were up to 2.2m wide and 1.0m deep, with concave profiles (Fig. 6.22 section f), characteristic of drains rather than foundation trenches. The enclosure measured *c*. 30 × 15m, so it is speculated that any building within it may have been half this size. A *c*. 2.5m-wide gap in the ditches on the enclosure's east side is suggestive of an entrance, perhaps leading to adjacent water-pit G431. Pit G380 had been dug into the eastern enclosure ditch G428 near the entrance; it may represent a quarry. A cattle skull with attached horn cores and an associated maxilla (ABG12) were recovered from pit/ditch G429 in the north-west corner of the enclosure.

A possibly rectangular arrangement of five postholes on the south side of enclosure L198 may represent a small building G545 *c*. 6 × 5m in extent (Fig. 6.22). However, it straddles a SL59 enclosure ditch which may still have been in use and is aligned NE–SW not respecting the enclosure ditches.

Water-pits G431 (L222) and G433 (L208)
Water-pits G431 and G433 were situated next to entrances in two adjacent enclosures. No waterlogged deposits were present, but their depths (both over 2m) suggest they held water. G431 had a diameter of 2.1m and was *c*. 3m deep with a conical profile (Fig. 6.22 section e). G433 had a diameter of 5.7m at the top and a smaller central shaft that was not bottomed (Fig. 6.22 section d) (Plate 6.11).

Water-pit G431 produced a pair of complete horn cores of a male goat (ABG13) and bones from a miniature-type

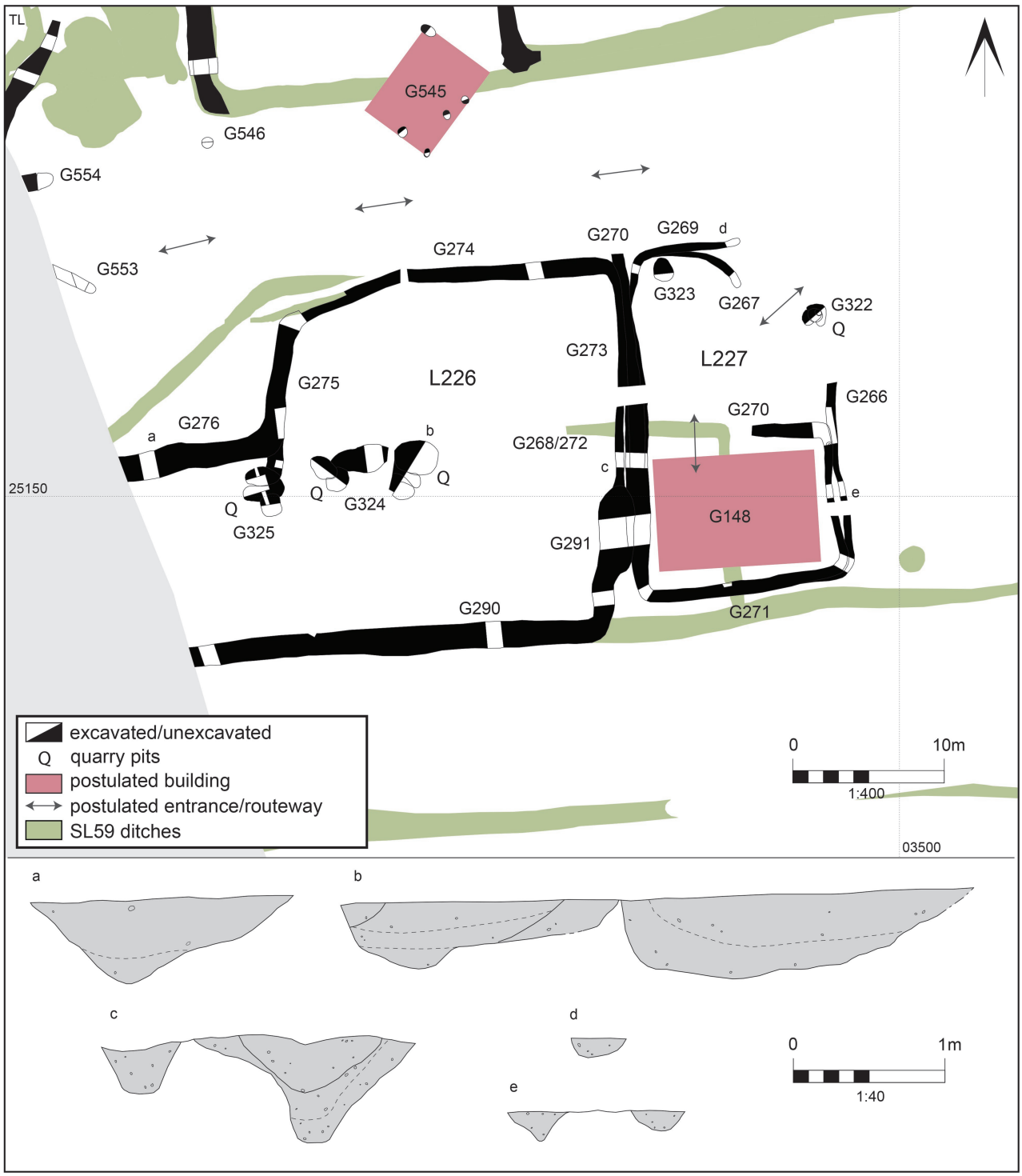


Figure 6.20: Detailed plan of enclosures L226 and L227 in Roman (Phase 6) farmstead SL60, with selected sections

dog (ABG14) (Maltby, Chapter 9). A worn *sestertius* of the deified Faustina II (RA222) was recovered from water-pit G433. Its reverse shows Vesta, goddess of hearth, home and family in Roman religion, standing holding a torch and the palladium; it may have been deliberately deposited in the water-pit (Guest, Chapter 8).

Unenclosed activity area L233

An apparently unenclosed area to the east of enclosures L208 and L222 contained a pit G512 (1.4 × 1.0 × 0.3m) and a small posthole G538.

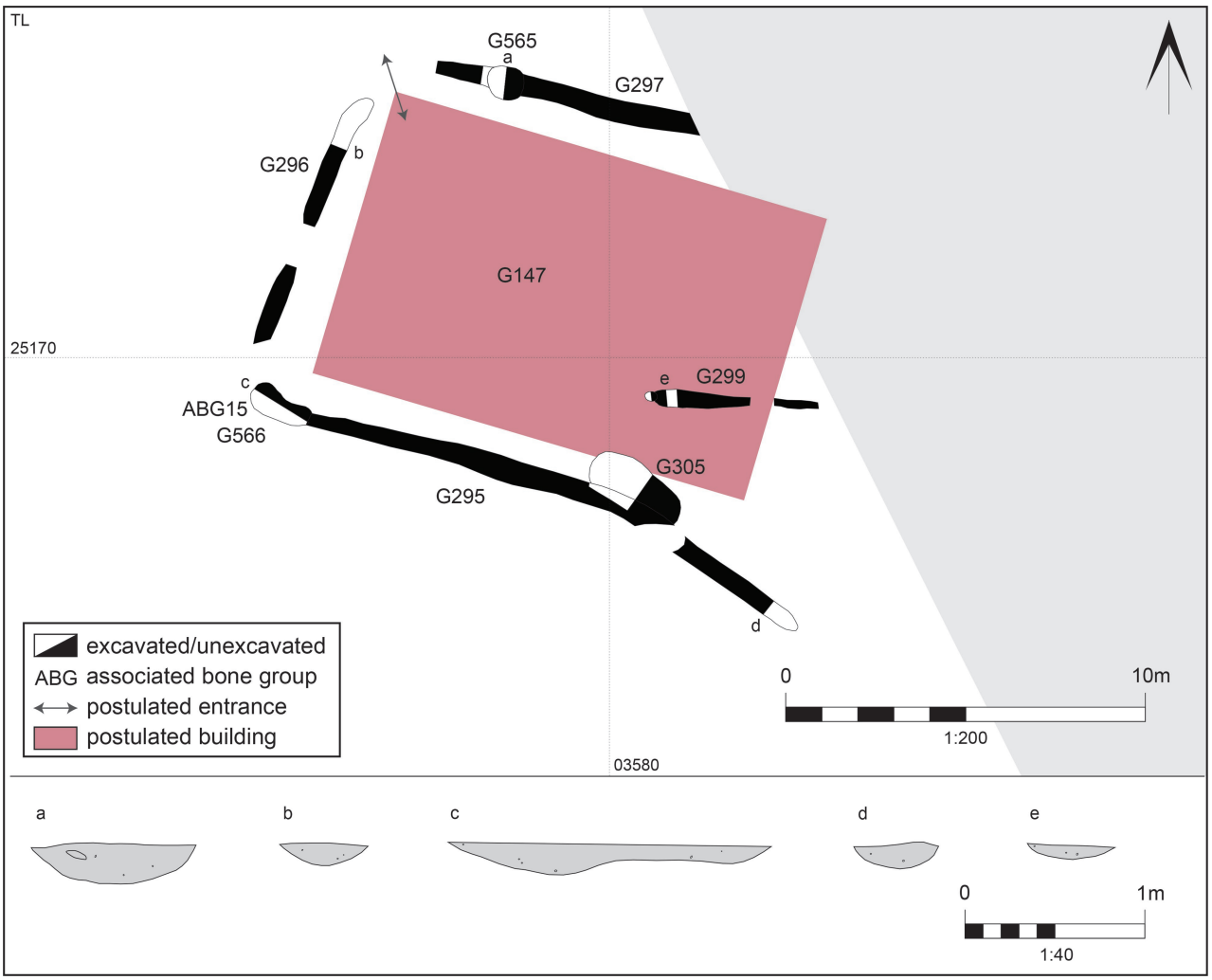


Figure 6.21: Detailed plan of enclosure L223 in Roman (Phase 6) farmstead SL60, with selected sections



Plate 6.11: Water-pit G431 (L222, SL60), looking north. Scale 1m

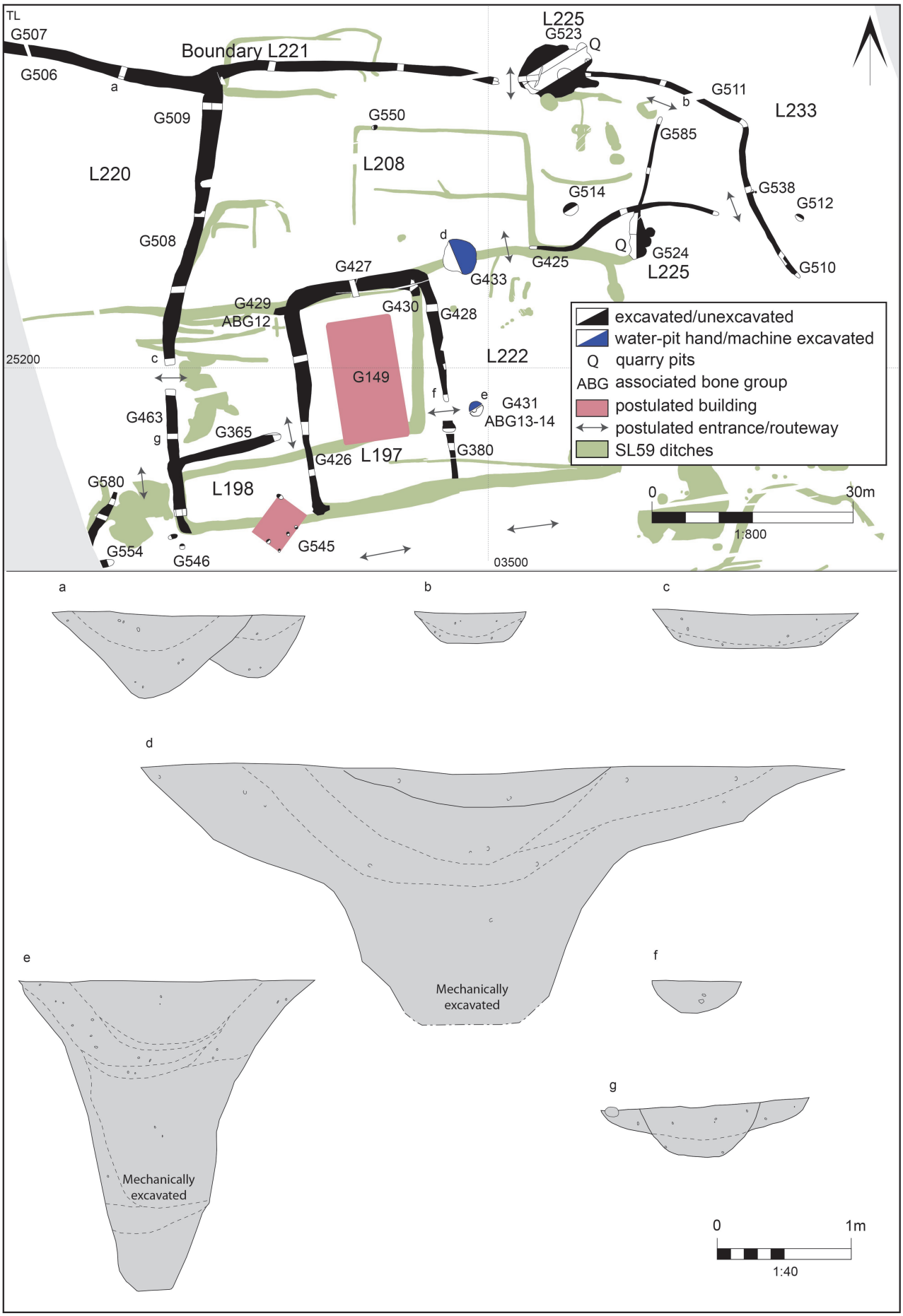


Figure 6.22: Detailed plan of enclosures L197, L198, L208, L220 and L222 in Roman (Phase 6) farmstead SL60, with selected sections

Chapter 7

Medieval and post-medieval (Phases 7 and 8)

Two arrays of furrows, indicative of medieval open-field agriculture, were identified within the excavation area (Fig. 7.1). The majority of the furrows L251 were broadly east–west aligned; they followed a similar alignment to the Phase 6 Roman ditches without corresponding exactly.

A small number of ditches indicate the layout of post-medieval fields. Ditch L262 was almost perpendicular to the furrows and may have followed a former medieval headland.

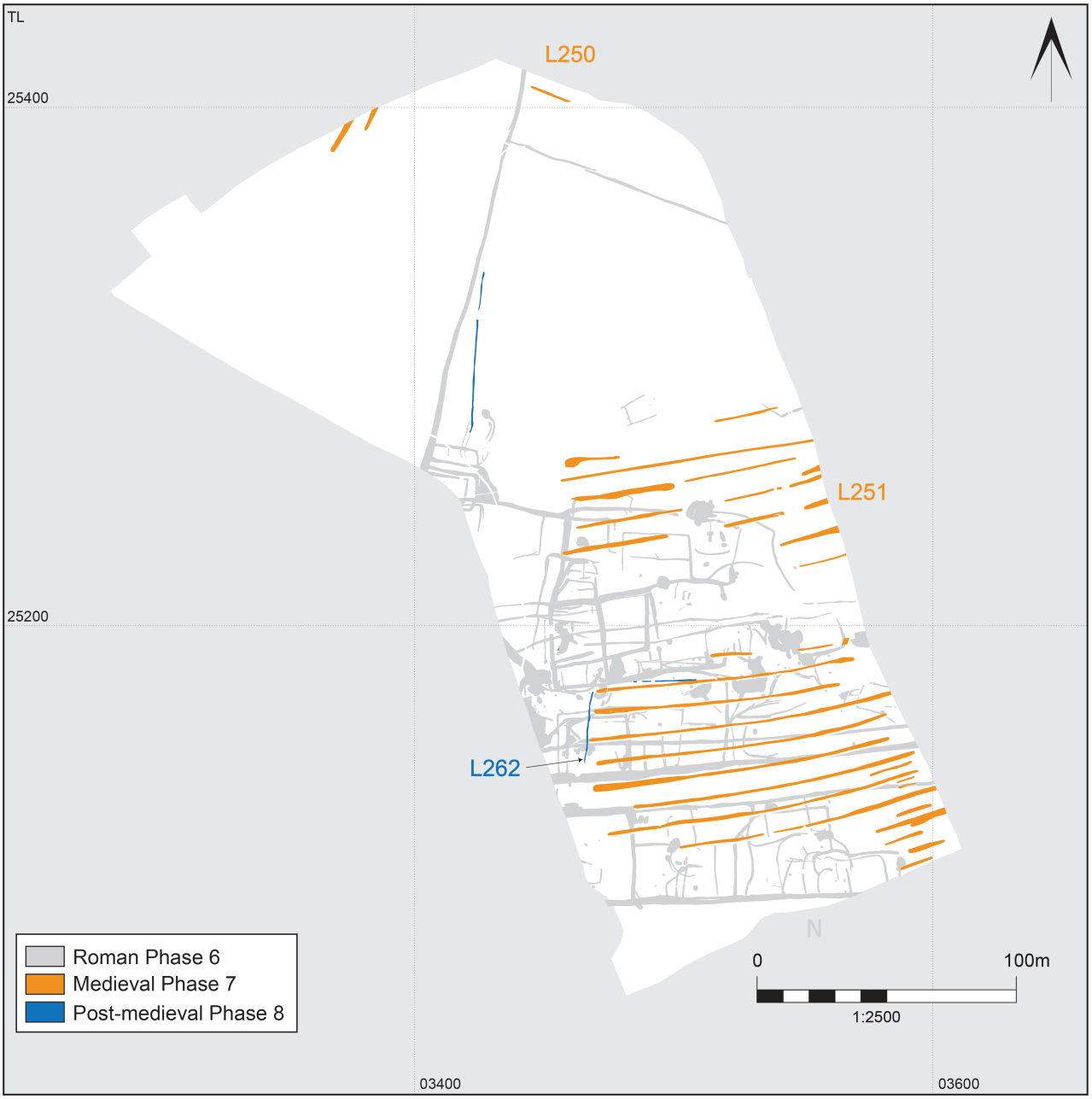


Figure 7.1: Overall plan of medieval (Phase 7) furrows and post-medieval (Phase 8) ditches

Chapter 8

Artefacts

8.1 INTRODUCTION

The excavation yielded an artefact assemblage comprising pottery, ceramic building material and other artefacts. The material is discussed below; where appropriate, methodologies are outlined in each section. More detailed information is provided in the appendices: pottery type series (Appendix I) and coin catalogue (Appendix II).

8.2 POTTERY

by Jackie Wells

The assemblage totals 6410 sherds (108.9kg), the majority associated with the establishment and modification of Roman (Phase 6) farmstead SL57–60 (Table 8.1). Pottery spans the middle–late Bronze Age, Iron Age and Roman periods. Single sherds of Anglo-Saxon and post-medieval date also occur.

The assemblage is discussed chronologically by fabric, form and deposition across the excavation area. As wares and forms are common and well-represented from published excavations across the county, none has been selected for illustration. Fabric types are detailed in Appendix I.

Phase 2: Late Neolithic/early Bronze Age
Ten predominantly flint- tempered body sherds (81g) were collected from ring-ditch L2. The pottery is abraded, well-fragmented, and derives from several vessels. An absence of forms or diagnostic elements precludes identification beyond a broad prehistoric date.

Phase	Sherd No.	% Sherd	Wt. (g)	% Wt.
2	10	0.2	81	0.2
3	329	5.1	5025	4.4
4	8	0.1	50	0.2
5	936	14.5	15,430	14.0
6	5123	79.9	88,325	81.0
7	1	0.1	7	0.1
8	3	0.1	20	0.1
Total	**6410**	**100**	**108,938**	**100**

Table 8.1: Pottery quantification by Phase

Phase 3: Middle-late Bronze Age
Phase 3 features yielded 329 sherds (5kg: mean sherd weight (MSW) 16g). Pottery from cremation cemetery L12 (SL53) comprises 73 sherds (1.3kg) from a minimum of three flint-tempered vessels from three separate graves, including from SG149 12 sherds (297g) from a middle Bronze Age Deverel-Rimbury Bucket Urn with cordons and a finger-impressed rim. Vessels of this period are generally poorly represented within the county: three fragmentary examples were recovered from non-funerary deposits on the Biddenham Loop (Wells 2016a, 2).

The Phase 3 assemblage derived from non-ditch features assigned to field system SL52, with the majority associated with post-built structure G109 and isolated pit G5 (both L16). Pottery collected from L16 features (256 sherds, 3.6kg) occurs in a range of coarse and fine flint- and sand-tempered fabrics, typical of transitional late Bronze Age/earliest Iron Age Post-Deverel-Rimbury 'plainware' assemblages in south-east England (*c*. 850–600 BC). Dating is largely based on fabric characteristics as the majority of the assemblage comprises small and abraded body sherds recovered from the sieved residues of environmental samples; it is possible they could be contemporary with the earlier funerary pottery.

Phase 4: Early Iron Age
Eight abraded early Roman coarse ware sherds (50g) occurred as intrusive finds in settlement SL54 roundhouses G158 and G543. They are likely to derive from overlying features assigned to Phase 6.

Phase 5: Late Iron Age/early Roman
The Phase 5 assemblage totals 936 sherds (15.4kg: MSW 16g) deriving principally from enclosed farmstead SL55, in particular domestic focus L28 (Table 8.2). Pit G46 yielded the largest deposit (7.7kg), likely to represent the deliberate disposal of adjacent occupation debris, including 23 sherds (670g) and 16 sherds (568g) from two jars. All other vessels weigh less than 400g, and are randomly deposited within the farmstead.

Funerary pottery associated with SL56 truncated cremation burial SG141 (L13) comprises 48 base and lower body sherds (198g) from an undiagnostic grog-tempered vessel, representing the burial urn.

Site Landscape	Land-use Area (Groups)	Sherd	Wt. (g)
SL55 Enclosed farmstead	L21 Enclosure (G25–G28, G30, G48, G100, G101, G561)	122	2090
	L22 Enclosure (G106)	1	10
	L23 Enclosure (G52)	1	79
	L24 Enclosure (G57)	1	14
	L28 Domestic focus (G20, G22, G23, G31, G32, G34, G38, G40, G42–46, G102, G117)	739	12,669
	L31 Enclosure (G60)	11	225
	L32 Enclosure (G62)	4	47
SL56 Unenclosed activity	L13 Urned cremation burial (G58)	48	198
	L30 Enclosure (G345, G347, G440)	9	98
Total		**936**	**15,430**

Table 8.2: Phase 5 pottery quantification

Ninety-four percent of the assemblage (by sherd count and weight) comprises later Iron Age pottery, with fully Romanised wares totalling the remainder.

Late Iron Age vessels (891 sherds, 14.6kg) characteristic of the early 1st century AD are mainly grog-tempered, with shelly, sand or mixed grog/sand/shelly wares constituting the remainder (Appendix I). All are likely to be of local origin; a number of kilns producing shelly wares during the early/mid-1st century AD are known in north Bedfordshire, e.g. Harrold, Stagsden and Biddenham Loop (Brown 1994; Dawson 2000, 37–9; Luke 2008, 201–5; Luke 2016, 255–6) although provenance for other fabrics remains uncertain.

Vessels are predominantly wheel-thrown; a number are hand-built with wheel-finished shoulder and rim, and some are entirely hand-built. The latter mainly occur in coarse grog and shelly fabrics (respectively F06C and F07), and generally represent the largest and/or most utilitarian forms in the assemblage (storage-type vessels and some cooking pots). There are no unusual or exotic forms to indicate status for the early settlement. Diagnostic forms in the 'Belgic' tradition (cf. Thompson 1982) are principally narrow-necked or wide-mouthed jars, many displaying single or multiple cordons, with everted or lid-seated rims (respectively forms B1-1 and C5-1; C5-2). Decorative elements are linear and random combing, rouletting, and burnishing. Simple bowls (D3-1) and a small number of platters (G1-1), butt-beakers, and a pedestal urn (A1) also occur. Single body and base sherds have been modified to form rudimentary lids.

Roman pottery (45 sherds, 738g) entirely comprises local sand-tempered and shelly coarse wares, broadly of 1st- and early 2nd-century date. Forms are everted rimmed jars, one with a neck cordon; straight-sided dishes and plain-rimmed bowls.

Phase 6: Roman

Phase 6 settlement features yielded 5123 sherds (88.3kg). Ditches and gullies represent the main focus of deposition throughout the farmstead's life, containing 47% of the assemblage by sherd count (52% by weight). Pits yielded 25% (21%), water-pits 18% (19%), structural deposits 6% (7%) and layers the remainder. Proportions of pottery by feature type and SL are shown in Table 8.3. The largest assemblages were associated with the first modification SL58 of the farmstead's layout (Table 8.4). The composition and condition of the assemblages from each SL are comparable, with all containing pottery of both later Iron Age and Roman date (Table 8.5). Functional attributes, mainly represented by sooting on cooking pots, indicate the pursuit of similar activities across each episode of farmstead use. The distribution of wares and forms across each SL is also broadly uniform and does not allow the identification of, for example, specific functional zones.

There is little variation between deposits representing final use/initial disuse and disuse/infilling, although the latter generally contain larger quantities of pottery. The material indicates a fairly rapid sequence of development across the farmstead, with the repeated modifications and redefinitions resulting in redeposition of assemblages from the earlier features.

Late Iron Age

Late Iron Age wares (888 sherds weighing 15.2kg: MSW 17g) total 17% of the Phase 6 assemblage by sherd count

Feature type	**SL57**		**SL58**		**SL59**		**SL60**	
	% Sh.	% Wt.	% Sh.	% Wt.	% Sh.	% Wt.	% Sh.	% Wt.
Ditch/gully	40.2	43.5	63.4	69.5	52.4	48.1	61.1	60.5
Pit (general)	45.1	41.1	5.7	4.2	7.3	8.9	14.3	12.6
Quarry pit	11.7	13.1	1.9	1.4	17.7	21.1	12.3	13.6
Water-pit	3.0	2.3	26.3	22.6	22.5	21.8	12.3	13.3
Drying oven	–	–	–	–	0.1	0.1	–	–
Surface	–	–	2.7	2.3	–	–	–	–
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**

Table 8.3: Phase 6 pottery quantification by feature type and Site Landscape

Site Landscape	**Sherd No.**	**% Sherd**	**Wt. (g)**	**% Wt.**	**MSW (g)**
SL57 Establishment of farmstead	1077	21.0	14,022	15.9	13.0
SL58 First modification of farmstead	2077	40.6	45,018	51.0	21.7
SL59 Second modification of farmstead	1349	26.4	20,294	23.0	15.0
SL60 Final modification of farmstead	620	12.0	8991	10.1	14.5
Total	**5123**	**100**	**88,325**	**100**	–

Table 8.4: Phase 6 pottery quantification by Site Landscape

Pottery Date	**SL57**		**SL58**		**SL59**		**SL60**	
	% Sherd	% Wt.	% Sherd	% Wt.	% Sherd	% Wt.	% Sherd	%Wt.
Iron Age	30.4	33.9	19.6	17.5	6.1	8.0	11.5	10.9
Roman	69.6	66.1	80.4	82.5	93.9	92.0	88.5	89.1
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**

Table 8.5: Phase 6 occurrence of Iron Age and Roman pottery by Site Landscape

and weight. The pottery is comparable in fabric and form with that of the preceding phase. Jars are dominant, with fewer examples of bowls, platters, lids (bell-shaped L2 and conical L6) and butt-beakers, including a decorated barrel-shaped form (G5-2) (cf. Thompson 1982).

The presence of Iron Age pottery within all SLs demonstrates the persistence of local native traditions alongside fully Romanised wares into at least the 2nd century, as observed at many sites across the county (Dawson 2007, 65). After this, they are considered to be residual, although the overall good condition of the Phase 6 late Iron Age material and continued association with Roman wares makes it problematic to determine the full extent of this residuality at the site.

Roman

Roman pottery totals 4233 sherds, weighing 72.8kg (MSW 17g) and spans the entire Roman period, with the bulk of the material dating from the later 1st to 3rd century. Pottery is low-status and domestic, as indicated by the prevalence of utilitarian wares and a modest quantity of regional and continental imports (Appendix I). The pottery is generally well-curated, with little evidence for vessel reuse or repair, probably reflecting a ready supply of new material, made accessible by the proximity of Watling Street to the site.

The material compares well with that recovered from nearby contemporary sites (Sites H and Q (cf. Mills 2020, 391–424); Woodside Link (Wells 2018; forthcoming a); HRN3205 (Wells 2019a; forthcoming b) and HRN3455, HRN3456 and HRN3457 (Wells 2019b; forthcoming c) and broadly reflects the composition of rural Roman assemblages across the county.

Fabrics

The assemblage is dominated by a standard range of local grey wares and sandy coarse wares and a smaller proportion of shelly wares, which collectively total 86% of the pottery by sherd count (68% by weight: Table 8.6). Reduced wares are known to have been produced at a series of sites to the south-east of Bedford (Simco 1984; Luke and Barker in prep) and also at Woburn (Headland Archaeology in prep), while shelly wares are comparable to vessels manufactured at kilns in Harrold (Brown 1994). A few shelly examples containing limestone inclusions are macroscopically similar to fabrics deriving from early Roman kilns near Willington (Albion Archaeology in prep), although further analysis would be required to confirm this source.

Local wares are supplemented by traded wares of specific form and usage from more distant regional production centres, totalling 12% by sherd count (29% by weight). These include white/pink wares from the Verulamium industries, pink-grogged wares from Bucks./Northants.; Dorset black-burnished ware; Horningsea reduced wares; and Nene Valley grey wares and colour-coated wares. From the mid-Roman period, the range and proportion of imports increases to include wares from Oxfordshire and Hadham, Hertfordshire. Non-local wares of uncertain source are mica-dusted ware and roughcast colour-coated ware.

Gallo-Belgic imports datable to the 1st century AD are three sherds from a Terra Nigra platter. Spanish amphorae (Dressel 20) and samian total 2% of the assemblage by sherd count (3% by weight), their presence indicating links with the wider Roman economy. Samian derives mainly from central Gaul (Lezoux: 91% by sherd count), with negligible quantities from south and east Gaul, and a few sherds of British origin (Appendix I).

Forms

A standard range of utilitarian Roman forms occur, representing a typical domestic assemblage. The diagnostic repertoire is dominated by coarse-ware jars of varying size and function, which total 51% by vessel count, with bowls and dishes respectively totalling 18% and 16%, and other forms occurring in smaller quantities (Table 8.7). This reflects the established trend for rural sites (cf. Timby 2009, 181).

Jars are mainly medium- or narrow-mouthed forms evolving from the 'Belgic' tradition with everted, beaded, triangular or lid-seated rims. Open forms are diverse, the most common bowls being simple mid-2nd- to late 3rd-century straight-walled examples with an expanded rounded or triangular rim. Flanged and reeded-rimmed examples also occur. Dishes, mainly straight-sided, are largely represented by partial bases and/or base angles. Beakers are dominated by poppyhead and folded types, some of the latter with barbotine decoration.

Less common forms are storage-type vessels, platters, lids (including one fashioned from a modified base), strainers, flagons, mortaria, amphora and a single probable Castor Box. Few vessels appear to have been repaired, suggesting ready access to new pottery. The

Fabric group	% Sherd	% Wt.
Local		
Grey wares	45.4	31.4
Sandy coarse wares (oxidised/reduced)	16.8	12.6
Shelly coarse wares	23.8	24.1
Regional		
Black-burnished ware	0.9	0.9
Colour-coated wares	1.0	0.8
Grey wares	0.2	0.1
Oxidised wares	3.1	4.5
Pink-grogged ware	3.9	20.1
White /pink wares	2.5	2.7
Imports		
Samian ware	2.3	1.7
Amphora	0.1	1.1
Total	**100**	**100**

Table 8.6: Roman pottery quantification by fabric group

Form	SL57	SL58	SL59	SL60	Total	% vessel
Amphora	–	2	1	–	3	0.5
Beaker	9	10	12	4	35	5.6
Bowl	12	52	32	17	113	18.1
Castor Box	–	–	–	1	1	0.1
Dish	15	44	26	23	103	16.5
Flagon	1	1	4	3	9	1.4
Jar	59	115	94	52	320	51.2
Lid	2	4	3	1	10	1.6
Mortarium	2	8	2	–	12	1.9
Platter	–	2	3	–	5	0.8
Storage jar	1	7	3	–	11	1.8
Strainer	–	2	1	–	3	0.5
Total					**625**	**100**

Table 8.7: Roman vessel forms by Site Landscape (excluding samian)

widest range of forms occurred in SL58 and SL59, although this is unlikely to be significant and probably only reflects the fact that these SLs yielded the largest assemblages.

The period *c*. AD 120–200 saw the heaviest use of samian, with Lezoux (central Gaul) as the main source of supply. Forms are mainly bowls and dishes which collectively total 72% of the diagnostic samian assemblage (Table 8.8), with a low proportion of decorated ware, typical of a rural assemblage (Wild 2016, 2).

Deposition

Establishment of farmstead SL57

SL57 features yielded 1077 sherds (14kg), representing 21% of the Phase 6 assemblage by sherd count (16% by weight). The largest deposits were associated with activity focus L183 and livestock race L184, which each yielded *c*. 5kg (Table 8.9). The pottery is well-fragmented (MSW 13g), with single sherds ranging in weight from 1g to 256g, the latter a complete shelly coarse-ware jar base. Only five vessels weigh more than 250g, the largest being 12 sherds (613g) from a single 1st-century AD grog-tempered jar. The assemblage suggests initial use of the farmstead from the mid-1st century.

Enclosures south of trackway L163

With the exception of six undiagnostic late Iron Age sherds (968g) collected from L152 (G153) and L153 (G157), the assemblage entirely comprises Roman pottery (174 sherds: 1.7kg), most deriving from L152, principally roundhouse G153. No samian or other continental imports occur. Forms are table wares and storage vessels, with a few regional imports, comprising pink-grogged ware, black-burnished ware and Nene Valley colour-coated vessels.

Trackway L163 and enclosure to the north

Assemblages mainly comprising local shelly and sand-tempered coarse wares were collected from trackway L163 (269g), and activity focus L186 (240g) and L181 (1.7kg). Forms are grey ware bowls with incipient flanges, straight-sided dishes, a carinated bowl with a linear burnished panel, narrow-necked jars, and rilled shelly jars with simple everted or lid-seated rims. Two central Gaulish samian sherds (25g) representing a form 42 dish/cup (AD 120–40) and an indeterminate dish footring (AD 120–200) were collected from roundhouse G381 (L181).

Form	Type	SL57	SL58	SL59	SL60	Total	% vessel
Bowl	37	1	–	1	–	2	3.9
	38	1	1	1	–	3	5.7
	Indet.	1	2	1	1	5	9.5
Cup	33	1	2	2	–	5	9.5
Dish	18	–	–	–	1	1	1.8
	18/31	–	1	1	–	2	3.9
	31	1	–	–	–	1	1.8
	31R	–	–	1	–	1	1.8
	36	–	–	1	–	1	1.8
	Indet.	2	1	16	3	22	41.5
Dish / Cup	42	1	–	–	–	1	1.8
Mortarium	45	–	1	1	1	3	5.7
Plate		4	2	–	–	6	11.3
Total		**12**	**10**	**25**	**6**	**53**	**100**

Table 8.8: Samian forms by Site Landscape

Land-use Area (Groups)	Sherd No.	Wt. (g)
L152 Enclosure S of trackway L163 (G153, G155, G156, G160, G161)	78	839
L153 Enclosure S of trackway L163 (G157)	2	40
L154 Enclosure S of trackway L163 (G181, G185, G189, G206, G207)	22	249
L155 Enclosure S of trackway L163 (G179, G182, G183, G198, G208, G240, G241)	46	410
L156 Enclosure S of trackway L163 (G216–G219, G237)	32	324
L163 Trackway (G224, G250, G251)	22	269
L181 Enclosure N of trackway L163 (G381, G450, G453, G455)	126	1725
L186 Enclosure N of trackway L163 (G412, G414)	13	240
L183 Dispersed activity (G329, G330, G332, G333, G336–G339, G457, G544)	382	4931
L184 Livestock race (G370, G387, G390, G395, G396, G447)	354	4995
Total	**1077**	**14,022**

Table 8.9: Phase 6 farmstead SL57 pottery quantification by Land-use Area

Activity focus L183

L183 yielded a mixed late Iron Age and Roman assemblage (4.9kg), the majority deriving from quarry pits G332, G333 and G457, which each contained >1kg. The largest single vessel comprises 24 sherds (506g) from a rilled shelly jar with a heavily worn interior (from pit G332). Local coarse wares are supplemented by 2nd-century white ware flagons and a mortarium from the Veralamium region. Twenty central Gaulish samian sherds (*c*. AD 120–200) collected from pond G338 and quarry pits G332 and G457 represent indeterminate plates and bowls, a form 31 dish, form 33 cup, and bowl forms 38 and 37, the latter decorated in the style of Censorinus (cf. Stanfield and Simpson 1958, pls 101–2).

Livestock race L184

Late Iron Age and Roman pottery recovered from L184 (4.9kg) occurred principally in ditches G370 defining the narrowest part of the livestock race (1.2kg), boundary ditch G387 (1.7kg), and short trench G396 (1.4kg). Most single vessels weigh less than 200g, an exception being 12 sherds (613g) from a 1st-century storage-type vessel with wavy and linear combed decoration (G387). The assemblage is broadly similar to the L183 material: regional imports include a later 2nd- to early 3rd-century Nene Valley colour-coated folded beaker. Continental imports are poorly represented by only three central Gaulish samian sherds (47g) from a form 33 cup (G370).

First modification SL58 to the farmstead's layout
Pottery associated with SL58 totals 2077 sherds (45kg), representing 41% of the Phase 6 assemblage by sherd count (51% by weight). The majority derived from southern settlement boundary L167 (13.7kg) and enclosures on the north side of the trackway (14kg: Table 8.10). Pottery from SL58 has a mean sherd weight of 22g and is the least fragmented of the Phase 6 material. A number of vessels are represented by more than single sherds, although total vessel weights are typically less than 350g. Three pots each weigh *c*. 1.5kg and a sizeable storage-type example weighs 10.8kg, indicating primary deposition, close to areas of pottery use. Much of the assemblage post-dates the mid-/later 2nd century, suggested in particular by the increased presence of pink-grogged wares, and a range of local fabrics in later forms.

Enclosures north of the trackway
An assemblage of 816 sherds (14kg: MSW 17g) derived from enclosures north of trackway L169. The largest quantities were collected from L174, principally enclosure ditch G391 (4.8kg), and L172, mainly possible structure G321 (1.6kg). Grog-tempered vessels in the 'Belgic' tradition total 47% (by sherd count) and occur across all Land-use Areas. They include three vessels each weighing in excess of 1kg, deposited in enclosure ditch G391 (L174). It is probable that a number derive from the earlier farmstead SL57 features, some of which remained in use. With the exception of three Nene Valley colour-coated vessels, including a 3rd-century funnel-neck beaker, the assemblage comprises local shell- and sand-tempered coarse wares, including jars, bowls, lids and a strainer. Twelve central Gaulish samian vessels include a form 38 bowl and a form 18/31 dish with a stamped footring of a British potter Verianus (AD 120–45). An indeterminate sherd from Colchester also occurs.

Enclosures south of the trackway
With the exception of a single late Iron Age sherd (7g) collected from ditch G197 (L157), enclosures south of the trackway L169 yielded an entirely Roman assemblage of 508 sherds (8.2kg: MSW 16g), in a broadly similar range of coarse wares and utilitarian vessel forms to those from enclosures to the north. Additionally, specialist forms absent from the northern enclosures include 2nd-century flagons from the Verulamium region, 3rd-century Oxfordshire mortaria and a Spanish amphora handle. A small central Gaulish samian assemblage includes a form 45 mortarium, form 33 cup and an indeterminate body sherd with a rivet hole, indicating repair.

Most of the pottery derived from enclosure L158, principally ditch G190 (2.2kg), and enclosure L160 – mainly pit G172 (1.4kg).

Settlement boundary L167
In contrast to the enclosures, the assemblage collected from the farmstead's southern boundary L167 (199 sherds: 13.7kg), which comprises entirely coarse wares, appears much less-fragmented, with a mean sherd weight of 69g. However, most of the pottery (11.4kg) is associated with the second episode of re-digging G220, and is largely represented by a single vessel: 42 base and lower body sherds (10.8kg) from a Roman grog-tempered storage jar, which biases the mean sherd weight.

Water-pits G210, G211, G212 and G236
Water-pits associated with enclosures L157, L159 and L160 produced 393 sherds (6.5kg), most associated

Land-use Area (Groups)	**Sherd No.**	**Wt. (g)**
L169 Trackway (G225, G260-G262)	56	624
L157 Enclosure S of trackway L169 (G195, G197, G233)	18	242
L158 Enclosure S of trackway L169 (G184, G190, G191, G193)	147	2612
L159 Enclosure S of trackway L169 (G180, G192, G539)	43	757
L160 Enclosure S of trackway L169 (G162, G163, G168, G169, G171–173, G175, G213, G215, G227, G230, G232)	246	3891
L161 Enclosure L160—later activity (G164, G166, G167)	12	123
L166 Enclosure S of trackway L169 (G199, G201–G204)	43	655
L167 Southern settlement boundary (G220–G222)	199	13,777
- Water pits (G210, G211, G212, G236)	393	6556
L170 Enclosure N of trackway L169 (G253–G255, G258, G259, G264, G277, G326)	37	450
L171 Enclosure N of trackway L169 (G278, G314, G315)	9	98
L172 Enclosure N of trackway L169 (G279, G313, G318, G321, G355, G547, G559)	161	2554
L173 Enclosure N of trackway L169 (G280, G292, G294, G307)	83	1585
L174 Enclosure N of trackway L169 (G382, G386, G388, G391)	221	4901
L191 Enclosure N of trackway L169 (G348–G352, G379)	88	856
L192 Enclosure N of trackway L169 (G384, G420, G421, G556, G557)	30	469
L193 Enclosure N of trackway L169 (G416, G417, G446)	10	84
L202 Enclosure N of trackway L169 (G357, G358, G362, G371)	51	736
L205 Enclosure N of trackway L169 (G465, G466)	3	22
L211 Enclosure N of trackway L169 (G484)	1	3
L212 Enclosure N of trackway L169 (G342, G368, G373, G460, G468), G470, G471, G473–G475, G480)	89	1578
L219 Enclosure N of trackway L169 (G496, G497, G525)	33	693
L40 Enclosure (G64)	2	73
L42 First modification of Enclosure L40 (G65)	6	100
L43 Final modification of Enclosure L40 (G68, G69, G572)	81	1368
L41 Sub-enclosure within L43 (G112)	3	30
L231 Enclosure (G356, G360)	12	181
Total	**2077**	**45,018**

Table 8.10: Phase 6 farmstead SL58 pottery quantification by Land-use Area

with G211 (1.6kg) and G212 (3.2kg). Forms include reduced/grey ware dishes with burnished acute and obtuse lattice motifs, bowls with flanged or triangular rims, pink-grogged storage-type vessels, and large rilled shelly jars and bowls in mid-Roman forms. The assemblage contains a number of 3rd-century regional imports: oxidised wares (hemispherical bowl), Oxfordshire white ware mortaria, and Nene Valley colour-coated wares (dishes and a beaker). Continental imports are five central Gaulish samian sherds (35g) from dishes and cups, including a form 33 example (G211). In contrast with the faunal and coin evidence, there is no indication that the pottery fulfilled a ritual or votive role with regard to the Phase 6 water-pits (p. 24).

Enclosures L40–L43 on the north-west periphery of the farmstead
An assemblage entirely comprising local shelly and sand-tempered coarse wares (92 sherds: 1.6kg) was collected from these enclosures, the majority associated with their final modification L43 (1.3kg), principally stone surface G572, where sherds had perhaps been intentionally incorporated into the surface.

Trackway L169 and enclosure L231
Modest assemblages of mixed late Iron Age and Roman date, entirely comprising local coarse wares, were collected from trackway L169 (624g) and enclosure L231 (181g). The pottery from each is well-fragmented, with single sherd weights ranging from 1g to 86g.

Second modification SL59 to the farmstead's layout
SL59 features yielded 1349 sherds (20.3kg), totalling 26% of the Phase 6 assemblage by sherd count (23% by weight). The largest deposits were associated with enclosure L196 (5.5kg), quarry pits L232 (4kg) and putative building G341 (L185) (2.6kg: Table 8.11). Pottery is well-fragmented (MSW 15g), with single sherds ranging in weight from 1g to 338g, the latter an amphora handle. Twenty-five sherds (411g) derived from a single flanged bowl, but apart from the amphora, individual vessel weights do not exceed 250g.

Enclosures adjacent to the trackway
An assemblage of 880 sherds (12.4kg) derived from enclosures north of the trackway L179. The largest quantities derived from L196 (5.5kg), principally water-pit G454 and adjacent ditch G394; and putative building G341 (L185) (2.7kg). With the exception of 36 residual late Iron Age sherds (591g), the assemblage mainly comprises mid-/late Roman coarse wares: jars with square, triangular or undercut rims, beakers, bowls (rectangular rimmed or flanged), dishes and a strainer; supplemented by a number of regional imports from Hertfordshire (Verulamium region, Hadham), Oxfordshire, Cambridgeshire (Horningsea) and the Nene Valley. Thirty-three samian sherds mainly deriving from L178 and L196 are predominantly of central Gaulish origin (Lezoux), with three Romano-British sherds from Colchester, one of which is burnt. Forms are bowls (forms 37, 38), dishes (forms 18/31; 31R) and cups (form 33). One dish has an illegible stamp and an X crudely scratched on the base underside.

Enclosures on the northern periphery of the farmstead L44, L53, L207, L209, L217 and L224
These new enclosures yielded a small Roman assemblage (113 sherds: 1.6kg), mostly deriving from sub-oval enclosure L224 (763g). Coarse ware forms are grey ware jars with rectangular rims, flanged bowls, and large rilled shelly bowls with rectangular rims. Single sherds from a (residual) central Gaulish samain plate, late 3rd-century Oxfordshire white ware mortaria, and a 4th-century Nene Valley colour-coated dish also occur.

Quarry pits L232
Mixed late Iron Age and Roman assemblages (254 sherds: 4kg) derived from quarry pits L232, in particular G436 and G459, which each produced 1.2kg. One late Iron Age body sherd has a post-firing drilled hole, suggesting repair. Although only a small assemblage, a range of Roman forms occurs, including coarse ware jars, straight-sided dishes, bowls (triangular-rimmed or flanged), poppyhead beakers, a flagon with a pinched spout, and single sherds of amphora, a 4th-century Nene

Land-use Area (Groups)	Sherd No.	Wt. (g)
L179 Trackway (G226)	1	9
L175 Enclosure N of trackway L179 (G281, G283–G285, G287, G288, G302, G303, G306)	119	1207
L178 Enclosure N of trackway L179 (G263, G265, G286, G289, G317)	125	1779
L185 Putative building near enclosure L178 (G309, G341, G375, G405)	192	2684
L196 Enclosure N of trackway L179 (G366, G392, G394, G398, G400, G401, G423, G439, G454, G461)	356	5534
L199 Enclosure N of trackway L179 (G441, G443)	47	551
L200 Enclosure N of trackway L179 (G378, G444, G448, G582)	23	372
L216 Enclosure N of trackway L179 (G477, G479)	18	290
L49 Field (G87)	2	13
L44 Discrete enclosure (G84)	8	229
L53 Discrete enclosure (G530)	1	8
L207 Discrete enclosure (G489–G492)	24	336
L209 Discrete enclosure with drying oven (G242, G493, G513, G520–G522)	14	176
L217 Discrete enclosure (G498, G501, G502, G504)	14	136
L224 Discrete enclosure (G73, G74, G76, G77, G81, G104)	52	763
L232 Quarry pits (G363, G364, G435–G438, G459)	254	4025
L237 Parallel ditches (G568)	1	11
L244 Unenclosed pits (G397, G408–G410, G432)	98	2171
Total	**1349**	**20,294**

Table 8.11: Phase 6 farmstead SL59 pottery quantification by Land-use Area

Valley colour-coated dish, and the site's only sherd of east Gaulish (Sinzig) samian dated AD 170–260.

Pits L244
A total of 98 sherds (2.2kg) was collected from pits L244, which were adjacent to one of the clusters of quarry pits assigned to L232. The largest quantities were associated with pits G397 (818g) and G452 (665g). G410 and G408 yielded only grog-tempered late Iron Age pottery, while Roman coarse wares were restricted to G397, G409 and G432, the latter including nine sherds (526g) from a black-slipped grey ware beaker with an ovoid body and burnished acute lattice decoration.

Third and final modification SL60 to the farmstead's layout
Features associated with the final farmstead modification yielded 620 sherds (8.9kg), representing 12% of the Phase 6 assemblage by sherd count (10% by weight). The majority derived from enclosures on the north side of the former trackway (7.3kg), principally L197 and L226 (Table 8.12). The pottery is well-fragmented (MSW 14.5g), with single sherds in the range 1–159g, the latter a complete shelly coarse ware jar base. Five sherds (454g) derived from a single 2nd-century white ware flagon, thought to be residual; all other individual vessels weigh less than 250g and are not particularly informative in terms of specific chronology.

Enclosures north of the former trackway
Wares in the late Iron Age 'Belgic' tradition (70 sherds: 968g) derived principally from L226 and L227 and include lid-seated and everted rim jars with neck cordons, two platters and a lid. The Roman assemblage (418 sherds: 6.3kg) comprises mainly sand-tempered and shelly coarse wares in a limited range of utilitarian forms, with jars and dishes dominating (Table 8.7). Regional imports are Verulamium region white ware flagons, pink-grogged wares, Nene Valley colour-coated wares, including two folded beakers, bowls in oxidised Oxford ware, and single sherds of Horningsea reduced ware and a Dorset black-burnished ware flanged bowl. Six abraded samian sherds (36g), likely to be residual, were recovered from enclosures L220, L222, L226 and L227. Four are from central Gaul (Lezoux); three indeterminate dishes and a form 45 mortarium; one is a south Gaulish (La Graufesenque) form 18 with an abraded stamp of Ponteius (AD 70–95), and one an indeterminate bowl, probably from Colchester (AD 145–200).

Northern boundary of farmstead L221
Farmstead boundary L221 yielded a range of coarse wares and regional imports. The latter comprise later 3rd- to 4th-century oxidised wares from Hertfordshire and Oxfordshire, including an everted rim jar and two indeterminate bowls, one with a burnt footring and the second with a demi-rosette stamp (cf. Young 1977, 132). Nene Valley colour-coated wares include a late 2nd- to 3rd-century folded beaker (cf. Howe *et al*. 1980, fig. 4, 40) and a rouletted body sherd probably deriving from a late Roman Castor Box.

Field L50, quarry pits L225 and unenclosed activity area L233
Assemblages entirely comprising local shelly and sand-tempered coarse wares were collected from field L50 (73g), quarry pits L225 (810g), and unenclosed activity area L233 (167g). Forms are restricted to grey ware bowls with incipient flanges, narrow-necked jars, straight-sided dishes and rilled shelly jars with everted rims.

8.3 CERAMIC BUILDING MATERIAL

by Jackie Wells

Introduction and methodology
Fired clay fragments (18.1kg) and pieces of brick and roof tile (31.5kg) were recorded by fabric type and, where possible, form, and quantified by minimum fragment count and weight. The assemblage principally derived from Roman features assigned to Phase 6 (Table 8.13).

Fired clay
Fired clay mainly occurs in a fine sandy fabric containing either organic or calcareous inclusions. Most pieces are amorphous, although a number retain traces of flat or slightly undulating finger-smoothed surfaces. The majority of the late Iron Age/early Roman Phase 5 assemblage derived from enclosed farmstead SL55 (5.5kg). Features associated with farmstead modifications SL58 and SL59 contained the bulk of the Roman Phase 6 assemblage (9.1kg), with remaining Land-use Areas each yielding deposits of less than 300g.

Portable furniture recovered from Phase 5 and Phase 6 features, principally SL55 (Phase 5), includes fragments

Land-use Area (Groups)	Sherd No.	Wt. (g)
L50 Field (G88)	5	73
L197 Enclosure N of trackway L180 (G426–G429)	94	1401
L198 Enclosure N of trackway L180 (G365, G545)	5	52
L208 Enclosure N of trackway L180 (G425, G433, G485, G510, G511, G514, G550)	56	760
L220 Enclosure N of trackway L180 (G463, G506, G508, G509, G546, G553, G580)	54	861
L222 Enclosure N of trackway L180 (G431)	65	983
L223 Enclosure N of trackway L180 (G295, G296, G305, G565, G566)	9	57
L226 Enclosure N of trackway L180 (G273–G276, G290, G291, G324, G325)	143	2368
L227 Enclosure N of trackway L180 (G266–G272, G322, G323)	63	790
L221 Farmstead boundary (G507)	50	669
L225 Quarry pits (G434, G523, G524)	62	810
L233 Unenclosed activity (G512)	14	167
Total	**620**	**8991**

Table 8.12: Phase 6 farmstead SL60 pottery quantification by Land-use Area

	Fired clay		Brick & Tile	
Phase	**Frag. No.**	**Wt. (g)**	**Frag. No.**	**Wt. (g)**
4	4	69	-	-
5	89	5545	2	468
6	316	12,550	263	31,003
7	4	27	-	0
8	-	-	2	112
Total	**413**	**18,191**	**267**	**31,583**

Table 8.13: Ceramic building material quantification by Phase

Type	**Frag. No.**	**Wt. (g)**
Brick	19	3459
Flue (combed)	6	374
Fragment	60	3058
Imbrex	13	1208
Tegula	169	23,484
Total	**267**	**31,583**

Table 8.14: Quantification of Roman building material by type

from a minimum of 30 hand-made slabs/bricks ranging in thickness from 30mm to 55mm. Slabs occur with greatest frequency on late Iron Age and early Roman sites, *e.g.* Great Barford (Poole 2007b, 273), East Stagsden (Gentil and Slowikowski 2000, 88) and Biddenham Loop (Wells 2016b), and are likely to represent pre-fabricated furniture from ovens, hearths, or drying ovens for domestic/agricultural use. Fragments from at least five flat circular trays or discs, some with raised edges, were recovered from Phase 5 farmstead SL55 and Phase 6 modification SL59. They range from 25mm to 30mm in thickness, although the pieces are too small to permit estimation of diameter.

Brick and tile

Roman building material occurs in a standard range of forms; the majority are sand-tempered, with 38 shelly examples and nine in a grog-tempered fabric. Tegulae are the dominant form (Table 8.14). They have square or shallow D-shaped flanges; three have cut-aways and one has a concentric circle signature. Fragments have a mean weight of 118g and are uniformly abraded. The largest assemblage (15.3kg) was associated with Phase 6 farmstead SL58, principally enclosure L43; it also included a possible tessera (*c.* 25 × 15mm) made from a crudely modified tile fragment from activity focus L183.

8.4 COINS

by Peter Guest

Ninety-three coins were recovered, all but one of which were struck during the Roman period (the exception is a modern farthing). The Roman coins are generally in good condition and 76 could be identified to an emperor's reign or 4th-century Numismatic Issue Period (NIP). The catalogue of coins is presented in Appendix II, ordered by production date (Table A2) and RA number (Table A3), while Table 8.15 summarises the coins.

The coins are an unusual and interesting assemblage from a previously relatively unknown part of Roman Britain. Comparatively few Roman rural settlements have been investigated in southern Bedfordshire; those excavations that have occurred tended to produce smaller quantities of coins compared to other sites in the wider region.

It is notable that the excavations produced no late Iron Age coinage (unlike the nearby excavations at HRN3455 and HRN3457, Guest forthcoming b), and that the assemblage does not include any 1st-century Roman coins. Instead, the 92 Roman coins are mostly bronze or billon denominations from the 2nd through to the later 4th century (Table 8.15). Six coins predate the mid-3rd century, consisting of a very worn *as* of Hadrian (RA331), a *sestertius* of the defied Faustina I (RA222), and four silver *denarii* of the Severan period (one of Septimius Severus (RA50); a possible copy of a *denarius* of Caracalla (RA78); one of Elagabalus (RA77); and a broken fragment of a Julia Maesa *denarius* (RA15)).

The late 3rd century (AD 260–96) is represented by 38 coins, including 22 official *radiates* and ten *barbarous radiates* (copies), as well as six unidentifiable coins that could be either official coins or copies. Of the *radiates*, 13 were struck in the names of legitimate emperors in Rome, mostly Gallienus and Claudius but also including issues of Severina (RA97) and Tacitus (RA67). Whilst seven were produced in the mints of the Gallic Empire (AD 260–74, including for Postumus, Victorinus and the Tetrici), and another two were struck for the so-called 'Britannic' emperors, Carausius and Allectus (the latter is a billon *quinarius* (RA26)).

The 4th century (AD 296–402) produced 35 coins. Constantinian issues of the AD 320s and 330s were particularly common and Valentinianic coins of the AD

NIP	**Dates**	**HRN3206**	**HRN3206 ‰**
I	to AD 41		
II	41–54		
III	54–69		
IV	69–96		
V	96–117		
VI	117–138	1	13
VII	138–161	1	13
VIII	161–180		
IX	180–192		
X	193–222	3	39
XI	222–238		
XII	238–260		
XIII	260–275	25	329
XIV	275–296	13*	171
XV	296–317	2	26
XVI	317–330	7	92
XVII	330–348	10	132
XVIII	348–364	4	53
IXX	364–378	9	118
XX	378–388		
XXI	388–402	1	13
Sub-total		**76**	**1000**
	late Iron Age		
	1st–early 3rd *c.*	1	
	late 3rd–4th *c.*	13	
	4th *c.*	2	
	modern	1	
Total		**93**	

NIP = Numismatic Issue Period. * includes all *barbarous radiates*

Table 8.15: Summary of the coins

360s and 370s are also relatively well represented in the assemblage. The latest Roman coin is a very worn Theodosian bronze coin struck AD 388–402, suggesting that occupation might have continued up to the end of the Roman period and, possibly, beyond.

Excavated features associated with the late Iron Age/early Roman settlement (Phase 5) did not produce any coins at all, whereas 71 coins were recovered from stratified deposits related to the main Roman occupation (Phase 6), mostly from ditches defining trackways and enclosures, as well as pits. The three coins recovered from the initial layout of the farmstead SL57, including a 3rd-century *radiate* of Postumus (RA98), are presumed to be intrusive.

Coin loss appears to have been much more widespread in the first modification SL58 to the farmstead's layout, which produced 28 coins in total. The majority of these came from enclosures south of the trackway, notably L157, L158 and L167. The enclosures on the north side of the trackway produced only a single coin – from the trackway ditch; there was a second concentration on the northern periphery of the farmstead in L212/L219. Seven coins from SL58 were recovered from four water-pits in the southern enclosures, including G210 (L157), G211 (L158) and G212 (L159), as well as G525 (L219) in the north of the farmstead.

The later iterations of the farmstead produced a further 19 coins (6 from SL59 and 13 from SL60) that were spread more evenly across the occupied areas than had been the case for SL58. They included another coin from water-pit G433 (L208) in SL60.

It is notable that three of the four *radiates* of the deified Claudius II came from water-pits associated with SL58 (RA174 and RA223 from G211 and RA314 from G212); the fourth (RA3) came from overburden deposits. The reverse of these coins bore the legend CONSECRATIO ('consecration' or 'dedication') around an image of the funerary altar erected for the deceased and divine emperor. Also in SL58, water-pit G525 produced a coin of Carausius with the reverse legend SALVS PVBLICA and showing the standing Salus, goddess of welfare, health and prosperity, feeding a serpent in her arms (RA315). Another coin from water-pit G433 in SL60 was a very worn *sestertius* of the deified Faustina II (RA222), whose reverse shows Vesta, goddess of hearth, home and family in Roman religion, standing holding a torch and the palladium (the mythical wooden statue of Pallas Athena from Troy stolen by Odysseus and later brought by Aeneas to Rome). In summary, five of the eight coins from water-pits bore legends and images that were associated with divinity, health and wellbeing; it is possible that these coins were not accidentally lost but had been deliberately deposited in these pits as votive objects. Perhaps some of the water-pits were considered special locations where such offerings were made during religious ceremonies, or maybe these coins were selected for deposition merely to ensure that the pits continued to provide life-giving water to the inhabitants of the farmstead.

Roman coins from HRN3206 in their regional context

The coin-loss profile is shown in chart form on Figure 8.1 (it is important to bear in mind that the coins are presented in this table and chart according to their dates of production, i.e. when they were struck, rather than when they could have been available to be used and lost by the farmstead's population). These show the excavated parts of the farmstead do not appear to have used coins in a particularly significant way up to the middle of the 3rd century, but that episodes of high coin-loss occurred in the last 40 years of the 3rd century and again in the period from AD 330 to 380. While it is uncertain precisely how coin-recovery today relates to coin-use in the Roman past, in theory at least the two are connected, in which case farmstead SL59/60 clearly experienced a period of intensive coinage use for approximately 100 years from AD 270 onwards.

In order to appreciate better the significance of the recovered coin assemblage, both in terms of the

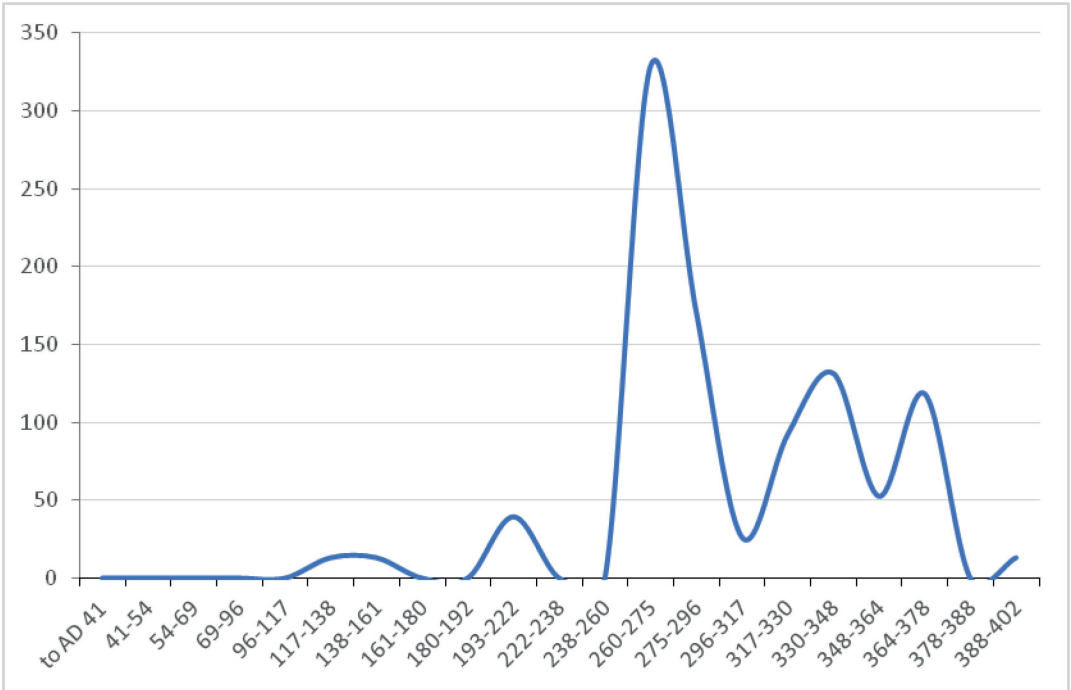


Figure 8.1: Profile of Roman coins from HRN3206 (coins represented as %)

farmstead's history and its economic basis in the Roman period, it is useful to compare these coins with assemblages from other similar sites. Not many rural settlements, however, have been excavated in this part of Roman Britain and sites with sufficient quantities of coins are few and far between. Of the eight or so archaeological investigations of Roman rural sites in and around Dunstable and Houghton Regis (west of Luton) (other than Woodside Link, which produced seven Roman coins (Guest forthcoming a), and HRN3455 and HRN3457, which together produced six Roman coins (Guest forthcoming b), only three have produced coins:

- Totternhoe villa – seven coins (three *radiates* of AD 260–96 and four issues of AD 330–48), (Matthews *et al*. 1992, 41–104);
- Puddlehill rural settlement – 12 coins (four *radiates* of AD 260–96, four issues of AD 317–64 and four issues of AD 364–78), (Matthews and Warren 1992, 18–40);
- Chalton cemetery (M1 junction 11a) – one coin (one bronze of Magnus Maximus, AD 383–88) (Brown 2020, 255).

Therefore, except for the HRN3206 farmstead, Roman coins do not seem to have been particularly common in the Houghton Regis and Dunstable area. This pattern appears to apply to the wider locality too and Roman coins are scarce for some considerable distance from Houghton Regis and Dunstable. In fact, we have to look at least 40 to 60km away in Bedfordshire (around Bedford), Hertfordshire (Baldock, Chells (Stevenage),Welwyn, St Albans and Hemel Hempstead) and Buckinghamshire (Berkhamsted, Aylesbury and Milton Keynes) to find rural sites with large, excavated assemblages of Roman coins. It has been suggested that the contrast in coin-recovery patterns between the Milton Keynes area and some parts of Bedfordshire is evidence for a more monetised economy in the former – based on a villa landscape and a more Romanised identity – while the population of the latter were less likely to be connected to an economic system that required the regular exchange of coinage (Meade 2010, 53 and 131–5; Brown 2020, 348). While this may turn out to be the case at the broad, regional scale, the coins from HRN3206 show the local picture is unlikely to be quite so simple and that some inhabitants in this part of south Bedfordshire did have access to Roman coinage and probably used it in their everyday lives. The proximity of Watling Street (A5) might explain why this was so at Houghton Regis, unlike other settlements in southern Bedfordshire that were further away from the Roman road system.

Assemblages of excavated Roman coins from 14 Romano-British rural sites in Bedfordshire, Buckinghamshire and Hertfordshire have been collected to compare to the coins from HRN3206 (<https://archaeologydataservice.ac.uk/archives/view/romangl/index.cfm>; Guest 2004; Reece 1991). These are summarised in Table 8.16, where the coins are presented as 'coins-per-mill' (‰) values (Reece 1995). In this report, *barbarous radiates* from HRN3206 are assigned to NIP XIV (AD 275–96) rather than with their prototypes in NIP XIII (AD 260–75), because it is generally understood that they were local copies produced in Britain and Gaul after the emperor Aurelian's monetary reform in AD 274 (Reece 1995). However, due to inconsistencies with how different specialists allocate coins to the standard sequence of NIPs, particularly *barbarous radiates* of the later 3rd century, coins from NIPs XIII and XIV from the 14 sites have been merged together into a single combined issue period that includes all coins struck between AD 260 and AD 296, whether official coins or local copies.

Just under half of the coins from HRN3206 are late 3rd-century *radiates* (official coins as well as *barbarous radiate* copies), and only three other sites produce more coinage of this period. These are the villas at Boxmoor House, Dicket Mead and Gorhambury in Hertfordshire and the profiles from these sites (Fig. 8.2) all also indicate coin-loss 'ended' there much earlier than at HRN3206 (coins after AD 348 are uncommon).

A second group of sites, this time spread across the counties of Bedfordshire, Buckinghamshire and Hertfordshire, produce fewer late 3rd-century coins than HRN3206, but more 4th-century issues (Fig. 8.3). These sites are more geographically dispersed across the region than the first group of villas and they are also more diverse in terms of their size and morphology, including farms at Boxfield Farm (Herts.) and Ruxox (Beds.), roadside settlements at Cow Roast Orchard (Herts.) and Fleet Marston, Vale Parkway (Bucks.), as well as the village at Walton Court (Bucks.). These sites' similar coin-loss profiles could indicate shared histories of coin use and, potentially, analogous or connected economic functions.

The third and final group of rural sites with which the coins from HRN3206 can be compared consists of a very diverse range of settlements, including the villa at Park Street (Herts.), the roadside settlement at Fleet Marston, Billingsfield (Bucks.), farms at Wavendon Gate and Fenny Lock (Bucks.), and the so-called 'small town' at Baldock (Herts.). The coin profiles (Fig. 8.4) from these sites all show far fewer late 3rd-century *radiates* but considerably more 4th-century coins than were recovered at HRN3206. The most intensive period of coin loss at these settlements occurred after AD 330, but the wide variation in their profiles suggests different histories of coin use in the decades leading up to the end of Roman Britain not long after AD 400.

8.5 OTHER ARTEFACTS

by Jackie Wells

A total of 906 registered artefacts (RAs) was recovered by metal-detecting, hand excavation and the processing of soil sample residues. Bulk non-ceramic finds, comprising fuel ash slag, ferrous slag and unmodified burnt stone, were also collected. Some 87% of the assemblage derived from stratified deposits and cut features; the remainder came from overburden and deposits associated with modern agricultural activity.

This report focuses on the assemblage from late Iron Age and Roman features (Phases 5 and 6), but also references unstratified objects of intrinsic interest or relevance. All finds are fully catalogued in the project archive. Coins and the stone sculpture were examined respectively by Dr. Peter Guest and Dr. Martin Henig and form the subject of separate reports.

The majority (83%) of finds are of iron, with copper alloy totalling 12% and other materials comprising the remainder (Table 8.17). Objects are generally of standard form, and can be assigned to several categories relating

Date	HRN3206	Boxfield Farm	Ruxox	Cow Roast Orchard	Fleet Marston, Vale Parkway	Walton Court	Boxmoor House	Dicket Mead	Gorhambury	Gadebridge Park	Fleet Marston, Billingsfield	Park Street	Wavendon Gate	Baldock	Fenny Lock
to AD 41		4							14						
41–54				27		36		4	28		21			45	
54–69		4		14					14					3	
69–96		8		27		18		8	32	17		16	39	21	11
96–117		8		21		18			32	10			26	17	
117–138	13	4		21		12			21	20			65	17	
138–161	13	8	36	24			9	13	14	10			13	31	16
161–180		12	36	10				21	11	10			117	3	
180–192		0				6		21	7			16	13	10	
193–222	39	8	36	7		24	9	38	11	3			26	17	
222–238		20		7				17	7	3			13	3	11
238–260		43				6		8	7					7	
260–296	500	406	357	243	323	320	660	616	566	253	234	230	195	177	146
296–317	26	4	71	10		24	38	8	25	7			13	28	22
317–330	92	20	36	38	32	83	123	25	110	106	21	16		52	76
330–348	132	189	286	171	290	237	94	177	75	427	106	180	169	125	503
348–364	53	39	36	106	129	95	57	38	11	55	128	541	130	111	65
364–378	118	197	71	175	215	77		4	14	55	362		169	174	141
378–388						18							13	38	5
388–402	13	28	36	99	11	30	9			24	128			118	5
	1000	**1000**	**1000**	**1000**	**1000**	**1000**	**1000**	**1000**	**1000**	**1000**	**1000**	**1000**	**1000**	**1000**	**1000**

Table 8.16: Summary of Roman coins from HRN3206 and other Roman sites in the region (shown as ‰ values)

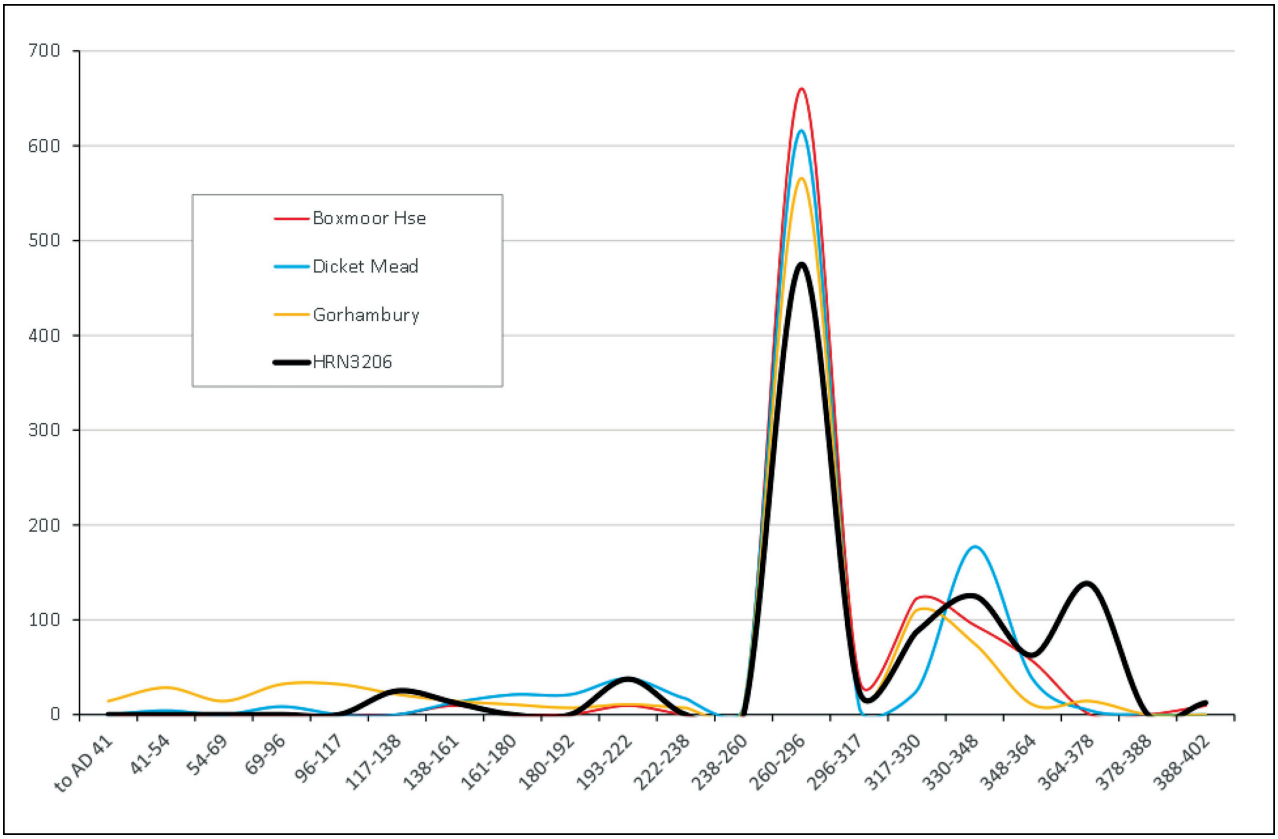


Figure 8.2: Profile of Roman coins from HRN3206 and other regional Roman sites (Boxmoor House, Dicket Mead, Gorhambury) (coins represented as %)

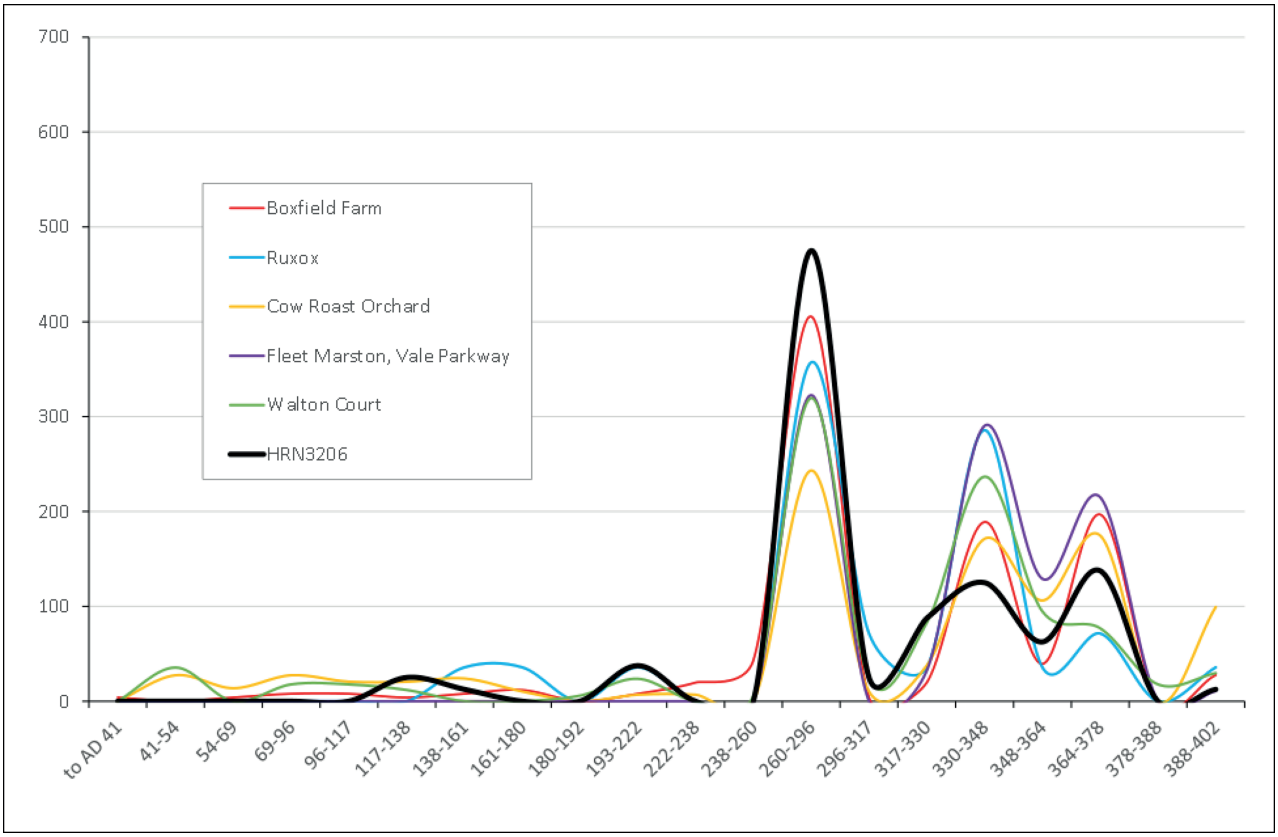


Figure 8.3: Profile of Roman coins from HRN3206 and other regional Roman sites (Boxfield Farm, Ruxox, Cow Roast Orchard, Fleet Marston (Vale Parkway), Walton Court) (coins represented as %)

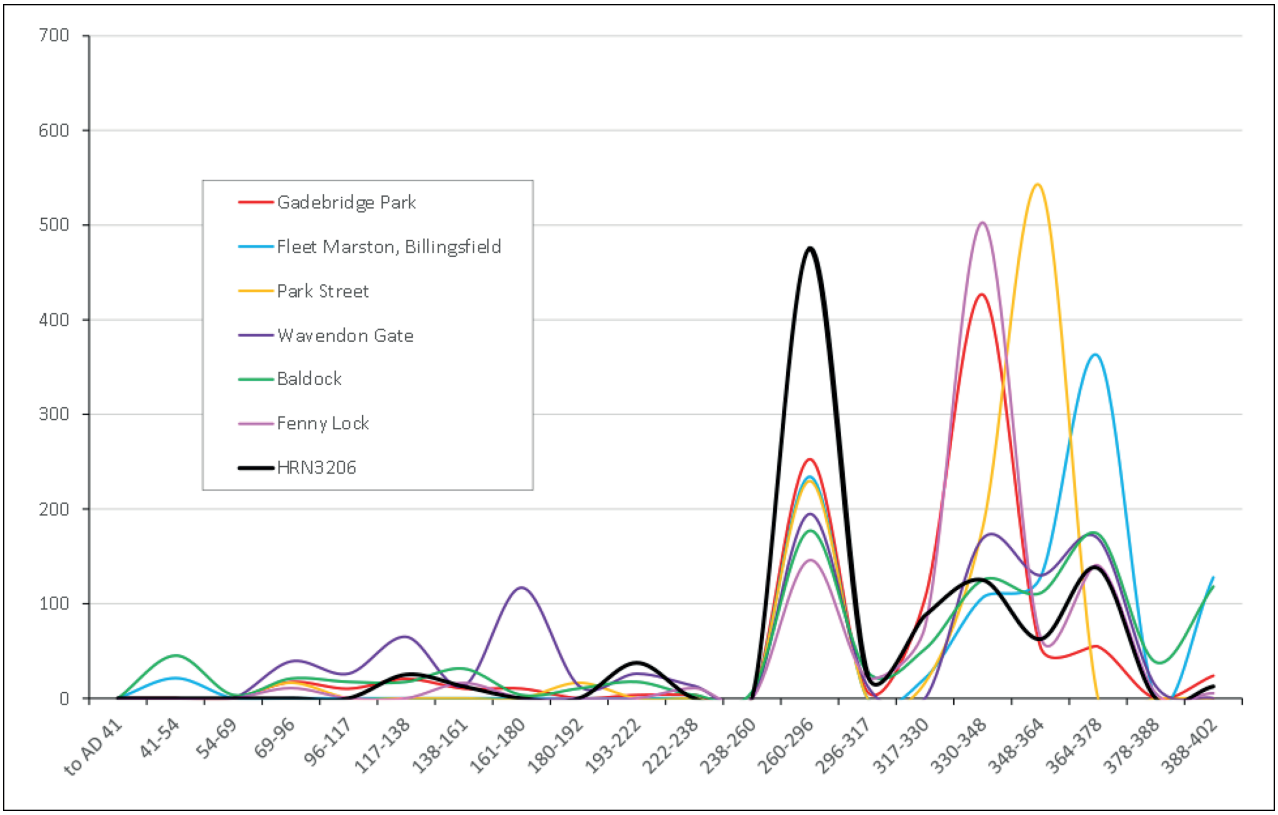


Figure 8.4: Profile of Roman coins from HRN3206 and other regional Roman sites (Gadebridge Park, Fleet Marston (Billingsfield), Park Street, Wavendon Gate, Baldock, Fenny Lock) (coins represented as %)

	Phase 5		Phase 6					
Material	**SL55**	**SL56**	**SL57**	**SL58**	**SL59**	**SL60**	**Total**	**% Total**
Individual finds								
Bone	-	-	-	1	-	-	1	0.1
Ceramic	-	-	-	-	-	1	1	0.1
Copper alloy	2	-	9	46	17	20	94	12.0
Flint	-	-	-	2	-	-	2	0.3
Glass	-	1	-	5	1	1	8	1.0
Iron	7	-	48	348	195	50	648	83.1
Lead alloy	-	-	-	2	1	1	4	0.5
Shale	-	-	-	-	-	1	1	0.1
Silver	-	-	-	1	1	-	2	0.3
Stone	1	-	4	2	4	8	19	2.4
Tooth	-	-	1	-	-	-	1	0.1
Total	**10**	**1**	**62**	**407**	**219**	**82**	**781**	**100**
Bulk finds								
Burnt stone	12,873g	-	-	-	-	-	12,873g	-
Ferrous slag	-	-	19g	349g	3915g	503g	4786g	-
Fuel ash slag	-	-	6g	-	-	-	6g	-

Table 8.17: Quantification of artefacts by material and Site Landscape

to their function (Table 8.18). Structural fastenings and fittings are dominant (41%), although mainly comprise general-purpose nails (292 examples), while personal items (33%) are predominantly represented by hobnails (230 examples). All but one of the objects associated with trade (6.5%) are coins. A ubiquitous array of indeterminate metal fragments totals 10% and the remaining categories each constitute less than 5% of the assemblage.

In contrast with the nearby excavations at Woodside Link (Duncan 2018; Duncan forthcoming) and HRN3205 (Albion Archaeology 2019a; Luke and Barker forthcoming), the presence of numerous, commonly encountered domestic finds suggests that the HRN3206 farmstead did not have a specialised function. Accordingly, the assemblage provides a broader range of information regarding activity on the site.

Date range

Approximately 25% of the assemblage is typologically datable, although the majority of these finds can only be broadly assigned to the Roman period; they mainly comprise hobnails and general-purpose nails (principally

	Phase 5		Phase 6					
Function	**SL55**	**SL56**	**SL57**	**SL58**	**SL59**	**SL60**	**Total**	**% Total**
Crafts and industry	–	–	1	5	3	2	11	1.4
Fastenings and fittings	4	–	24	149	107	38	322	41.2
Household	–	1	5	9	9	10	34	4.4
Measurement	–	–	–	–	1	–	1	0.1
Militaria	–	–	1	1	2	–	4	0.5
Personal	2	–	20	171	57	7	257	33.0
Tools	1	–	1	2	2	–	6	0.8
Trade	–	–	3	28	7	13	51	6.5
Votive	–	–	1	–	1	1	3	0.4
Writing	–	–	–	–	1	–	1	0.1
Multi-functional	–	–	1	5	2	2	10	1.3
Unknown	3	–	5	37	27	9	81	10.3
Total	**10**	**1**	**62**	**407**	**219**	**82**	**781**	**100**

Table 8.18: Quantification of artefacts by function and Site Landscape

Manning type 1b; 1985, 134–5). Only the coin assemblage and a few personal items can be more closely dated.

The earliest artefacts are two hard-hammer-struck secondary flint flakes, which may date from the late Neolithic/Bronze Age. The Bronze Age is represented by two poorly preserved residual finds from the Roman farmstead: the tip of a cast copper alloy spearhead with a lozenge-sectioned blade (RA113); and a copper alloy awl with a chisel-ended tang (RA105), which appears to correlate to Thomas' earlier Bronze Age Group 2D (Woodward and Hunter 2015, 89). The late pre-Conquest Iron Age is represented by two copper alloy brooches of Mackreth's Leo 7 and Bagendon type (2011, 31 and 142). A dog-tooth amulet cannot be closely dated, although the type is common in the Iron Age, Roman and Anglo-Saxon periods (Greep 1998, 279; MacGregor 1985, 110).

Roman finds comprise the bulk of the assemblage. Five fragments from bun-shaped querns of Hertfordshire Puddingstone and a 'beehive' lava quern can be assigned to the earlier Roman period. Personal items include four 1st–2nd-century brooches of Colchester Derivative and Hod Hill form, a penannular brooch (mid-1st–4th-century), two penannular bracelets (later 1st–2nd-century) and a cable twist bracelet (2nd–4th-century). Two hair pins may also date to this period. A nail cleaner and mirror fragment are datable to the first two centuries AD. Two bracelets of the light bangle type and two finger-rings date to the 3rd–4th century. One of the more noteworthy finds is a military belt buckle of 4th–5th-century date.

There appears to have been a hiatus in activity sometime after the later 4th/5th century, with no finds typologically datable to the intervening Anglo-Saxon and medieval periods. Post-medieval/modern finds are confined to a possible farthing coin and part of a heel iron.

Provenance

The majority of the assemblage was associated with the establishment and redefinition of the Phase 6 farmstead SL57–60 (Table 8.19).

Phase 5: Late Iron Age/early Roman

The small Phase 5 assemblage derives mainly from enclosed farmstead SL55, principally from domestic focus L28 (Table 8.20). Pit G46 yielded a penannular copper alloy brooch (RA319) of Mackreth's PEN f1.d type (2011, 210). Penannular brooches are not closely datable and parallels for this type span the mid-1st century to the 4th century and later.

A sizeable quantity of reddened and fire-crazed stones (11.6kg) was associated with post-built structure G42, perhaps used as post packing. A smaller collection of similarly heat-affected material (1.3kg) derived from nearby pit cluster G44. One pit in this cluster also contained an indeterminate, sizeable sandstone fragment with worn

Phase	**No. finds**	**%**
5	11	1.2
6	770	84.9
7	7	0.8
8	1	0.1
Unstrat.	117	13.0
Total	**906**	**100**

Table 8.19: Quantification of artefacts by phase

Site Landscape	**Land-use Area**	**Description*/Group**
SL55 Enclosed farmstead	L21 Enclosure	Copper alloy brooch RA125 (G27); iron spud RA120 (G48)
	L28 Domestic focus	Iron nail 3 (G34, G35, G40); iron fragment RA326 (G20)
		burnt unworked stone – 11.6kg (G42) and 1.3kg (G44)
		Quern/mortar/paving stone RA344 (G44)
		Copper alloy brooch RA319 (G46)
	L32 Enclosure	Iron strap fragment RA300; iron tack/worn hobnail RA378 (G62)
SL56 Unenclosed activity	L13 Urned cremation burial	Glass vessel (G58)

* single item unless otherwise stated

Table 8.20: Phase 5 artefacts summary by Site Landscape and Land-use Area

surfaces (RA344: 599g), which may represent a redeposited saddle quern, shallow mortar, or paving slab.

The indeterminate iron fragments, tack/hobnail and three iron nails collected from L28 and L32 cannot be closely dated.

Enclosure ditch G27 (L21) produced a poorly preserved copper alloy brooch (RA125) of Mackreth's Bagendon 12.a.2 type (2011, 142), dating to *c*. AD 25–55. Water-pit G48 yielded an iron socketed spud or hoe (RA120: Plate 8.1), used for weeding or cleaning the share and mould board of a plough (Manning 1985, 49), attesting to agricultural or horticultural tasks.

A tiny colourless (green-tinged) vessel glass fragment (2g) was the sole find from unenclosed activity focus SL56. Although found in cremation burial G58 (L13), it is likely to be intrusive. It represents an out-turned fire-rounded cup or bowl rim with abraded fine diagonal linear decoration, likely to be of late 1st- to 3rd-century date (cf. Price and Cottam 1998, 15–16).

Phase 6: Roman

Settlement features assigned to Phase 6 yielded the majority of the site assemblage, the greatest quantities associated with the first modification SL58 of the farmstead.

SL57 Establishment of farmstead

Sixty-two objects (8% of the Phase 6 assemblage) derived from SL57, most associated with enclosures south of trackway L163 and activity focus L183 to the north (Table 8.21).

With the exception of a few hobnails, distribution of personal items was restricted to deposits north of the trackway. Features associated with activity focus L183 yielded a 1st-century AD copper alloy Léontomorphe brooch (RA59: Mackreth's Leo 7 type, 2011, 31), which can be closely paralleled by an example from Ancaster, Lincs. (ibid. 2011, pl. 18: no. 6062). A dog canine amulet (RA286: Plate 8.2) – commonly occurring in the Iron Age, Roman and Anglo-Saxon periods – and a group of 18 hobnails (G337) were recovered from the same



Plate 8.1: Iron socketed spud or hoe RA120



Plate 8.2: Dog canine amulet RA286

Land-use Area	Description*/Group
L152 Enclosure S of trackway L163	Ferrous slag (18g); fuel ash slag (6g); iron nail 7 (G153), copper alloy coin RA98 (G161)
L154 Enclosure S of trackway L163	Copper alloy coin RA145 (G185); iron nail 2 (G206, G207); iron chisel RA190 (G207)
L155 Enclosure S of trackway L163	Iron hobnail RA193 (G179); iron bolt head RA173 (G183)
L156 Enclosure S of trackway L163	Copper alloy coin RA49 (G237); iron nail 2 (G219, G237); iron hobnails RA243, RA244, RA245 (G216, G219)
L163 Trackway	Iron hobnail RA165; iron nail; copper alloy annular ring RA138 (G224)
L181 Enclosure N of trackway L163	Copper alloy finger ring RA121 (G381); iron hobnail RA146 (G381); iron nail 3 (G381, G453)
L186 Enclosure N of trackway L163 Quern RA262 (G414)	
L183 Dispersed activity	Copper alloy brooch RA59 (G336); iron hobnail RA276 (G337); tooth amulet RA286 (G338); iron nail 7 (G332, G333, G338, G339, G457), copper alloy waste RA57 (G338); iron strip 2 RA211, RA287 (G333, G338) copper alloy strip RA56 (G338); quern 2 RA216, RA217 (G332, G337) millstone RA265 (G333)
L184 Livestock race	Iron hobnail RA376; iron nail (G370); copper alloy mount RA269 (G387)

* single item unless otherwise stated

Table 8.21: Phase 6 farmstead SL57 artefacts summary by Land-use Area

Land-use Area. A 3rd–4th-century copper alloy finger ring (RA121) of Henig's type XIII (1978, 39) derived from roundhouse G381 (L181).

Three bun-shaped rotary querns (RA216, RA217 and RA262) and a millstone (RA265) were associated with activity foci L183 and L186. The quern stones are of locally available Hertfordshire Puddingstone. Use of this stone type to manufacture 'bun-shaped' querns is thought to date from early in the Roman occupation, continuing into perhaps the later 2nd century (Peacock 2013, 161). The millstone appears to be of Millstone Grit, its presence indicating larger-scale grain processing and also access to traded goods from the Pennine region. Millstone Grit millstones are typically found in 2nd- to 4th-century deposits, although enough examples from 1st-century contexts are known to suggest a 1st-century origin for their production (Shaffrey 2015, 61).

Tools are represented by a possible socketed mortise chisel (RA190), collected from enclosure L154. Items with possible military connections comprise a narrow leaf-shaped bolt head blade with a socketed stem (RA173: L183, Plate 8.3), comparable to Manning's type IIA (1985, 175); and a cast copper alloy mount with an iron shank (RA269: L184, Plate 8.4). The mount resembles bell-shaped studs of the 2nd and 3rd centuries, variously interpreted as box fittings associated with the Roman military or short sword or dagger pommels (Allason-Jones 1985, 95–108).

General purpose items – the ubiquitous nails (24 examples), an annular copper alloy (harness?) ring, and iron and copper alloy strip fragments – were recovered from most Land-use Areas. None is closely datable and they provide no useful insight into activity within the farmstead.

SL58 First modification to the farmstead's layout

Deposits assigned to SL58 yielded 407 objects (53% of the Phase 6 assemblage), most associated with enclosure L160 and water-pits in enclosures L157, L159 and L160 (Table 8.22). The majority comprise general fasteners and fittings, among which iron nails are prevalent (137 examples). Where heads survived (74 instances), Manning's Type 1b general-purpose nails are most numerous (58), with smaller quantities of Types 1a (one), 2 (four), 3 (ten) and 4 (one) occurring (1985, 134–5). Single examples of a latch lifter (RA150: L167), padlock bolt (RA111: L169), T-clamp (RA301: L43), staple (RA309: L43) and possible hinge (RA141: L160) were also identified.

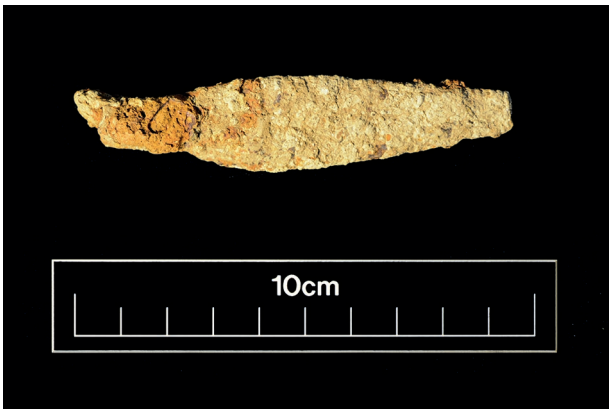


Plate 8.3: Narrow leaf-shaped bolt head blade with socketed stem RA173



Plate 8.4: Cast copper alloy mount with iron shank RA269

Evidence for craft/industrial activity is sparse. Nine enclosures yielded negligible quantities of ferrous smithing and smelting slag (most deposits weighing less than 50g: total weight 349g), and two fragments of scrap or bar iron. Finds relating to copper-working in the form of waste, off-cuts and folded scrap derived from six enclosures and two water-pits G211 (L157) and G212 (L159).

The few tools recovered were damaged and incomplete, hampering identification. Enclosure L158 and adjacent boundary L167 yielded a possible chisel (RA177) and a putative modelling tool/double-ended chisel (RA310), respectively. A more unusual object is a possible copper alloy hand saw blade (RA333, Plate 8.5) recovered from northern enclosure L202. Copper alloy saw blades are uncommon in the Roman period, although potential examples recorded on the Portable Antiquities Scheme (PAS) database are known from north-east England (PAS BM-AF446A; PAS NCL-B464CD). Water-pit G211 (L157) yielded two whittle tang knife blades of indeterminate form (RA179, RA181), while two further examples of Manning's types 6b (RA205) and 18b (RA166: 1985, 111 and 117) knife blades derived from a possible drying oven G169/170 and ditch G230, respectively, associated with enclosure L160. The possible drying oven also contained a small socketed pruning hook of Manning's type 3 (RA198: 1985, 57–8: Plate 8.6).

Household items comprise three small blue-green vessel glass fragments, possibly from prismatic bottles (L160 and L212) and two indeterminate colourless glass

Land-use Area	Description*/Group
L169 Trackway	Copper alloy coin RA112 (G260); copper alloy awl RA105; copper alloy padlock bolt RA111 (G262); iron nail; bone hair pin RA338 (G262)
L157 Enclosure S of trackway L169	Copper alloy coin 4 RA106, RA107, RA347; RA348 (G196, G197, G233); copper alloy spoon RA94 (G197); copper alloy stud RA349 (G233) Copper alloy coin RA106; iron nail (G210) copper alloy coin 4 RA90, RA92, RA174, RA223; copper alloy waste (60g); iron nail 13, iron knife 2 RA179, RA181; c/alloy offcut RA175; iron stud RA176; iron tack 2 (G211)
L158 Enclosure S of trackway L169	Copper alloy coin RA87 (G184); ferrous slag (46g); iron nail 5 (G190) iron hobnails 2 RA275, RA192 (G191, G193); iron fragments 2 (G190)
L159 Enclosure S of trackway L169	Iron strap RA194 (G180); ferrous slag (14g); iron nail (G192); glass vessel (G173) c/alloy bracelet RA155, RA159, c/alloy coin RA314; c/alloy earring RA157; iron nail 22; iron handle RA160; ferrous slag (16g); c/alloy waste RA156, RA158; iron hobnail 16 RA210, RA224; iron sheet RA163; (G212)
L160 Enclosure S of trackway L169	Iron nail 31 (G162, G169, G171, G172, G173, G213); iron bracket RA141 (G168); c/ alloy bracelet RA143; glass vessel (G162); iron hobnail 134 (G169, G172, G173, G175); iron knife RA205; iron pruning hook RA198, iron loop RA204 (G169); copper alloy stud RA167 (G213); iron knife RA166 (G160) copper alloy coin RA97; lead vessel patch RA95 (G232) iron buckle RA152; iron hobnail RA209; iron nail 2 (G236)
L161 Enclosure L60 – later activity	Iron hobnail 2 RA207; RA188 (G164, G166); iron nail (G164), c/alloy coin RA85 (G167)
L166 Enclosure S of trackway L169	Iron nail (G201)
L167 Southern settlement boundary	Iron nail 6 (G220, G221), silver coin RA50 (G221); worked flint 2 (G220), G221); copper alloy coin 7 (RA164, RA81–RA84, RA53, RA54 (G220, G221); iron modelling tool? RA310; iron latchlifter RA150; iron staple RA220 (G222)
L170 Enclosure N of trackway L169	Iron nail (G277)
L171 Enclosure N of trackway L169	Iron nail (G314); ferrous slag (39g) (G315)
L172 Enclosure N of trackway L169	Lead vessel patch RA117 (G318); c/alloy spearhead RA113; iron hinge RA311 (G355)
L173 Enclosure N of trackway L169	Ferrous slag (51g), iron nail (G307)
L174 Enclosure N of trackway L169	Copper alloy brooch pin RA122 (G382); ferrous slag (41g) (G383)
L191 Enclosure N of trackway L169	Iron ferrule RA257 (G349); copper alloy brooch pin RA317; iron nail 3 (G350)
L192 Enclosure N of trackway L169	Ferrous slag (40g) (G384)
L202 Enclosure N of trackway L169	Copper alloy saw RA333 (G363); iron nail 2 (G363, G371)
L212 Enclosure N of trackway L169	Iron cauldron hanger? RA307 (G393); iron nail 9 (G342, G460, G471, G473, G475); copper alloy coin 4 RA27, RA316, RA30, RA29; (G470, G475, G480); ferrous slag (13g); iron hobnail 3; glass vessel (G473);
L219 Enclosure N of trackway L169	Copper alloy coin RA18; c/alloy toilet implement RA17; iron nail (G496); iron nail (G497); copper alloy coin RA315 (G525)
L42 First modification of Enclosure L40	Iron nail (G65)
L43 Final modification of Enclosure L40	Quern RA339 (G68); iron T-clamp RA301, iron staple RA302 (G572); iron nail 27 (G68, G572); iron strip fragment 4 (G572)
L231 Enclosure	Ferrous slag (90g); iron nail 2 (G356)

* single item unless otherwise stated

Table 8.22: Phase 6 farmstead SL58 artefacts summary by Land-use Area



Plate 8.5: Copper alloy hand saw blade RA333



Plate 8.6: Small socketed pruning hook RA198

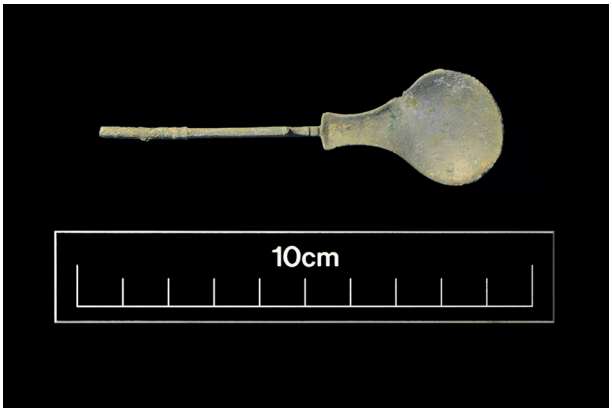


Plate 8.7: White-metal-plated spoon RA94

sherds (L158 and L167). The repair of ceramic vessels is suggested by two lead waisted vessel plugs (RA95 and RA117) from L160 and L172 respectively. The spirally twisted iron stem of a possible cauldron hanger (RA307: cf. Manning 1985, 100–1) derived from enclosure L212, and a white-metal-plated spoon with off-set handle, rat's tail and mandolin-shaped bowl (RA94: Plate 8.7) from enclosure L157. Mandolin-bowled spoons were used throughout the Roman period (Crummy 1983, 69). Enclosures L157 and L160 yielded two flat, circular studs with integral rivets (RA167 and RA349), which could have decorated straps, furniture or household boxes; they are not closely datable. A single abraded lava rotary quern fragment (RA339) was associated with the final modification (L43) of enclosure L40.

In contrast with the distribution pattern noted in the original farmstead SL57, personalia more frequently occurred south of trackway L169. A later 3rd- to 4th-century light bangle bracelet (type indeterminate) of small diameter (RA143), possibly belonging to a child, was collected from enclosure L160. Water-pit G212 (L159) contained a cable twist bracelet (RA159: Plate 8.8) of Cool's group 1 (1983, 120), broadly of 2nd- to 4th-century date and a light bangle bracelet (RA155: Plate 8.9), possibly Cool's Group XXXV A (1983, 196) of the late 3rd to 4th century. Joining fragments from a looped copper alloy wire ring (RA157) may have served as an earring (cf. Crummy 1983, fig. 53, no. 1798). A total of 156 pyramidal-headed hobnails (Manning type 10, 1985, 135) were collected, all but three from southern enclosures, principally L160 (G172), which produced 134 examples. Trackway L169 yielded a 1st- to 3rd-century bone hair pin (RA338) of Greep's type A2.1 (1995, 1116–17).

Northern enclosures L191 and L219, respectively, produced a copper alloy hinged pin (RA317) from a 'rolled-under head-type' bow brooch (cf. Hattatt 1982, fig. 11) and part of a copper alloy bar and loop handle (RA17), used for the suspension of toiletry sets (cf. Crummy 1983, fig. 67, no. 1943).

The only item potentially relating to the military is an iron rectangular buckle frame (RA152) from water-pit G236 (L160), broadly datable to the Roman period. The vast majority of buckles from Roman sites probably come from military equipment; they may have been used on *lorica segmentata*, or with leather straps or belts (Manning 1985, 146).

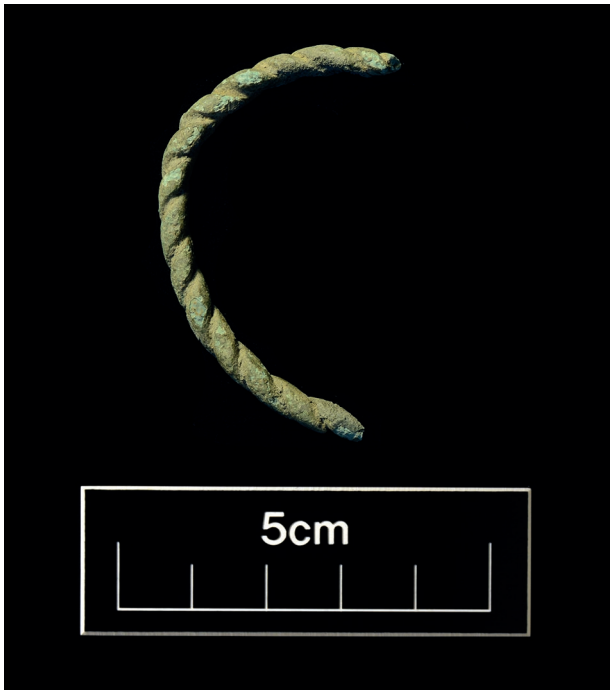


Plate 8.8: Cable twist bracelet RA159

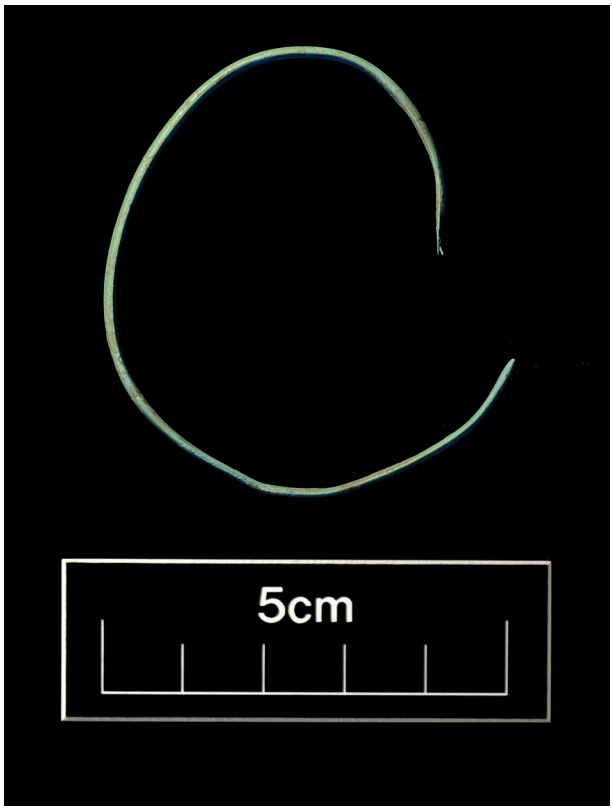


Plate 8.9: Light bangle bracelet RA155

A total of 28 predominantly late Roman coins were recovered from eight of the enclosures, 21 from those south of trackway L169, six from enclosures to the north and a single example from the trackway roadside ditch (*see* Guest above).

Land-use Area	Description*/Group
L179 Trackway	Copper alloy coin 2 RA66, RA67 (G226)
L175 Enclosure N of trackway L179	Iron nail 2 (G284, G303); iron hobnail 4 RA260, RA285 (G302, G303); ferrous slag (21g); iron loop-headed spike RA370 (G303); quern RA259 (G306)
L178 Enclosure N of trackway L179	Glass vessel (G265); iron tack (G286); iron nail 11 (G265, G286, G289, G317); ferrous slag (42g); copper alloy stud RA110 (G289)
L185 Enclosure N of trackway L179	Iron nail 3 (G341); copper alloy coin RA101 (G375); iron drill bit RA116 (G341); copper alloy handle RA224; c/alloy mirror RA115; c/alloy hair pin RA324 (G341)
L196 Enclosure N of trackway L179	Iron nail 36 (G392, G394, G439, G454, G461); ferrous slag (114g) (G392); copper alloy brooch RA61; c/alloy coin RA62; c/alloy nail cleaner RA60 (G394); quern RA306; ferrous slag (3g); iron bar 2 RA214, RA379; c/alloy sheet RA63 (G394) iron strap RA215 (G439); iron hobnail 17 RA233, RA367, RA375 (G454); ferrous slag (100g); iron wool comb RA227; iron knife RA231; iron punch RA226; iron spearhead RA225; iron fragment RA230, RA232, RA368, RA369 (G454); iron fragment RA71–RA73 (G461)
L199 Enclosure N of trackway L179	Iron binding RA274 (G441); copper alloy stud RA51; iron nail (G443)
L216 Enclosure N of trackway L179	Iron nail (G476)
L49 Field	Copper alloy cast sheet (mirror?) RA126 (G87)
L51 Field	Iron drop handle RA308 (G89)
L44 Discrete enclosure	Copper alloy coin RA23 (G84)
L53 Discrete enclosure	Iron spearhead RA10 (G530)
L207 Discrete enclosure	Silver coin RA15 (G489); iron nail (G491)
L209 Discrete enclosure	Iron nail 2 (G493, G517)
L217 Discrete enclosure	Iron hobnail RA132; iron nail (G502)
L224 Discrete enclosure	Iron nail 6 (G73, G76, G81); iron strip RA297 (G81)
L232 Quarry pits	C/alloy bracelet RA332; c/alloy figurine RA334 (G363); iron drill bit RA247 (G364); iron hinge RA238, iron knife RA241, iron lock plate RA239; iron saw blade RA242; iron staple RA292 (G364); c/alloy bracelet RA134; iron ferrule RA343 (G436); quern RA343 (G436); iron nail 24 (G363, G364, G435, G436, G438, G459); iron hinge RA68; whetstone RA 185 (G437); iron hinge RA68; iron stylus RA251 (G438) iron wall hook RA252 (G438); iron fragments 12 (G363, G364, G438, G459) iron binding RA 256 (G459); ferrous slag (3.4kg) (G364, G435, G436, G438);
L237 Parallel ditches	Lead pan weight RA48 (G376)
L244 Unenclosed pits	Ferrous slag (232g); iron ox goad RA130; hobnail 26 RA103, RA364; nail 4 (G397)

* single item unless otherwise stated

Table 8.23: Farmstead SL59 artefacts summary by Land-use Area

SL59 Second modification to the farmstead's layout

SL59 features yielded 219 objects (28% of the Phase 6 assemblage), most from enclosures north of trackway L179, principally L196, and quarry pits L232 (Table 8.23). As in SL58, general fasteners and fittings make up the bulk of the assemblage, including 92 timber nails (principally Manning type 1b: 1985, 134–5), which were recovered from most Land-use Areas. Other iron structural fittings derive mainly from quarry pits G232 and comprise loop-headed spikes (two examples), bindings (four), drop and strap hinges (three), and single examples of a wall hook and lock plate, none of which is closely datable.

Tools are more numerous than in SL57 and SL58 with low-level metalworking attested by a punch (RA226) from northern enclosure L196, along with cake slag (1.3kg) and smelting slag (1.6kg) from quarry pits L232. Woodworking is suggested by a drill spoon bit (RA116) – a type most commonly favoured by Roman carpenters (Manning 1985, 26) – from northern enclosure L185. Quarry pits L232 also yielded a drill bit head (RA247) and a serrated iron blade from a possible bow saw (RA242). Textile processing is evidenced by a double-ended iron wool comb (RA227: Manning 1985, 34) from enclosure L196. Two unclassifiable iron knife blades (RA231 and RA241) derived respectively from enclosure L196 and quarry pits L232. The latter also yielded a secondary whetstone (RA185) in quartz-rich sandstone.

Horticultural/agriculture activity is suggested by an ox goad (RA130: pits L244) and a probable bill-/reaping hook blade (RA236: quarry pits L232). In addition, a small number of fragments of rotary quern stones of lava (L175, L232) and quartz conglomerate (L196) were recovered.

Personalia, some datable to the 1st and 2nd centuries so suggestive of long use or residuality, include two copper alloy penannular bracelets: one of Cool's Group VI (RA332) and the second (RA134: Plate 8.10) of Cool's Group VIIIB (1983, 140 and 144), both recovered from quarry pits L232. Northern enclosure L196 yielded a copper alloy Colchester derivative brooch (RA61: Plate 8.11) with a fantail foot of Mackreth's CD H 6bc Nene Group (2011, 88–9), and a leaf-shaped copper alloy nail cleaner (RA60) of Crummy's type 2a (1983, 58). A copper alloy hair pin (RA324), probably of Cool's Group 5 sub-group D (1991, 157) derived from northern enclosure L185, which also yielded a silvered copper alloy fragment with incised decoration (RA115), possibly from a Lloyd-Morgan Group G hand mirror (1977, 238). Fifty iron hobnails derived from dispersed features across the site.

With the exception of an iron drop handle (RA308) recovered from field L51, household items derive from northern enclosures L178, L196 and L199. They respectively comprise a 1st–3rd-century blue-green vessel glass body sherd fragment, a rim from a sheet copper alloy



Plate 8.10: Copper alloy penannular bracelet RA134

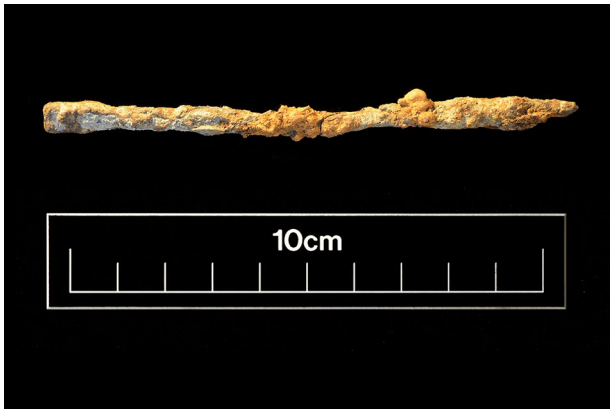


Plate 8.12: Iron stylus RA251

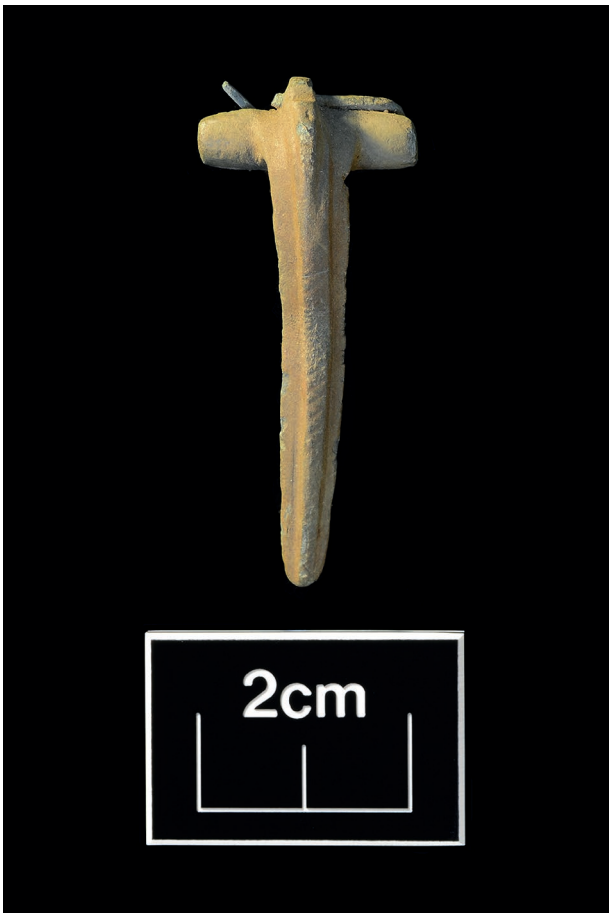


Plate 8.11: Copper alloy Colchester derivative brooch RA61

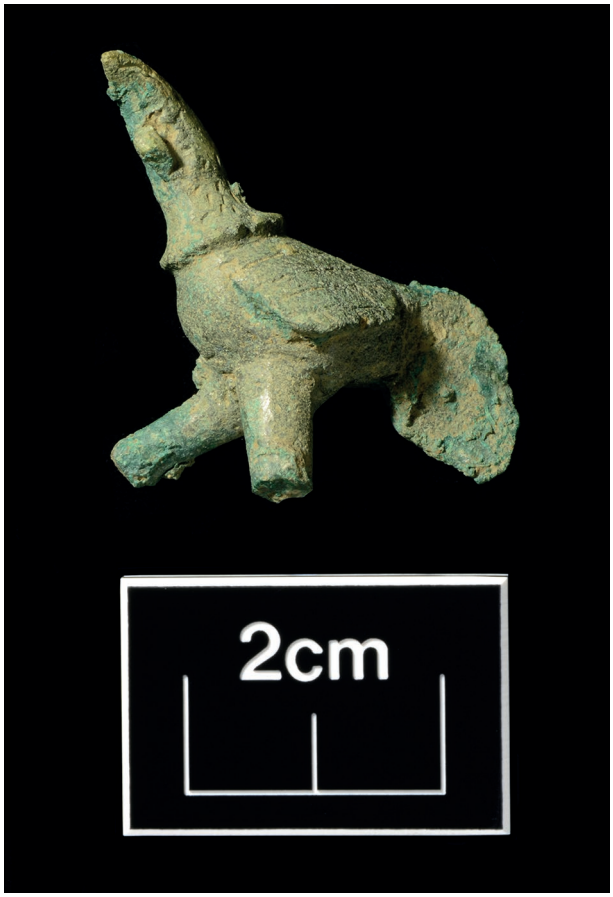


Plate 8.13: Votive cast copper alloy cockerel figurine RA334

vessel (RA63), and a decorative circular copper alloy box stud (RA51: cf. Crummy 1983, fig. 120). An iron stylus (RA251, Plate 8.12: Manning type 2, 1985, 85) derived from quarry pits L232.

A votive cast copper alloy cockerel figurine (RA334, Plate 8.13) was recovered from quarry pit G363 (L232). The object may be part of a miniature sculptural group depicting the god Mercury, who was invoked by merchants, thieves and travellers, and could have occupied a small household shrine or niche. Numerous examples are known from Roman sites, including Colchester (Crummy 1992, 240, fig. 6.41).

Military items collected respectively from northern enclosures L196 and L178 are an iron midrib and closed socket spearhead (RA225, Plate 8.14) of Manning's 'anomalous forms' group (1985, 168) and a 2nd-century flat copper alloy circular stud with enamelled decoration (RA110: Plate 8.15). Decorative studs were used for a variety of purposes – larger examples for bridle adornment, and smaller examples for box fittings or decorating copper alloy sheet (Cool 1998, 102). A small iron spearhead (RA10, Plate 8.16) of Manning's Group III (1985, 166) was the sole find from enclosure L53 (which contained one of the possible buildings).

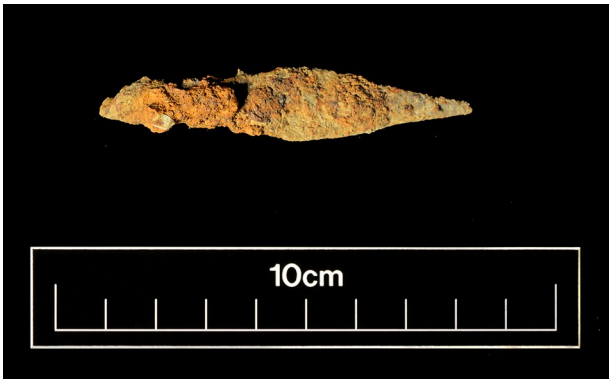


Plate 8.14: Iron midrib and closed socket spearhead RA225

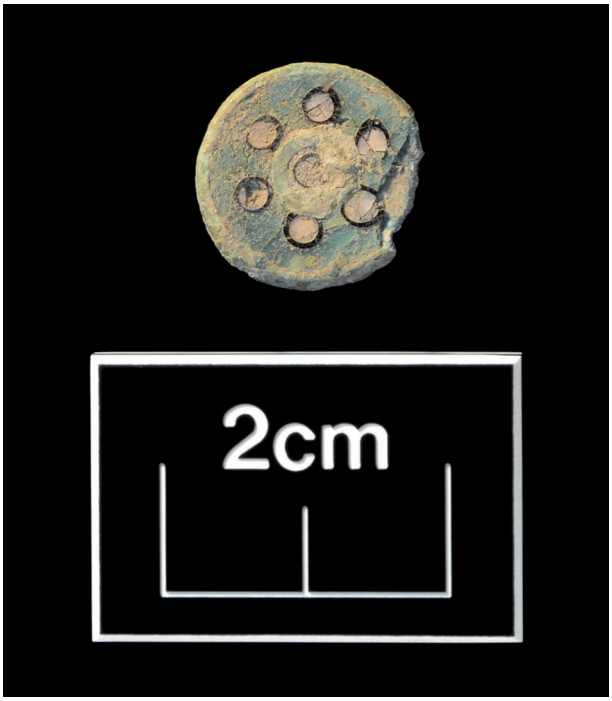


Plate 8.15: Copper alloy circular stud with enamelled decoration RA110

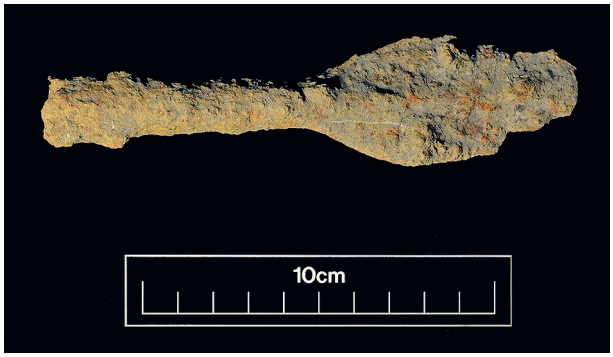


Plate 8.16: Small iron spearhead RA10

Coinage is poorly represented in comparison with the SL58 assemblage, comprising only six examples of late 3rd-/early 4th-century date (*see* Guest above).

Twenty-six general/multi-purpose iron strip, strap and sheet fragments were collected mainly from northern enclosure L196 and quarry pits G232. None is closely datable and they provide no useful insight into activity within this part of the farmstead.

SL60 Third and final modification to the farmstead's layout

Features assigned to SL60 yielded 82 artefacts (11% of the Phase 6 assemblage), the largest group deriving from northern settlement boundary L221. A similar range of objects to those occurring in the preceding iterations of the farmstead was collected (Table 8.24). The majority comprise general fasteners and fittings – 36 timber nails and a timber dog (RA288). Thirteen late Roman coins derived primarily from boundary L221 (*see* Guest above). Of particular interest is a votive carving crudely fashioned from local Totternhoe Clunch (RA296), recovered from boundary ditch G507 (L221). The nature of the carving is suggestive of an amateur sculptor, and the object is thought to be unparalleled from Eastern Britain (*see* Henig below).

Personal items are poorly represented: two joining pieces of a late 3rd- to 4th-century copper alloy bangle bracelet (RA123/RA133: Plate 8.17) of Cool's Group XXXI (1983, 181) with multiple unit ring-and-dot and notched decoration and a hook-and-eye fastening derived from boundary L221. The same feature contained part of a possible mirror mount (RA356), made from copper alloy with repoussé grooves along the edges of the corner and around a curved arc (openwork circle?). Single hobnails were collected from northern enclosures L208 and L227.

A number of items, mainly deriving from the northern enclosures, were associated with low-level craft and agricultural activity (metalworking, grain processing and textile manufacture). Five Roman rotary quern fragments occurred in enclosures L197 and L226; boundary L221, and quarry pits L225. Three are of continental lava (RA340, RA345 and RA377) and include a virtually complete upper stone with an upright skirt and wedge-shaped Sussex-type handle slot, the latter unusual on lava querns, although not unknown. The brittle quern stones were probably imported only partly completed, accounting for the considerable variation observed in their style and finish (Watts 2002, 33). Two quartz conglomerate fragments, both with worn grinding surfaces (RA284 and RA341), were also identified.

Household items recovered from enclosures are single examples of a whittle tang knife (RA266) of Manning type 18b (1985, 117) and a worn Kentish ragstone primary whetstone (RA264), deriving respectively from L220 and L227. Enclosure L226 yielded a blue-green glass fragment from the base of a prismatic bottle (RA318) of 1st- to 3rd-century date. A waisted lead vessel repair (RA52) from enclosure L198, and a lathe-turned flat biconical shale spindlewhorl (RA212) from enclosure L223 were also recovered.

Enclosure L197 and quarry pits G434 (L225) yielded *c*. 500g of ferrous smithing slag, including a partial hearth bottom. A ceramic crucible fragment (RA290) suggestive of copper working also occurred in enclosure L197.

Items with possible military associations derived from enclosures L197 and L226; respectively a 4th- to 5th-century copper alloy belt buckle (RA44: Plate 8.18) of Hawkes and Dunning type II A (1961, 50–1, fig. 17)

Land-use Area	Description*/Group
L50 Field	Rubbing/polishing stone RA313 (G88)
L197 Enclosure N of trackway L180	Copper alloy buckle RA44 (G426)
	Ferrous slag (62g); ceramic crucible RA290; iron handle RA289 (G428)
	Ferrous slag (85g); iron nail 2; iron staple RA288; quern RA341 (G429)
L198 Enclosure N of trackway L180	Copper alloy coin RA267; iron nail; lead vessel repair (G365)
L208 Enclosure N of trackway L180	iron hobnail RA69; iron nail 2 (G514, G550)
L220 Enclosure N of trackway L180	Iron strip fragments RA322, RA323 (G463); copper alloy coin RA26 (G508;
	Copper alloy coin RA20; iron knife RA266 (G509)
	Iron strap fragment RA372; iron nail (G546)
	Copper alloy moulded rod RA58 (G554)
L222 Enclosure N of trackway L180	Iron nail 3 (G431)
	Copper alloy coin RA222; iron cleat RA221; iron strip RA346 (G433)
L223 Enclosure N of trackway L180	Iron nail 2 (G299, G566); shale spindle whorl RA212 (G305)
L226 Enclosure N of trackway L180	Iron nail 7 (G273, G274, G276, G290, G291); quern RA345 (G291);
	Copper alloy coin RA109; glass vessel RA318; copper alloy strap mount RA335 (G290)
L227 Enclosure N of trackway L180	Iron nail 10 (G267, G268, G271, G272); iron bar fragment RA320 (G272);
	Iron hobnail RA263; whetstone RA264 (G271)
L221 Farmstead boundary	Copper alloy bracelet RA123/RA133 (joining); copper alloy coins 7;
	Copper alloy strap end? RA47; quern 2 RA340, RA377; iron nail 4;
	Stone sculpture RA296; copper alloy mirror mount RA356 (G507)
L225 Quarry pits	Ferrous slag (356g); iron sheet fragment RA187 (G434)
	Copper alloy coin RA22; iron nail (G523)
	Iron strip RA131; iron object RA182; quern RA284; iron nail 3 (G524)

* single item unless otherwise stated

Table 8.24: Phase 6 farmstead SL60 artefacts summary by Land-use Area

and a cast copper alloy phallic strap mount (RA335: Plate 8.19). Phallic amulets were intended to confer virility or potency on their owners and although commonly associated with the army, they may also have been worn in civilian life (Crummy 1983, 139).

Phases 7 and 8: medieval and post-medieval

Medieval furrows SL61 (Phase 7) yielded three residual late Roman coins and a 3rd-century enamelled copper alloy finger-ring (RA119) of Henig's type XIII (1978, 39). A probable rectangular copper alloy buckle frame (medieval?), an undated possible end plate (copper alloy) from a whittle tang knife, and a lead alloy waste fragment (11g) were also collected.

Part of an undatable hair pin or stud with a biconical flattened copper alloy head and iron shank was recovered from post-medieval field boundaries SL62 (Phase 8).

Phase 9: Modern

Roman finds metal-detected mainly from subsoil L265 include 40 Roman coins (*see* Guest above) and various personal objects: 46 iron hobnails, two mid-1st- to 2nd-century brooches of Colchester Derivative (RA129) and Hod Hill (RA281) hinged pin form (respectively Mackreth's CD Ha 1.a2 (2011, 51–2) and Mackreth's Hod Hill 10c (2011, 141)), and single examples of a probable mirror fragment (RA355), harness or apron mount (RA282), strap mount (RA118), and possible stylus tip (RA11), all of copper alloy.

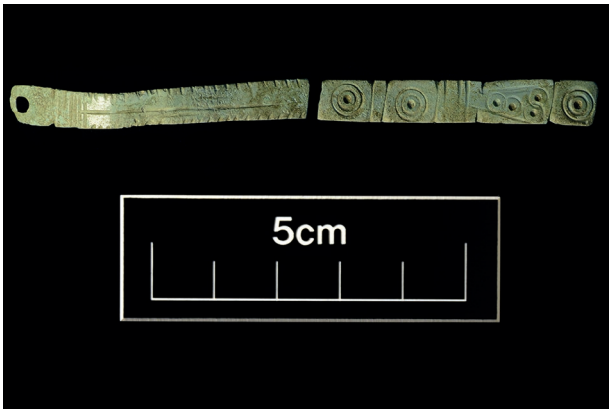


Plate 8.17: Two joining pieces of a late 3rd- to 4th-century copper alloy bangle bracelet RA123/RA133



Plate 8.18: Copper alloy belt buckle RA44

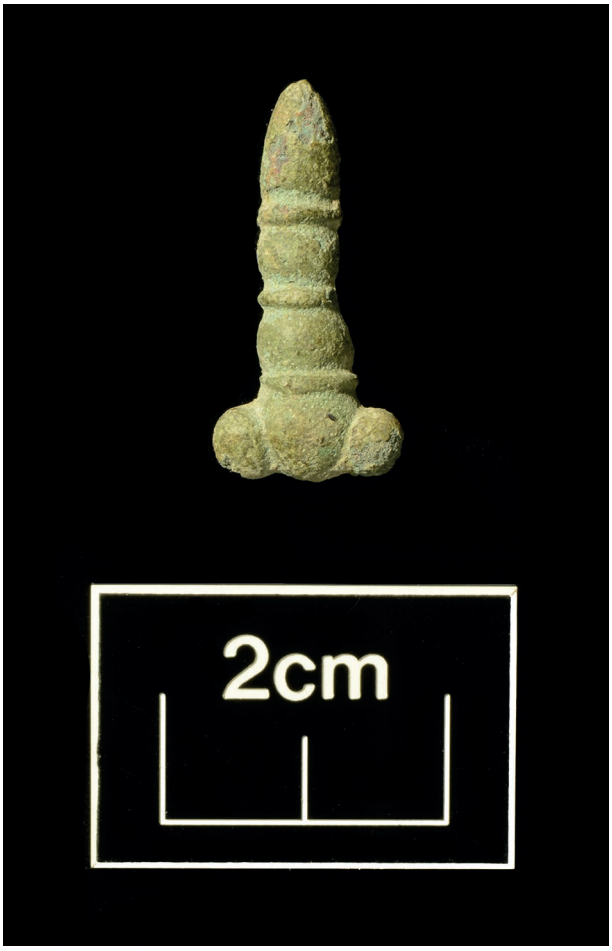


Plate 8.19: Cast copper alloy phallic strap mount RA335

Hand-collected finds comprise two bun-shaped Hertfordshire Puddingstone rotary quern fragments, spanning the late Iron Age to the 2nd century, and a portion of Roman lava rotary quern.

8.6 STONE SCULPTURE

by Martin Henig

A worked fragment of stone (RA296) was recovered from ditch G507 (L221) in the final layout SL60 of the Phase 6 Roman farmstead. The sculpture has been carved essentially in relief on a small block of Totternhoe Clunch (Plates 8.20 and 8.21). It depicts a standing figure wearing a short tunic, so he is presumably male. His head, right shoulder and upper left shoulder are lost; his arms fall from the shoulder, the lower arms curving towards the waist to hold an object, possibly an offering. His feet are indicated. Adjacent to the left hand of the figure, immediately above the arm, are three to four semi-circles (diameter 6–7mm) shallowly carved. The back of the block has been smoothed so the sculpture may have stood against a wall in a building, possibly a rural shrine. The nature of the carving is suggestive of an amateur rather than a professional sculptor. The sculpture is sub-triangular in section, tapering rectangular in plan, back flat (roughly chiselled), base roughly flat. Ht. 148mm; w. 89.5mm; th. 66mm (at base).

There are no known parallels from Eastern Britain which resemble RA296. However, there are some simple sculptures from the Cotswolds which are in the same rustic tradition, some depicting a warrior deity (Henig 1993, 42–3, figs 126–30), and others local genii often portrayed in triplicate (Henig 1993, 33–7, figs 95–7 and



Plate 8.20: Stone sculpture RA296 (front view)



Plate 8.21: Stone sculpture RA296 (side view)

107–9). The semi-circular marks presumably have some sort of meaning, as did the arrangement of five depressions on two of the warrior figures from Chedworth (Henig 1993, figs 126–7). One rather better carved genius on a relief from Wycomb, Andoversford is carved with his arms in the position as on RA296 and is clearly holding an apple or other fruit (Henig 1993, 35, fig. 104).

In Gaul, a number of sculptures from the source of the River Seine depict pilgrims venerating the goddess Sequana, some of them bearing fruit or an animal (Deyts 1994, 20–7, pls 1–5; Aldhouse-Green 1999, 10–16, figs 5–9). There is inevitably some ambiguity as to whether a god, even a minor genius, was intended or a votary. If it were placed before a shrine with a major image in it, it would probably have stood for the person who carved it or had it carved, but if it stood by itself in a place of honour, perhaps in a specially prepared niche, it was presumably a household god receiving the gift of the person or persons who lived there.

Chapter 9

Ecofacts

9.1 INTRODUCTION

The excavation yielded an ecofacts assemblage comprising animal bone, charred plant remains, charcoal and human remains. The material is discussed below; where appropriate, methodologies are outlined in each section.

9.2 ANIMAL BONE

by Mark Maltby

Analytical methodology
All the bones and teeth recovered from the excavations were recorded individually onto a relational database (Microsoft Access). The following data were recorded where appropriate for each specimen: species; anatomical element; zones of bone present; approximate percentage of bone present; gnawing damage; erosion; weathering; concretions; burning (charring and calcification); fusion data; associated bone group; sieved sample number; other comments including observations of pathology. Separate tables linked to the main table by an individual identification number were created for metrical and tooth ageing data. Tooth eruption and wear descriptions for cattle and sheep/goat followed Grant (1982). Measurements were selected from those recommended by von den Driesch (1976). All fragments, including loose teeth, shaft fragments, rib heads and vertebrae were recorded to species level where possible.

Phase 2: Late Neolithic/early Bronze Age
Twelve animal bone fragments were found in the outer ring-ditch L2. Preservation was quite poor and nearly all the bones were eroded and fragmented. Ten of the bones could be identified. A minimum of four cattle were represented by fragments of three radii, two metatarsals and a mandible. Three different cattle were represented by the radii, all of which had fully fused proximal epiphyses, likely to be from animals over a year old. The mandible came from a younger calf that probably died between six and twelve months old. Sheep/goat was represented by a tibia shaft fragment. A radius shaft fragment and the fused distal end of a metacarpal found in association could have been from the same adult red deer. A largely complete horse metatarsal was also recovered.

The placement of cattle bones in association with late Neolithic and Beaker funerary monuments was quite a common occurrence in southern and central England (Wilkin 2011, 64–95) but the deposition here was not on the same scale as the spectacular finds at Irthlingborough or Gayhurst in Northamptonshire (Davis and Payne 1993, 12–22; Deighton 2005, 114–18; Towers *et al*. 2010, 508–15). Red deer antlers are frequently associated with these monuments but finds of their bones are much rarer (Wilkin 2011, 64–95). The presence of horse could potentially have been very significant. Previous claims for the introduction of horses in the late Neolithic or early Bronze Age period in Britain and Ireland have not been supported by direct radiocarbon dating, which has not been able to confirm the presence of horses in Britain any earlier that the later second millennium BC (Bendrey *et al*. 2013, 91–103). Given that there was substantial later activity on the site, it was decided to obtain a radiocarbon determination which gave a result of 976–834 cal BC at 95.4% probability (SUERC-89916). This bone is, therefore, late Bronze Age in date.

Phase 3: Middle–late Bronze Age
A total of 47 animal bone fragments were recovered, of which only 13 were identified. Features in field system SL52 produced ten fragments, including an adult cattle fourth premolar and a mandible fragment. Part of a mandible of a sow was also found. The 28 fragments from dispersed activity area SL53 came mainly from a small pit G150 (L18). Only eight elements, all from cattle, were identified. These included an associated bone group (ABG1) that consisted of the distal epiphysis of a femur and the complete tibia, calcaneus and astragalus from the right hindlimb of a calf. All the bones were porous indicating that the animal was under a year old. A radius and carpal found in the same context could have belonged to the same calf. There was no evidence of butchery or gnawing on any of these bones. ABGs of several species were found in a number of late Bronze Age/early Iron Age pits at Biddenham Loop, for example (Maltby 2016a, 6–7). Whether this group represents a ritual deposition of a young calf or a more prosaic disposal of a carcass that was not exploited for food is impossible to determine based on this isolated find, although the proximity of the pit to cremation cemetery L14 should be noted. Parts of a cattle ulna and scapula were found in the same pit. One of the postholes in G151 (L18) produced a fragment of a sheep/goat radius.

Nine animal bone fragments were retrieved in sieved samples from the urned cremation burial SG148 (L12). Seven were calcified and one, a sheep/goat deciduous upper premolar, was charred. None of the other fragments was identified, although three calcined limb bone fragments had internal structures similar to humeri of medium-sized mammals, possibly sheep/goat or pig.

Phase 4: Early Iron Age
Unenclosed settlement SL54
Eight elements, including three of cattle, two of horse and one sheep/goat, were recovered from roundhouses G158, G418 and G494 (all L29).

Phase 5: Late Iron Age/early Roman
Enclosed farmstead SL55

Rectangular enclosure containing water-pits, a pit and posthole L21
These features produced a total of 59 animal bone fragments, most of them eroded. Twenty-two of the 31 identified elements belonged to cattle. These included eight vertebrae from water-pit G48, some of which

could have belonged to the same animal. Small numbers of sheep/goat and pig were also found (Table 9.1). The distal end of a red deer tibia was found in ditch G27.

Field L22
Only two weathered bone fragments were recovered. These were identified as a cattle metacarpal and a horse first phalanx.

Field L24
An eroded portion of a dog metatarsal was the only bone recovered.

Domestic focus L28
L28 produced the most animal bones from Phase 5. Preservation was generally quite good but slight weathering was observed on many elements. The 194 fragments included 108 identified specimens (Table 9.1). Sheep/goat elements (38) were the most commonly represented. These included eight mandible fragments from at least six jaws and eight tibia fragments from at least four different bones. The humerus and radius were each represented by five fragments. Fine knife cuts were observed on an immature sheep femur found in pit G46 and on a humerus in ditch G23. Cattle elements (32) were also well represented. These included five cervical vertebrae from the neck of a young adult from pit G46 (ABG2). No evidence for butchery was found on any of these. Deep incisions were observed on several aspects of a first phalanx shaft from pit G46. A largely complete cattle radius was recovered from enclosure ditch G20.

The 17 dog bones included 13 from an adult in pit G46 (ABG3). Most of the bones came from the upper forelimbs but a few ribs, small portions of the cranium, and a tibia were also recovered. There was no evidence for carcass processing but it is uncertain whether the complete carcass was deposited. None of the foot bones or vertebrae was recovered. The 16 pig elements included four mandible fragments from at least three jaws and parts of three different scapulae. Only four horse elements were recorded, all from shallow depression G40. A chicken ulna was found in the same feature.

Enclosure L31
Only ten bone fragments were recovered, including five of unidentified mammal. Elements of cattle, sheep/goat, horse and a mandible of an adult dog were identified (Table 9.1).

Enclosure L32
A single unidentified mammal fragment was retrieved.

Unenclosed activity focus SL56
Small enclosure L30
Five elements were recovered including a sheep/goat mandible fragment and a cattle metatarsal.

Phase 5 Discussion
A total of 272 animal bone fragments were retrieved from seven Land-use Areas, mainly from enclosed farmstead SL55. These included 123 unidentified fragments. Cattle were the most commonly identified species followed by sheep/goat. Pig, dog, horse, red deer and chicken were recorded in smaller numbers (Table 9.1). The assemblage was generally moderately preserved. Erosion damage, occasionally severe, was recorded on 22 (14%) of the identified elements. There was a lot of evidence for weathering, which was recorded on 80 (54%) of the identified bones, although the damage was minor in most cases. Canid gnawing was observed on 15 bones: cattle (7), sheep/goat (3), pig (3) and horse (2). Twenty-six elements were burnt. All bar four of these were unidentified mammal fragments. Butchery marks were observed on only three bones. Measurements were taken on 20 bones and tooth ageing data was available on 17 jaws. Epiphyseal fusion data was obtained from 27 fusion points of limb bones, mainly of cattle (11), sheep/goat (6) and pig (6).

The main area for bone deposition was domestic focus L28, indicating that the processing of animal carcasses and subsequent deposition of food waste was concentrated there. In addition, pit G46 became the depository of some associated groups of bones. The same may be true of water-pit G48 in the adjacent enclosure L21.

Excluding the associated bones from G46 (ABG2), cattle provided 39% of the identified elements (Table 9.1). Cattle usually provide the highest number of bones found on Iron Age and Roman sites in Bedfordshire, although this is quite a low percentage compared with some sites (Maltby 2012). Sixteen (26%) of the cattle elements were vertebrae, some of which were in ABGs (Table 9.2). Butchery marks were observed on only one

	SL55						SL56			
	L21	**L22**	**L24**	**L28**	**L31**	**L32**	**L30**	**Total**	**ABGs**	**%**
Cattle	22	1	–	32	2	–	1	58	5	38.7
Sheep/goat	4	–	–	38	1	–	1	44	–	32.1
Pig	3	–	–	16	–	–	–	19	–	13.9
Horse	1	1	–	4	1	–	–	7	–	5.1
Dog	–	–	1	17	1	–	–	19	13	4.4
Red deer	1	–	–	–	–	–	–	1	–	0.7
Chicken	–	–	–	1	–	–	–	1	–	0.7
Total identified	31	2	1	108	5	0	2	149	18	
Unidentified	28	–	–	86	5	1	3	123		
Total	**59**	**2**	**1**	**194**	**10**	**1**	**5**	**272**		

Counts are of numbers of individual specimens (NISP)
Total includes bones from sieved samples
Totals include associated bone groups (ABGs)
% excludes bones assigned to ABGs of four or more bones

Table 9.1: Phase 5 late Iron Age/early Roman animal bone

	Cattle	S/G	Pig	Horse	Dog	Red deer	Chicken
Horn core	1	–	–	–	–	–	–
Skull frags	5	–	–	–	1	–	–
Maxilla	4	–	–	–	1	–	–
Mandible	2	10	6	1	1	–	–
Loose teeth	4	1	1	–	–	–	–
Scapula	–	1	3	–	1	–	–
Humerus	1	6	4	1	2	–	–
Radius	5	6	1	1	3	–	–
Ulna	–	–	–	–	3	–	1
Pelvis	3	1	1	–	1	–	–
Femur	3	2	1	1	–	–	–
Patella	–	–	–	–	–	–	–
Tibia	3	10	1	1	1	1	–
Astragalus	4	–	–	–	–	–	–
Calcaneus	1	–	–	–	–	–	–
Metacarpal	1	2	1	–	–	–	–
Metatarsal	4	2	–	1	1	–	–
Metapodial	–	–	–	–	–	–	–
Phalanx 1	1	–	–	1	–	–	–
Phalanx 2	–	–	–	–	–	–	–
Phalanx 3	–	–	–	–	–	–	–
Atlas (VC1)	–	–	–	–	–	–	–
Axis (VC2)	2	–	–	–	–	–	–
Cervical vertebrae	7	1	–	–	–	–	–
Thoracic vertebrae	4	–	–	–	–	–	–
Lumbar vertebrae	2	–	–	–	–	–	–
Sacrum	–	1	–	–	–	–	–
Ribs	–	2	–	–	4	–	–
Total	57	45	19	7	19	1	1

S/G = sheep/goat
Counts include elements in ABGs

Table 9.2: Phase 5 animal bone elements

bone: a first phalanx which had been inflicted with some rather heavy-handed cuts during initial skinning. The only ageable cattle mandible had a second molar in an early stage of wear and belonged to an animal probably slaughtered in its second year (Jones and Sadler 2012). No porous bones of young calves were recovered and seven fused early fusing epiphyses also indicated that most of the cattle represented were over a year old.

Sheep/goat provided 32% of the identified elements excluding ABGs. These included five elements that were positively identified as sheep whereas none was assigned to goat. Mandible and tibia fragments were the most abundant elements (Table 9.2). Two bones bore cuts marks inflicted by fine blades typical of Iron Age butchery methods. Eight mandibles provided ageing data. Three only had the first molar in wear and belonged to sheep under a year old (Jones 2006). Three had two molars in wear and probably belonged to animals culled for meat in their second year. The final two were from mature adults. A humerus had developed a hook of bone on the lateral aspect of its distal end. This condition, sometimes referred to as penning elbow, can be caused by a variety of factors but does tend to be more common in older animals. A focus on meat production is implied by the bias towards the culling of younger sheep, although the small sample size should be noted.

Pig accounted for 14% of the identified elements excluding ABGs. Pigs usually form less than 10% of the bones from Iron Age and Roman sites in the county (Maltby 2012), so this figure is slightly higher than usual – albeit from a small assemblage. Mandibles and humeri were the best represented bones (Table 9.2). Two mandibles with only slight wear on their first molars belonged to piglets. Two others had all three molars in wear and belonged to adults probably culled in their third year (Bull and Payne 1982).

Horse bones accounted for only 5% of the identified bones. No evidence for butchery was noted on any of the nine elements, although this does not prove that horseflesh was not eaten. Gnawing marks on two bones showed that dogs at least had access to some of the bones.

Most of the dog bones came from a partial skeleton of an adult (ABG3). The greatest length of the humerus (167mm) indicates that it belonged to quite a large animal with a shoulder height of around 55cm (Harcourt 1974). ABGs of dogs have been commonly found on Iron Age and Roman sites (Morris 2011, 42–3, 66–8). The only bone of a wild mammal was a red deer tibia. The low incidence of bones of wild mammals, birds and fish is typical of assemblages of this date from the region. One bone of chicken was identified. Chickens have been found in small numbers on some (mainly late) Iron Age and Roman rural sites in Bedfordshire.

Phase 6 Roman

Establishment of farmstead SL57

A total of 555 animal bone fragments were collected from nine Land-use Areas. These included 247 unidentified fragments. The identified material was dominated by cattle, although their numbers were inflated by bones from two associated bone groups (ABG4 and ABG5). Sheep/goat elements were the second most commonly

identified. Horses were moderately well represented but pig elements were rarely encountered. Most of the dog bones were found in small groups. Single finds of chicken, frog and rodent were also recorded (Table 9.3). The assemblage was better preserved than those from earlier phases. Erosion damage was recorded on only seven (2%) of the identified elements. There was quite a lot of evidence for weathering, which was noted on 74 (24%) of the identified bones, although damage was usually slight. Canid gnawing was observed on 42 (14%) bones: cattle (26), sheep/goat (9), pig (2) and horse (5). Only three fragments, including one of sheep/goat, were burnt. Butchery marks were observed on one sheep/goat and seven cattle bones. Measurements were taken on 32 bones, including 26 cattle elements and tooth ageing data was available on 31 jaws mainly of cattle (18) and sheep/goat (9).

Enclosure L152
A total of 82 bone fragments were recovered, including 49 of unidentified mammal. Cattle elements (17) were the most commonly identified. These included a fairly complete radius from ditch G156 and a substantially complete scapula from ditch G161. Sheep/goat (11), horse (3) and dog (2) were also identified. A horse tibia from G161 belonged to a neonatal or perhaps foetal skeleton.

Enclosure L154
Thirty-two of the 42 fragments from L154 were identified. Cattle elements (27) dominated. Their numbers included at least 19 vertebrae from sub-division ditch G181 (ABG4). At least two animals were represented by the axis and other cervical vertebrae. No butchery marks were observed on any of the bones, some of which may have been deposited whilst still articulated. Most of the vertebral epiphyses were just fusing, which suggests that whilst the cattle were adults, they were not extremely old. A fairly complete cattle mandible was found in the same fill as the vertebrae. A pair of maxillae from a calf of probably less than three months of age was found in ditch G189. Sheep/goat and horse were the only other species identified in L154 (Table 9.3).

Enclosure L155
Eighteen weathered bone fragments were recovered, amongst which elements of sheep/goat, cattle, horse and dog were identified (Table 9.3).

Enclosure L156
Thirty-five bone fragments were recovered but only eight, five of them from cattle, were identified. Sheep/goat, horse and pig were each represented by a single bone.

Trackway L163
A total of 73 bone fragments were recovered, nearly all from the southern trackway ditch G224. Cattle provided 35 of the 40 identified elements. These included nine loose teeth and four cranial fragments. Four metacarpals included one fairly complete specimen and there was also a largely complete metatarsal. Butchery marks were observed on a tibia and first phalanx. Elements of sheep/goat, pig, horse and dog were also identified (Table 9.3).

Enclosure north of the trackway L181
Nineteen of the 51 fragments recovered from L181 were identified. Most of the bones came from roundhouse G381. Sheep/goat elements (9) were the most commonly recorded, followed by cattle (7). The cattle elements included a complete mandible and metacarpal. A dog mandible and two pig teeth were also recovered.

Activity focus L183
A total of 126 bone fragments were recovered, 65 of which were identified. These were dominated by cattle (32) and sheep/goat (24), and most were quite heavily fragmented. A cattle mandible bore chop marks on the ramus and a scapula had slivers removed from the edge of the blade. Sheep/goat included six metatarsal fragments. Horse (8) was the only other mammal identified. One bone of a rodent and one of a frog were recovered in a sieved sample from pond G338.

Possible livestock race L184
A total of 118 bone elements were recorded. Eighty of the 94 identified specimens belonged to cattle. Fifty-one of these came from ABG5 recovered from short ditch/trench G395. The bones belonged to an adult and the

	L152	L154	L155	L156	L163	L181	L183	L184	L186	Total	ABGs	%
Cattle	17	27	2	5	35	7	32	80	3	208	70	59.5
Sheep/goat	11	3	5	1	2	9	24	3	1	59	–	25.4
Pig	–	–	–	1	1	2	–	1	–	5	–	2.2
Horse	3	2	1	1	1	–	8	3	2	21	–	9.1
Dog	2	–	1	–	1	1	–	6	2	13	6	3.0
Chicken	–	–	–	–	–	–	–	1	–	1	–	0.4
Frog	–	–	–	–	–	–	1	–	–	1	–	0.4
Total identified	33	32	9	8	40	19	65	94	8	308	76	
Unid rodent	–	–	–	–	–	–	1	–	–	1		
Unid mammal	49	10	9	27	33	32	60	24	2	246		
Unidentified	49	10	9	27	33	32	61	24	2	247		
Total	**82**	**42**	**18**	**35**	**73**	**51**	**126**	**118**	**10**	**555**		

Counts are of numbers of individual specimens (NISP)
Total includes bones from sieved samples
Totals include associated bone groups (ABGs)
% excludes bones assigned to ABGs of four or more bones

Table 9.3: Animal bone from Phase 6 farmstead SL57

dimensions of the metacarpal indicated it was probably female. The bones recovered included at least 21 vertebrae and nine rib heads. More ribs were represented by shaft fragments which were not counted. Both mandibles survived largely intact and substantial parts of the maxillae and other parts of the skull were also present. All the major bones and most of the phalanges of the left forelimb were found but only the scapula and humerus of the right forelimb were present. Chops marks on the right distal humerus indicated that the lower limb had been removed. With regards to the hindquarters, only part of the left pelvis and (possibly) the left calcaneus were recovered.

Other cattle bones included a mandible of a neonatal calf and the right metacarpal and both radii of a slightly older calf. These were all recovered from ditch G387. A metacarpal of an extremely large individual was found in ditch G370. Parts of four scapulae were also found in G370; two of these were largely complete, including one that bore several trimming marks. A substantially complete cattle tibia was also found in the same ditch.

All six dog bones from L184 were found in the terminal of ditch G387. Five formed a coherent group (ABG6), consisting of both pelves and three lumbar vertebrae. A metapodial could have belonged to the same dog. The dog was adult and, as no baculum was recovered, it was probably female. Bones of sheep/goat, pig, horse and chicken were also recovered in small numbers (Table 9.3).

Activity focus L186
Ten bone elements were recovered, including eight which were identified to cattle, horse, dog and sheep/goat (Table 9.3). These included a complete radius of an immature cow, a largely complete lumbar vertebra of an adult horse, and the atlas and one other cervical vertebra that probably belonged to the same adult dog. These were all located in curvilinear ditch G412.

First modification SL58 to the farmstead's layout
SL58 produced a substantial faunal assemblage. A total of 1808 fragments were recorded from 27 Land-use Areas. Enclosure L160, south of the trackway, yielded over 300 fragments and five other Land-use Areas provided over 100 (Table 9.4). Altogether there were 854 identified elements. These were dominated by cattle, which provided over half of the identified elements. They were particularly prominent in L41, L43, L157 and L169. Sheep/goat elements continued comfortably to be the next most commonly identified, but rarely outnumbered cattle in the Land-use Areas. The percentages of horse and pig were similar to those found in SL57, with pigs very poorly represented. Small clusters of dog bones were found in several features. Other species identified in small numbers were chicken, red deer, roe deer, cat, (cf.) plover and short-tailed vole. The assemblage was generally quite well preserved. Only six identified elements were recorded as eroded. Weathering was noted on 274 (32%) of the identified bones, although damage was minimal in many cases. Canid gnawing was observed on 119 (14%) of the bones: cattle (79), sheep/goat (31), pig (2), horse (6) and red deer (1). Only 15 fragments, including three of cattle and two of sheep/goat, were burnt. Butchery marks were recorded on two sheep/goat and 37 cattle bones. Ninety-eight bones were measured, mainly of cattle (63). Tooth ageing data was obtained from 75 jaws, mainly of sheep/goat (35) and cattle (22). There was also abundant epiphyseal fusion data available for the major species.

Enclosure L40
Ten bone fragments were recovered from ditch G64, including three of cattle and one of horse. These included a complete cattle tibia that was slightly damaged by gnawing.

First extensive redefinition L42 of enclosure L40
Eleven weathered bone fragments were recovered from ditch G65. Six cattle elements included the fragmented remains of the back of a skull, including both horn cores. A metatarsal of a neonatal calf was also recovered. Sheep/goat and dog were each represented by a single tooth.

Second extensive redefinition L43 of enclosure L40
A total of 104 bone fragments were recovered, mainly from stone surface G572. Most of the bones were weathered. The majority (39) of the 48 identified elements belonged to cattle. Although most bones were fragmented, three metatarsals and a humerus were largely complete. Seven metatarsal fragments came from a minimum of five bones and nine scapula blade fragments came from at least seven bones. Butchery marks were observed on two of the metatarsals and a pelvis. A few elements of horse, sheep/goat and dog were also recovered (Table 9.4).

Sub-enclosure L41 containing possible building
Thirty-two bone fragments were collected. Nineteen of the 21 identified elements belonged to cattle, all from pit G112. Four tarsals and the metatarsal of the right hind foot formed a clear group (ABG7). The epiphyses of the calcaneus and metatarsal had fused, indicating that the animal was probably over three years of age. The distal portions of a pair of femora with unfused epiphyses could have belonged to the same animal. If so, it would indicate that it was a young adult. However, no tibiae were recovered, so there is no certainty that the femora came from the same skeleton as the tarsals and metatarsals. Several other cattle bones in pit G112, including three largely intact vertebrae and a complete left humerus with an unfused proximal epiphysis, could have been from the same cow. However, a second left humerus was also recovered, indicating that more than one animal was represented. No evidence for butchery was observed on any of the cattle bones. A pig mandible fragment from G112 was much more weathered than the cattle bones and had a different depositional history. A sheep/goat tibia fragment was the only identified element from ditch G71.

Enclosure L157
A total of 220 bone fragments were recovered from enclosure L157, the majority (200 fragments) deriving from water-pits G210 and G211. The identified material was dominated by cattle, which provided 93 of the 120 identified elements. Most of the 13 cattle mandibles consisted of small fragments, but one fairly complete jaw was recovered and at least four mandibles were represented. In contrast, six of the seven metacarpals were largely complete and included bones from neonatal, juvenile sub-adult and adult cattle. Three of the four metatarsals also survived largely intact. Eleven pelvis fragments

	L40	L41	L42	L43	L157	L158	L159	L160	L161
Cattle	3	19	6	39	93	16	75	33	–
Sheep/goat	–	1	1	3	17	6	52	48	1
Pig	–	1	–	–	2	1	8	6	–
Horse	1	–	–	5	8	4	13	6	–
Dog	–	–	1	1	–	–	7	1	–
Cat	–	–	–	–	–	–	–	–	–
Red deer	–	–	–	–	–	–	1	–	–
Roe deer	–	–	–	–	–	–	–	–	–
Short-tailed vole	–	–	–	–	–	–	–	1	–
Chicken	–	–	–	–	–	–	1	3	–
Plover	–	–	–	–	–	–	–	–	–
Total identified	4	21	8	48	120	27	157	98	1
Unid. rodent	–	–	–	–	–	–	–	2	–
Unid. mammal	6	11	3	56	100	21	133	219	8
Unid. bird	–	–	–	–	–	1	–	–	–
Unidentified	6	11	3	56	60	22	–	221	8
Total	10	32	11	104	220	49	290	319	9

	L166	L167	L169	L170	L171	L172	L173	L174	L191
Cattle	5	33	36	4	5	22	39	3	3
Sheep/goat	10	18	6	4	3	5	35	4	5
Pig	1	–	1	1	–	2	2	–	–
Horse	3	12	1	–	–	3	7	–	–
Dog	–	4	1	–	–	–	–	2	2
Cat	–	–	–	–	–	–	1	–	–
Red deer	–	–	–	–	–	–	–	–	–
Roe deer	–	–	–	–	–	–	–	–	–
Short-tailed vole	–	–	–	–	–	–	–	–	–
Chicken	–	3	1	–	–	–	–	–	1
Plover	–	–	–	–	–	–	1	–	–
Total identified	19	70	46	9	8	32	85	9	11
Unid. rodent	–	–	–	–	–	–	–	–	–
Unid. mammal	11	123	85	4	20	17	60	–	10
Unid. bird	–	–	–	–	–	–	–	–	–
Unidentified	11	123	85	4	20	17	60	0	10
Total	**30**	**193**	**131**	**13**	**28**	**49**	**145**	**9**	**21**

	L192	L193	L202	L205	L211	L212	L219	L231	Total	ABG	%
Cattle	3	6	5	7	–	17	11	2	485	5	56.5
Sheep/goat	1	4	2	–	1	5	4	3	240	–	28.3
Pig	–	–	–	–	–	–	–	–	25	–	2.9
Horse	–	–	1	–	1	3	1	–	69	–	8.1
Dog	–	2	–	–	–	–	–	–	21	–	2.5
Cat	–	–	–	–	–	–	–	–	1	–	0.1
Red deer	–	–	–	–	–	–	–	–	1	–	0.1
Roe deer	–	–	–	1	–	–	–	–	1	–	0.1
Short-tailed vole	–	–	–	–	–	–	–	–	1	–	0.1
Chicken	–	–	–	–	–	–	–	–	9	–	1.1
Plover	–	–	–	–	–	–	–	–	1	–	0.1
Total identified	4	12	8	8	2	25	16	5	854	5	
Unid. rodent	–	–	–	–	–	–	–	–	2		
Unid. mammal	1	7	11	4	2	27	11	1	951		
Unid. bird	–	–	–	–	–	–	–	–	1		
Unidentified	1	7	11	4	2	27	11	1	954		
Total	**5**	**19**	**19**	**12**	**4**	**52**	**27**	**6**	**1808**		

Counts are of numbers of individual specimens (NISP)
Total includes bones from sieved samples
Totals include associated bone groups (ABGs)
% excludes bones assigned to ABGs of four or more bones

Table 9.4: Animal bone from Phase 6 farmstead SL58

included one largely intact specimen of an ox or bull. The ten scapulae fragments also included a largely complete bone and butchery marks were observed on five of them. Processing marks were also observed on two tibiae, a mandible, an astragalus, five scapula and a first phalanx.

Sixteen sheep/goat elements included two ewe horn cores and a largely complete sheep metacarpal and metatarsal. Eight elements were identified as horse including a complete metatarsal. Several teeth, the maxilla and other cranial fragments could have belonged to the same horse skull. Only two pig elements were identified including a mandible of a boar.

Enclosure L158
Forty-nine bone fragments were recovered, mainly from ditch G190. Cattle provided 16 of the 27 identified elements. These included a mandible of a neonatal calf and fairly complete specimens of a metacarpal, metatarsal and scapula. Butchery marks were recorded on a scapula, pelvis and metatarsal. Three of the six sheep/goat elements were mandibles from immature sheep. A few horse and pig elements were also identified (Table 9.4).

Enclosure L159
Of the 290 fragments recovered, 135 were identified to cattle, sheep/goat and pig (Table 9.4). Water-pit G212 contained 147 identified fragments of generally well-preserved animal bone. The cattle assemblage from G212 included 11 femur fragments, belonging to at least five bones, two of which bore butchery marks. Ten mandible fragments from a minimum of four jaws were recovered, including one fairly complete specimen. Metacarpal (4), metatarsal (1) and radii (2) fragments were also recovered and were all substantially complete. Only one of the seven scapula fragments was substantially complete, however. Butchery marks were observed on a scapula, an astragalus and a first phalanx. Of the six cattle elements recovered from elsewhere in enclosure L159, a largely complete tibia of an immature animal was recovered from sub-division ditch G180.

Mandibles were prominent in the sheep/goat assemblage from water-pit G212. Twelve fragments from at least eight jaws (including one nearly complete specimen) were recorded. The tibia was the most common limb bone, with 11 fragments from at least six bones, one of which was substantially complete. Cut marks were observed on a pelvis fragment.

Only eight pig elements were identified. They were outnumbered by horse, which provided 13 elements, all from water-pit G212. Amongst these was a substantial part of a skull, including both maxillae, and two largely complete radii and associated ulnae. The eight dog elements (seven from G212) included two left mandibles of adults, a radius of a puppy, and two associated metatarsals of an adult. A small portion of a red deer skull was found in G212 and one chicken bone was also recovered.

Enclosure L160
A total of 319 bone fragments were recorded, of which 98 were identified. The 33 cattle elements included a complete metacarpal and a substantially complete metatarsal from quarry pits G215, and an atlas and butchered axis from possible drying oven G169.

Six of the 48 sheep/goat fragments were from radii, including a fairly complete specimen of a young lamb from ditch G162. The six horse elements included a complete metacarpal and metatarsal from pit G172 and ditch G162 respectively. Six bones of pig, three of chicken were also identified.

Water-pit G236 contained 154 of the animal bone fragments from L160, of which 41 were identified to species and were generally well-preserved. Sheep/goat (25) outnumbered cattle (9), with pig represented by three fragments. Sieving produced the mandible of a short-tailed vole and two other rodent bones.

Later activity in enclosure L161
Nine bone fragments were recovered including a sheep/goat tooth.

Later activity L166
Thirty bone fragments were recorded, of which 19 were identified. Sheep/goat, cattle, horse and pig were represented (Table 9.4). Three of the ten sheep/goat elements were cervical vertebrae from the same animal deposited in ditch G202. Both maxillae and other parts of the skull of a horse were found in ditch G204.

Southern farmstead boundary L167
A total of 193 bone fragments were recorded from various fills of the ditch (G220, G221 and G222). Seventy elements were identified, of which 33 were assigned to cattle. Two metacarpals (from G220 and G221) and a radius (G222) survived intact and two tibiae (G221 and G222), a scapula (G221) and another radius (G222) were also fairly complete. Butchery marks were observed on a mandible, pelvis and cervical vertebra. Eighteen sheep/goat elements included a substantial part of a gnawed tibia in G220. The 12 horse elements included seven loose teeth. Two ribs and a thoracic vertebra of an adult dog in G221 probably belonged to the same animal and a largely complete dog mandible was found in G220. Three chicken bones were also identified.

Trackway L169
A total of 131 bone fragments were recovered, including 85 unidentified fragments. Cattle provided 36 of the 46 identified elements. Most cattle bones were quite fragmented but a complete metacarpal was found in ditch G225 and a substantially intact metacarpal was retrieved from short ditch length G228. Six sheep/goat elements were recovered and there were single records of pig, horse, dog and chicken.

Enclosure L170
Thirteen bone fragments were recovered. Cattle, sheep/goat and pig were identified (Table 9.4). Butchery marks were observed on a cattle mandible.

Enclosure L171
Twenty-eight bone fragments were recovered but only eight could be identified to cattle or sheep/goat (Table 9.4).

Enclosure L172
Forty-nine bone fragments were recorded. Cattle provided 22 of the 32 identified elements including a substantially complete metatarsal from possible building G321. Butchery marks were noted on a cattle femur. Sheep/goat, horse and pig were also represented (Table 9.4).

Enclosure L173
A total of 145 bone fragments were recorded mainly from water-pit G307. Cattle (39) and sheep/goat (35) provided most of the 85 identified elements. These included nine cattle mandible fragments from at least three jaws. Most of the cattle assemblage was fragmented apart from a complete metatarsal and a largely intact scapula. Butchery marks were observed on these and on a cattle mandible, pelvis and ulna and a sheep/goat pelvis. A sheep/goat mandible and metatarsal were largely complete. Small numbers of horse and pig were also identified and there was also a cat metapodial and an ulna of a wader that was comparable in size and morphology to a plover.

Enclosure L174
Only nine fragments were recovered. Sheep/goat, cattle and dog were identified (Table 9.4). A calcaneus and proximal half of a tibia in ditch G391 probably belonged to the same dog.

Enclosure L191
Twenty-one bone fragments including 11 identified specimens were recorded. Cattle, sheep/goat, dog and chicken were represented (Table 9.4). The two dog bones came from different animals. A mandible belonged to an adult whereas a tibia came from quite a young puppy.

Enclosure L192
Only five bone fragments were retrieved, including three elements of cattle and one of sheep/goat.

Enclosure L193
Nineteen bone fragments were recovered, including 12 identified elements. Cattle, sheep/goat and dog were represented (Table 9.4). A humerus and tibia of cattle and a sheep/goat metatarsal survived largely intact. A dog rib and thoracic vertebra probably belonged to the same adult.

Enclosure L202
Nineteen bone fragments were recorded, including eight identified elements. Cattle, sheep/goat and horse were represented (Table 9.4).

Enclosure L205
Twelve bone fragments were recovered. Seven of the eight identified elements belonged to cattle, including a virtually complete mandible from ditch G465. Most of a roe deer tibia was recovered from ditch G466.

Enclosure L211
Only four bone fragments were recovered, including one each of sheep/goat and horse.

Enclosure L212
Fifty-two bone fragments were recorded, including 25 identified elements. The 17cattle elements included four metacarpal, two of which were substantially complete, and a neonatal calf rib. Butchery marks were recorded on a mandible, scapula and metacarpal. Five sheep/goat elements included a complete metacarpal of a large sheep from pit G460. Three horse elements were also found.

Enclosure L219
A total of 27 animal bone fragments were recovered mainly from water-pit G525. Sixteen elements were identified, of which 11 belonged to cattle. Sheep/goat and horse were also present (Table 9.4).

Enclosure L231
Only six bone fragments were recovered. Three of these belonged to sheep/goat, including a substantial part of a tibia. Two cattle elements were also recorded.

Second modification SL59 to the farmstead's layout
SL59 provided a total of 958 bone fragments from 20 Land-use Areas. The largest assemblage came from L175, which produced 232 fragments. L196 and L232 both provided over 100 (Table 9.5). Altogether, 520 elements were identified, including 26 that formed ABGs of four or more bones. As in previous iterations of the farmstead, the assemblage was dominated by cattle, which provided 59% of the identified elements; cattle were the most common species recorded in every Land-use Area. Sheep/goat formed just under a quarter of the identified elements. No other species contributed over 10% of the assemblage. Horse elements continued to outnumber those of pig and dog. L175 was the only Land-use Area that produced other species. Five bird bones were assigned to chicken, duck and sparrowhawk. The assemblage was slightly better preserved than those from SL57 and SL58. Only eight identified elements were eroded. Slight weathering was observed on 140 (27%) of the identified bones. Canid gnawing was recorded on 55 (18%) of the bones: cattle (33), sheep/goat (11), pig (2), horse (8) and dog (1). Only seven fragments, including one of horse, were burnt. Butchery marks were recorded on two sheep/goat and 37 cattle bones. Cattle provided 37 of the 60 measured bones. Fifty-three jaws provided ageing data, mainly sheep/goat (26) and cattle (21). There was additional ageing evidence available from epiphyseal fusion data, again mainly for cattle and sheep/goat.

Enclosure L44
A fragment of cattle pelvis was the only bone recovered.

Field L49
Six bone fragments were recovered, including four cattle elements.

Field L51
Five bone fragments were collected, including an eroded cattle scapula fragment.

Enclosure L52
Nine fragments were recovered, including two of cattle and one of sheep/goat.

Enclosure L53
A horse tooth was the only element found.

Enclosure L175
A substantial assemblage of 232 bone fragments was collected. These included 117 identified elements, predominantly of cattle. Their 70 fragments included four vertebrae and three ribs of a juvenile calf deposited in water-pit G303 (ABG8). A substantial, albeit fragmented, portion of a horned adult cattle skull was also recovered. This skull was not deposited in the pit immediately after slaughter, as the maxillae had lost all their teeth. A chop mark on the premaxilla also indicated the skull had been butchered. Short ditch length G302, adjacent to water-pit

	L44	L49	L51	L52	L53	L175	L178	L179	L185	L196	L199	
Cattle	1	4	1	2	–	70	20	3	8	51	13	
Sheep/goat	–	–	–	1	–	24	9	–	4	32	6	
Pig	–	–	–	–	–	1	2	–	2	7	2	
Horse	–	–	–	–	1	13	3	2	1	11	–	
Dog	–	–	–	–	–	2	3	–	–	2	–	
Chicken	–	–	–	–	–	1	–	–	–	–	–	
Duck	–	–	–	–	–	1	–	–	–	–	–	
Sparrowhawk	–	–	–	–	–	3	–	–	–	–	–	
Total identified	1	4	1	3	1	115	37	5	15	103	21	
Unidentified	–	2	4	6	–	117	22	5	28	67	6	
Total	**1**	**6**	**5**	**9**	**1**	**232**	**59**	**10**	**43**	**170**	**27**	
	L200	**L207**	**L209**	**L216**	**L217**	**L224**	**L232**	**L237**	**L244**	**Total**	**ABG**	**%**
Cattle	8	13	20	3	4	27	44	1	11	304	11	58.4
Sheep/goat	–	4	8	–	1	9	24	–	9	131	11	25.12
Pig	–	–	–	–	–	–	3	–	3	20	–	3.8
Horse	1	–	2	–	2	3	3	–	–	42	4	8.1
Dog	–	2	2	–	–	–	7	–	–	18	–	3.5
Chicken	–	–	–	–	–	–	–	–	–	1	–	0.2
Duck	–	–	–	–	–	–	–	–	–	1	–	0.2
Sparrowhawk	–	–	–	–	–	–	–	–	–	3	–	0.6
Total identified	9	19	32	3	7	39	81	1	23	520	26	
Unidentified	4	54	16	3	18	21	51	2	12	438		
Total	**13**	**73**	**48**	**6**	**25**	**60**	**132**	**3**	**35**	**958**		

Counts are of numbers of individual specimens (NISP)
Total includes bones from sieved samples
Totals include associated bone groups (ABGs)
% excludes bones assigned to ABGs of four or more bones

Table 9.5: Animal bone from Phase 6 farmstead SL59

G303, produced a pair of substantially complete pelves of an ox or bull, which also had been butchered. Enclosure ditch G285 produced two complete cattle metacarpals, and another that was largely intact and a complete metatarsal. Another complete metacarpal was discovered in ditch G306 and most of a cattle mandible was found in enclosure ditch G284. Butchery marks were observed on this mandible and saw marks were recorded on the base of a horn core from the same feature.

The 24 sheep/goat elements included ten loose teeth, three of which belonged to neonatal sheep. A complete adult sheep metacarpal was found in G285 and most of a mandible was recovered from G306. The 13 horse elements included the distal portion of a radius, two of the metacarpals and the first phalanx of a neonatal horse from water-pit G303 (ABG9). Only one pig and two dog bones were identified. Five bird bones were recovered: a chicken scapula was found in G303; a femur of a mallard-sized duck came from G306; three wing bones from a female sparrowhawk were found in ditch G285.

Enclosure L178
Fifty-nine bone fragments were recovered, including 37 identified elements. The 20 cattle elements included a complete metacarpal from ditch G286 and another almost complete metacarpal from ditch G289. Butchery marks were observed on a mandible and scapula. Two fairly intact mandibles (from ditches G263 and G286) were amongst the nine sheep/goat elements. Small numbers of horse, dog and pig were also recorded (Table 9.5). These included part of a dog skull in G289 and most of a dog humerus in G286.

Trackway L179
Ten bone fragments were recovered from G226, including three of cattle and large portions of a horse pelvis and tibia.

Possible building L185
G341 (L185) produced 43 quite poorly preserved fragments. Twenty-eight of these, including seven from sieving, were unidentified. Cattle, sheep/goat, pig and horse were identified (Table 9.5).

Enclosure L196
Features associated with this enclosure produced 170 bone fragments. Cattle contributed 51 of the 103 identified elements, including ten fragments from at least six mandibles. Three jaws from ditch G394 were substantially complete. Other largely intact cattle elements included a butchered humerus from water-pit G454, a metacarpal from ditch G423, and a tibia from G394. Butchery marks were also recorded on a mandible, femur and pelvis. The 32 sheep/goat elements included 11 limb bones from at least two juvenile lambs deposited in water-pit G454 (ABG10). Five substantial portions of mandibles (three from G454; two from ditch G394) were recovered. Eleven horse, seven pig and two dog elements were recorded. G394 included the fragmentary remains of a horse skull and a fairly complete pig radius.

Enclosure L199
Twenty-seven bone fragments were found. Cattle provided 13 of the 21 identified elements, including parts of a skull from ditch G441. Six sheep/goat elements included most of a sheep metacarpal from ditch G443. One of the two pig bones was a neonatal piglet ulna.

Enclosure L200
Thirteen bone fragments were recovered. Nine elements were identified, eight of cattle and a horse tooth. Bones from enclosure ditch G444 included most of a tibia and a butchered cattle mandible.

Enclosure L207
Although 73 bone fragments were recovered, only 19 were identified. Thirteen cattle elements included a largely complete metacarpal from ditch G491 and most of a scapula from ditch G492. Butchery marks were recorded on a humerus. Sheep/goat (4) and dog (2) were also found. These included a fairly complete humerus of an immature dog in ditch G489.

Enclosure L209
A total of 48 bone fragments were recovered, including 32 identified elements. Twenty cattle elements included three cervical vertebrae probably from the same animal in pit G513. A fragmented adult cattle skull with both horn cores still attached came from pit G517, which also contained a largely complete calf scapula, a humerus and ulna of an adult dog, and two horse bones. Five of the eight sheep/goat elements were loose teeth.

Enclosure L216
Six weathered fragments included three cattle elements.

Enclosure L217
Seven of the 25 fragments were identified. Cattle, horse and sheep/goat were represented (Table 9.5).

Oval enclosure L224
Sixty bone fragments were recovered, 39 of which were identified mainly from depression G77. Most (27) of these belonged to cattle. There were largely complete specimens of a femur, metatarsal and scapula. The scapula bore butchery marks. Five of the nine sheep/goat elements were loose teeth. There was also a fairly complete mandible of an adult and most of a radius of a young lamb. Three horse elements were also recorded.

Quarry pits L232
A total of 132 bone fragments were recorded. Cattle provided 44 of the 81 identified elements. A group of four vertebrae (ABG11) from a young adult were discovered in pit G364. The back of a cattle skull with one of the horn cores still attached was deposited in quarry pits G363. A complete metatarsal and most of a radius were found in quarry pits G459. The 24 sheep/goat elements included a fairly intact mandible from G363. Pig, horse and dog were also identified, including a substantial portion of a dog skull from quarry pit G437.

Possible building L237
Two bone fragments, including part of an adult cattle femur, were found in one of the gullies.

Pits L244
Thirty-five bone fragments were found. Eleven cattle elements included a pair of pelves from G397 and most of a mandible from G410. The nine sheep/goat elements included quite complete specimens of a mandible (G410), tibia (G432) and metacarpal (G397). Three pig elements included two mandibles of a boar.

Third and final modification SL60 to the farmstead's layout
The final modification to the farmstead's layout produced a total of 900 bone fragments from 12 Land-use Areas. Assemblages of over 100 fragments were provided by L208, L222, L225 and L226 (Table 9.6). Altogether, 418 elements were identified, including ten from two associated bone groups (ABGs 12 and 13). The assemblage was again dominated by cattle, which provided 60% of the identified elements excluding ABGs. Sheep/goat elements formed only 20.6% of the identified elements. Horses (12.9%) were better represented than in previous Phase 6 assemblages. Pig, dog, red deer, mouse, chicken and rook/crow were found in small numbers. There was also a residual bone of an aurochs. The assemblage was slightly better preserved than those from SL57 and SL58. Twelve of the identified elements, including the aurochs bone, were eroded. Weathering was recorded on 114 (31%) of the identified elements. Canid gnawing damage was observed on 46 (11%) of the bones: cattle (36), sheep/goat (4), horse (1) and red deer (1). Burning was recorded on 20 fragments including four of cattle, two of horse and one of goat. Butchery marks were recorded on one chicken and 15 cattle bones. There was also a worked red deer antler offcut. Cattle provided 32 of the 55 bones that were measured. Ageing data was obtained from 38 jaws including 22 of sheep/goat and ten of cattle. There was additional ageing evidence available from epiphyseal fusion data.

Fields L50
Only eight elements were found, including an immature cow radius and a sheep/goat tooth.

Enclosure L197
Fifty-eight bone fragments were retrieved, including 38 identified elements. The 23 cattle elements included a largely intact skull from pit/ditch G429. Both horn cores remained attached to the skull (ABG12). However, only one maxilla was recovered. The absence of teeth in this jaw and evidence for some weathering indicate that the skull had not been buried immediately after slaughter. Most of a cattle horn core was found in ditch G426, which also produced a tibia of a neonatal calf. Butchery marks were observed on a cattle metatarsal and a cervical vertebra.

Small numbers of sheep/goat, horse and pig were also recovered from L197 (Table 9.6). The horse elements consisted of parts of both maxillae and other areas of an adult skull from G426. Most of a horse scapula was also deposited in G426.

Enclosure L198
Only two elements were recovered including a portion of sheep/goat tibia.

Enclosure L208
A total of 153 fragments were recovered, including 90 unidentified fragments. The 34 cattle elements included eight skull fragments, a complete metatarsal of an adult (ditch G425), a fairly complete radius of an immature animal (pit G514), two largely complete bones of younger calves (a femur from G514) and a metacarpal from water-pit G433. Two bones of neonatal calves were also found in G514 and G433. Horse (16) and sheep/goat (13) were the only other species identified. A largely complete sheep/goat mandible was found in G433.

	L50	L197	L198	L208	L220	L221	L222
Cattle	1	23	–	34	7	28	42
Sheep/goat	1	7	1	13	3	8	8
Pig	–	3	–	–	4	–	2
Horse	–	5	–	16	1	3	14
Dog	–	–	–	–	–	–	6
Red deer	–	–	–	–	–	2	–
Aurochs*	–	–	–	–	1	–	–
Mouse	–	–	–	–	–	–	–
Chicken	–	–	–	–	–	–	–
Rook/crow	–	–	–	–	–	–	–
Total identified	2	38	1	63	16	41	72
Unid. rodent	–	–	–	–	–	–	–
Unid. mammal	6	20	1	89	11	51	54
Unid. bird	–	–	–	1	–	–	–
Unidentified	6	20	1	90	11	51	54
Total	**8**	**58**	**2**	**153**	**27**	**92**	**126**

	L223	L225	L226	L227	L233	Total	ABG	%
Cattle	15	53	29	15	–	247	22	60
Sheep/goat	2	15	17	11	–	86	–	20.6
Pig	–	–	5	–	–	14	–	3.3
Horse	–	7	5	3	–	54	–	12.9
Dog	1	1	–	1	–	9	6	2.1
Red deer	–	–	–	1	–	3	–	0.7
Aurochs*	–	–	–	–	–	1	–	0.2
Mouse	–	–	1	–	–	1	–	0.2
Chicken	1	–	–	1	–	2	–	0.5
Rook/crow	–	–	–	1	–	1	–	0.2
Total identified	19	76	57	33	0	418	10	
Unid. rodent	–	–	4	–	–	4		
Unid. mammal	35	109	81	19	1	477		
Unid. bird	–	–	–	–	–	1		
Unidentified	35	109	85	19	1	482		
Total	**54**	**185**	**142**	**52**	**1**	**900**		

Counts are of numbers of individual specimens (NISP)
Total includes bones from sieved samples
Totals include associated bone groups (ABGs)
% excludes bones assigned to ABGs of four or more bones
|Aurochs* = residual

Table 9.6: Animal bone from Phase 6 farmstead SL60

Enclosure L220
Twenty-seven bone fragments were recovered, including 16 identified elements. Seven cattle elements included a largely complete mandible from ditch G580. Butchery marks were observed on this jaw and on a scapula from ditch G509. Pig, sheep/goat and horse were also represented (Table 9.6). Most of a sheep/goat mandible was found in ditch G580 and an immature horse mandible was recovered from ditch G553. The most unusual find was the shaft of a very large bovid radius from one of the two small pits of G546. This was much larger than any of the domestic cattle bones. It probably belonged to an aurochs, a species which is believed to have become extinct from Britain during the Bronze Age (Legge 2010). The bone was severely eroded and much less well-preserved than the other bones in L220, which were only slightly weathered. The bone has been interpreted as a residual element that became incorporated into the pit fill.

Farmstead's northern boundary L221
Ninety-two fragments were recovered from ditch G507, of which 41 were identified. The 28 elements of cattle included three substantial complete metacarpals, all slightly damaged by gnawing. Two scapulae and a tibia also were largely intact. Processing marks were recorded on an astragalus and a scapula. Eight sheep/goat elements included a ram horn core and a neonatal lamb tibia. Three horse elements and a red deer scapula and radius were also found.

Enclosure L222
An assemblage of 126 fragments was collected from water-pit G431, including 72 identified elements dominated by cattle (42). These included five complete elements: a horn core, a mandible and three adult male metacarpals. Butchery marks were noted on two mandibles and a radius. Horse elements (14) were also well represented and included five teeth and two left metacarpals, one of which was largely complete. Seven of the eight sheep/goat elements were cranial fragments, including a pair of complete horn cores of a male goat (ABG13). These were still attached to a small section of the skull, which showed evidence of slight charring. All six dog elements probably belonged to the same adult (ABG14). These consisted of most of the skull and maxillae, the right pelvis and tibia, and the left ulna. The dog was of a miniature type and had bowed legs. Only two pig bones were identified.

Enclosure L223
Fifty-four fragments included 15 of cattle, two of sheep/goat and one each of dog and chicken. These included a calcaneus of a foetal or newborn cow. A complete, but fragmentary, articulated skeleton of a young cow was also identified in pit G566 (ABG15). Butchery marks were observed on a cattle astragalus and a chicken tibiotarsus.

Quarry pits L225
These produced a substantial faunal assemblage of 185 fragments, although only 76 were identified. Cattle elements (53) dominated. These included complete, or largely complete, specimens of three metacarpals, and a femur, radius and tibia. Butchery marks were observed on another femur. A total of 11 of the 15 sheep/goat elements consisted of parts of jaws or loose teeth. The seven horse elements included a largely complete femur of an immature animal. Part of a dog skull was also found.

Enclosure L226
Some 142 elements were recovered, including 40 fragments obtained from sieving. Eighty-five fragments including four rodent bones were unidentified. The 29 cattle elements included a complete metatarsal from ditch G290 and most of a scapula from ditch G275. Butchery marks were observed on a humerus. Ten of the 17 sheep/goat elements consisted of jaws, cranial fragments and loose teeth. Pig and horse were each represented by five elements and a mouse mandible was recovered from a sieved sample.

Enclosure L227
Fifty-two fragments were retrieved, including 33 identified elements. The 15 cattle elements included quite complete specimens of a mandible (quarry pits G322) and metatarsal (ditch G272). Butchery marks were recorded on a scapula and on an associated radius and ulna. Eleven sheep/goat elements included a complete metacarpal of an adult sheep from ditch G271. One dog and three horse

elements were also identified. A small portion of red deer antler from G272 had abundant evidence of working. Two bird bones were also recorded: a coracoid of a rook or crow and a hen tarsometatarsus.

Unenclosed activity L233
A single unidentified fragment was recovered.

Phase 6 discussion
Introduction
The following discussion examines the broader relationships between humans and animals at the Roman farmstead complex. Evidence for each species from all four iterations of the farmstead is generally considered together but any significant variations between them are noted. Comparisons are also made with other Roman sites in Bedfordshire, including others within the HRN1 development area.

Cattle
ABUNDANCE
Although there were some variations between different Land-use Areas, cattle generally dominated the identified portion of all the assemblages. Overall, excluding bones in ABGs, cattle provided 59% of the identified mammal specimens (NISP) with only minor fluctuations between SLs. Comparing counts with those of sheep/goat and pig only, cattle provided 67% of the total from Phase 6 (Table 9.7). NISP counts generally favour cattle and horse as their larger bones are fragmented into more identifiable portions than those of sheep/goat and pigs. Their bones are also more resistant to decay and destruction from taphonomic factors such as gnawing, severe weathering and erosion. Nonetheless, it is very likely that cattle were the main focus in the pastoral economy and meat provisioning of the residents of the farmstead. The area provides good pasture for cattle grazing. Cattle have been the most common species represented in most Roman assemblages from Bedfordshire, often providing over half of the identified mammal elements (Maltby 2012; Maltby 2018b). They were better represented on HRN3206 than in Roman deposits from HRN3457 (49%) and Woodside Link (51%). However, these were both very small assemblages and the latter contained an unusually high percentage of horse elements, which deflated the percentages of other species (Maltby 2018a; forthcoming). The very high percentage of cattle (81%) from HRN3455 was largely the consequence of very poor bone preservation. The percentage of cattle increased from levels found in the Phase 5 assemblages (late Iron Age/early Roman) from both HRN3206 and HRN3457, mainly at the expense of pig (Table 9.7).

ASSOCIATED BONE GROUPS (ABGS) AND SKULLS
Seven ABGs accounted for at least 107 elements (9%) of the cattle assemblage from all Roman deposits. Details of each ABG have been provided within the Land-use Area summaries and in Table 1.4. ABGs of both calves and adult cattle were encountered. Most ABGs were small, consisting of several vertebrae or adjoining limb bones; articulated cattle skeleton ABG15 was the exception. Although butchery marks were not observed, some of these small groups could have been parts of carcasses, discarded or redeposited after initial processing. The 19 vertebrae from ditch G181 (ABG4; SL57; L154) came from at least two animals, which indicates a larger deposition event. The ABG of the adult cow in ditch/trench G395 (ABG5; SL57; L184) was unusual in that it was more substantial than the other groups (at least 51 bones were recovered). Most of the bones of the trunk and left forelimb were present but other parts of the carcass were missing or poorly represented. Chop marks on the right humerus showed that the lower part of the forelimb had been dismembered. However, for some reason, carcass processing was abandoned and some of the remaining parts of the carcass were deposited in G395 (part of a possible livestock race).

The adult cattle skull and associated maxilla and horn cores in pit/ditch G429 (ABG12; SL60; L197) was remarkable in that it survived largely intact and complete. However, the evidence for weathering and the absence of teeth indicate that the skull had been exposed elsewhere, probably for a considerable period prior to final deposition. There was no evidence for skinning or horn sheath removal, unlike some Iron Age examples, which had probably been on display prior to burial (Hambleton 2013). There were several other finds of substantial portions of cattle skulls but these had all suffered much greater damage from ancient and modern breakage.

ELEMENT REPRESENTATION
Mandible fragments were the most frequently recorded, providing 12% of the cattle NISP counts (Table 9.8). Mandibles are usually one of the most common components of cattle assemblages because of their large size, density, and ease of recognition even when heavily fragmented. Other cranial elements, including horn cores and maxillae, accounted for 14% of the assemblage. The relatively low percentage (6%) of loose teeth indicated that the cattle assemblage was quite well preserved. The scapula, another large bone that can be identified quite easily despite its fragility, was well represented (9%). In terms of NISP counts, the major limb bones were fairly evenly represented (between 4% and 6%). Carpals, tarsals and phalanges were rarer finds. This is a consequence of their smaller size, which meant that they did not fragment very often and the smallest bones were also more likely to be overlooked. Most of the vertebrae and ribs came from ABGs. Otherwise they were poorly represented, although undiagnostic vertebral fragments and rib shafts featured quite prominently in the unidentified material. The presence of substantial numbers of bones from areas of the body with limited food value, such as the metapodials and mandibles, suggests that most of the cattle were slaughtered and butchered at the farmstead. The relative abundance of the different elements in the NISP counts is fairly typical of Roman rural assemblages from the region, for example the assemblage from Marston Park (Marston Moretaine) bears close similarities (Table 9.8).

Minimum numbers of element counts (MNE) were calculated in order to offset the problems of differential fragmentation. The highest MNE (58) for cattle was obtained from the metacarpal, followed by the scapula (57) and mandible (46) (Table 9.8). The greater prominence of the metacarpal was the result of the recovery of so many complete or substantially complete specimens. Although often well represented in cattle MNE counts, metacarpals rarely form the highest MNE total, as the comparison with the Marston Park assemblage demonstrates (Table 9.8; Maltby 2012). Metacarpals also comfortably outnumbered metatarsals. The reasons why unusually large numbers of this lower forelimb bone

	HRN3026												HRN3455		HRN3457				Woodside Link	
	P5		SL57		SL58		SL59		SL60		SL57–60		P4		P3		P4		P4	
	NISP	%	NISP	%	NISP	%	NISP	%	NISP	%	NISP	%	NISP	%	NISP	%	NISP	%	NISP	%
Cattle	56	42.4	138	60.0	480	57.3	304	59.0	247	60.7	1169	58.7	47	81.0	37	48.1	28	49.1	54	50.9
Sheep/goat	45	34.1	59	25.7	240	28.6	131	25.4	86	21.1	516	26.0	5	8.6	27	35.1	16	28.1	9	8.5
Pig	19	14.4	5	2.2	25	3.0	20	4.0	14	3.4	64	3.2	–	0.0	10	13.0	6	10.5	3	2.8
Horse	5	3.8	21	9.1	69	8.2	42	8.2	54	13.3	186	9.3	6	10.3	2	2.6	6	10.5	36	34.0
Dog	6	4.5	7	3.0	21	2.5	18	3.5	3	0.7	49	2.5	–	0.0	1	1.3	1	1.8	3	2.8
Cat	–	0.0	–	0.0	1	0.1	–	0.0	–	0.0	1	0.1	–	0.0	–	0.0	–	0.0	–	0.0
Red deer	1	0.8	–	0.0	1	0.1	–	0.0	3	0.7	4	0.2	–	0.0	–	0.0	–	0.0	–	0.0
Roe deer	–	0.0	–	0.0	1	0.1	–	0.0	–	0.0	1	0.1	–	0.0	–	0.0	–	0.0	1	0.9
Total	**132**		**230**		**838**		**515**		**407**		**1990**		**58**		**77**		**57**		**106**	

	HRN3026												HRN3455		HRN3457				Woodside Link	
	P5	P5	SL57		SL58		SL59		SL60		SL57–60		P4		P3		P4		P4	
	NISP	%	NISP	%	NISP	%	NISP	%	NISP	%	NISP	%	NISP	%	NISP	%	NISP	%	NISP	%
Cattle	56	46.7	138	68.3	480	64.4	304	67.0	247	71.1	1169	66.8	47	90.4	37	50.0	28	56.0	54	81.8
Sheep/goat	45	37.5	59	29.2	240	32.2	131	28.8	86	24.8	516	29.5	5	9.6	27	36.5	16	32.0	9	13.6
Pig	19	15.8	5	2.5	25	3.4	20	4.4	14	4.0	64	3.7	–	0.0	10	13.5	6	12.0	3	4.5
Total	**120**		**202**		**745**		**455**		**347**		**1749**		**52**		**74**		**50**		**66**	

Counts are of numbers of individual specimens (NISP)
Total includes bones from sieved samples
Totals exclude aurochs, bones of small mammals and bones in ABGs
Data for Woodside Link adapted from Maltby (2018a; forthcoming)
For HRN3455 and 3457: P3 = Phase 3 (Late Iron Age/early Roman) and P4 = Phase 4 (Roman)

Table 9.7: Mammal bones from HRN3206 Phases 5–6, HRN3455 Phase 4, HRN3457 Phases 3–4 and Woodside Link

	HRN3206							Rank	Marston Park			Rank
NISP	**SL57**	**SL58**	**SL59**	**SL60**	**Total**	**%NISP**	**MNE**	**MNE**	**Roman**	**%NISP**	**MNE**	**MNE**
Horn core	1	11	8	10	30	2.4	22	13	Horn core	1.7	21	15
Skull frags.	13	41	24	25	103	8.2	29	8	Skull frag.	5.8	32	12
Maxilla	9	12	17	8	46	3.7	24	11	Maxilla	3.3	36	10
Mandible	16	65	36	26	143	11.5	46	3	Mandible	14.2	86	1
Loose teeth	16	26	16	15	73	5.9			Hyoid	0.1		
Scapula	19	42	31	20	112	9.1	57	2	Loose teeth	8.6		
Humerus	8	20	16	9	53	4.3	37	4	Scapula	7.7	58	2
Radius	7	13	10	15	45	3.6	25	10	Humerus	5.6	57	3
Ulna	3	12	8	7	30	2.4	16	14	Radius	5.1	38	9
Pelvis	5	25	17	11	58	4.7	28	9	Ulna	2.3	23	14
Femur	9	32	22	12	75	6.0	35	6	Pelvis	5.2	42	7
Tibia	7	21	14	16	58	4.7	36	5	Femur	6.0	39	8
Carpals	1	1	3	1	6	0.5			Tibia	7.4	53	4
Astragalus	5	11	4	4	24	1.9	24	11	Carpals	0.4		
Calcaneus	2	10	2	2	16	1.3	14	15	Astragalus	2.0	30	13
Centroquartal	1	4	0	1	6	0.5	6	17	Calcaneus	2.4	33	11
Other tarsals	1	1	0	1	3	0.2			Centroquartal	0.4	6	17
Metacarpal	11	28	15	17	71	5.7	58	1	Metacarpal	5.3	52	5
Metatarsal	1	28	14	12	55	4.4	30	7	Metatarsal	4.8	46	6
Metapodial	4	4	0	2	10	0.8			Metapodial	1.4		
Phalanx 1	6	18	6	3	33	2.7	8.25	16	Phalanx 1	2.6	9.25	16
Phalanx 2	3	3	2	1	9	0.7	2.25	18	Phalanx 2	0.4	1.5	19
Phalanx 3	2	3	1	2	8	0.6	2	19	Phalanx 3	1.1	4	18
Atlas (VC1)	2	9	2	4	17	1.4			Atlas (VC1)	0.9		
Axis (VC2)	2	3	4	1	10	0.8			Axis (VC2)	0.6		
Cervical vertebrae	13	8	8	6	35	2.8			Cervical vertebrae	0.9		
Thoracic vertebrae	21	5	7	12	45	3.6			Thoracic vertebrae	1.6		
Lumbar vertebrae	7	9	5	1	22	1.8			Lumbar vertebrae	2.0		
Sacrum	2	2	1	1	6	0.5			Sacrum	0.3		
Unid. vertebrae	0	2	2	0	4	0.3			Caudal vertebrae	0.1		
Sternebrae	1	0	0	0	1	0.1			Ribs	1.8		
Ribs	10	16	6	5	37	3.0						
Total	**208**	**485**	**301**	**250**	**1244**				**Total**	**1511**		

NISP = number of individual specimens
MNE = minimum number of elements represented by NISP
Data from Marston Park adapted from Maltby (2012)

Table 9.8: Cattle elements from Phase 6 farmsteads SL57–SL60 and from Marston Park (Roman phase)

were deposited at HRN3206 remain unclear. Otherwise the relative abundance of the major elements in the MNE counts follows a similar pattern to the NISP counts.

CARCASS PROCESSING EVIDENCE

Excluding loose teeth, butchery marks were observed on 7% of the cattle elements, with the mandible and scapula being where marks were observed most frequently. They were rarely observed on vertebrae (Table 9.9). The types of marks involved are listed in Table 9.10. Thirty-five examples of incisions made with knives or other fine blades were recorded. Those on the shafts of three first phalanges and possibly on the shafts of two metacarpals were made during initial skinning. Knife cuts on two astragali and two distal tibiae were probably all associated with dismemberment of the ankle joint. Other dismemberment cuts were located adjacent to the glenoid of a scapula and on the distal articular surface of a femur. Other cuts on the scapula, pelvis and limb bones were probably mainly associated with filleting. However, evidence for the use of fine-bladed knives for carcass processing was less prevalent than on many Iron Age sites and some Roman rural sites from the region. Frequent use was made of heavier blades that produced deeper and broader cuts and chops. Such marks were most frequently recorded on mandibular rami. These were created when the backs of the jaws were detached from the skull. Similar marks were observed on three distal humeri and on a proximal radius and ulna. They also appeared on four astragali and several upper hindlimb bones. Several bones had been completely severed, including four cervical vertebrae that had lateral portions removed during processing around the neck. Two metacarpals and three metatarsals had been split longitudinally to gain access to the marrow, but there were no examples of similar splitting on any of the upper limb bones, examples of which occur quite commonly in towns and occasionally on other types of Romanised settlement (Maltby 2007). Many of the upper limb bones were probably broken to enable marrow extraction and pot boiling but subsequent gnawing and modern breakage made it difficult to determine how commonly this occurred.

Records of the states of completeness of all cattle bones showed that upper limb bones, along with the mandible, scapula and pelvis were much more fragmented than the metapodials, particularly the metacarpal (Table 9.11). Extracting marrow from the lower limbs

	Butchery	NISP	% Butch
Horn core	1	30	3.3
Skull frags	–	102	0.0
Maxilla	2	46	4.3
Mandible	12	143	8.4
Scapula	16	113	14.2
Humerus	5	53	9.4
Radius	2	45	4.4
Ulna	2	30	6.7
Pelvis	7	58	12.1
Femur	6	75	8.0
Tibia	3	58	5.2
Carpals	–	6	0.0
Astragalus	5	24	20.8
Calcaneus	–	16	0.0
Centroquartal	–	6	0.0
Other tarsals	–	3	0.0
Metacarpal	3	71	4.2
Metatarsal	6	55	10.9
Metapodial	–	10	0.0
Phalanx 1	4	33	12.1
Phalanx 2	–	9	0.0
Phalanx 3	–	8	0.0
Atlas (VC1)	1	17	5.9
Axis (VC2	1	10	10.0
Cervical vertebrae	2	35	5.7
Thoracic vertebrae	–	45	0.0
Lumbar vertebrae	–	22	0.0
Sacrum	–	6	0.0
Unid vertebrae	–	4	0.0
Sternebrae	–	1	0.0
Ribs	–	37	0.0
Total	78	1171	6.7

NISP = number of individual specimens

Table 9.9: Phase 6 cattle butchery counts

Element	Butchery mark
Horncore	w1
Maxilla	c1 k1
Skull	
Mandible	b1 c6 k5
Hyoid	
Scapula	b18 c1 k4
Humerus	c3 k1 s1
Radius	c1 k1
Ulna	c1 s1
Pelvis	b1 c4 k2 s1
Femur	b4 c1 k2
Tibia	c2 k2
Astragalus	c4 k2 s1
Calcaneus	
Centroquartal	
Metacarpal	k2 s2
Metatarsal	c4 s3
Phalanx 1	c1 k3
Atlas (VC1)	s1
Axis (VC2)	s1
Cervical V	s2
Total	**b24 c29 k25 s13 w1**

b = blade skim; c = superficial heavy blade or chop mark; k = incision; s = severed; w = sawn

Totals include specimens with more than one type of butchery mark

Table 9.10: Types of butchery marks on Phase 6 cattle elements

Cattle	*c.*10%	*c.*25%	*c.*50%	*c.*75%	*c.*100%	Total	WBE	Average %
Mandible	85	33	10	12	3	143	33.75	23.6
Scapula	54	29	14	16	–	113	31.65	28.0
Humerus	34	4	9	5	1	53	13.65	25.8
Radius	17	14	4	6	4	45	15.7	34.9
Pelvis	40	12	2	4	–	58	11	19.0
Femur	44	17	11	3	–	75	16.4	21.9
Tibia	24	14	9	10	1	58	18.9	32.6
Metacarpal	8	16	6	23	18	71	43.05	60.6
Metatarsal	21	10	5	10	9	55	23.6	42.9
Horse	***c.*10%**	***c.*25%**	***c.*50%**	***c.*75%**	***c.*100%**	**Total**	**WBE**	**Average %**
Mandible	5	3	1	–	–	9	1.75	19.4
Scapula	6	3	–	1	–	10	2.1	21.0
Humerus	2	3	7	–	–	12	4.45	37.1
Radius	4	2	3	1	1	11	4.15	37.7
Pelvis	2	4	1	–	–	7	1.7	24.3
Femur	2	2	–	1	–	5	1.45	29.0
Tibia	5	1	2	1	–	9	2.5	27.8
Metacarpal	2	3	1	2	1	9	3.95	43.9
Metatarsal	1	1	2	–	2	6	3.35	55.8

WBE = whole bone equivalent

Table 9.11: Completeness of major elements of Phase 6 cattle and horse bones

was not a routine practice, particularly bearing in mind that some of the fragmentation was the result of canid gnawing rather than butchery.

Several bones had evidence for the removal of small slivers of bone. Examples were found on four femur shafts and reflected filleting with a heavy blade. Such butchery tends to be more prevalent on military and larger nucleated sites, particularly large towns, and may signify the introduction of new methods and equipment by specialist butchers (Maltby 2007). They have also occurred, although usually much less frequently, on smaller nucleated settlements, the roadside settlement at Kempston near Bedford being one example (Maltby 2016a, 11–16). They are even less commonly recorded in assemblages from farmsteads, although a few sites in Bedfordshire, such as Marsh Leys, Kempston, have produced a few specimens (Maltby 2011, 123–8). Trimming marks were observed commonly on scapulae (Table 9.10), mainly on the lateral surface where parts of the spine had been removed but also on other aspects of the blades. Shoulder meat was commonly preserved by smoking. Scapulae butchered in a similar manner have been found on all types of Roman settlement (Maltby 2007), including several sites in Bedfordshire (Maltby 2012; 2016a, 13–14; 2018a; forthcoming). The incidence of trimmed scapulae was particularly high at HRN3206. Some of these may have been imported shoulder joints but it is possible that some of the cattle slaughtered at Houghton Regis were processed by butchers familiar with new methods of processing and equipped with the appropriate tools.

AGEING AND SEXING EVIDENCE

Forty-six cattle mandibles from Phase 6 provided tooth ageing data (Table 9.12). Of mandibles, 55% belonged to mature or elderly adults (Stages 6 and 7 respectively). These would have belonged to cattle over three years old and the eldest animals would have been substantially older than that (Jones and Sadler 2012). Adult cattle are likely to have been kept for breeding and working purposes. Although most of these adult cattle were probably killed between three and six years of age (Stage 6), this age group was not as heavily targeted as they were in major towns like Winchester and Dorchester, where the acquisition of prime beef was the major goal (Maltby 2010; 2016b). At HRN3206, in contrast, around 43% of the mandibles belonged to cattle that were slaughtered under two years old (Stages 2–4), with a significant peak of animals culled during their second year (Stage 4). The samples were too small to determine whether there were changes in culling patterns during the Roman period.

Epiphyseal fusion data provides less detailed information about mortality patterns and is handicapped by significant variations in fusion ages. However, broad

	HRN3206						SL57–60		HRN3457
Cattle	**Phase 5**	**SL57**	**SL58**	**SL59**	**SL60**	**Total**	**Stage %**	**Cum %**	**Phase 4**
Stage 1	–	–	–	–	–	0	0.0	0.0	–
Stage 2	–	–	2	–	–	2	4.3	4.3	–
Stage 3	–	–	3	1	–	4	8.5	12.8	–
Stage 3–4	–	1	–	2	–	3	6.4	19.2	–
Stage 4	1	2	5	2	1	11	23.4	42.6	–
Stage 5	–	–	–	–	1	1	2.1	44.7	–
Stage 6	–	6	3	4	1	14	29.8	74.5	2
Stage 6–7	–	–	1	–	2	3	6.4	80.9	–
Stage 7	–	1	3	2	3	9	19.1	100	–
Total	**1**	**10**	**17**	**11**	**9**	**47**			**2**
Sheep/	**HRN3206**						**SL57–60**		**HRN3457**
goat	**Phase 5**	**SL57**	**SL58**	**SL59**	**SL60**	**Total**	**Stage %**	**Cum %**	**Phase 4**
Stage 1	–	–	–	1	–	1	1.2	1.2	–
Stage 2	–	–	–	1	–	1	1.2	2.4	–
Stage 2–3	–	–	1	–	1	2	2.4	4.8	–
Stage 3	3	1	2	3	1	7	8.3	13.1	–
Stage 3–4	–	1	1	–	–	2	2.4	15.5	1
Stage 4	3	2	11	5	5	23	27.4	42.9	–
Stage 5	–	2	3	7	6	18	21.4	64.3	–
Stage 5–6	–	1	2	–	1	4	4.8	69.1	–
Stage 6	1	2	8	2	3	15	17.9	86.9	2
Stage 6–7	1	–	4	2	3	9	10.7	97.6	–
Stage 7	–	–	–	1	1	2	2.4	100	–
Total	**8**	**9**	**32**	**22**	**21**	**84**			**3**

Stage 1 = 4th deciduous premolars (dp4) not in wear
Stage 2 = dp4 in wear; 1st molar (M1) not in wear
Stage 3 = M1 in wear; 2nd molar (M2) not in wear
Stage 4 = M2 in wear; 3rd molar (M3) and permanent premolars not in wear
Stage 5 = M3 in wear; 4th permanent premolar (P4) not in wear (Cattle)
Stage 5 = M3 in wear; M1 at Grant (1982) wear stage g (S/G)
Stage 6 = P4 in wear; M3 < Grant wear stage k (Cattle)
Stage 6 = M1 at Grant wear stages h-m; M2 at Grant wear stage g (S/G)
Stage 7 = M3 at Grant wear stages k-m (Cattle)
Stage 7 = M1 and M2 at Grant wear stages h-m (S/G)

Table 9.12: Cattle and sheep/goat mandibular tooth ageing data from HRN3206 Phases 5–6 and HRN3457 Phase 4

categories of early- later- and latest-fusing epiphyses can be compared (Table 9.13). Very few early fusing epiphyses were unfused, which supports the tooth ageing evidence that few animals under a year old were represented. A total of 71 cattle elements were recorded as porous, which signified that about 6% of the elements (excluding loose teeth) belonged to calves. Fourteen of these bones were very porous and came from neonatal mortalities or even in a few cases, foetal animals. Their presence indicates that cattle were being bred at the farmstead. It does not necessarily mean that all the cattle slaughtered at HRN3206 were animals that had spent all their lives there.

Around 20% of the later-fusing epiphyses of the distal tibia and metapodials were unfused, although this figure varied markedly between different iterations of the farmstead (Table 9.13). This result is at odds with the mandible ageing data, which indicates there were more immature mortalities, whereas the epiphyseal fusion evidence suggests that most cattle survived into at least their third year. Unfused epiphyseal points are, however, more susceptible to destruction, which could account for this anomaly. On the other hand, only 37% of the latest-fusing epiphyses had fused. This indicates that more than half the cattle had died prior to full maturity, which accords quite well with the tooth ageing evidence.

Forty-three cattle metacarpals were measured, including 19 that were complete enough to provide greatest lengths. Metacarpals of bulls and oxen are broader than those of cows, which are more gracile. It is therefore possible to sex them with some confidence based on breadth and length measurements (Davis *et al*. 2012). The metrical data collected from complete and incomplete metacarpals suggests that 27 of the bones were from males, whereas only 13 to 15 were females (Table 9.14). This indicates that most of the adult cattle were oxen or bulls. It is likely that most males would have been castrated. It is feasible, therefore, that many of the cattle were oxen, some of which are likely to have served as working animals, particularly for ploughing, before they were slaughtered. Three first phalanges and one distal metacarpal had evidence for lipping and slight splaying, which are conditions that can be caused by the stresses of ploughing (Bartosiewicz *et al*. 1997). The predominance of males was also indicated by the morphology of the acetabulum of the pelvis, 11 out of 12 of which were assigned as males.

The predominance of adult male cattle on rural settlements has parallels with other sites such as Owslebury in Hampshire, where the bias towards males stands in stark contrast to the nearby town of Winchester, where most of the adult cattle were cows. Other large towns also had more cows than oxen imported to provision the inhabitants (Maltby 2010; 2016b).

The most common measurements taken on cattle bones are shown in Table 9.15. The cattle were of a good size by Romano-British standards. The mean average withers height estimated from the lengths of complete limb bones (after von den Driesch and Boessneck 1974) was 120.1cm (N=29). This is similar to the results from Marston Park (mean = 121.9cm N=9; Maltby 2012). On average the cattle were larger than those found on several Roman sites on the outskirts of Bedford (Newnham mean 116.9cm N=11; Kempston mean 117.4cm N=10; Eastcotts mean 116.8cm N=11) (Maltby 2017). All these results suggest that there was an increase in the average size of cattle in the region during the Roman period. Included in the HRN3206 sample were a few very large individuals. An exceptionally large metacarpal from SL57 had a proximal breadth of 72.6mm (Table 9.14),

	SL57		SL58		SL59		SL60		Total		
Early fusing	**U**	**F**	**U**	**F**	**U**	**F**	**U**	**F**	**U**	**F**	**%F**
Radius P	1	3	2	6	1	4	–	7	4	20	83.3
Scapula D	–	9	–	12	–	10	–	8	0	39	100.0
Acetabulum	–	1	–	8	–	10	–	3	0	22	100.0
Humerus D	–	3	–	10	–	8	–	4	0	25	100.0
1st Phalanx P	–	4	–	17	–	5	–	3	0	29	100.0
2nd Phalanx P	–	3	–	3	–	2	–	1	0	9	100.0
Total	**1**	**23**	**2**	**56**	**1**	**39**	**0**	**26**	**4**	**144**	**97.3**
Later fusing											
Tibia D	–	4	5	9	1	7	1	5	7	25	75.8
Metacarpal D	1	4	4	11	–	9	2	8	7	32	82.1
Metatarsal D	–	–	1	8	–	3	1	4	2	15	88.2
Metapodial D	–	3	1	–	–	–	1	1	2	4	66.7
Total	**1**	**11**	**11**	**28**	**1**	**19**	**5**	**18**	**19**	**76**	**80.0**
Latest fusing											
Ulna P	–	1	1	–	–	–	–	1	1	2	66.7
Femur D	1	1	8	1	4	3	4	3	17	8	32.0
Radius D	2	1	2	3	1	–	5	2	10	6	37.5
Humerus P	–	2	4	–	–	–	–	1	4	3	42.9
Femur P	–	1	1	2	1	3	1	–	3	6	66.7
Calcaneus P	–	1	3	–	–	–	1	–	4	1	20.0
Tibia P	–	–	2	3	3	–	5	–	10	3	23.1
Total	**3**	**7**	**21**	**9**	**9**	**6**	**16**	**7**	**49**	**29**	**37.2**

P = proximal; D = distal; U = unfused; F = fused
Unfused includes specimens that are just fusing (> 50% of fusion line visible)

Table 9.13: Phase 6 cattle epiphyseal fusion data

SL	Bp	Dp	Bd	Bfd	Dfd	SD	GL	Bp/GL	SD/GL	Bd/GL	WH (cm)	Possible sex
57	61.0	37.9	60.7	56.5	29.5	34.3	201	0.30	0.17	0.30	123.1	M
	50.7	33.2	–	–	–	–	–	–	–	–	–	F
	51.6	30.9	–	–	–	–	182	0.28	–	–	111.5	F
	72.6	44.9	–	–	–	39.0	–	–	–	–	–	M
	–	–	67.8	65.3	31.2	–	–	–	–	–	–	M
58	60.0	38.6	65.8	54.9		33.5	198	0.30	0.17	0.33	121.3	M
	52.6	33.1	–	–	–	–	–	–	–	–	–	F
	–	–	71.0	64.0	33.1	–	–	–	–	–	–	M
	–	–	53.6	50.4	28.8	28.6	195	–	0.15	0.27	119.4	F
	67.4	40.6	–	–	–	–	–	–	–	–	–	M
	49.4	–	–	–	–	–	–	–	–	–	–	F
	53.7	32.2	–	–	–	–	–	–	–	–	–	F
	63.5	–	69.0	60.1	29.3		202	0.31	–	0.34	123.7	M
	58.6	–	–	–	–	–	–	–	–	–	–	M
	65.0	40.6	66.5	–	36.1	35.5	210	0.31	0.17	0.32	128.6	M
	60.8	38.0	–	–	–	–	195	0.31	–	–	119.4	M
	59.2	–	–	–	–	–	–	–	–	–	–	M
	48.6	–	–	–	–	–	–	–	–	–	–	F
	61.7	37.8	64.6	56.9	28.6	34.9	198	0.31	0.18	0.33	121.3	M
	56.0	33.0	–	54.2	–	–	–	–	–	–	–	F?
	–	–	57.7	52.7	27.0	–	–	–	–	–	–	F
	61.2	36.2	–	–	–	–	–	–	–	–	–	M
	–	37.0	–	–	–	–	–	–	–	–	–	M
59	59.3	35.2	–	–	–	–	–	–	–	–	–	M
	48.0	30.2	52.0	47.1	23.2	26.6	180	0.27	0.15	0.29	110.3	F
	61.4	39.1	–	–	–	–	–	–	–	–	–	M
	–	–	68.0	59.9	27.7	38.1	198	–	0.19	0.34	121.3	M
	–	–	58.5	52.5	28.6	–	–	–	–	–	–	F?
	53.0	34.2	–	–	–	–	–	–	–	–	–	F
	60.5	39.9	64.0	58.0	28.1	36.8	188	0.32	0.20	0.34	115.2	M
	62.0	39.6	65.6	59.6	29.6	35.0	203	0.31	0.17	0.32	124.3	M
	–	–	66.9	59.6	31.0	–	–	–	–	–	–	M
	60.0	37.8	61.6	58.0	29.4	35.8	200	0.30	0.18	0.31	122.5	M
60	60.0	–	63.5	55.8	28.1	33.3	191	0.31	0.17	0.33	117.0	M
	53.1	34.1	–	–	–	–	–	–	–	–	–	F
	64.5	40.7	64.0	56.8		36.4	195	0.33	0.19	0.33	119.4	M
	–	36.8	–	–	30.4	–	–	–	–	–	–	M
	64.9	41.7	66.6	62.3	29.2	–	199	0.33	–	0.33	121.9	M
	58.9	35.3	59.6	53.2	26.0	33.8	191	0.31	0.18	0.31	117.0	M
	58.0	36.6	–	–	–	–	–	–	–	–	–	M
	48.2	–	–	–	–	29.8	193	0.25	0.15	–	118.2	F
	61.6	38.1	62.8	–	31.3	36.6	190	0.32	0.19	–	116.4	M
	52.0	32.5	–	–	–	–	–	–	–	–	–	F

All measurements in millimetresBp = proximal breadth; Dp = proximal depth; Bd = distal breadth; BFd = breadth distal fusion point
Dfd = depth distal fusion point; SD = minimum shaft breadth; GL = greatest length
Sex estimates based on breadth/length ratios of complete bones adapted from Davis *et al*. (2012)
Withers height estimates = greatest length *6.125

Table 9.14: Phase 6 cattle metacarpal measurements

which indicates that some very large cattle were present in the early Roman period and the animal could have been descended from stock imported from the continent (Albarella *et al*. 2008). An extremely large tibia from Marston Park was also dated to the early Roman period (Maltby 2012).

The metrical analysis did show that the sizes of cattle were quite variable, as reflected in the standard deviation and coefficient of variation calculations for the breadth measurements (Table 9.15). Some of the variation reflects sexual dimorphism, with the breadths of bones of males being generally greater than those of cows. However, the variation was greater than that normally encountered within individual herds. Therefore it is likely that the cattle exploited at HRN3206 came from a variety of sources. The assemblage was not large enough to establish whether there were significant changes in cattle stature during the Roman period.

SKELETAL ANOMALIES

In addition to the evidence of pathology on the distal metacarpal and first phalanges discussed above, there were two proximal metatarsals that had severe exostoses around the joint surface that might have been caused by the onset of spavin, which affects the hock joints of cattle and horses and causes lameness in severe cases. Another metatarsal had a splayed distal end, and an astragalus had evidence of slight eburnation on its distal surface that could be indicative of mild osteoarthritis.

Element	Measurements (mm)	Mean	sd	cv
Astragalus Bd	36.6 37.8 38.1 40.1 40.8 41.1 41.2 41.2 41.9 41.3 42.1 44.3 45.5 45.5 47.0 47.8 48.7 49.5 52.3	43.3	4.3	9.9
Astragalus GLl	60.4 61.3 61.4 61.8 62.1 62.9 63.2 63.8 63.9 64.0 64.5 67.7 68.6 70.1 73.9 74.8 75.0 77.3 78.5	67.1	6.0	8.9
Humerus BT	67.0 68.1 70.8 72.0 75.9 78.3 79.1 80.0 80.4 81.2	75.3	5.4	7.2
Humerus HT	42.0 42.0 42.9 43.8 44.9 45.1 45.7 47.4 48.9 53.1	45.6	3.5	7.7
Metacarpal Bp	48.0 48.2 48.6 49.4 50.7 51.6 52.0 52.6 53.0 53.1 53.7 56.0 58.0 58.6 58.9 59.2 59.3 60.0 60.0 60.5 60.8			
	61.0 61.2 61.4 61.6 61.7 62.0 63.5 64.5 64.9 65.0 67.4 72.6	57.8	5.9	10.2
Metacarpal Dp	30.2 30.9 32.2 32.5 33.0 33.1 33.2 34.1 34.2 35.2 35.3 36.2 36.6 36.8 37.0 37.8 37.8 37.9 38.0 38.1 38.6			
	39.1 39.6 39.8 40.6 40.6 40.7 41.7 44.9	36.8	3.5	9.5
Metacarpal Bd	52.0 53.6 57.7 58.5 59.6 60.7 61.6 62.8 63.5 64.0 64.0 64.6 65.6 65.8 66.5 66.6 66.9 67.8 68.0 69.0 71.0	63.3	4.9	7.7
Metatarsal Bp	41.1 43.7 45.4 46.1 47.2 48.6 50.6 52.5 52.6 53.4 54.4 54.5	49.2	4.5	9.1
Metatarsal Bd	48.0 48.5 49.7 50.7 58.9 61.5 63.4 64.0 67.3	56.9	7.6	13.4
Radius Bp	65.9 69.6 70.9 78.9 79.0 94.2 97.3	79.4	12.2	15.4
Radius BFp	61.2 64.4 65.9 71.3 72.3 75.2 82.0 85.9 88.5	74.1	9.7	13.1
Radius Dp	34.9 35.8 37.9 38.7 39.3 39.6 41.8 42.1 42.3 42.5 49.5 51.0 52.4	42.1	5.6	13.3
Scapula GLP	59.8 71.2 72.1 72.6 78.5 84.2	73.1	8.2	11.2
Scapula LG	52.0 58.1 59.4 60.9 66.6 66.6 72.3	62.3	6.7	10.8
Scapula BG	42.9 43.3 43.6 48.1 48.8 49.2 49.5 50.5 52.7 54.0 54.2 55.1 55.4 57.5	50.3	4.7	9.3
Tibia Bd	53.3 54.1 58.8 59.2 62.9 63.7 64.2 64.3 64.5 65.4 65.6 65.6 67.5 67.6 69.9 71.8	63.7	5.1	8.0
Tibia Dd	42.0 42.1 42.8 44.0 45.5 46.5 47.1 47.4 48.8 49.2 49.3 49.5 49.6 50.5 50.8 51.2 52.5 54.6 56.1	48.4	4.0	8.3
Withers Ht (cm)	110.2 111.5 112.7 113.4 113.5 115.2 116.4 116.6 117.0 117.0 118.2 118.3 119.4 119.4 119.4 119.9 121.2			
	121.3 121.3 121.9 122.5 123.1 123.7 123.7 124.3 128.6 128.6 131.3 133.1	120.1	5.8	4.8

sd = standard deviation; cv = coefficient of variation
GLl = greatest lateral length;
BT = breadth of distal trochlea; HT = greatest height of distal trochlea
Bp = proximal breadth; Dp = proximal depth; BFp = breadth of proximal articular surface
Bd = distal breadth; Dd = distal depth
GLP = greatest length of glenoid process; LG = length of glenoid cavity; BG = breadth of glenoid
Withers height estimated from length measurements of complete limb bones

Table 9.15: Common measurements of Phase 6 cattle

Sheep/Goat

ABUNDANCE

Forty-nine sheep/goat elements had morphological characteristics diagnostic of sheep. The only confirmed identification of goat was the pair of horn cores ABG13 from water-pit G431 (SL60; L222). It is likely that virtually all of the remaining sheep/goat assemblage belonged to sheep.

Sheep/goat were comfortably the second best-represented species in all four iterations of the Roman farmstead, providing 26% of the NISP counts from SL57–SL60. Their slight decline in SL60 was mainly due to an increase in the percentage of horse. Sheep/goat provided 29% of the total cattle, sheep/goat and pig elements (Table 9.7). Sheep/goat has been ranked behind cattle in terms of NISP counts in most Roman assemblages from Bedfordshire (Maltby 2012; 2016a, 20–1). As discussed above, NISP counts tend to under-estimate the importance of sheep/goat in relation to cattle. MNE counts showed that at least 55 sheep/goat mandibles were represented (Table 9.16), which was only slightly fewer than the best-represented cattle element (metacarpal: 58 (Table 9.8)). This implies that almost as many sheep as cattle may have been slaughtered, although beef would have been much more important than lamb and mutton, if one takes the sizes of the carcasses into account.

ASSOCIATED BONE GROUPS

The only sheep/goat ABG consisted of the 11 limb bones from at least two young lambs from water-pit G454 (ABG10; SL59; L196). There was no evidence for processing on any of the bones. It is conceivable that these were carcasses of lambs bred at the farmstead that died of natural causes and were not consumed, although the possibility that they were sacrificial victims cannot be discounted. Perhaps of more significance in relation to possible ritual deposition was the presence of the pair of complete horn cores of a male goat in water-pit G431 (ABG13; SL60; L222). There was no evidence that the horns had been removed and the cores were still attached to a fragment of the skull. Slight charring near the base of the horn cores suggests that they had been in proximity of fire at some point prior to final deposition.

ELEMENT REPRESENTATION

The sheep/goat assemblage was subject to greater taphonomic decay than cattle, which resulted in significant biases towards large, robust elements. Loose teeth formed 20% of the assemblage and dense bones, such as the mandible, tibia, metapodials and radius were all much better represented than more fragile and/or smaller elements, such as the scapula, femur, tarsals, phalanges, vertebrae and ribs (Table 9.16). As noted above, at least 55 mandibles were represented, which was a much higher figure than obtained for any other element. The tibia (27) was the only other one that had a MNE of over 20.

CARCASS PROCESSING EVIDENCE

Although there can be little doubt that most of the sheep bones came from animals that had been processed for

NISP	SL57	SL58	SL59	SL60	Total	%NISP	MNE
Horn core	–	4	1	4	9	1.7	6
Skull frags	–	2	1	5	8	1.6	3
Maxilla	–	2	–	4	6	1.2	5
Mandible	6	45	24	18	93	18.0	55
Hyoid	–	–	–	1	1	0.2	
Loose teeth	9	42	32	18	101	19.6	
Scapula	2	8	2	4	16	3.1	10
Humerus	3	6	4	2	15	2.9	10
Radius	3	22	13	5	43	8.3	17
Ulna	–	4	3	1	8	1.6	6
Pelvis	5	10	4	–	19	3.7	10
Femur	2	6	3	–	11	2.1	9
Tibia	10	30	15	14	69	13.4	27
Astragalus	–	3	–	–	3	0.6	3
Metacarpal	2	29	13	5	49	9.5	16
Metatarsal	10	20	12	6	48	9.3	18
Metapodial	1	–	–	–	1	0.2	
Phalanx 1	3	1	–	–	4	0.8	1
Cervical vertebrae	–	4	–	–	4	0.8	
Thoracic vertebrae	1	–	–	–	1	0.2	
Lumbar vertebrae	1	1	–	–	2	0.4	
Sacrum	–	–	1	–	1	0.2	
Ribs	1	1	1	1	4	0.8	
Total	**59**	**240**	**129**	**88**	**516**		

NISP = number of individual specimens
MNE = minimum number of elements represented by NISP

Table 9.16: Sheep/goat elements from Phase 6 farmsteads SL57–SL60

meat, very few butchery marks were observed. Fine knife cuts were recorded on the ilia of two pelves and a third ilium bore superficial chop marks close to where the bone had been severed. Similar chop marks adjacent to a break were found on a shaft of a radius. All these marks were inflicted during dismemberment.

AGEING AND SEXING EVIDENCE

A total of 84 sheep mandibles had surviving teeth (Table 9.12). Only one mandible of a neonatal lamb (Stage 1) and one from a slightly older lamb (<3 months) with the first molar (M1) not fully erupted (Stage 2) were recovered. However, the presence of these, a very porous tibia, and the ABG of the young lambs discussed above indicate that sheep were being bred at the farmstead. Bones of very young lambs would not usually have survived.

Mandibles that had reached Stage 3 (M1 in wear; M2 not fully erupted) of the tooth ageing sequence form at least 8% of the total. These belonged to sheep that died between around 3–12 months old. At least 27% of the mandibles had two molars in wear (Stage 4) and belonged to sheep that were culled in their second year. These sheep were approaching full size and reflect a focus mainly on meat production. Mandibles which had the third molar in early wear (Stage 5) came mainly from sheep culled in their third year. These formed at least 21% of the assemblage. Although sheep of this age could have provided some wool and lambs prior to slaughter, meat production remained the main priority. Stage 5 mandibles slightly outnumbered Stage 4 mandibles in the SL59 and SL60 assemblages, in contrast to SL57 and SL58. There was perhaps a shift in emphasis towards the culling of sheep in their third year in the later periods. However, the sample sizes are too small to verify this statistically. Sheep that survived more than three years (Stages 6 and 7) formed at least 31% of the assemblage. These would largely have been breeding stock that would also have provided wool and possibly dairy produce.

Epiphyseal fusion analysis was handicapped by the relatively poor preservation of sheep/goat elements, which restricted the number of epiphyseal fusion points that survived. Results broadly supported the tooth ageing evidence in that few lambs under a year old were represented by unfused early fusing epiphyses. In contrast, nearly all the latest-fusing epiphyses were unfused, showing that relatively few fully mature sheep were represented (Table 9.17).

Four sheep horn cores were small and slender and belonged to ewes. Two others belonged to males. No hornless skulls were observed. The pair of goat horn cores belonged to a male.

STATURE

Only three sheep limb bones provided greatest length measurements that could be converted into withers height estimates (Teichert 1975). These all measured over 60cm, which indicated the sheep were quite tall (Table 9.18). The largest metacarpal (from SL58) had a length of 140mm, which provides a withers height estimate of 68.5cm. This lies towards the top end of the range for Romano-British sheep. As in the case of cattle, the Roman period saw the appearance of some sheep that were larger than those found on British Iron Age sites (Albarella *et al*. 2008) and sheep of that stature were present at HRN3206. Breadth measurements of various limb bones also showed the presence of some quite large sheep, although others were no larger than those found on Iron Age sites in the region.

	SL57		SL58		SL59		SL60		Total		
Early fusing	**U**	**F**	**U**	**F**	**U**	**F**	**U**	**F**	**U**	**F**	**%F**
Radius P	–	–	1	2	2	–	–	1	3	3	
Scapula D	–	–	–	1	–	1	–	1	0	3	
Acetabulum	–	1	–	1	–	3	–	–	0	5	
Humerus D	–	–	–	1	–	2	–	–	0	3	
1st Phalanx P	–	3	–	1	–	–	–	–	0	4	
2nd Phalanx P	–	–	–	–	–	–	–	–	0	0	
Total	**0**	**4**	**1**	**6**	**2**	**6**	**0**	**2**	**3**	**18**	**85.7**
Later fusing											
Tibia D	–	2	–	1	2	2	1	2	3	7	
Metacarpal D	–	–	1	4	2	1	–	1	3	6	
Metatarsal D	–	–	–	–	1	–	–	–	1	0	
Metapodial D	1	–	–	–	–	–	–	–	1	0	
Total	**1**	**2**	**1**	**5**	**5**	**3**	**1**	**3**	**8**	**13**	**61.9**
Latest fusing											
Ulna P	–	–	1	–	1	–	–	–	2	0	
Femur D	–	–	–	–	1	–	–	–	1	0	
Radius D	–	–	1	–	4	–	–	–	5	0	
Humerus P	–	–	–	–	–	–	–	–	0	0	
Femur P	–	–	–	1	1	–	–	–	1	1	
Calcaneus P	–	–	–	–	–	–	–	–	0	0	
Tibia P	–	–	–	–	2	–	–	–	2	0	
Total	**0**	**0**	**2**	**1**	**9**	**0**	**0**	**0**	**11**	**1**	**8.3**

P = proximal; D = distal; U = unfused; F = fused
Unfused includes specimens that are just fusing (> 50% of fusion line visible)

Table 9.17: Phase 6 sheep/goat epiphyseal fusion data

Pigs

Pig elements were very poorly represented throughout the Roman sequence. The percentage of pig fell from over 14% in the Phase 5 deposits to only 3% of the identified mammal elements in Phase 6. They formed less than 4% of the total number of cattle, sheep/goat and pig elements (Table 9.7). Pig elements generally have been found in only small numbers on Roman sites in Bedfordshire, often providing less than 10% of the identified mammals and frequently being outnumbered by horse (Maltby 2012; 2016a). However, the figures from HRN3206 were exceptionally low. The presence of an ulna of a neonatal piglet indicated that some pigs may have been kept but pork and bacon was of little importance in the diet. Pigs provided 13% of the identified mammal elements in Phase 3 deposits at HRN3457, which also suggests that more pigs were being exploited in the vicinity in the late Iron Age (Maltby 2019). Although the percentage of pig also fell at HRN3457 to just over 10% in the Roman (Phase 4) deposits, the decline was not as marked as at HRN3206. The HRN3457 sample was, however, very small (Table 9.7).

Loose teeth and mandible fragments were both prominent in the pig assemblage. At least seven mandibles were represented. Forelimb bones were found more frequently than those of the hindlimb (Table 9.19). Seven mandibles provide ageing evidence. Two came from pigs under a year old; four came from pigs approaching full culled in their second year; and one was from an animal slaughtered in its third year. The absence of mature adults is not unusual in pig assemblages, as their only commercial value is for meat production and they can withstand relatively high levels of immature slaughter.

Horse

It is assumed that all equid bones belonged to horse. None of the bones had characteristics indicating that mules were present. Horse provided 9% of the identified mammal elements from the Phase 6 deposits overall, and nearly 13% of the SL60 assemblage. These figures were markedly higher than those encountered in the late Iron Age/early Roman assemblages at both HRN3206 and HRN3457 (Table 9.7). Horse provided 14% of the total cattle and horse elements. This is typical for Roman sites from Bedfordshire (Maltby 2012), and indeed for Romano-British assemblages from rural settlements in general (Maltby 2016b, 791–806; Allen 2017).

Loose teeth figured prominently in the horse assemblage, providing 22% of the total elements. The large molars and premolars survived well. Cranial elements, particularly maxillae, were also well represented. The maxilla and the humerus provided the highest MNE counts of nine (Table 9.20). Only four bones from a lower forelimb were recorded as an ABG from water-pit G303 (ABG9; SL59; L175). Significantly, however, these came from a neonatal foal, which strongly suggests that some horses were being bred at the farmstead.

Four mandibles and nine maxillae provided tooth ageing evidence. All bar one mandible came from adults. Crown height measurements (following Levine 1982) were taken on one or more teeth from nine jaws. These produced the following age estimates: one at 5–6 years; one at 6–7 years; three at 7–8 years; one at 8–9 years; one at 11–12 years. Therefore, although the horses involved were fully mature, most of them died well before the end

Element	**Measurements (mm)**	**Mean**	**sd**	**cv**
Humerus BT	25.9 28.5 29.1	27.8		
Metacarpal Bp	18.7 20.3 20.3 22.2 22.2 23.0 24.5 24.6	22.0	2.1	9.5
Metacarpal Dp	13.3 14.4 15.3 16.1 16.4 16.7 16.9 18.0	15.9	1.5	9.4
Metacaepal Bd	21.9 22.9 25.6 26.7 26.8	24.8		
Metatarsal Bp	19.2 19.4 20.2 22.7	20.4		
Tibia Bd	22.7 23.7 24.2 24.3 24.4 25.3 27.7	24.6	1.6	6.5
Tibia Dd	17.4 17.9 18.5 18.9 19.5 19.8 22.1	19.2	1.5	7.8
Withers Ht (cm)	61.1 66.0 68.5	65.2		

sd = standard deviation; cv = coefficient of variation
BT = breadth of distal trochlea
Bp = proximal breadth; Dp = proximal depth
Bd = distal breadth; Dd = distal depth
Withers height estimated from length measurements of complete limb bones

Table 9.18: Common measurements of Phase 6 sheep bones

NISP	SL57	SL58	SL59	SL60	Total	%NISP	MNE
Skull frags	1	–	1	–	2	3.1	2
Maxilla	–	–	1	1	2	3.1	2
Mandible	1	7	3	1	12	18.8	7
Loose teeth	2	6	4	–	12	18.8	
Scapula	–	2	2	4	8	12.5	2
Humerus	–	1	3	1	5	7.8	4
Radius	–	1	2	–	3	4.7	2
Ulna	–	1	2	–	3	4.7	2
Pelvis	–	1	–	1	2	3.1	2
Tibia	–	–	1	1	2	3.1	1
Fibula	–	–	–	1	1	1.6	1
Calcaneus	1	–	–	–	1	1.6	1
Centroquartal	–	1	–	–	1	1.6	1
Metatarsal	–	2	–	1	3	4.7	3
Peripheral metapodial	–	2	–	1	3	4.7	
Phalanx 2 (peripheral)	–	–	–	1	1	1.6	
Lumbar vertebrae	–	–	–	1	1	1.6	
Ribs	–	1	1	–	2	3.1	
Total	**5**	**25**	**20**	**14**	**64**		

NISP = number of individual specimens
MNE = minimum number of elements represented by NISP

Table 9.19: Pig elements from Phase 6 farmsteads SL57–SL60

NISP	SL57	SL58	SL59	SL60	Total	%NISP	MNE
Skull frags	1	7	1	3	12	6.5	5
Maxilla	–	8	2	2	12	6.5	9
Mandible	1	2	1	5	9	4.8	4
Loose teeth	5	17	6	12	40	21.5	
Scapula	–	1	5	4	10	5.4	6
Humerus	2	4	3	3	12	6.5	9
Radius	1	5	3	2	11	5.9	5
Ulna	1	3	–	2	6	3.2	5
Pelvis	–	2	4	1	7	3.8	4
Femur	–	1	2	2	5	2.7	2
Tibia	2	3	2	2	9	4.8	5
Astragalus	–	–	2	–	2	1.1	2
Calcaneus	1	–	–	–	1	0.5	1
Other tarsals	–	–	1	–	1	0.5	
Metacarpal	1	1	3	4	9	4.8	8
Metatarsal	–	4	–	2	6	3.2	4
Metapodial	–	2	–	1	3	1.6	
Peripheral metapodial	–	1	1	–	2	1.1	
Phalanx 1	2	2	1	–	5	2.7	2.5
Phalanx 2	1	2	1	1	5	2.7	2.5
Phalanx 3	–	1	–	–	1	0.5	0.25
Cervical vertebrae	1	1	2	3	7	3.8	
Thoracic vertebrae	1	–	1	1	3	1.6	
Lumbar vertebrae	1	–	–	1	2	1.1	
Ribs	–	2	1	3	6	3.2	
Total	**21**	**69**	**42**	**54**	**186**		

NISP = number of individual specimens
MNE = minimum number of elements represented by NISP

Table 9.20: Horse elements from Phase 6 farmsteads SL57–SL60

of their natural lifespan. Horses would have been valued as beasts of burden and for riding but most appear not to have been kept to old age.

One mandible had only one molar in wear and this belonged to a horse that died in its second year. Including the distal radius of the neonatal foal, eight (31%) of the latest-fusing epiphyses were unfused, although most of them came from bones that were almost fully grown. This suggests that a substantial proportion of horses were relatively young adults. Given the low numbers of horse ABGs and the association of their bones with those of other domestic mammals, it seems likely that horseflesh was eaten. However, in contrast to cattle, no butchery marks were observed on any horse bone and there was no evidence that their bones were regularly broken open for marrow (Table 9.11). Most of the fragmentation was caused by modern breakage and in some instances by dogs, which had inflicted gnawing damage on at least 23 horse bones. Indeed there is more evidence that horse meat was fed to dogs rather than consumed by humans.

Only a few horse bones could be measured but these revealed that the horses were of varying size (Table 9.21). One metacarpal from SL58 had a greatest length of 195mm, producing an estimated withers height (following Vitt 1952) of only 119cm (11.7 hands). In contrast, a metatarsal, also from SL58, had a length of 267mm, which converted to a withers height estimate of 139.9cm (13.8 hands). These and other horse measurements fall within ranges commonly found in Roman assemblages.

Other mammals

DOGS

Sixty-one bones were recorded, including 12 (20%) that formed two ABGs of six bones each (ABG6 and ABG14). The first ABG, consisting of cranial elements, pelvis, ulna and tibia, was found in water-pit G431 (ABG14; SL60; L222). The other dog ABG, from ditch G387 (ABG6; SL57; L184), was also from an adult and included three lumbar vertebrae, both pelves, and possibly a metapodial. In addition, there were several instances where two or three bones found in the same context probably came from one dog. Therefore, even though most of the dog skeletons became very fragmented and scattered, their carcasses were not regularly processed, if at all. Excluding ABGs, dogs formed only 3% of the identified mammal elements (Table 9.7) but their presence at the farmstead was clearly evident from the substantial numbers of bones that they had gnawed. All parts of the body were represented with the sturdy mandible being the most abundant element. At least nine jaws were represented (Table 9.22). All nine jaws that produced ageing evidence came from adults. Two mandibles with heavy toothwear belonged to elderly dogs. In one case the dog had lost one of its premolars. Epiphyseal fusion evidence confirmed that most of the dogs were adults. Thirty fully fused limb bone epiphyses were recorded. However, eight bones with unfused epiphyses showed that not all of the dogs had reached adulthood. Dogs would have served as working animals as well as pets.

The dog from G431 (ABG14) was a miniature type with a bowed tibia. This had a distal depth of only 12.2mm. Dogs of this type have been found on other Romano-British sites. This was a period that saw much greater diversity in the size and types of dogs being kept (Harcourt 1974, 151–76; Clark 1995, 9–32). A more robust small dog was represented by a calcaneus with a length of 37.7mm. Larger dogs were also represented: for example a radius with a proximal breadth of 17mm was very similar in size to the dog represented by ABG3 from G46 (L28) in Phase 5.

CAT

A metapodial from SL58 was the only find of a cat from the excavations. Cats are commonly found in small numbers on Romano-British sites.

WILD MAMMALS

Only three bones (skull fragment, radius, scapula) and a piece of worked antler offcut were assigned to red deer. A distal tibia was the only find of roe deer. No bones of hare were found. It would appear that hunting wild mammals for food was a rare pastime for most inhabitants of the HRN3206 farmstead.

Sieving produced a few bones of small mammals, including mandibles of a short-tailed vole and a mouse.

Birds and fish

Only 19 bones were recovered. Chicken provided 13 of these and the species was found in all modifications of the Roman farmstead (Table 9.23). At least three birds were represented by four femur fragments. Chickens have been found on many Romano-British rural sites but usually in very small numbers and generally less frequently than in towns. Chickens provided 2.5% of the total sheep/goat and chicken NISP counts, which is similar to many

Element	Measurements (mm)	Mean	sd	cv
Humerus BT	63.2 65.6 69.2 69.7 70.5 72.2 75.2	69.4	4.0	5.8
Humerus HT	43.8 46.1 49.0 49.1 49.4 49.8 50.2 52.0	48.7	2.6	5.3
Metacarpal Bp	42.6 45.5 46.3 48.4 54.1	47.4		
Meratarsal Bp	44.6 46.2 50.7	47.2		
Radius Bp	79.6 81.4 83.3	81.4		
Radius Dp	45.8 47.7 54.3	49.3		
Tibia Bd	67.4 71.9 72.2	70.5		
Withers Ht (cm)	119.0 139.9	129.5		

sd = standard deviation; cv = coefficient of variation
BT = breadth of distal trochlea; HT = greatest height of distal trochlea
Bp = proximal breadth; Dp = proximal depth; BFp = breadth of proximal articular surface
Bd = distal breadth
Withers height estimated from length measurements of complete limb bones (Vitt 1952)

Table 9.21: Common measurements of Phase 6 horse bones

NISP	SL57	SL58	SL59	SL60	Total	%NISP	MNE
Skull frags	–	–	2	2	4	6.6	3
Maxilla	–	–	5	2	7	11.5	4
Mandible	2	6	1	–	9	14.8	9
Loose teeth	–	2	–	1	3	4.9	
Scapula	1	–	–	–	1	1.6	1
Humerus	1	–	4	–	5	8.2	4
Radius	–	1	1	–	2	3.3	2
Ulna	–	–	2	1	3	4.9	
Pelvis	2	1	–	1	4	6.6	4
Femur	–	–	1	1	2	3.3	1
Tibia	–	2	–	1	3	4.9	3
Calcaneus	–	1	–	–	1	1.6	1
Metacarpal	–	1	–	–	1	1.6	
Metatarsal	–	2	1	–	3	4.9	
Metapodial	1	–	1	–	2	3.3	
Axis (VC2	1	–	–	–	1	1.6	
Cervical vertebrae	2	–	–	–	2	3.3	
Thoracic vertebrae	–	2	–	–	2	3.3	
Lumbar vertebrae	3	–	–	–	3	4.9	
Ribs	–	3	–	–	3	4.9	
Total	**13**	**21**	**18**	**9**	**61**		

NISP = number of individual specimens
MNE = minimum number of elements represented by NISP

Table 9.22: Dog elements from Phase 6 farmsteads SL57–SL60

	Chicken					Duck	Plover	Sparrowhawk	Rook/crow
Element	SL57	SL58	SL59	SL60	Total	SL59	SL58	SL59	SL60
Coracoid	–	–	–	–	0	–	–	–	1
Scapula	–	–	1	–	1	–	–	–	–
Humerus	–	1	–	–	1	–	–	1	–
Radius	–	–	–	–	0	–	–	1	–
Ulna	–	–	–	–	0	–	1	1	–
Carpometacarpus	1	–	–	–	1	–	–	–	–
Femur	–	4	–	–	4	1	–	–	–
Tibiotarsus	–	3	–	1	4	–	–	–	–
Tarsometatarsus	–	1	–	1	2	–	–	–	–
Total	**1**	**9**	**1**	**2**	**13**	**1**	**1**	**3**	**1**

Counts are of numbers of individual specimens (NISP) and include bones in associated bone groups

Table 9.23: Phase 6 bird elements

farmsteads and small nucleated sites (Maltby *et al*. 2018). Only one bone came from an immature bird. None of the four femora and two tibiotarsus shafts had evidence for medullary bone, which is indicative of hens in lay. Cut marks found on the distal end of a tibiotarsus showed evidence of processing for meat, which was probably the main reason why chickens were kept. One tarsometatarsus with a 23.6mm-long spur belonged to a cockerel; another with no spur belonged to a hen. Measurements were taken on nine chicken bones; the variations in size confirmed the presence of both females and males. The birds were of small stature, typical of the size of chickens from this period.

A femur (distal breadth 10.1mm) of a young adult came from a duck the size of a wild mallard. An ulna of a wader was of a similar size and morphology to that of a plover. These birds could have been hunted for food. Three wing bones of an adult female sparrowhawk were found in ditch G345 (SL59; L175). Although sparrowhawks were used by falconers in later periods, it is more likely that this wing was collected for its feathers. A corvid coracoid was the size of a rook or crow.

No bones of fish were recovered either by hand collection or sieving. Although they may not have survived well, their absence is typical of Roman sites from the region. The inhabitants of the HRN3206 farmstead relied almost exclusively on domestic animals for their meat supply.

9.3 CHARRED PLANT REMAINS

by John Giorgi

Introduction

A total of 193 environmental bulk soil samples was collected at HRN3206 for the recovery of charred plant

remains for potential information on the agrarian economy of the site. The bulk of the samples were from late Iron Age/early Roman (Phase 5) and Roman (Phase 6) deposits. The results may be compared to botanical analyses from several excavations close-by: to the west at HRN3455, HRN3456 and HRN3457 (Giorgi 2019b); and to the south-east at HRN3205 (Giorgi 2019a; forthcoming a) and Woodside Link (Giorgi 2018; forthcoming b).

Sampling, processing and identification/recording methods

The samples were collected from a wide range of features, mainly pits, ditches and grave fills. Over half (118) were from Roman deposits (Phase 6), with 12 samples from the late Neolithic/early Bronze Age (Phase 2), 31 from the middle to late Bronze Age (Phase 3), one from the early Iron Age (Phase 4), and 27 from the late Iron Age/early Roman (Phase 5). One sample was also collected from a post-medieval ditch fill (Phase 8). Three samples were from undated features (Phase 9) and are not discussed further.

Sample size ranged from 1–30 litres, most of which were between 10 and 30 litres, the smaller samples mainly being from grave fills. In total, 177 of the 193 samples were processed, using a Siraf-style flotation tank and meshes of 0.3mm and 1mm for the recovery of the flots and residues respectively. The flots were then dried along with the residues, which were sorted for biological and artefactual remains. Identifiable charred plant remains were present in 133 of the 177 samples; they were sorted from the flots and identified using a binocular microscope (with a magnification of up to 40) together with modern and charred reference material and manuals (Cappers *et al*. 2006; Jacomet 2006). Nine flots containing very rich charred plant assemblages from late Iron Age and Roman deposits were sub-sampled, part being sorted and the other part scanned for additional species; one Roman sample also produced identifiable 'waterlogged' plant remains.

Results

The results are shown in Tables 9.24 to 9.36. Nomenclature and taxonomic order for the wild plants follows Stace (2010), also used for ecological data together with Brenchley (1911; 1913), Hanf (1983) and Wilson and King (2004). The samples collectively produced just over 10,000 quantified items, consisting largely of cereal debris, mainly grains with smaller amounts of cereal chaff and fewer wild plant/weed seeds. Almost all the charred plant remains were recovered from the Roman Phase 6 (72% of the quantified remains) and late Iron Age/early Roman Phase 5 samples (27%), with relatively few remains from the late Neolithic/early Bronze Age and middle–late Bronze Age phases. No charred plant remains were present in the one early Iron Age Phase 4 sample from a pit fill (G515) and the one post-medieval Phase 8 ditch fill (G108) sample. There follows a description and discussion of the charred plant remains by phase.

Phase 2: late Neolithic/early Bronze Age

Twelve samples were collected from ring-ditch monument L1/L2 and cremation burial L4: ten from the fills of the inner (L1) and outer (L2) ring-ditches and two from cremation burial SG497. Only three produced identifiable charred plant remains. One sample from inner ring-ditch G2 (L1) produced just one spelt wheat (*Triticum spelta*) glume base and a small rounded legume seed. The unurned cremation burial contained only traces in one fill, but a modest amount of cereal debris (both grains and chaff) in another, including hulled (spelt) wheat chaff and a few grains of free-threshing wheat (*Triticum aestivum/turgidum*) (Table 9.24).

Spelt wheat first appears during the Bronze Age, becoming increasingly important during this period (Greig 1991, 305); free-threshing wheat appears to have been one of the main cereals during the Neolithic period (ibid, 300). Recent radiocarbon dating, however, has shown many free-threshing wheat grains from early prehistoric contexts to be of more recent date (Carruthers *et al*. 2015, 89). A few charred weed seeds in the richer of the two samples from cremation burial SG497 included one tentatively identified as *Galium aparine* (cleaver) and a seed of *Anthemis cotula* (stinking chamomile), potentially reflecting the cultivation of the free-draining calcareous loam and clay soils around the site. *Anthemis cotula*, however, is only very occasionally found in early prehistoric contexts, with radiocarbon dating of such seeds having shown later dates (ibid, 90). This may also be the case with the one *Anthemis cotula* seed from this site.

Other charred wild plant remains in cremation burial SG497 included a few tuber and rhizome fragments, including a tuber of *Arrhenerathum elatius* var *bulbosus* (onion couch). Tubers of this wild grass are common in prehistoric cremation deposits, including sites in Bedfordshire, such as Bronze Age cremations within the Biddenham Loop (Giorgi 2016, 4). They may have been gathered for use as fuel or reflect burnt grassland vegetation under a pyre or the use of turves in its construction (Robinson 1988).

It is difficult to establish whether or not the charred cereal remains in cremation burial SG497 were deliberately placed as an offering. The small amounts and the presence of wild plant/weed seeds suggest that it is probably more likely that these remains represent redeposited debris from low-level domestic activities taking place elsewhere on site and associated with the final stages of crop-cleaning (including the de-husking of hulled wheat) and food preparation. The possibility that the charred remains in the richer of the two fills from the cremation burial may be intrusive, however, cannot be ruled out.

Phase 3: middle-late Bronze Age

Thirty-one samples were collected from Phase 3 features, all within dispersed activity area SL53. They were taken from inhumation L9 and cremation burials L12 and L14, at the south end of the excavation area, and from four fills of two pits L16 much further to the north.

Charred plant remains were found in 12 samples, two from the pit fills and ten from the grave fills. Most consisted of only traces or very small amounts of poorly preserved and largely indeterminate grains, chaff and weed seeds. A slightly larger amount (< 50 items) of cereal debris was found in pit G6 (L16) (Table 9.24).

The grains and chaff fragments show the presence in three samples of hulled wheat, including spelt which became increasingly important during the Bronze Age (Greig 1991, 306). Spelt wheat was identified amongst small amounts of charred cereal debris recovered from late Bronze Age/early Iron Age deposits close-by at

	Period	Late Neolithic/early Bronze Age				Middle-late Bronze Age										
	Phase	2									3					
	Site Landscape	51									53					
	Land-use Area	1	8		9				12					14	16	
	Group	2	449		239			7				8	116	152	5	6
	Feature type	Ring-ditch	Cremation burial SG497		Inhumation SG229	Cremation burial SG148						Cremation burial SG150	Cremation burial SG152	Cremation burial SG1248		
	Sample number	189	60	61	5	19	24	21	23	25	20	28	31	9	100	186
	vol sample (l)	30	30	30	30	8	7	7	6	8	8	7	7	6	20	10
	vol flot (ml)	<1	2	8	<1	2	2	2	<1	<1	2	2	1	93	4	33
Latin name	**English name**															
Cereal grains																
Triticum dicoccum/spelta	emmer/spelt wheat	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1
T. cf. *dicoccum/spelta*	?emmer/spelt wheat	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1
T. aestivum type	free-threshing wheat	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–
T. cf. *aestivum* type	?free-threshing wheat	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–
Triticum sp.	wheat	–	1	1	1	–	–	–	–	–	–	–	–	–	1	1
cf. *Triticum* spp.	?wheat	–	–	2	–	–	–	–	–	–	–	–	–	–	–	–
cf. *Triticum* sp.	?wheat (sprouted)	–	–	–	–	–	–	–	–	–	–	–	–	1	–	1
Cerealia	indet. cereal (estimate)	–	–	23	–	–	–	1	1	–	–	–	1	–	7	8
Cerealia	indet cereal fragments <2mm	–	+	+	+	–	–	+	+	–	+	+	+	+	+	++
Cereal chaff																
Triticum spelta L.	spelt spikelet forks/bases	–	–	–	–	–	–	–	–	–	–	–	–	–	–	2
T. spelta L.	spelt glume bases	1	–	2	–	–	–	–	–	–	–	–	–	–	–	4
T. spelta L.	spelt rachis fragments	–	–	1	–	–	–	–	–	–	–	–	–	–	–	2
Triticum sp(p).	wheat glume bases	–	–	1	–	–	–	2	–	–	–	–	–	–	2	6
Triticum sp(p).	wheat spikelet forks/bases	–	–	1	–	–	–	–	–	–	–	–	–	–	–	3
Triticum sp(p).	wheat rachis fragments	–	–	2	–	–	–	–	–	–	–	–	–	–	–	1
Other plant/weed seeds																
Stellaria media (L.) Vill.	common chickweed	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–
Fallopia convuluvulus (L.) A Love	black bindweed	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–
Rumex sp(p).	dock	–	–	–	–	1	4	6	2	4	1	–	1	–	–	–
Polygonaceae indet.		–	–	–	–	–	–	–	–	–	–	–	1	–	–	–
Fabaceae indet.	legume fragments (>2mm) (?bean/pea)	–	–	–	–	–	–	–	1	–	–	–	–	–	–	–
Fabaceae indet.	pea family (small round cotyledons)	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Galium aparine L.	cleaver	–	–	–	–	–	–	–	–	–	–	–	–	–	–	2
cf. *G. aparine*	?cleaver	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–
Anthemis cotula L.	stinking chamomile	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–
Arrhenatherum elatius var *bulbosum* (Willd.) St-Amans	onion couch tuber fragments	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–
Bromus sp.	brome	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–
cf. *Bromus* sp.	?brome	–	–	1	–	–	1	–	–	–	–	–	–	–	–	–
Poaceae indet.	grasses (large seeds)	–	–	2	–	1	–	–	–	–	–	–	–	–	–	–
Poaceae indet.	grasses (small seeds)	–	–	–	–	–	–	1	–	–	1	1	–	–	–	1
Poaceae indet.	cereal/grass culm node/internode	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
indeterminate	tuber/rhizome fragments	–	2	–	–	–	–	–	1	–	–	–	–	–	–	–
indeterminate	wood charcoal (>/<2mm)	-/++	+/++++	+/++++	+/++	++/++++	+/++++	+++/++++	++/++++	-/++	++/++++	++/++++	+/+++	++++/++++	++/+++	++/++++
Total		**2**	**3**	**41**	**1**	**3**	**5**	**10**	**5**	**4**	**2**	**1**	**3**	**1**	**12**	**33**	**126**
item density (per litre of processed soil)		<0.1	0.1	1.4	<0.1	0.4	0.7	1.4	0.8	0.5	0.3	0.1	0.4	0.2		0.6	

Table 9.24: Phases 2–3 charred plant remains

HRN3205 (Giorgi 2019a; forthcoming (a)) and Woodside Link (Giorgi 2018; forthcoming (b)).

A small range of charred wild plant/weed seeds in the samples are probably from cereal weeds, including *Stellaria media* (common chickweed), *Fallopia convolvulus* (black bindweed), *Rumex* (dock), *Galium aparine* and *Bromus* (brome), with *Fallopia convolvulus* and *Galium aparine* possibly indicating the spring and winter sowing of cereals respectively. A few charred tuber and rhizome fragments were also found in one of the cremation burials.

These small amounts of charred plant remains probably represent redeposited debris from low-level domestic activities taking place elsewhere on site and associated with the final stages of crop-cleaning (including the de-husking of hulled wheat) and food preparation.

Phase 5: late Iron Age/early Roman

Twenty-seven samples were collected from this phase, all but one from enclosed farmstead SL55. One grave fill sample, from unenclosed activity focus SL56 to the south, produced no charred plant remains. Most of the samples were from ditch and pit fills, a grave, and postholes, with single ones from a hollow and a water-pit. Nineteen of the samples produced charred plant remains (Table 9.25). These included seven rich assemblages, the composition of which in terms of the proportions of grains, chaff and weed seeds is shown in Table 9.26 and Figure 9.1. The charred plant remains were distributed across enclosures L21, L27, L28 and L31 in the north-west corner of SL55; the majority were from features within domestic focus L28.

Enclosure L21

Three samples from enclosure L21 produced charred plant remains. Ditch G27 contained a fairly good-sized assemblage, consisting mainly of poorly preserved grains of (hulled) wheat and fewer of hulled barley; they represent almost fully processed cereals. Traces of charred plant remains were found in the other two L21 samples – from another ditch fill and from pit G561.

Enclosure L27

Pit G103 within field L27, just outside enclosure L21, produced only a few charred cereal grains.

Domestic focus L28

Thirteen samples within domestic focus L28 produced charred plant remains; they included six rich assemblages (*see* Fig. 5.3). Three of the rich assemblages, from pit G46 and two pits of cluster G44, were dominated by grains, mainly of hulled wheat. There were dense concentrations of charred remains in two of the pits in cluster G44 (*c.* 81 and 146 items per litre of processed soil). Conversely, the other three rich assemblages contained good amounts of hulled (spelt) wheat chaff. It dominated the quantified remains in a posthole associated with post-built structure G42, with smaller amounts in shallow depression G40 and one pit of cluster G43.

These six rich assemblages suggest that different activities associated with the final stages of crop-cleaning and food preparation were taking place within domestic focus L28. The drying of fully processed (and de-husked) grain is evidenced by the two pits in cluster G44 and pit G46, with the grains being accidentally burnt while being dried before milling, storage or during cooking. In addition, the de-husking of hulled spelt wheat is evidenced by the residues in post-built structure G42, depression G40 and pit G43, with the chaff and grains being accidentally burnt while being heated to facilitate the separation of the grains from the husks. These activities were being carried out in the north-east and south-central area of the enclosure. Some of the cereals may have originally been stored in this area, possibly including in post-built structure G42.

The weed seeds only accounted for a small proportion of the quantified remains in the six rich assemblages. They would have been mostly removed during the latter stages of crop-processing, the small seeds by use of the 'wheat' sieve (then perhaps used as fuel), and the large weed seeds, e.g. *Galium aparine* and wild grasses including *Bromus* (brome) and *Lolium temulentum* (darnel), by hand-sorting. Large weed seeds are often found in almost fully processed cereals because their similarity in size to the grains makes their separation difficult.

The other seven productive samples from across domestic focus L28 produced only occasional or small to modest amounts (< 55 items) of charred plant remains. These derived from roundhouse G32, ditches G20 and G21, pits G34 and G44, and four-post structure G42. All represent debris from the activities described above.

Enclosure L31

Two samples from ditch G60, to the south-east of domestic focus L28, only contained a very small number of charred grains; one of the ditch fills also contained a few chaff fragments and weed seeds.

Discussion of the late Iron Age/early Roman Phase 5 assemblages

Cereal debris dominated the charred plant assemblages from the late Iron Age/early Roman Phase 5 samples. It consisted mainly of grains, most of which were poorly preserved and not identifiable, along with fairly good amounts of hulled wheat chaff. Most of the identifiable cereal remains were from hulled wheat (in 16 samples) and specifically spelt, which was identified in seven samples on the basis of the chaff fragments. Only four samples had definite traces of emmer (*Triticum dicoccum*), with very occasional free-threshing wheat grains in five. Barley (*Hordeum vulgare*) was represented by much smaller numbers of grains in 11 samples, the better-preserved grains including twisted and hulled ones indicative of (six-row) hulled barley in seven samples. There were a few oat (*Avena*) grains in seven samples, although the absence of floret bases meant that it was not possible to establish if they were from cultivated and/or wild species.

These cereal remains are similar to archaeobotanical evidence from other sites in southern England, showing spelt to be the main wheat (along with hulled barley) during the Iron Age and Roman periods, while emmer and free-threshing wheat tend to appear only occasionally and in small amounts (van der Veen 2016; Lodwick 2017, 26; Greig 1991, 306, 309). The results also compare well with the charred cereal remains from nearby excavations, e.g. in late Iron Age and Roman samples at HRN3205 (Giorgi 2019a; forthcoming (a)) and HRN3455–7 (Giorgi 2019b), and in Roman deposits on the Woodside Link (Giorgi 2018; forthcoming (b)). These all showed spelt to be the dominant wheat grain, followed by a little evidence for (six-row) hulled barley

	Land-use Area	21				27						28								31	
	Group	26	27	561	103	20		21	32	34	40	42		43	44			46		60	
	Feature type	Ditch	Ditch	Pit	Pit	Ditch		Ditch	Ditch	Pit	Hollow	Posthole		Pit	Pit			Water-pit		Ditch	
	Sample number	142	141	128	133	140	143	144	130	124	138	136	137	135	184	119	183	131		154	105
	vol sample (l)	27	27	30	20	27	27	27	10	5	30	10	10	10	30	5	10	30		27	30
	vol flot (ml)	1	21	2	24	<1	2	<1	3	1		6	2	23	2	18	46	30		39	13
	% flot sorted											50%					25%	50%			
	% flot scanned											50%					75%	50%			
Latin name	**English name**																				
Cereal grains																					
Triticum cf. *spelta*	?spelt wheat	–	–	–	–	–	–	–	–	–	–	–	–	1	–	1	–	–	–	-	-
T. dicoccum/spelta	emmer/spelt wheat	1	3	–	–	–	–	–	1		4		1	3	2	10	11	++	3	2	-
T. dicoccum/spelta	emmer/spelt wheat (sprouted)	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	-	-
T. cf. *dicoccum/spelta*	?emmer/spelt wheat	–	6	1	–	–	–	–	4	2	7	–	–	13	3	18	18	–	5	1	-
T. aestivum type	free-threshing wheat	–	1	–	1	–	–	–	–	–	–	–	–	1	–	1	–	+	–	-	-
T. cf. *aestivum* type	?free-threshing wheat	–	2	–	–	–	–	–	–	–	–	–	–	1	–	2	–	–	1	-	-
Triticum sp(p).	wheat	–	9	–	1	1	–	–	1		11	2	+	1	18	3	55	37	+++	8	+	-	-
cf. *Triticum* spp.	?wheat	–	13	2	–	–	–	–	4	4	25	5	–	3	26	2	77	39		14	–	-	-
Hordeum/Triticum spp.	barley/wheat	–	–	2	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	-	-	-
Hordeum vulgare L.	barley, hulled twisted	–	1	–	–	–	–	–	–	–	–	–	–	4	–	–	–	–	1	–	-	-	-
H. vulgare L.	barley, hulled straight	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	-	-	-
H. vulgare L.	barley, hulled indet.	–	3	–	–	–	–	1	–	–	2	1	+		1	–		1	+	4	+	-	-
H. vulgare L.	barley, indet.	–	3	–	–	–	–	–	–	1	6	3	–	–	2	–	2	4	–	10	–	-	-
cf. *H. vulgare*	?barley	–	4	–	–	–	–	–	1	–	4		–	–	–	–		3	–	6	–	-	1
Avena spp.	oat	–	–	–	–	–	–	–	–	–	2	2	–	–	–	–	2		+	2	+	-	-
cf. *Avena* sp(p).	?oat	–	1	–	–	–	–	–	–	–	–	1	–	–	2	–	2	2	–	1	–	-	-
Cerealia	indet. cereal (estimate)	–	111	1	–	1	8	–	21	7	165	26	+	13	196	30	180	184	+++++	251	+++++	4	3
Cerealia	indet cereal fragments <2mm	+	++++	+	+	+	+	–	+	+	+++++	+	+	+++++	++	+++	+++++	+++++	+++++	+	+
Cerealia	indet cereal loose coleoptiles	–	–	–	–	–	–	–	–	–	–	5	+	–	1	–	–	–	–	–	–	-	-
Cereal chaff																					
Triticum dicoccum Schubl.	emmer wheat glume base	–	–	–	–	–	–	–	–	–	–	–	–	–	2	–	–	–	–	–	–	-	-
T. cf. *dicoccum*	?emmer wheat glume base	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	1	–	1	–	-	-
T. spelta L.	spelt glume bases	–	–	–	–	–	–	–	–	–	4	12	++	–	1	–	–	1	+	1	–	-	-
T. spelta L.	spelt rachis fragments	–	–	–	–	–	–	–	–	–	2	2		–	1	1	–	–	–	–	–	-	-
Triticum sp(p).	wheat glume bases	–	7	–	–	2	3	–	6	1	98	63	+++	12	47	–	–	11	+	5	+	1	-
Triticum sp(p).	wheat spikelet forks/bases	–	3	–	–	–	–	–	–	–	25	92	+++	2	2	1	–	–	+	12	+	2	-
Triticum sp(p).	wheat rachis fragments	–	1	–	–	–	–	–	4	–	24	41	++	5	45	1	–	1	+	5	+	-	-
Cerealia	indet cereal awn fragments	–	–	–	–	–	–	–	–	–	–	–	+	–	–	–	–	–	–	–	–	-	-
Other plant/weed seeds																					
Ranunculus spp.	buttercups	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	+	–	–	-	-
Corylus avellana L.	hazel nut shell fragments	–	–	–	–	–	–	–	–	–	5	–	–	–	–	–	–	–	–	–	–	-	-
*Atriplex*sp.	orache	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	-	-
Stellaria media (L.) Vill.	common chickweed	–	–	–	–	–	–	–	–	–	–	–	–	–	2	–	–	–	–	–	–	-	-
Persicaria sp.	knotweed	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	-	-
Polygonum aviculare L.	knotgrass	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	+	–	–	-	-
Fallopia convuluvulus (L.) A Love	black bindweed	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	+	1	–	-	-
Rumex sp(p).	dock	–	1	–	–	–	–	–	2	1	2		+		31	2	10	20	+++	2	+	1	
Polygonaceae indet.		–	1	–	–	–	–	–	–	–	–	–	–	–	3	–	–	2	–	–	–	-	-
cf. *Crateagus monogyna*	?hawthorn	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	-	-
cf. Pisum sativum	?pea	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	2	3	–	–	–	-	-
Vicia faba L.	broad bean	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	+	–	–	-	-

	Land-use Area	21				27						28								31	
	Group	26	27	561	103	20		21	32	34	40	42		43	44			46		60	
	Feature type	Ditch	Ditch	Pit	Pit	Ditch		Ditch	Ditch	Pit	Hollow	Posthole		Pit	Pit			Water-pit		Ditch	
	Sample number	142	141	128	133	140	143	144	130	124	138	136	137	135	184	119	183	131		154	105
	vol sample (l)	27	27	30	20	27	27	27	10	5	30	10	10	10	30	5	10	30		27	30
	vol flot (ml)	1	21	2	24	<1	2	<1	3	1		6	2	23	2	18	46	30		39	13
	% flot sorted											50%					25%	50%			
	% flot scanned											50%					75%	50%			
Latin name	**English name**																				
cf. *Vicia* sp.	?bean	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	-	-
Vicia/Pisum sp(p).	bean/pea fragments (>2mm)	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	3 +	–	–	-	-
Vicia/Lathyrus/Pisum sp.	vetch/tare/vetchling/pea (>2mm)	–	–	–	–	–	–	–	1	–	–	–	–	–	–	–	– –	–	–	-	-
Vicia/Lathyrus/Pisum spp.	vetch/tare/vetchling/pea (<2mm)	–	–	–	–	–	–	–	–	–	4	–	–	–	–	–	– –	3	–	-	-
Vicia/Lathyrus sp(p)	vetch/tare/vetchling (>2mm)	–	–	–	–	–	–	–	–	–	2	–	–	–	–	1	– –	–	–	-	-
Vicia/Lathyrus spp.	vetch/tare/vetchling (<2mm)	–	3	–	–	–	–	–	–	–	7	–	–	–	–	–	– +	2	+	-	
Medicago/Trifolium sp(p).	medicks/clovers (seeds<1mm)	1	1	–	–	–	–	–	–	–	7	–	–	–	6	3	2 1 +	12	+	-	-
Fabaceae indet.	legume fragments (>2mm) (?bean/pea)	–	–	–	–	–	–	–	1	–	2	–	–	–	–	–	– – –	–	–	-	-
Fabaceae indet.	pea family (small round cotyledons)	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	– – –	3	–	-	-
Daucus carota L.	carrot	–	–	–	–	–	–	–	–	–	–	–	–	–	3	–	– – –	–	–	-	-
Plantago major L.	greater plantain	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	– – –	–	–	-	-
Plantago lanceolata L.	ribwort plantain	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	– – –	–	–	-	-
Euphrasia/Odontites sp(p).	eyebrights/bartsias	–	2				–	–	–	–	1	–	–	–	–		1 – +	–	–	-	-
Sherardia arvensis L.	field madder	–	–	–	–	1	–	–	–	–	2	–	–	–	–	2	1 – –	–	–	-	-
Galium aparine L.	cleaver	–	1			–	–	–	2		–	–	–	–	3		3 2 +	6	+		
Valerianella dentata (L.) Pollich	narrow-fruited cornsalad	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	– 1 –	–	–	-	-
Tripleurospermum inodorum (L.) Sch. Bip.	scentless mayweed	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1 – –	–	–	-	-
Eleocharis palustris/ uniglumis	spike-rush	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	– – –	–	–	-	-
Carex sp.	sedge	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	– – –	–	–	-	-
Lolium temulentum L.	darnel	–	–	–	–	–	–	–	–	–	1	–	–	–	–		– – –	–	–	-	-
Lolium/Festuca sp(p).	rye-grass/fescue	–	–	–	–	–	–	–	–	–	2	–	–	–	–	1	1 2 +	1			
Arrhenatherum elatius var *bulbosum* (Willd.) St-Amans	onion couch tuber fragments	–	1	–	–	–	–	–	–	–	–	–	–	3	–	6	8 +	3	+	-	-
Bromus sp(p).	brome	–	–	–	–	–	–	–	–	–	–	–	+	–	–	–	– +	1	+	-	-
cf. *Bromus* sp(p).	?brome	1	–	–	–	1	–	–	–	–	2	2	–	–	–	–	– –	3	–	-	-
Poaceae indet.	grasses (large seeds)		–	–	–	–	–	–	–	–		6	+	–	–	–	10 3 +	7	–	-	-
Poaceae indet.	grasses (small seeds)	–	3	–	–	–	–	–	4	1	10	3	–	–	20	3	13 6 ++	9	+	2	
Poaceae indet.	cereal/grass culm node/internode	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	2 – +	–	–	-	-
indeterminate	wood charcoal (>/<2mm)	-/++++	++/+++++	-/++	++++/+++++	-/+	+/+++	-/++	++/+++++	+/++	++++/+++++	-/++		++/++++	++/+++++	+/+++	+/++	++/++++		++++/+++++	+++++/+++++	++/+++++
Total		3	183	6	2	6	11	1	52	17	429	268		37	443	55	403	365	384	13	4
item density (per litre of processed soil)		0.1	6.8	0.2	0.1	0.2	0.4	<0.1	5.2	3.4	14.3	53.6 e		3.7	44.3	1.8	80.6	146 e	25.6 e	0.5	0.1

Table 9.25: Charred plant remains from Phase 5 farmstead SL55

Land-use Area	**21**			**28**			
Group	**27**	**40**	**42**	**43**	**44**		**46**
Feature type	**Ditch**	**Hollow**	**Posthole**	**Pit**	**Pit**	**Pit**	**Water-pit**
Sample number	**141**	**138**	**136**	**135**	**119**	**183**	**131**
Grains	158 (86%)	226 (53%)	40 (15%)	268 (61%)	350 (87%)	299 (82%)	307 (80%)
Cereal chaff	11 (6%)	153 (36%)	211 (80%)	98 (22%)	-	14 (4%)	24 (6%)
Weed seeds	14 (8%)	50 (11%)	12 (5%)	76 (17%)	53 (13%)	52 (14%)	53 (14%)
Total	**183**	**429**	**263**	**442**	**403**	**365**	**384**
Item density (per litre of soil)	6.8	14.3	53.6e	44.3	80.6	146e	25.6e

Table 9.26: Frequencies and percentages of grain, chaff and weed seeds in late Iron Age/early Roman Phase 5 samples from farmstead SL55, with >100 quantified items

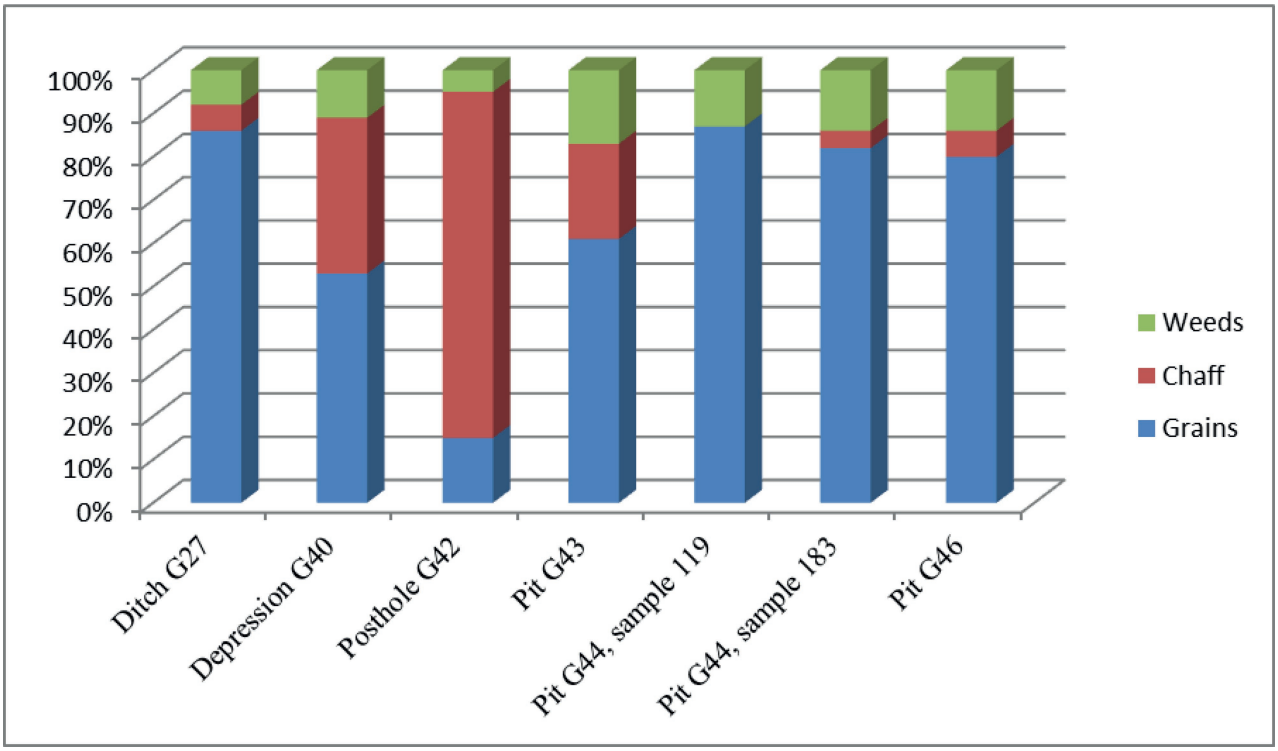


Figure 9.1: Proportions of grain, chaff and weed seeds in late Iron Age/early Roman Phase 5 samples from farmstead SL55, with >100 quantified items

and occasional remains of emmer and free-threshing wheat.

Other potential cultivars were represented by a few broad beans (*Vicia faba*) in one sample and five possible peas (cf. *Pisum sativum*) in two. Eleven large legume seeds and large fragments (> 4mm) in five samples may also belong to cultivated pulses, probably peas or beans. Charred beans and peas are occasionally found in Iron Age and Roman deposits (Grieg 1991, 306, 311; Lodwick 2017, 33), including sites in Bedfordshire, e.g. the single pea in a Roman deposit from the Biddenham Loop (Giorgi 2016, 13–14). Peas and beans are high in protein and probably played an important part in the Roman diet; they are mentioned in Roman literary sources (Cool 2006, 127). The presence of five charred hazel (*Corylus avellana*) nut shell fragments, recovered along with the rich charred cereal assemblage from depression G40 (L28), may represent the residues of wild foods gathered from local woodland, hedgerow or scrub habitats.

There was a fairly good range of species represented by charred wild plant/weed seeds. However, individual species representation was generally poor, with the exception of *Rumex* (dock), small-seeded legumes including *Medicago/Trifoilum* (medick/trefoil), and wild grasses, both small-seeded and large-seeded including *Lolium temulentum* and *Bromus*. These charred seeds are probably mainly from arable weeds, given their presence in assemblages dominated by cereal debris. There was a similar range of weeds to those identified in the middle Bronze Age samples, including *Fallopia convolvulus* and *Galium aparine*, which, along with a few other species found for the first time including *Sherardia arvensis* (field madder) and *Valerianella dentata* (narrow-fruited cornsalad), suggests the continued cultivation of the calcareous soils around the site. *Fallopia convolvulus* (along with *Valerianella dentata*) and *Galium aparine* may again perhaps suggest both spring-and winter-sowing of cereals. Several weeds of short to medium height, e.g. *Stellaria media* (common chickweed), *Tripleurospermum inodorum* (scentless mayweed), were represented in the samples. This may point to the harvesting of cereals fairly low on the straw, although

small numbers of *Arrheneratheum elatius* var *bulbosus* tubers in five of the rich cereal assemblages, along with seeds of twining species such as *Fallopia convolvulus* and *Galium aparine*, could also tentatively suggest some harvesting of cereals by uprooting.

The relatively good representation in eight samples of small (< 2mm) leguminous seeds, including *Vicia/Lathyrus* (vetch/tare/vetchling) and *Medicago/Trifolium* (plants which occur in soils with low nitrogen levels) may be an indication of low soil fertility. This may reflect over-cropping during this period, although the presence of weeds indicative of high nitrogen levels, e.g. *Stellaria media* and *Galium aparine*, also points to areas of higher soil fertility.

Phase 6: Roman

A total of 105 Roman Phase 6 samples was processed from a range of features, mainly ditches and pits, associated with farmstead SL57 and its later modifications SL58, SL59 and SL60. A total of 97 samples produced charred plant remains (Tables 9.27, 9.29, 9.30, 9.31, 9.33, 9.34 and 9.36), which included 20 rich assemblages (> 100 quantified items). The composition of each in terms of grains, chaff and weed seeds is shown in Figures 9.2 and 9.3 and Tables 9.28 and 9.35. The sample from water-pit G212 produced a waterlogged plant assemblage (Table 9.32).

Establishment of farmstead SL57

All 11 samples from SL57 produced charred plant remains. The samples, which were taken from ditches (7), pits (3) and a pond (1), came from enclosures L152 and L154 to the south of trackway L163; trackway L163 itself; and activity focus L183 and livestock race L184 to the north of the trackway. The charred plant remains consisted mainly of grains (77%) with smaller amounts of chaff (19%) and fewer weed seeds (4%) (Table 9.27).

The Phase 6 charred plant remains included three large assemblages (Table 9.27 and 9.28): two were from south of trackway L163 while Roundhouse G153 (L152) produced an extremely rich and dense assemblage (with a very high item density of 277). It was dominated by grains with only a little hulled wheat chaff and few weed seeds, representing fully processed (and de-husked) hulled (spelt) wheat. There was a high percentage of sprouted grains amongst the well-preserved grains; these may represent the residue of grains accidentally burnt while being deliberately germinated for use in brewing, or the burning of spoilt grain. It was not possible, however, to establish if three-quarters of the grains, which were poorly preserved and not identifiable, had sprouted or not. Furthermore, there was no evidence for ovens in the area in which malting activities might have been carried out.

The other good assemblage from south of the trackway was from enclosure ditch G161, to the west of roundhouse G153. It consisted mainly of hulled spelt wheat chaff, smaller numbers of grains, and fewer weed seeds, representing the burnt residues from activities associated with the de-husking of spelt wheat.

The final good-sized assemblage from SL57 was from pond G338 (L183) to the north of the trackway. It had a similar composition to the assemblage from ditch G161: a large amount of chaff, slightly less grain, and few weed seeds. Again, it suggests that activities associated with the de-husking of spelt wheat were also taking place in this area of the farmstead.

Seven of the other eight samples from SL57 produced only occasional or small amounts of charred plant remains, mainly grains. These were from pit G206 (L154); from ditches G224 and G251 of trackway L163; and three from ditches G370 and G387, and a short trench G396 (all in L184 to the north of the trackway). Sample 64 from short trench G396 produced more grains (> 50)

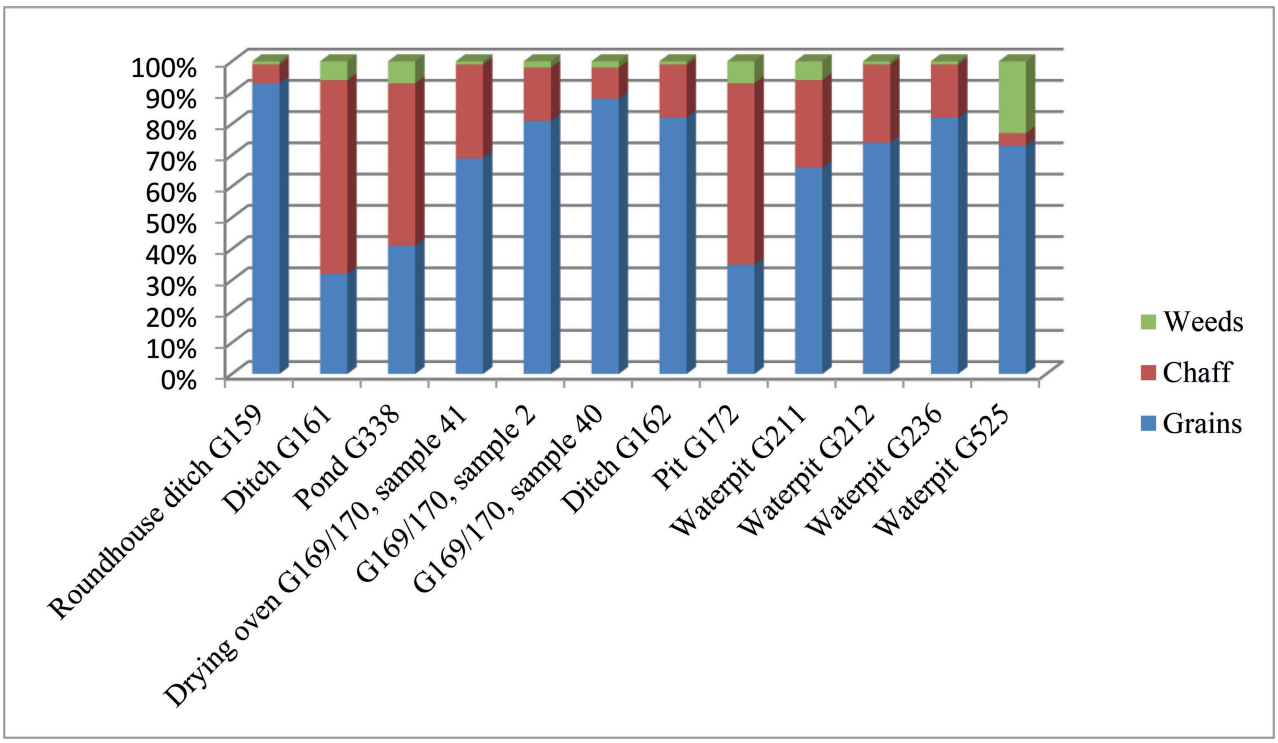


Figure 9.2: Proportions of grain, chaff and weed seeds in Roman Phase 6 samples from farmsteads SL57 and SL58, with >100 quantified items

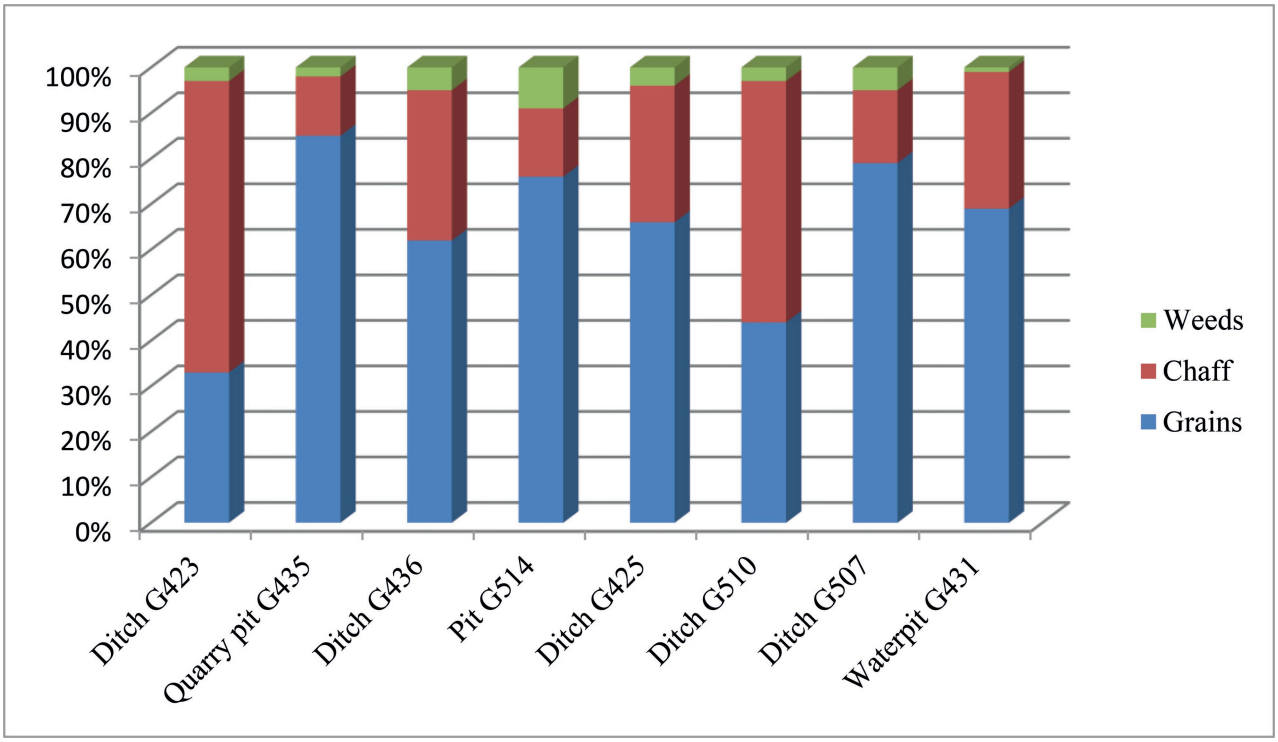


Figure 9.3: Proportions of grain, chaff and weed seeds in Roman Phase 6 samples from farmsteads SL59 and SL60, with >100 quantified items

of both hulled wheat and six-row hulled barley. These accidentally burnt grains were probably from low-level or domestic activities associated with the final stages of crop-cleaning and food preparation taking place close to the sampled features.

First modification SL58 to the farmstead's layout

A large body of charred plant remains (totalling several thousand items), dominated by cereal debris, mainly grains (70%), followed by chaff (24%) but few weed seeds (6%), was recovered from 38 of the 41 samples taken from SL58. These samples were from ditches (20), water-pits (7), quarry pits (4), other pits (2), possible drying ovens (3), depression (1) and a stone surface (1) (Tables 9.29– 9.31). The charred plant remains were distributed across 18 Land-use Areas to the north and south of trackway L169, as well from the trackway itself. Most were from the area to the south within enclosures L160, L157 and L159, which contained eight of the nine rich charred plant assemblages (Tables 9.27 and 9.28).

ENCLOSURE L160 AND MODIFICATION L161

Six of the nine samples from enclosure L160/L161 produced rich assemblages. Ditch G166 contained mainly grains with a small amount of chaff and only a few weed seeds; the assemblage represents almost fully processed and de-husked hulled spelt wheat. In contrast, pit G172 contained more chaff than grain and again few weed seeds, i.e. mainly debris from the de-husking of hulled spelt wheat. The sample from the basal fill of water-pit G236 contained mainly cleaned grains but also a fairly good amount of chaff; two other fills from the same feature contained more modest amounts of cereal debris.

Samples 2, 40 and 41 from possible drying oven G169/170 contained very rich and high concentrations of charred plant remains (densities of 90 and 168 items per litre of processed soil). Grains were the dominant component of these assemblages but there was a good amount of hulled wheat chaff in one of the samples, and relatively few weed seeds in any of them. A good number of the grains had germinated and there were also small numbers of loose detached coleoptiles. Most of the grains, however, were too poorly preserved and unidentifiable (between 68% and 80%) to establish if there were enough germinated grains to suggest that the remains represented grains being malted within their spikelets and accidentally burnt in the process. The other possibility is that the grains had accidentally sprouted and were being deliberately burnt as waste.

All six rich assemblages from L160 and L161 were from features that were close to one another (*see* Fig. 6.9), suggesting that this was a significant area for large-scale crop-cleaning (including de-husking). Another sample, from enclosure ditch G230, produced a modest amount of chaff from the de-husking of spelt wheat.

Enclosures L157 and L159

Two of the five productive samples from water-pits G211 (L157) and G212 (L159) produced rich assemblages, with mainly grains but also fairly good amounts of chaff, representing debris from de-husking as well as perhaps the drying of clean grains. Three other fills from these two water-pits only produced small amounts of cereal debris.

Enclosure L158 and later activity L166

Two samples from ditches G191 (L158) and G199 (L166) contained only modest amounts of mainly grain and chaff from crop-cleaning activities in the south-east corner of the farmstead.

Trackway L169
The sample from trackway ditch G261 produced only a few charred grains and chaff fragments.

North of trackway L169
Twenty-one samples from 13 Land-use Areas to the north of the trackway produced smaller amounts of charred plant remains than those from south of the trackway. These consisted mainly of grains in 19 samples and smaller amounts of chaff and weed seeds in 14 and 18 samples respectively.

The only good-sized assemblage was from water-pit G525 (L219), consisting mainly of hulled wheat grains and some weed seeds but little chaff. Three other samples from the same enclosure contained very small amounts of cereal debris. Three samples produced fairly good amounts (50–100 items) of charred plant remains: a mix of grain, chaff and weed seeds from ditch G350 (L191), and mainly grains in pit G460 and ditch G473 (both in L212). Two other samples from L212 also contained a few grains.

The other 13 samples from features associated with enclosures L40, L41, L42, L43, L170 and L171 contained only occasional or small amounts (< 50 items) of charred plant remains, consisting mainly of grains. There was more hulled wheat chaff in two samples, however, from worn hollow G321 (L171) and stone surface G572 (L43). The small amounts of charred plant remains from this area of the farmstead may be indicative of low-level domestic activities associated with the final stages of crop-cleaning (including de-husking) and food preparation.

Waterlogged plant remains from water-pit G212 (L159)
The sample from water-pit G212, south of the trackway, produced a large number of uncharred seeds from a range of wild species that may be contemporary with the sampled feature and, as such, may provide information on the character of the habitat within, and in the proximity of, the pit (Table 9.32).

There was a good representation and range of potential grassland species, including *Ranunculus acris/repens/bulbosus* (buttercup), *Thalictrum flavum* (meadow rue), *Stellaria graminea* (lesser stitchwort), *Prunella vulgaris* (self-heal), *Taraxacum* (dandelion), *Juncus* (rush), *Carex* (sedge) and indeterminate small and large-seeded wild grasses (Poaceae). These remains may be indicative of wet grassland/meadow environments close-by but could also represent the burnt residues of hay or wild plants gathered for other uses within the farmstead, for example the sedges as building/flooring materials.

The plant remains may also be indicative of damp conditions within and around the pit, with areas of disturbed and waste ground and trampling suggested by species indicative of nutrient-rich soils, including *Comium maculatum* (hemlock), *Urtica dioica* (common nettle), and *Stellaria media,* perhaps implying the presence of grazing livestock close-by. *Urtica dioica* and *Hyoscyamus niger* (henbane) are both found where animals defecate and/or human activities take place. Charred cereal debris was also found in this water-pit, along with several potential uncharred cereal weed seeds, for example *Valerianella dentata*.

Second modification SL59 to the farmstead's layout
Charred plant remains were present in 33 of the 35 samples from SL59. These samples were taken from ditches (13), postholes (3), quarry pits (11), water-pit (1), drying ovens (3) and pits (2) (Tables 9.33 and 9.34). The remains were distributed across eleven Land-use Areas and include three good-sized assemblages (Table 9.35 and Fig. 9.3). Grains made up 57%, chaff 37%, and weed seeds 6% of the quantified remains from SL59. The three rich charred plant assemblages were all recovered from the central-east part of the farmstead, in enclosure L196 and in the adjacent area of quarry pits L232, suggesting activities associated with the final stages of crop-processing (including de-husking) were taking place close-by.

Enclosure L196
A rich charred plant assemblage (*c*. 54 items per litre of processed soil) from enclosure ditch G423 contained a large amount of chaff with fewer grains. This represents accidentally burnt debris from the de-husking of hulled wheat, possibly cleared out from nearby drying oven G400, following its use for parching hulled wheat spikelets to facilitate this activity. Of the three samples from drying ovens G400 and G403, only sample 58 (G403) contained a modest-sized assemblage (75 items), consisting mainly of grains (Table 9.33). Another six samples from ditches, postholes, the drying ovens and a pit contained only small amounts of mainly cereal debris.

Quarry pits L232
Two good-sized assemblages were recovered from quarry pits G435 and G436 to the east of enclosure L196. They contained mainly grains (but with a good amount of chaff in G436), representing debris from the final stages of crop-cleaning (including de-husking of hulled wheat). Modest amounts (*c*. 50 items) of mainly grain and some chaff were found in another G436 pit. Five other samples from L232 produced only occasional or small amounts of cereal debris (Table 9.34).

Other samples from farmstead SL59
The other 13 productive samples from L59 contained only occasional or small/modest assemblages (< 50 items). These were from enclosure L175 (ditch and quarry pit fill), L178 (two ditch fills), and L185 (two fills) in the south part of the farmstead; and from rectilinear enclosure L199 (two ditch fills), enclosure L207 (a ditch and pit fill), enclosure L217 (a ditch fill), enclosure L224 (ditch fill), and from pits L244 (one fill) in the central/north parts of the farmstead. No charred plant remains were found in the one ditch fill sample from field L49 further to the north-west. These assemblages consisted mostly of grains with less chaff and weed seeds; they are indicative of low-level (domestic) activities associated with the final stages of crop-cleaning (including de-husking) and food preparation.

The sample from heavily truncated oven G519 (L209) produced no charred plant remains. Three other samples from adjacent ditches only contained small or modest amounts of cereal debris, not necessarily associated with the use of the oven.

Third and final modification SL60 of the farmstead's layout
Charred plant remains were present in 16 of the 17 samples taken from eight Land-use Areas within SL60. The samples were taken from ditches (10), water-pits (3), and other pits (3) (Table 9.36) and included five rich

	Land-use Area	152		154	163		183			184		
	Group	153	161	206	224	251	338	370		387	396	
	Feature type	Roundhouse ditch	Ditch	Pit	Ditch	Ditch	Pond	Ditch	Ditch	Ditch	Pit	
	Sample number	32	33	17	92	99	42	73	81	72	64	63
	vol sample (l)	30	10	10	30	30	19	30	30	30	30	20
	vol flot (ml)	460	2	19	<1	2	4	2	12	7	2	2
	% flot sorted	6.25%										
	% flot scanned	93.75%										
Latin name	**English name**											
Cereal grains												
Triticum cf. *spelta*	?spelt wheat	–	–	1	–	–	–	–	–	–	–	–
T. dicoccum/spelta	emmer/spelt wheat	3	+++++	2	–	–	–	4	–	1	–	–
T. dicoccum/spelta	emmer/spelt wheat (sprouted)	8	–	–	–	–	–	–	–	–	–	–
T. cf. *dicoccum/spelta*	?emmer/spelt wheat	–	–	1	1		1	5	2	–	–	2	1
T. cf. *dicoccum/spelta*	?emmer/spelt wheat (sprouted)	22	–	–	–	–	–	–	–	–	–	–	–
T. aestivum type	free-threshing wheat	–	–	1	–	–	–	–	–	–	–	–	–
Triticum sp(p).	wheat	30	+++++	5	–	–	–	3	3	2	–	2	1
Triticum spp.	wheat (sprouted)	9	–	–	–	–	–	–	–	–	–	–	–
cf. *Triticum* sp(p).	?wheat	17	–	3	1	–	–	7	–	3	1	1	–
cf. *Triticum* spp.	?wheat (sprouted)	11	–	–	–	–	–	–	–	–	–	–	–
Hordeum vulgare L.	barley, hulled twisted	–	–	–	–	–	–	–	–	–	–	2	–
H. vulgare L.	barley, hulled indet.	–	+	–	–	–	–	1	–		1	6	–
H. vulgare L.	barley, indet.	–	–	–	–	–	–	–	–	1	1	13	–
cf. *H. vulgare*	?barley	2	–	–	1	–	–	–	–	–	–	6	–
Avena sp(p).	oat	–	+	1	–	–	–	–	–	–	–	–	–
Cerealia	indet. cereal (estimate)	298	+++++	21	4	2	2	21	7	10	7	40	7
Cerealia	indet cereal fragments <2mm	+++++		++	+	+	+	++	+	+	+	+	+
Cerealia	indet cereal loose coleoptiles	–	–	–	–	–	–	1	–	–	–	–	–
Cereal chaff													
Triticum dicoccum Schubl.	emmer wheat glume base	–	–	1	–	–	–	–	–	–	–	–	–
T. spelta L.	spelt glume bases	4	++	9	–	–	–	13	–	–	–	1	–
T. spelta L.	spelt rachis fragments	–	+	2	–	–	–	1	–	–	–	–	–
Triticum sp(p).	wheat glume bases	6	++	18	–	2	–	14	1	–	–	–	–
Triticum spp.	wheat spikelet forks/bases	10	++	12	–	–	–	16	–	–	–	–	–
Triticum sp(p).	wheat rachis fragments	4	+	25	–	1	–	7	–	–	1	–	–
T. aestivum type	free-threshing wheat rachis	–	–	–	–	–	–	1	–	–	–	–	–
Other plant/weed seeds													
Rumex sp(p).	dock	–	–	1	–	–	–	–	1	–	–	–	–
Malva sp.	mallow	1	–	–	–	–	–	–	–	–	–	–	–
Vicia/Lathyrus/Pisum sp.	vetch/tare/vetchling/pea (>2mm)	–	–	–	–	–	–	1	–	–	–	–	–
Vicia/Lathyrus sp(p)	vetch/tare/vetchling (<2mm)	–	–	–	–	–	–	–	1	–	–	–	–
Medicago/Trifolium sp(p).	medicks/clovers (seeds<1mm)	–	+	–	–	–	–	–	–	–	–	–	–
Fabaceae indet.	legume fragments (>2mm) (?bean/pea)	–	–	–	–	–	–	1	–	–	–	–	–
Anthemis cotula L.	stinking chamomile	–	–	2	–	–	–	–	–	–	–	–	–

	Land-use Area	**152**		**154**	**163**		**183**			**184**			
	Group	**153**	**161**	**206**	**224**	**251**	**338**	**370**		**387**		**396**	
	Feature type	**Roundhouse ditch**	**Ditch**	**Pit**	**Ditch**	**Ditch**	**Pond**	**Ditch**	**Ditch**	**Ditch**		**Pit**	
	Sample number	**32**	**33**	**17**	**92**	**99**	**42**	**73**	**81**	**72**	**64**	**63**	
	vol sample (l)	**30**	**10**	**10**	**30**	**30**	**19**	**30**	**30**	**30**	**30**	**20**	
	vol flot (ml)	**460**	**2**	**19**	**<1**	**2**	**4**	**2**	**12**	**7**	**2**	**2**	
	% flot sorted	**6.25%**											
	% flot scanned	**93.75%**											
Latin name	**English name**												
Asteraceae indet		–	+	–	–	–	–	–	–	–	–	–	–
Eleocharis palustris/uniglumis	spike-rush	–	–	–	–	–	–	–	–	–	–	–	–
Carex spp.	sedge	–	++	–	–	–	–	–	–	–	–	–	–
Lolium/*Festuca* sp.	rye-grass/fescue	–	–	–	–	–	–	1	–	1	–	–	–
Bromus sp(p).	brome	–	–	–	–	–	–	–	–	1	–	–	–
Poaceae indet.	grasses (large seeds)	–	–	–	–	–	–	–	1	–	–	–	–
Poaceae indet.	grasses (small seeds)	1	+	3	–	1	–	5	2	5	1	2	–
Poaceae indet.	cereal/grass culm node/internode	–	+	–	–	–	–	–	–	–	–	–	–
indeterminate	wood charcoal	+++++/+++++	-	+/++	++++/+++++	+/+++	+/++	+++/+++++	-/++	-/++	+/++	+/+	-/++
Total		**426**	**108**	**7**	**6**	**3**	**101**	**18**	**23**	**14**	**75**	**9**	**794**
	item density (per litre of processed soil)	227.2 e	10.8	0.7	0.2	0.1	5.3	0.6	0.8	0.5	2.5	0.5	

Table 9.27: Charred plant remains from Phase 6 farmstead SL57

Site Landscape		**57**						**58**				
Land-use Area	**152**		**182**			**160**			**161**	**157**	**159**	**219**
Group	**153**	**161**	**338**		**169**		**172**	**236**	**166**	**211**	**212**	**525**
Feature type	**Roundhouse ditch**	**Ditch**	**Pond**	**Possible drying oven**			**Pit**	**Water-pit**	**Ditch**	**Water-pit**	**Water-pit**	**Water-pit**
Sample number	**32**	**33**	**42**	**2**	**40**	**41**	**37**	**6**	**4**	**39**	**38**	**120**
Grains	400 (93%)	35 (32%)	41 (41%)	145 (69%)	278 (88%)	184 (81%)	42 (35%)	273 (82%)	366 (82%)	229 (66%)	99 (74%)	102 (73%)
Cereal chaff	24 (6%)	67 (62%)	52 (52%)	63 (30%)	33 (10%)	38 (17%)	71 (58%)	57 (17%)	78 (17%)	100 (28%)	34 (25%)	6 (4%)
Weed seeds	2 (1%)	5 (6%)	7 (7%)	2 (1%)	6 (2%)	4 (2%)	9 (7%)	5 (1%)	6 (1%)	22 (6%)	2 (1%)	32 (23%)
Total	**426**	**108**	**100**	**210**	**317**	**226**	**122**	**335**	**450**	**351**	**135**	**140**
Item density (per litre of soil)	227.2e	10.8	5.3	168e	127.2e	90.4e	12.2	33.5e	45	11.8	13.5	4.7

Table 9.28: Frequencies and percentages of grain, chaff and weed seeds in Roman Phase 6 samples from farmsteads SL57 and SL58, with >100 quantified items

assemblages (Tables 9.35 and Figure 9.3.3). Grains made up 67% of the quantified remains, chaff 28%, and weed seeds just 5%.

The majority of the charred plant remains were concentrated in five assemblages. Three of these good-sized assemblages were associated with enclosure L208 and contained mixed grain and chaff assemblages. These comprised mainly grains in pit G514, more chaff than grains in ditch G510, and twice as many grains as chaff in ditch G425. Another of the rich assemblages was from nearby water-pit G431 (L222); it contained mainly grains but a good amount of chaff. These four rich assemblages were fairly close to one another in the central-east area of the farmstead, suggesting that this area continued to be used for activities associated with the final stages of crop-cleaning (including de-husking) and food preparation. The other rich assemblage was from the northern farmstead boundary L221 (ditch G507) and contained mainly grains but little chaff.

There were two modest-sized assemblages (between 50 and100 items): one from a pit G434 (L225) comprised almost equal amounts of grain and chaff; the other from ditch G429 (L197), adjacent to L208, produced mainly grains. The other nine productive samples only contained occasional or small/modest sized (< 50 items) assemblages, consisting mainly of grains from ditches associated with enclosures L197, L198 and L220. Small assemblages from water-pit G433 (L208), and a ditch and pit (L226), were perhaps indicative of low-level (domestic) activities.

Discussion of Phase 6 Roman charred plant remains

Cereal debris dominated the charred plant assemblages from the Roman samples, consisting mainly of grains, which accounted for *c*. 68% of the quantified remains; however, most of them were poorly preserved and unidentifiable. Chaff, virtually all from hulled (spelt) wheat, accounted for 27%, and other plants (mainly weed seeds) for just 5% of the counted remains. There was no significant difference in the make-up of the charred plant remains between the initial layout SL57 of the farmstead and its later modifications SL58, SL59 and SL60: grains were dominant (57–77%); chaff made up 19–37%; and other plants only 4–6%.

The dominant cereal throughout the Roman period was hulled wheat, which was present in 85 of the 98 samples, and specifically spelt. Spelt was identified in 49 samples on the basis of chaff fragments with only traces of definite emmer in 8 samples and only occasional grains of free-threshing wheat in 21. Small numbers of barley grains, including evidence for six-row hulled barley, were present in 29 samples. There were occasional oat grains in 20 samples, although the absence of floret bases meant that it was not possible again to establish if the grains were from cultivated and/or wild oats.

There was no significant difference in the range and proportion of the different cereals between the different layouts of the farmstead. Spelt wheat was dominant throughout, with smaller numbers of hulled barley grains and only occasional evidence for emmer and free-threshing wheat. The few oat grains are probably cereal weeds. These results are very similar to those from the late Iron Age/early Roman (Phase 5) and from current archaeobotanical evidence from southern England, including other Roman sites close-by (see above); spelt was the dominant cereal in this part of the country during the Roman period (Lodwick 2017, 26).

Spelt wheat has excellent baking and milling properties (Jones 1981, 107) and contains the proteins necessary for making a well-risen loaf (Cool 2006, 70); it was also used for a very common gruel known as *puls* or *pulmentus*, similar to modern Italian *polenta* (Renfrew 1985, 22). Of the minor crops, free-threshing wheat also has good bread-making qualities (Jones 1981, 107), while barley may have been used for flat bread and grindle cakes (Cool 2006, 70–1) as well as for animal fodder. There was also tentative evidence from roundhouse ditch G153 and possible drying oven G169/170 that spelt wheat may have been used for malting, although as noted above, it was difficult to establish if the grains were being deliberately germinated for such a use or simply being burnt following accidental germination.

There was very little evidence for other cultivars amongst the charred remains, although a single seed of flax (*Linum usitatissimum*) was recovered from one of the G436 quarry pits (L232) within farmstead SL59. Flax stems may have been used for textiles and the seeds as food. Flax seeds are often found on Roman sites (Greig 1991, 309), including from Bedfordshire, e.g. in the Biddenham Loop (Giorgi 2016, 13–14). Occasional large, indeterminate legume fragments in ten samples from all the farmstead layouts may be from cultivated

pulses, such as pea or bean, which were also identified in the late Iron Age/early Roman (Phase 5) assemblage. Similarly, large legume seeds have also been found in Roman deposits close-by at HRN3455–7 (Giorgi 2019b) and Woodside Link (Giorgi 2018; forthcoming).

The residues of wild food resources may be represented by nine charred hazelnut shell fragments in four samples from SL58 and SL59 and a charred *Rubus* (blackberry/raspberry) seed in SL58, perhaps collected from woodland, hedgerow or scrub habitats nearby.

Wild plant/weed seeds made up only a small proportion of the quantified remains from the Roman Phase 6 samples. Most were probably from cereal weeds with a limited species range (*c*. 12 taxa) in three of the farmstead layouts (SL57, SL59, SL60), but a wider range (*c*. 22 taxa) in the samples from SL58. Individual species representation was also low, with the notable exception (as in the previous phase) of *Rumex* (dock), *Medicago/Trifoilum*, and particularly wild grasses (small- and large-seeded), which accounted for 62% of all the Roman Phase 6 weed seeds.

There was no significant difference in the weed seed assemblages between the different farmstead layouts, with those seeds identifiable to species suggesting the continued cultivation of the well-drained calcareous loams around the site. Similar weeds to earlier phases, including *Fallopia convolvulus*, *Galium aparine*, *Valerianella dentata* and *Anthemis cotula*, were present. Autumn-sowing of cereals may be indicated by the presence of *Galium aparine* and possibly the spring-sowing of crops by *Fallopia convolvulus* and *Valerianella dentata*. Spelt is a hardy crop and was probably autumn-sown during the Roman period (Lodwick 2017, 46). There were again a number of weeds of low to medium height in the samples, e.g. *Medicago/Trifolium*, *Anthemis cotula*, which may point to the harvesting of cereals fairly low on the straw.

While a large number of the weeds represented in the samples are found in nutrient-rich soils, the presence again of species indicative of soils of low fertility, notably small-seeded legumes in all farmstead layouts, including *Medicago/Trifolium , Vicia/Lathyrus,* may be an indicator of exhausted soils from over-cropping, the legumes restoring nitrogen to the soil. The presence of *Carex* seeds in 12 samples from all four farmstead layouts and occasional records for *Eleocharis* (spike-rush) may suggest that damper areas of ground were being bought into cultivation during the Roman period. The sedges may have also been collected for other purposes, such as flooring or roofing materials. Or they could be part of burnt hay along with other potential grassland/meadow plants occasionally represented in samples from SL58, including *Ranunculus acris/repens/bulbosus*, *Prunella vulgaris*, *Rhinanthuus minor* (yellow rattle) and perhaps some of the wild grasses.

The bulk of the charred plant remains from the Roman Phase 6 samples, principally grains with smaller amounts of hulled wheat chaff, represents debris from the final stages of the processing of mainly spelt wheat; the few weed seeds are also from the latter stages of crop-cleaning. The grains and chaff may have been accidentally burnt during the de-husking of spelt wheat, and the grains also while being dried before milling/storage and/or during the cooking of whole grains. The chaff may have also been burnt as fuel along with the weed seeds, although the larger weed seeds, e.g. *Bromus*, may have accidentally burnt along with the grain, if not hand-sorted from the cereals beforehand.

The earliest farmstead layout SL57 showed a concentration of these crop-processing activities south of the trackway within enclosure L152, including potential evidence for the use of grain for malting. To the north of the trackway there was some evidence for de-husking activities within activity focus L183. Most of the crop-processing activities in SL58 were concentrated within enclosure L160, also to the south of the trackway. This again included possible evidence for malting activities (in the same area as similar activities in SL57) and also from water-pits in enclosures L157 and L159, with more limited evidence for crop-cleaning activities north of the trackway in enclosure L219. The farmstead's later layouts (SL59 and SL60) showed concentrations of crop-processing activities in broadly the same area: in the central-east part of farmstead SL59, within enclosures L196 and L209, and within enclosures L208 and L222 in the final farmstead layout SL60.

9.4 HUMAN BONE

by Natasha Powers

Introduction

One inhumation and nine cremation burials were recovered. The inhumation and seven of the cremation burials were dated to the middle–late Bronze Age (Phase 3), with one cremation burial dated to the early Bronze Age (Phase 4) and the other to the late Iron Age/early Roman period (Phase 5).

Methods

Inhumation

The state of preservation was assessed on a three-point scale from 'good' to 'poor'. Age was estimated from a combination of auricular surface, dental attrition, epiphyseal fusion, and dental eruption and development data (Lovejoy *et al*. 1985; Brothwell 1981; Scheuer and Black 2000; Gustafson and Koch 1974). Estimation of the sex of adult remains was carried out using morphological characteristics of the pelvis and skull following Buikstra and Ubelaker (1994). Measurements (in mm) were taken of dental features using landmarks identified in Buikstra and Ubelaker (1994). Pathological changes were recorded using standard osteological guidelines (Roberts and Connell 2004). Non-metric or epigenetic traits were examined for the inhumed adult remains only (Berry and Berry 1967; Finnegan 1978; Brothwell 1981). A full catalogue can be found in the project archive.

Burnt bone

Each sample of burnt bone was recorded in accordance with current guidelines (McKinley 2004). The total weight of the sample was established in grams and the sample was passed through a series of graded sieves to separate the fractions greater than 10mm, 5mm and 2mm. The resulting fractions were weighed, and proportions were calculated as a percentage of the total bone present. Elements identifiable to body area and/or bone were separated and weighed accordingly. Fragmentation was determined from largest fragment size and the average (mean) size of fragments. The approximate percentage of each colour of burnt bone was also described (Holden *et al*. 1995a; Holden *et al*. 1995b; McKinley 2004). Age

	Land-use Area	40	41	42	43		158				160					161	166
	Group	64	72	65	68	572	191			169/170					172	230	166	199
	Feature type	Ditch	Ditch	Ditch	Ditch	Stone surface	Ditch			Possible drying oven					Pit	Ditch	Ditch	Ditch
	Sample number	156	157	155	158	160	36	2		41		40			37	34	4	35
	vol sample (l)	27	28	10	30	28	10	10		20		10			10	10	10	10
	vol flot (ml)	2	1	<1	2	2	2	250				130			2	2	152	3
	% flot sorted							12.50%		12.50%		25%						
	% flot scanned								87.50%		87.50%		75.00%					
Latin name	**English name**																	
Cereal grains																		
Triticum spelta L.	spelt wheat								+									
T. dicoccum/spelta	emmer/spelt wheat				2	2	1	4	+++	10	+++	12	+++		2		12	1
T. dicoccum/spelta	emmer/spelt wheat (sprouted)							10		12		12					4	
T. cf. *dicoccum/spelta*	?emmer/spelt wheat		1		1			1		4		14			2		12	1
T. aestivum type	free-threshing wheat								+		+	1	+				2	
T. cf. *aestivum* type	?free-threshing wheat											1						
Triticum sp(p).	wheat				2			4	++++	5	++++	18	++++		4		15	3
Triticum spp.	wheat (sprouted)							2		3		3						
cf. *Triticum* sp(p).	?wheat		1		2		2	8		9		23			7		23	3
Hordeum vulgare L.	barley, hulled twisted								+									
H. vulgare L.	barley, hulled indet.				1						+	3						
cf. *H. vulgare*	?barley																	
Avena spp.	oat								+		+	1	+		3			1
cf. *Avena* sp.	?oat																1	
Cerealia	indet. cereal (estimate)			2	7	3	15	116	+++++	141	+++++	190	+++++		24	2	297	9
Cerealia	indet cereal fragments <2mm		+	+	++	+	++	++		+++		+++++			++	+	++++	+
Cerealia	indet cereal loose coleoptiles								+		+	1	+				1	
Cereal chaff																		
Triticum dicoccum Schubl.	emmer wheat glume base								+	1	+							
T. spelta L.	spelt spikelet forks										+	1						
T. spelta L.	spelt glume bases					1	2	4	++	7	++	3	++		29	3	17	14
T. spelta L.	spelt rachis fragments					1	1	1	+	2	+				6			1
Triticum sp(p).	wheat glume bases	1			5	10	5	25	+++	9	++	12	++		20	20	26	10
Triticum sp(p).	wheat spikelet forks/bases					2	1	13	+++	17	++	7	++		1	1	18	
Triticum sp(p).	wheat rachis fragments				3	12	3	20	++	2	+	10	+		15	27	17	3
Hordeum vulgare L.	barley rachis fragments																	
Other plant/weed seeds																		
Ranunculus acris/repens/ bulbosus	buttercups														1			
Ranunculus sp.	buttercups																	
Corylus avellana L.	hazel nut shell fragments																	
*Atriplex*sp.	orache								+									
Rumex sp(p).	dock				1	3			+		+				1			
Rubus fruticosus/idaeus	blackberry/raspberry	1																

	Land-use Area	40	41	42	43		158				160					161	166
	Group	64	72	65	68	572	191			169/170					172	230	166	199
	Feature type	Ditch	Ditch	Ditch	Ditch	Stone surface	Ditch			Possible drying oven					Pit	Ditch	Ditch	Ditch
	Sample number	156	157	155	158	160	36	2		41		40			37	34	4	35
	vol sample (l)	27	28	10	30	28	10	10		20		10			10	10	10	10
	vol flot (ml)	2	1	<1	2	2	2	250				130			2	2	152	3
	% flot sorted							12.50%		12.50%		25%						
	% flot scanned								87.50%		87.50%		75.00%					
Latin name	**English name**																	
Vicia/Lathyrus/Pisum sp(p)	vetch/tare/vetchling/pea (>2mm)								+									
Vicia/Lathyrus/Pisum sp(p)	vetch/tare/vetchling/pea (<2mm)										+							
Vicia/Lathyrus sp(p)	vetch/tare/vetchling (>2mm)							1	+		++		+					
Vicia/Lathyrus sp(p)	vetch/tare/vetchling (<2mm)									2							1	
Medicago/Trifolium sp(p).	medicks/clovers (seeds<1mm)				1	3			+			1						
Fabaceae indet.	legume fragments (>2mm) (?bean/pea)																	
Prunella vulgaris L.	self-heal					1												
Plantago lanceolata L.	ribwort plantain		1		2	1												
Euphrasia/Odontites spp.	eyebrights/bartsias										+	2	+					
Galium aparine L.	cleaver										+							
Rhinanthus minor L.	yellow rattle								+									
Anthemis cotula L.	stinking chamomile														1			
Eleocharis palustris/ uniglumis	spike-rush					1												
Carex spp.	sedge				2													
Arrhenatherum elatius var *bulbosum* (Willd.) St-Amans	onion couch tuber fragments																	
Bromus sp(p).	brome														1			
cf. *Bromus* sp(p).	?brome		1															
Poaceae indet.	grasses (large seeds)						2	1			+	2			4		3	2
Poaceae indet.	grasses (small seeds)		1		3	2	3			2	+	1	+		1	1	1	2
Poaceae indet.	cereal/grass culm node/internode								+		+						1	
indeterminate	wood charcoal	-/++	+/++++	-/+++	+/++++	+/+++	+/+++	+++++/+++++		+++++/+++++		++++/+++++			+/++	+/++++	+++++/+++++	++/+++++
Total		**2**	**5**	**2**	**32**	**42**	**35**	**210**		**226**		**318**			**122**	**54**	**451**	**50**
item density (per litre of processed soil)		<0.1	0.2	0.2	0.1	1.5	3.5	168 e		90.4e		127.2e			12	5.4	45.1	5

Table 9.29: Charred plant remains from Phase 6 farmstead SL58, L40–L166

	Site Landscape					58				
	Land-use Area	157			159			160		
	Group	211			212			236		
	Feature type	Water-pit			Water-pit			Water-pit		
	Sample number	170	39	38	13	169	6		8	7
	vol sample (l)	30	30	10	2	30	20		10	10
	vol flot (ml)	2	88	29	1	*c.* 100	42		3	3
	% flot sorted						50%			
	% flot scanned							50%		
Latin name	**English name**									
Cereal grains										
T. dicoccum/spelta	emmer/spelt wheat		19	4			11	++	5	1
T. cf. *dicoccum/spelta*	?emmer/spelt wheat		19	8			26		3	5
T. cf. *aestivum* type	?free-threshing wheat		1					+		
Triticum sp(p).	wheat		25	10			39	+++	4	1
Triticum spp.	wheat (sprouted)									
cf. *Triticum* sp(p).	?wheat	1	26	14			38		12	4
H. vulgare L.	barley, hulled indet.							+		
cf. *H. vulgare*	?barley		1				1		1	
Avena spp.	oat		4	1						
Cerealia	indet. cereal (estimate)	3	134	62	2	4	158	+++++	27	12
Cerealia	indet cereal fragments <2mm	+	++++	++++	+	+			+	+
Cerealia	indet cereal loose coleoptiles		2					+		
Cereal chaff										
Triticum dicoccum Schubl.	emmer wheat glume base						1			
T. spelta L.	spelt glume bases		14	7			9	+	1	2
T. spelta L.	spelt rachis fragments		1				1	+		1
Triticum sp(p).	wheat glume bases	10	46	16	1	2	19	++	1	9
Triticum sp(p).	wheat spikelet forks/bases		17	3			16	++	1	1
Triticum sp(p).	wheat rachis fragments	8	21	8			11	+		1
Hordeum vulgare L.	barley rachis fragments		1							
Other plant/weed seeds										
Ranunculus sp.	buttercups		1							
Corylus avellana L.	hazel nut shell fragments		4							1
Rumex sp(p).	dock		3				1			
Vicia/Lathyrus/Pisum sp(p)	vetch/tare/vetchling/pea (<2mm)						1			
Vicia/Lathyrus sp(p)	vetch/tare/vetchling (<2mm)		1							
Medicago/Trifolium sp(p).	medicks/clovers (seeds<1mm)		2			1			1	
Fabaceae indet.	legume fragments (>2mm) (?bean/pea)		1							
Plantago lanceolata L.	ribwort plantain		1							
Euphrasia/Odontites spp.	eyebrights/bartsias		1							
Rhinanthus minor L.	yellow rattle		1							
Carex spp.	sedge							+		
Arrhenatherum elatius var *bulbosum* (Willd.) St-Amans	onion couch tuber fragments		1							
Poaceae indet.	grasses (large seeds)	1	3	1			1			
Poaceae indet.	grasses (small seeds)	2	3	1	2		3	+		
Poaceae indet.	cereal/grass culm node/internode									
indeterminate	wood charcoal	+/+++++	++++/+++++	+++/++++	+/++	+++/+++	+++/+++++		++/+++++	++/+++
Total		**25**	**353**	**135**	**5**	**7**	**336**		**56**	**38**
	item density (per litre of processed soil)	0.8	11.8	135	2.5	0.2	33.5e		5.6	3.8

Table 9.30: Charred plant remains from Phase 6 farmstead SL58 water-pits G211, G212 and G236

was estimated from completeness of epiphyseal fusion, and from dental development (Scheuer and Black 2000; Gustafson and Koch 1974). The minimum number of individuals (MNI) in each deposit was calculated by the number of repeated skeletal elements or parts thereof. Each feature was assumed to be a discrete and independent burial, based on archaeological evidence.

Results

Phase 2: late Neolithic/early Bronze Age

Isolated cremation burial SG497 (L4) was radiocarbon-dated to the early Bronze Age (Table A4). The 224.1g of burnt bone made up a relatively small proportion of the 558.7g deposit, up to 20% of which consisted of fuel-ash slag and burnt flint. The burnt bone displayed longitudinal, spiral and transverse cracking and warping, indicating that this adult had been cremated whilst the bone was 'wet', presumably fleshed (Buikstra and Ubelaker 1994). The remains were highly calcined and almost entirely off-white in colour, indicating cremation at a high and consistent temperature (Holden *et al*. 1995 a and b). The largest fragment present was 35mm long and the estimated average size of the fragments was 15mm, with most of the bone collected falling in the > 5mm fraction (Table 9.37). Just over a quarter of the burnt bone could be identified, with all areas of the body represented (Table 9.38).

Phase 3: middle–late Bronze Age

Cremation burials L8, L12 and L14

Two small cemeteries L12 and L14 were present to the south of the excavation area and one isolated burial SG65 (L8) at some distance to the north. Cemetery L12 contained four graves and cemetery L14 two graves. A total of 2245.4g of burnt bone was recovered from the seven graves: three from within, or directly associated with urns SG148, SG149 and SG152 (L12), and the other four from unurned graves in SG65 (L8), SG150 (L12), and SG248 and SG249 (both L14).

The quantities of burnt bone within each burial were generally small, with only two graves within L12 (urned SG148 and unurned SG150) containing more than 500g of burnt bone (Table 9.39). The largest quantity of bone came from the former, suggesting that the vessel had perhaps afforded the remains a degree of protection after deposition. None of the burials contained the full quantity of bone that would be expected from the cremation of an adult (1600–3600g (McKinley 1989)), probably reflecting a combination of incomplete collection from the pyre, and later truncation.

Oxidation and fragmentation

The off-white colour of most of the burnt bone reflects a high level of oxidation and heating at constant temperatures of over 600°C (Holden *et al*. 1995 a and b) (Table 9.40). Charring, reflecting lower-temperature heating was noted on femoral fragments from burial SG249 (L14) and a fragment of metatarsal from burial SG148 (L12).

Burnt stones and fuel-ash slag were noted in all the residues from the burials: 10.1g of calcined and charred animal bone was found within burial SG148 (L12), most of which came from the second lowest excavated spit within the urn; it probably indicates that food was placed on the pyre. A charred sheep/goat premolar was also recovered from this burial (Maltby, Chapter 9).

The maximum fragment size observed was 54mm in burial SG150 (L12), with average fragment sizes generally of 10–15mm. All burials had a larger proportion of bone in the 5mm than the 10mm fraction (Table 9.41). The size of recovered fragments reflects collection processes (dowsing the pyre or collecting bone whilst it is still hot leads to further fragmentation), fluctuations in soil moisture after burial, and truncation: pieces of undisturbed cremated bone may measure up to 250mm across (McKinley 1994 a and b). Longitudinal, transverse and spiral cracking were seen throughout the assemblage and indicate that the human remains were wet (fleshed) when they were cremated (Buikstra and Ubelaker 1994). Most of the bone was highly fragmentary, with a bias towards the survival of the cortex, rather than trabecular bone.

Demography

Five of the burials were those of adults, or were probably adult, whilst SG65 was sub-adult. Insufficient evidence was obtained from the burnt bone from SG152 (L12) to determine age at death (Table 9.42). A fragment of auricular surface from burial SG148 (L12) suggested that they were middle-aged or older when they died. The features of burial SG150 (L12) conflicted slightly, with a sharp orbital margin suggesting a possible female, but robusticity, in particular a robust mandibular condyle, suggesting overall that this individual was probably male.

Identifiable bone

All seven burials contained bone that could be identified to body area or skeletal element (Fig. 9.4; Table 9.43). All but three contained parts from every area of the body, suggesting that there had not been any deliberate, preferential collection. None of the burials showed the expected proportions of bone, with SG148 (L12) the closest to this (Table 9.37).

In burial SG150 (L12) the left side of the face seemed to predominate throughout the samples. Perhaps unsurprisingly the largest proportion of identifiable bone in burial SG149 (L12) came from the lowest spit excavated from within the urn and the same was true in burial SG148 (L12), where the lowest four spits contained the greatest quantity of identifiable bone with a mix of all body areas within all four spits. This suggests that remains were not collected in any particular order from the pyre. Only half of the burnt bone from cremation burial SG65 (L8) could be identified and almost all originated from the vault of the cranium, with one small fragment of rib and an unerupted tooth crown also present.

No indications of pathological change were seen despite the quantities of identifiable bone.

Inhumation SG229 (L9)

Crouched inhumation SG229 (L9) contained the remains of a fairly robust middle-aged male, radiocarbon-dated to the middle Bronze Age (Table A4). His skeleton was largely complete and the bone was well-preserved but highly fragmentary, limiting the collection of metric and non-metric data. He had caries in his right mandibular third molar and a cortical defect (osteochondritis dissecans) in his left navicular (one of the bones of the foot). His upper front teeth were severely worn, particularly when compared to his molars, suggesting that he had an overbite and may have ground his teeth.

	Site Landscape	58																
	Land-use Area	169	170	171	172	174		191	192	202	212				219			
	Group	261	326	315	321	383	391	350	420	371	393	460	468	473	496	525		497
	Feature type	Ditch	Quarry pit	Ditch	Possible structure	Ditch	Ditch	Ditch	Ditch	Ditch	Ditch	Pit	Ditch	Ditch	Ditch	Water-pit		Ditch
	Sample number	93	45	48	49	68	84	95	94	82	76	54	115	114	112	175	120	117
	vol sample (l)	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
	vol flot (ml)	2	2	<1	<1	35	3	4	3	3	3	21	2	23	3	<1	12	1
Latin name	**English name**																	
Cereal grains																		
Triticum spelta L.	spelt wheat																1	
T. cf. *spelta*	?spelt wheat											1						
T. dicoccum/spelta	emmer/spelt wheat			1	1	1	1	2	2			5		7	1		5	
T. cf. *dicoccum/spelta*	?emmer/spelt wheat		1	1			1					10		2	2		16	
T. aestivum type	free-threshing wheat			1								1					2	
T. cf. *aestivum* type	?free-threshing wheat											3					1	
Triticum spp.	wheat			2			3	2	3			19		10	2		14	
cf. *Triticum* sp(p).	?wheat		1				3	4				10	2	5	5	1	9	3
Hordeum/Triticum spp.	barley/wheat												3					
Hordeum vulgare L.	barley, hulled twisted												1					
H. vulgare L.	barley, hulled indet.			1													1	
H. vulgare L.	barley, indet.			1			1											
cf. *H. vulgare*	?barley			2			1	1				1						
cf. *Avena* sp.	?oat											1						
Cerealia	indet. cereal (estimate)	3	3	6	4	1	10	18	13	3		27	5	52	15		53	4
Cerealia	indet cereal fragments <2mm	+	+	+	+	+	+	++	+	+	+	++	+	+++	++		++	++
Cereal chaff																		
Triticum dicoccum Schubl.	emmer wheat glume base				1													
T. spelta L.	spelt glume bases			1	3		1	2	1						1		5	1
T. spelta L.	spelt rachis fragments				1													
Triticum sp(p).	wheat glume bases	7	2	1	14		1	6	3			2		2	1			1
Triticum sp(p).	wheat spikelet forks/bases	1			8		1	6						1	1			
Triticum sp(p).	wheat rachis fragments	4			3			9						1	1		1	
Other plant/weed seeds																		
Corylus avellana L.	hazel nut shell fragments													1				
Persicaria sp.	knotweed														1			
Polygonum aviculare L.	knotgrass							1										
Fallopia convuluvulus (L.) A Love	black bindweed																1	
Rumex sp.	dock		1					1					1	1				
Polygonaceae indet.							1											
Potentilla spp.	cinquefoils							1										
Vicia/Pisum sp.	bean/pea fragments (>2mm)																1	
Vicia/Lathyrus/Pisum sp.	vetch/tare/vetchling/pea (>2mm)			1														

	Site Landscape	58															
	Land-use Area	169	170	171	172	174		191	192	202	212				219			
	Group	261	326	315	321	383	391	350	420	371	393	460	468	473	496	525		497
	Feature type	Ditch	Quarry pit	Ditch	Possible structure	Ditch	Ditch	Ditch	Ditch	Ditch	Ditch	Pit	Ditch	Ditch	Ditch	Water-pit		Ditch
	Sample number	93	45	48	49	68	84	95	94	82	76	54	115	114	112	175	120	117
	vol sample (l)	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
	vol flot (ml)	2	2	<1	<1	35	3	4	3	3	3	21	2	23	3	<1	12	1
Latin name	**English name**																	
Vicia/Lathyrus sp.	vetch/tare/vetchling (<2mm)		1															
Medicago/Trifolium sp(p).	medicks/clovers (seeds<1mm)							2				3		1			5	
Fabaceae indet.	pea family (small round cotyledons)														1			
Prunella vulgaris L.	self-heal																1	
Plantago lanceolata L.	ribwort plantain										1							
Euphrasia/Odontites spp.	eyebrights/bartsias							3										
Rhinanthus minor L.	yellow rattle																1	
Carex sp(p).	sedge							2		1					1		1	
Lolium/Festuca sp.	rye-grass/fescue						1							1				
Bromus sp.	brome			1														
cf. *Bromus* spp.	?brome																2	
Poaceae indet.	grasses (large seeds)			1			3							3	1		4	1
Poaceae indet.	grasses (small seeds)			1	4			7	1	1				2			16	
indeterminate	?nutshell fragments								9									
indeterminate	wood charcoal	-/++	+/++	-/+++	-/+++	-/++	-/++	+/++++	+/+++	+/+++	+/++	++/+++	+/+++	+++/+++++	++/++++++	-/++	++/+++	-/++
Total		**15**	**9**	**21**	**39**	**2**	**28**	**67**	**32**	**5**	**1**	**83**	**12**	**89**	**33**	**1**	**140**	**10**
item density (per litre of processed soil)		0.5	0.3	0.7	1.3	0.1	0.9	2.2	1.1	0.2	<0.1	2.8	0.4	3	1.1	<0.1	4.7	0.3

Table 9.31: Charred plant remains from Phase 6 farmstead SL58, L169–L219

	Site Landscape	58
	Land-use Area	159
	Group	212
	Sample number	169
	vol sample (l)	30
	vol flot (ml)	*c*. 100
Latin name	**English name**	
Ranunculus acris/repens/bulbosus	buttercups	+++
Thalictrum flavum/minus	meadow rue	+
Fumaria officinalis L.	common fumitory	+
Urtica dioica L.	stinging nettle	+++++
Urtica urens L.	small nettle	+
Atriplex/Chenopodium spp.	orache/gossefoots etc	++
Stellaria media (L.) Vill.	common chickweed	++++
S. graminea L.	lesser stitchwort	+
Persicaria spp.	knotweed	+
Potentilla spp.	cinquefoils	++
Conium maculatum L.	hemlock	++
Torilis spp.	hedge-parsleys	+
Hyoscyamus niger L.	henbane	+
Prunella vulgaris L.	self-heal	+
Plantago major L.	greater plantain	+
Valerianella dentata (L.) Pollich	narrow-fruited cornsalad	+
Carduus/Cirsium spp.	thistles	+
Sonchus spp.	milk-/sow-thistle	++
Taraxacum sect. *Ruderalia* Kirschner, H. Ollg. & Stepanek	dandelion (prev T officinale)	+
Juncus spp.	rushes	++
Eleocharis palustris/uniglumis	spike-rush	++
Carex spp.	sedges	++++
Poaceae indet.	large-seeded grasses	+
Poaceae indet.	small-seeded grasses	++
Poaceae indet.	grass culm node	+
Bryophyta indet.	moss	++
indeterminate	fragmented/shavings wood	+++++
Cladoceran ephippia		+

Key: item frequency: + = 1–10; ++ = 11–50; +++ = 51–150; ++++ = 151–250; +++++ = 250+ items

Table 9.32: Waterlogged plant remains from Phase 6 water-pit G212 (L159)

Phase 5: late Iron Age/early Roman

A single deposit of burnt bone was recovered from this phase associated with an urn within truncated grave SG141 (L13). The deposit consisted of 81.7g of burnt bone and 198.7g of residue, about a quarter of which was composed of burnt soil or fuel-ash slag. Longitudinal, spiral and transverse cracking and warping indicated that this individual had been cremated whilst the bone was 'wet', presumably fleshed (Buikstra and Ubelaker 1994). The remains were highly calcined and entirely off-white in colour, indicating cremation at a high and consistent temperature (Holden *et al*. 1995 a and b). The largest fragment present was 32mm long, with an average size of 10mm and most of the bone falling in the > 5mm fraction (Table 9.44). Fragments from the skull, upper and lower limbs were all present and the morphology and dimensions of the fragments suggested that the remains were probably those of an adult (Table 9.45).

Discussion

Phase 2: late Neolithic/early Bronze Age

The only burial from this phase contained just over 200g of burnt bone from an adult. The colour of the burnt bone indicated that they had been efficiently cremated and all areas of the body were represented, indicating they had also been efficiently collected after cremation.

Phase 3: middle-late Bronze Age

The crouched burial of a fairly robust adult male was the only inhumation in this phase. He had a small area of caries in one tooth and heavy anterior tooth wear suggesting an overbite.

The cremated remains represented five adults, one sub-adult and one individual whose age at death could not be determined. One of the adults was probably male (burial SG150). The burnt bone was calcined and highly fragmentary, but sufficiently well-preserved to determine that there was no reliable evidence of selective collection of the efficiently cremated bone from the pyre. The one exception was burial SG150 where elements of the left side of the face predominated in the cranial remains. The most plausible explanation for this would seem to be that he had been placed on the pyre with his head lying on one side, possibly in a crouched or 'sleeping' position. Distribution of bone within the two urns showed that collection had apparently been random, with each layer containing parts from all areas of the body. It also demonstrated that the urns did provide some physical protection to the remains, with a slightly larger fragment size present.

The sub-adult burial SG65 contained no evidence of pyre or grave goods, though fuel-ash slag and ferrous deposits, probably from the soil underlying the pyre, were

	Site Landscape									59								
	Land-use Area	175		178		185							196					
	Group	285	303	265	289	341		392	394		400			402		423		454
			Quarry															
	Feature type	Ditch	pit	Ditch	Ditch	Possible building		Ditch	Ditch		Drying oven			Posthole		Ditch		Pit
	Sample number	51	52	46	47	85	50	69	71	62	59	58	55	57	56	121		70
	vol sample (l)	30	20	30	30	30	18	30	30	9	3	5	30	10	10	30		30
	vol flot (ml)	1	3	14	3	20	1	24	3	<1	1	4	9	2	1			2
	% flot sorted															25%		
	% flot scanned																75%	
Latin name	**English name**																	
Cereal grains																		
Triticum dicoccum/spelta	emmer/spelt wheat	1				2		1				3				6	++	2
T. dicoccum/spelta	emmer/spelt wheat (sprouted)																+	
T. cf. *dicoccum/spelta*	?emmer/spelt wheat			3	1	2		2			1	3				8		2
T. aestivum type	free-threshing wheat	1															+	
T. cf. *aestivum* type	?free-threshing wheat				1											2		
Triticum sp(p).	wheat			3	2	6	2	1				1				8	+++	2
cf. *Triticum* sp(p).	?wheat		1	1	2	3		5	1	1		8		1		13		1
Hordeum/Triticum spp.	barley/wheat														2			
Hordeum vulgare L.	barley, hulled straight					1												
H. vulgare L.	barley, hulled indet.									1							+	
H. vulgare L.	barley, indet.															2		
cf. *H. vulgare*	?barley					1						1				1		
Avena sp(p).	oat															1	+	
Cerealia	indet. cereal (estimate)	3	1	3	15	23	15	10	7	1	1	43	2			91		2
Cerealia	indet cereal fragments <2mm	+	+	+	+	++	++	++	+	+		++	+			+++++	+++++	+
Cerealia	indet cereal loose coleoptiles															1	+	
Cereal chaff																		
Triticum dicoccum Schubl.	emmer wheat glume base															4	++	
T. spelta L.	spelt spikelet forks/bases															1		
T. spelta L.	spelt glume bases				1		3									63	++++	
T. spelta L.	spelt rachis fragments															4	++	
Triticum sp(p).	wheat glume bases		1	2	2	1	7	1	3	1		12				104	+++++	
Triticum sp(p).	wheat spikelet forks/bases					1	3	2	2			4				52	++++	1
Triticum sp(p).	wheat rachis fragments		1	1	1			1	3							28	++	
Other plant/weed seeds																		
Rumex sp.	dock																+	
Malva sp.	mallow				1													
Medicago/Trifolium sp.	medicks/clovers (seeds<1mm)							1	1									1
	legume fragments (>2mm)																	
Fabaceae indet.	(?bean/pea)						3											
Carex sp.	sedge															1	+	
Lolium/Festuca spp.	rye-grass/fescue							2										
Bromus sp.	brome															1	+	
cf. *Bromus* sp(p).	?brome															2		
Poaceae indet.	grasses (large seeds)						2	1								5	+	2
Poaceae indet.	grasses (small seeds)			2	3	2	2									5	+	1
indeterminate	wood charcoal	-/++	+/+++	++/+++	+++/++++	+/++	+/+++	++/++++	++/+++	-/++	+/++	+++/+++++	++/+++	+/+++++	-/++	+++/+++++		+/++++
Total		**5**	**4**	**15**	**29**	**42**	**37**	**27**	**17**	**4**	**2**	**75**	**2**	**1**	**2**	**403**		**14**
item density (per litre of processed soil)		0.2	0.2	0.5	1	1.4	2.1	0.9	0.6	0.4	0.7	15	0.1	0.1	0.2	53.7 e		0.5

Table 9.33: Charred plant remains from Phase 6 farmstead SL59, L175–L196

	Site Landscape	59																	
	Land-use Area	199		207			209		217	224				232					244
	Group	441	443	491	516	493	518	522	498	76	363	364	435			436			397
	Feature type	Ditch	Ditch	Ditch	Pit	Ditch	Ditch	Waterpit	Ditch	Ditch	Quarry pit	Quarry pit	Quarry pit			Quarry pits			Pit
	Sample number	78	77	111	101	110	104	107	113	159	180	83	98	65	66	3	168	167	1
	vol sample (l)	30	30	30	30	30	5	30	30	28	30	30	30	30	30	20	30	30	10
	vol flot (ml)	4	2	3	30	2	2	2	2	1	2	32	25		2	2	<1	3	1
Latin name	**English name**																		
Cereal grains																			
Triticum cf. *spelta*	?spelt wheat								1										
T. dicoccum/spelta	emmer/spelt wheat				1	2	1		1	1			7	1	1		2		
T. cf. *dicoccum/spelta*	?emmer/spelt wheat	1		1		1	1		1				6	8		2	2		
T. cf. *aestivum* type	?free-threshing wheat												1			1			
Triticum sp(p).	wheat				1	2			1				3	14		3	1	1	1
cf. *Triticum* sp(p).	?wheat			1	2	8							13	13		5			
Hordeum vulgare L.	barley, indet.													2	1				
cf. *H. vulgare*	?barley												1	2					
Avena sp.	oat					1													
cf. *Avena* sp.	?oat												1						
Cerealia	indet. cereal (estimate)	4	1	1	9	24	10		12	4	3	2	58	106		27	6	4	1
Cerealia	indet cereal fragments <2mm	+	+	+	++	+	+	+	++	+	+	++	+++	+++	+	++	+	+	+
Cereal chaff																			
T. spelta L.	spelt glume bases	2			1	5	2							15		2			1
T. spelta L.	spelt rachis fragments									1	1			1			1		
Triticum sp(p).	wheat glume bases	2				5	1			3	4		8	32		9	1		2
Triticum sp(p).	wheat spikelet forks/ bases	1					3	1					1	25		2	2		
Triticum sp(p).	wheat rachis fragments					4		2		2	1		5	4			3		1
Other plant/weed seeds																			
Corylus avellana L.	hazel nut shell fragments				1														
Rumex sp.	dock													1					
Vicia/Lathyrus sp.	vetch/tare/vetchling (<2mm)													1					
Medicago/Trifolium sp.	medicks/clovers (seeds<1mm)									1			1						
Plantago lanceolate L.	Ribwort plantain									3									
Linum usitatissimum L.	flax																1		
Euphrasia/Odontites sp.	eyebrights/bartsias													1					1
Galium aparine L.	cleaver													1					
Anthemis cotula L.	stinking chamomile																		1
Carex sp.	sedge								1					1					
Lolium/Festuca sp.	rye-grass/fescue													1					
Bromus sp(p)	brome									1									
cf. *Bromus* sp.	?brome									1									1
Poaceae indet.	grasses (large seeds)					2			1	1			1			2			1
Poaceae indet.	grasses (small seeds)								1	10	4	1		5		3			
indeterminate	wood charcoal	+/+++	+/++	+/++	++++/++++	+/+++	-/+	-/++	+/+++	+/+++	-/++	++++/++++	++/++++	+/+++	+/+	++/++++	-/+++	-/++	-/++
Total		**10**	**1**	**3**	**15**	**54**	**18**	**3**	**19**	**28**	**13**	**3**	**106**	**234**	**2**	**56**	**19**	**5**	**10**
item density (per litre of processed soil)		0.3	<0.1	0.1	0.5	1.8	3.6	0.1	0.6	1	0.4	0.1	3.5	8.1	0.1	2.8	0.6	0.2	1

Table 9.34: Charred plant remains from Phase 6 farmstead SL59, L199–L244

Site Landscape	**59**			**60**				
Land-use Area	**196**	**232**		**208**			**221**	**222**
Group	**423**	**435**	**436**	**514**	**425**	**510**	**507**	**431**
Feature type	**Ditch**	**Quarry pit**	**Quarry pit**	**Pit**	**Ditch**	**Ditch**	**Ditch**	**Water-pit**
Sample number	**121**	**98**	**65**	**122**	**109**	**108**	**118**	**67**
Grains	132 (33%)	90 (85%)	146 (62%)	138 (76%)	349 (66%)	110 (44%)	330 (79%)	287 (69%)
Cereal chaff	256 (64%)	14 (13%)	77 (33%)	27 (15%)	159 (30%)	132 (53%)	68 (16%)	124 (30%)
Weed seeds	14 (3%)	2 (2%)	11 (5%)	16 (9%)	20 (4%)	8 (3%)	20 (5%)	5 (1%)
Total	**403**	**106**	**234**	**181**	**528**	**250**	**418**	**416**
Item density (per litre of soil)	53.7e	3.5	8.1	5	17.7	8.3	14	20.8

Table 9.35: Frequencies and percentages of grain, chaff and weed seeds in Roman Phase 6 samples from farmsteads SL59 and SL60, with >100 quantified items

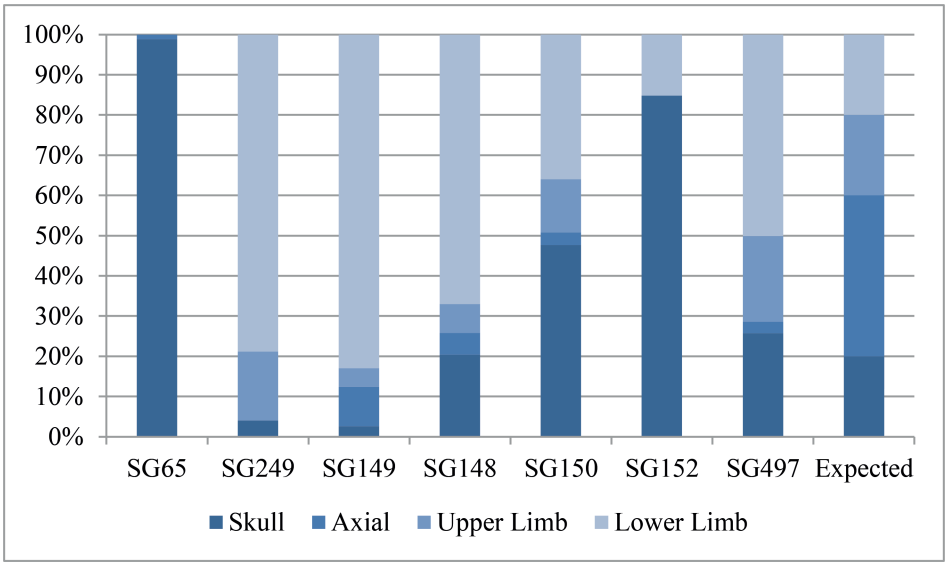


Figure 9.4: Percentage of identifiable human bone from graves by body area

present in large enough quantities to suggest that separation during collection was not as effective as is common. However, the colour of the burnt bone indicated that they had been efficiently cremated. The burial was positioned *c*. 10m to the south of the Phase 2 late Neolithic/early Bronze Age ring-ditch monument and may therefore be associated in some way.

Whilst non-adults are not commonly identified in cremation burials they do not appear to have been excluded from this rite. Small numbers of non-adults are seen in numerous cremation cemeteries, including at the slightly later cemetery at the nearby HRN3205 (Powers 2019; Powers forthcoming).

Phase 5: Late Iron Age/early Roman

One cremation burial SG141 (L13) of a probable adult was identified. The burial was incomplete and its urn fragmentary, suggesting that it had been truncated at a later date.

Conclusions

The burials that form the subject of this report are part of a wider settled landscape with funerary features interspersed throughout. A linear cremation cemetery of late Iron Age/early Roman date was found nearby at HRN3205 and contained the remains of nine adults and a 3–4 year-old child (Powers 2019; Powers forthcoming), whilst at the nearby A5-M1 Link a further cemetery containing ten burials of similar date was found within a funerary enclosure (Brown 2020, 276–317).

The burials from HRN3206 extend the use of the area as a funerary landscape further back into prehistory as the majority were radiocarbon-dated to the middle Bronze Age (Table A4). However, the sample size is too small to draw firm conclusions about the demographic composition of the living population. The remains indicate efficient cremation and the apparently non-selective collection for burial of the bone from the pyre. The inclusion of burnt animal bone suggests that, in some instances at least, the deceased may have been accompanied by pyre offerings.

9.5 WOOD CHARCOAL

by Dana Challinor

Introduction

The majority of the almost 200 samples taken during the excavations produced only sparse assemblages of charcoal. Thirty samples were selected for examination on

	Site Landscape									60						
	Land-use Area	197		198			208			220		221	222	225		226
	Group	428	429	365	425	433	510	514	463	509	507	431		434	275	325
	Feature type	Ditch	Ditch	Ditch	Ditch	Water-pit	Ditch	Pit	Ditch	Ditch	Ditch	Water-pit		Quarry pit	Ditch	Ditch
	Sample number	74	75	79	109	174	108	122	80	116	118	67	177	97	43	44
	vol sample (l)	30	30	30	30	30	30	30	30	30	30	20	30	30	28	19
	vol flot (ml)	6	22	2	20	<1	19	6	<1	1	22	57	<1	3	8	5
Latin name	**English name**															
Cereal grains																
Triticum spelta L.	spelt wheat										1					
T. cf. *spelta*	?spelt wheat						2			1	2					
T. dicoccum/spelta	emmer/spelt wheat		1		22		11	17			39	15		1	2	
T. cf. *dicoccum/spelta*	?emmer/spelt wheat		3		11		3	13	1		13	14				2
T. aestivum type	free-threshing wheat		1									1				
T. cf. *aestivum* type	?free-threshing wheat		1		2		1	4				2				
Triticum sp(p).	wheat		7		33		11	8	1		42	26		4		
cf. *Triticum* sp(p).	?wheat		6		50		15	25	4		30	41		5	2	1
Hordeum vulgare L.	barley, hulled twisted		1													
H. vulgare L.	barley, hulled indet.							2			1					
H. vulgare L.	barley, indet.		1					2			3					
Avena spp.	oat		1		1			2			1	4				
cf. *Avena* sp(p).	?oat		2		1		1				1	2				
Cerealia	indet. cereal (estimate)	2	40	2	229	1	66	65	10	1	197	182	1	34	5	
Cerealia	indet cereal fragments <2mm	+	++	+	+++++	+	+++	++	+	+	+++	++++		++	+	+
Cerealia	indet cereal loose coleoptiles				2											
Cereal chaff																
Triticum dicoccum Schubl.	emmer wheat glume base										1	1				
T. spelta L.	spelt spikelet forks/bases						1									
T. spelta L.	spelt glume bases		5		15		7	15	1		26	18		1		
T. spelta L.	spelt rachis fragments				1		3	1			6	4		2		
Triticum sp(p).	wheat glume bases	3	8		71	1	78	5	2		21	61	1	22	2	
Triticum sp(p).	wheat spikelet forks/bases	1	3		11		13				2	20		4	1	
Triticum sp(p).	wheat rachis fragments	2	1		61		30	6			12	20		6	1	
Other plant/weed seeds																
Chenopodium spp.	goosefoots etc										1			1		
Rumex acetosella	sheep's sorrel										1					
Rumex sp(p).	dock		1					1								
Vicia/Lathyrus/Pisum sp(p)	vetch/tare/vetchling/pea (>2mm)		1													
Vicia/Lathyrus sp(p)	vetch/tare/vetchling (>2mm)		1									1				
Medicago/Trifolium sp(p).	medicks/clovers (seeds<1mm)		1								1					
Plantago lanceolata L.	ribwort plantain							1			1					
Valerianella dentata (L.) Pollich	narrow-fruited cornsalad										1					
Eleocharis palustris/uniglumis	spike-rush										1		1			
Carex spp.	sedge							1				1				
Lolium/Festuca sp.	rye-grass/fescue								1							
Bromus sp(p).	brome				6						1					
cf. *Bromus* sp(p).	?brome		1		5			1			1	1				
Poaceae indet.	grasses (large seeds)		4		8		8	2				2		1		
Poaceae indet.	grasses (small seeds)		3	1	1			10	5		12		1			
indeterminate	wood charcoal	+/++	+/++	-/++	+/++	-/++	+/+++	+/+++	+/++	+/++	++/+++	++++/+++++	-/++	+/++	+/++	+/+++
Total		**8**	**93**	**3**	**530**	**2**	**250**	**181**	**25**	**2**	**418**	**416**	**4**	**81**	**13**	**3**
item density (per litre of processed soil)		0.3	3.1	0.1	17.7	0.1	8.3	6	0.8	0.1	14	20.8	0.1	2.7	0.5	0.2

Table 9.36: Charred plant remains from Phase 6 farmstead SL60

Land-use Area	Sample number	Total Weight of cremated bone (g)	Residue (g)	Largest fragment (mm)	Mean Fragment size	>10mm (g)	% total	>5mm (g)	% total	>2mm (g)	% total
4	60	224.1	558.7	35	15	63.4	28.3	160.7	71.7	0.0	0.0

Table 9.37: Weight and fragmentation of burnt bone from Phase 2 cremation burial SG497

Land-use Area	Sample number	Total weight of cremated bone (g)	Body zone ID fragments (g)	% total	skull	% id.	Full ID	axial	% id.	Full ID	u.limb	% id.	Full ID	l.limb	% id.	Full ID
4	60	224.1	61.5	27.4	15.8	25.7	vault fragments 14.2g, right maxillary canine, right mandibular canine, left maxillary molar (M2?) 1.6g	1.8	2.9	vertebral fragments inc. C1	13.1	21.3	humeral shaft fragments 10.5g, distal radial shaft 1.6g, 2x proximal phalanges 1.0g	30.8	50.1	femoral shaft 30.7g, sesamoid 0.1g

Table 9.38: Identifiable bone from Phase 2 cremation burial SG497

Land-use Area	SG	Sample number	Total weight of cremated bone (g)	Residue (g)
8	65	125	10.7	339.2
		126	7.9	436.8
		127	7.6	399.3
		Total	**26.2**	**1175.3**
12	150	27	69.3	258.9
		28	380.0	285.2
		29	204.9	427.6
		Total	654.2	971.7
	152	30	3.3	393.7
		31	39.1	560.9
		Total	**42.4**	**954.6**
	149	14	194.1	687.9
		134	86.2	171.1
		15	54.9	206.5
		16	36.2	129.7
		Total	**371.4**	**1195.2**
	148	18	214.6	381.6
		19	338.9	413.9
		20	147.9	430.0
		21	53.2	308.2
		22	16.3	405.0
		23	14.2	297.6
		24	9.4	290.8
		25	14.2	250.1
		26	7.5	376.2
		Total	**816.2**	**3153.4**
14	248	9	77.7	190.4
		10	125.5	143.0
		Total	**203.2**	**333.4**
	249	11	23.3	57.4
		12	108.5	137.6
		Total	**131.8**	**195.0**

Table 9.39: Total weight of Phase 3 human bone by sample and feature

Land-use Area	SG	Sample number	Colour
8	65	125	100% off-white
		126	100% off-white
		127	100% off-white
12	149	14	95% off-white, 5% light blue-grey
		134	85% off-white, 10% light blue-grey, 5% dark blue-grey
		15	95% off-white, 5% light blue-grey
		16	95% off-white, 5% light blue-grey
	148	18	90% off-white, 5% light blue-grey, 5% dark blue-grey
		19	90% off-white, 5% light blue-grey, 5% dark blue-grey
		20	90% off-white, 5% light blue-grey, 5% dark blue-grey
		21	90% off-white, 5% light blue-grey, 5% dark blue-grey
		22	90% off-white, 5% light blue-grey, 5% dark blue-grey
		23	90% off-white, 5% light blue-grey, 5% dark blue-grey
		24	90% off-white, 5% light blue-grey, 5% dark blue-grey
		25	90% off-white, 5% light blue-grey, 5% dark blue-grey
		26	90% off-white, 5% light blue-grey, 5% dark blue-grey
	150	27	90% off-white, 5% light blue-grey, 5% dark blue-grey
		28	80% off-white, 20% dark blue-grey
		29	80% off-white, 20% dark blue-grey
	152	30	95% off-white, 5% light blue-grey
		31	90% off-white, 5% light blue-grey, 5% dark blue-grey
14	248	9	90% off-white, 5% light blue-grey, 5% dark blue-grey
		10	95% off-white, 5% light blue-grey
	249	11	90% off-white, 5% light blue-grey, 5% dark blue-grey
		12	80% off-white, 20% dark blue-grey

Table 9.40: Colour of Phase 3 burnt human bone

Land-use Area	SG	Sample number	Total weight of cremated bone (g)	Largest fragment (mm)	Mean Fragment size	>10mm (g)	% total	>5mm (g)	% total	>2mm (g)	% total	% of residue comprised of burnt bone	Finds/ residue approx. %
8	65	125	10.7	17	5	0.0	0.0	10.7	100.0	0.0	0.0	25	25% burnt soil/fuel slag, 5% burnt stone
		126	7.9	25	5	0.3	3.8	7.6	96.2	0.0	0.0	1	80% burnt soil/fuel slag including some ferrous (magnetised) spheres, 10% burnt flint
		127	7.6	26	5	3.0	39.5	4.6	60.5	0.0	0.0	5	25% burnt soil/fuel slag
		Total	**26.2**	**-**	**-**	**3.3**	**12.5**	**22.96**	**87.5**	**0.0**			
12	148	18	214.6	42	20	80.5	37.5	134.1	62.5	0.0	0.0	10	10% fuel slag
		19	338.9	45	25	163.3	48.2	175.6	51.8	0.0	0.0	10	10% fuel slag, 10% burnt stone
		20	147.9	50	25	74.6	50.4	73.3	49.6	0.0	0.0	10	50% burnt soil/fuel slag, 10% burnt stone
		21	53.2	26	15	19.2	36.1	34.0	63.9	0.0	0.0	10	30% burnt soil/fuel slag, 10% burnt stone
		22	16.3	36	10	9.1	55.8	7.2	44.2	0.0	0.0	5	80% burnt soil/fuel slag, 10% burnt stone
		23	14.2	24	10	0.0	0.0	14.2	100.0	0.0	0.0	25	25% burnt soil/fuel slag
		24	9.4	14	5	0.0	0.0	9.4	100.0	0.0	0.0	20	25% burnt soil/fuel slag
		25	14.2	22	10	2.4	16.9	11.8	83.1	0.0	0.0	10	25% burnt soil/fuel slag, 25% burnt stone
		26	7.5	14	10	0.0	0.0	7.5	100.0	0.0	0.0	10	25% burnt soil/fuel slag, 25% burnt stone
		Total	**816.2**			**349.1**	**42.8**	**467.1**	**57.2**	**0.0**			
	149	14	194.1	32	20	60.0	30.9	134.1	69.1	0.0	0.0	25	30% burnt soil/fuel slag, 10% burnt stone
		134	86.2	23	15	14.7	17.1	71.5	82.9	0.0	0.0	50	50% burnt soil/fuel slag, 10% burnt stone
		15	54.9	26	15	21.8	39.7	33.1	60.3	0.0	0.0	25	25% burnt soil/fuel slag, 10% burnt stone
		16	36.2	23	10	12.3	34.0	23.9	66.0	0.0	0.0	10	25% burnt soil/fuel slag, 10% burnt stone
		Total	**371.4**			**108.8**	**29.3**	**262.6**	**70.7**	**0.0**			
	150	27	69.3	33	15	28.7	41.4	40.6	58.6	0.0	0.0	20	25% burnt soil/fuel slag
		28	380.0	54	30	219.9	57.9	160.1	42.1	0.0	0.0	50	10% fuel slag
		29	204.9	44	25	75.6	36.9	129.3	63.1	0.0	0.0	50	10% fuel slag, 10% burnt stone
		Total	**654.2**			**324.2**	**49.6**	**330.0**	**50.4**	**0.0**			
12	152	30	3.3	14	10	0.0	0.0	3.3	100.0	0.0	0.0	5	5% fuel slag
		31	39.1	21	5	3.7	9.5	35.4	90.5	0.0	0.0	10	80% burnt soil/fuel slag including some ferrous (magnetised) spheres, 10% burnt flint
		Total	**42.4**			**3.7**	**8.7**	**38.7**	**91.3**	**0.0**			
14	248	9	77.7	32	15	29.3	37.7	48.4	62.3	0.0	0.0	25	10% fuel slag
		10	125.5	48	25	59.3	47.3	66.2	52.7	0.0	0.0	60	10% fuel slag
		Total	**203.2**			**88.6**	**43.6**	**114.6**	**56.4**	**0.0**			
	249	11	23.3	34	10	10.7	45.9	12.6	54.1	0.0	0.0	40	5% fuel slag
		12	108.5	39	15	58.0	53.5	50.5	46.5	0.0	0.0	50	25% fuel slag
		Total	**131.8**			**68.7**	**52.1**	**100.6**	**76.3**	**0.0**			

Table 9.41: Fragmentation of Phase 3 burnt human bone

SG	Land-use Area	Age?	Sex?
65	8	Sub-adult	Undetermined
148	12	Adult	Undetermined
150		Adult	?Male
152		Undetermined	Undetermined
149		Adult	Undetermined
248	14	Adult	Undetermined
249	14	?Adult	Undetermined

Table 9.42: Age and sex of Phase 3 burnt human bone

SG	Land-use Area	Sample number	Total weight of cremated bone (g)	Body zone ID fragments (g)	% total	skull	% id.	Full ID	axial	% id.	Full ID	u.limb	% id.	Full ID	l.limb	% id.	Full ID
65	8	125	10.7	4.2	39.3	4.2	100.0	vault fragments 4.1g, unerupted mandibular canine crown 0.1g	0.0	0.0	none	0.0	0.0	none	0.0	0.0	none
		126	7.9	3.3	41.8	3.3	100.0	Vault fragments	0.0	0.0	none	0.0	0.0	none	0.0	0.0	none
		127	7.6	6.2	81.6	5.6	90.3	Vault fragments	0.6	9.7	rib fragment	0.0	0.0	none	0.0	0.0	none
148	12	18	214.6	64.4	30.0	15.9	24.7	vault fragments 14.7g, teeth 2.9g inc 3 anterior and 1 molar root	9.0	14.0	vertebral fragments 5.6g inc upper cervical body, rib fragment 0.1g, clavicle fragments 3.3g	10.3	16.0	radius/ulna shaft 6.3g, MC fragments 2.1g, scaphoid and pisiform fragments 0.4g, proximal, mid and distal phalanges 0.3g	29.2	45.3	tibial shaft fragments 10.8g, femoral fragments 18.4g
148	12	19	338.9	135.1	39.9	52.7	39.0	vault fragments, tooth fragment <0.1g	8.9	6.6	ilium fragments 6.2g, vertebral fragments 1.3g, coracoid fragment 1.4g	8.2	6.1	humeral shaft fragments 4.8g, 2x distal and 2x proximal phalanges 1.0g, radius shaft and radial head fragment 2.6g, MC fragments 2.3g	65.3	48.3	femoral shaft fragments 45.8g, tibial shaft fragments 19.2g
148	12	20	147.9	71.8	48.5	8.7	12.1	vault fragments 7.9g, molar tooth root and pre-molar root 0.8g	6.2	8.6	vertebral fragments inc. cervical body 3.1g, scapula fragments 1.5g, rib fragment <0.1g	9.8	13.6	humeral shaft fragments	47.1	65.6	femoral shaft fragments 34.7g, femoral head fragments 5.5g tibial shaft fragments 6.3g, ?left MT 5 proximal fragment 0.6g
		21	53.2	24.9	46.8	7.0	28.1	vault fragments 3.3g, molar root 0.4g, mandible/maxilla fragments 3.3g	0.9	3.6	rib fragment	6.1	24.5	radial shaft 3.4g, humeral shaft 2.8g	10.9	43.8	femoral shaft 9.5g, MT1 head 0.9g, tarsal fragment 0.5g
		22	16.3	11.2	68.7	3.6	32.1	vault fragments	0.0	0.0	none	0.0	0.0	none	7.6	67.9	femoral shaft 3.7g, tibial shaft 3.8g, proximal phalanx 0.1g
148	12	23	14.2	3.6	25.4	3.6	100.0	vault fragments	0.0	0.0	none	0.0	0.0	none	0.0	0.0	none
148	12	24	9.4	1.0	10.6	0.0	0.0	none	1.0	100.0	odontoid peg (C2)	0.0	0.0	none	0.0	0.0	none
		25	14.2	4.5	31.7	4.5	100.0	vault fragments	0.0	0.0	none	0.0	0.0	none	0.0	0.0	none
		26	7.5	1.3	17.3	1.3	100.0	vault fragments	0.0	0.0	none	0.0	0.0	none	0.0	0.0	none
149	12	14	194.1	69.4	35.8	3.0	4.3	vault fragments	11.3	16.3	scapula fragment 2.0g, vertebral fragments 8.3g (cervical), left first rib 1.0g	5.0	7.2	medial phalanx 0.1g	50.1	72.2	femoral shaft fragments 46.0g, MT fragments 4.1g (inc. right MT 1 head)
		134	86.2	17.0	19.7	0.0	0.0	-	0.0	0.0	-	0.4	2.4	distal phalanx	16.6	97.6	femoral shaft fragments
		15	54.9	18.8	34.2	0.0	0.0	-	0.0	0.0	-	0.0	0.0	-	18.8	100.0	femoral shaft fragments
		16	36.2	10.3	28.5	0.0	0.0	-	0.0	0.0	-	0.0	0.0	-	10.3	100.0	-
150	12	27	69.3	22.6	32.6	5.4	23.9	vault fragments	1.0	4.4	vertebral fragment (?L)	2.2	9.7	1 proximal 2 mid phalanges 1.8g, MC shaft fragment 0.4g	14.0	61.9	femoral shaft fragments

150	12	28	380.0	208.6	54.9	111.9	53.6	vault fragments 100.9g, petrous temporal 4.7g, left frontal (orbital margin) and superior left zygomatic 4.2g, nasal bones 0.2g	6.1	2.9	vertebral fragments (inc lower T/upper L neural arch)	24.8	11.9	humeral shaft fragments 17.5g, radial shaft fragments 3.7g, MC fragments 0.8g, 3 proximal, 1 mid, 1 distal phalanx 2.8g	65.8	31.5	femoral shaft 63.5g, tarsal fragment 0.7g, MT shaft 0.4g, mid phalanx 0.1g, fibula fragment 1.1g
		29	204.9	65.3	31.9	24.0	36.8	vault fragments 21.7g, left mandibular condyle 2.0g, ?left mandibular canine 0.3g	2.2	3.4	vertebral fragments	12.2	18.7	humeral shaft fragments 11.2g, MC head 0.4g, 1 proximal 1 distal phalanx 0.6g	26.9	41.2	femoral shaft 14.3g, tibial shaft 3.5g, fibula fragments including distal right fibula 5.4g, MT shaft fragments 3.7g
152	12	30	3.3	0.0	0.0	0.0	0.0	none	0.0	0.0	none	0.0	0.0	none	0.0	0.0	none
		31	39.1	4.6	11.8	3.9	84.8	vault fragments	0.0	0.0	none	0.0	0.0	none	0.7	15.2	distal phalanx 0.2g, MT shaft fragment 0.5g
248	14	9	77.7	37.1	47.7	9.9	26.7	vault and petrous temporal fragments	0.2	0.5	apophyseal fragment 0.1g, rib fragment 0.1g	1.8	4.9	-	25.2	67.9	femoral shaft 19.4g, tibial shaft 5.8g
		10	125.5	60.7	48.4	4.3	7.1	cranial vault fragments 3.9g, tooth roots 0.4g (anterior mandibular tooth, mandibular molar)	3.4	5.6	vertebral fragments 1.8g, rib fragments 0.3g, clavicle fragment 1.3g	4.0	6.6	-	49.0	80.7	femoral shaft fragments 47.8g, metatarsal shaft fragments 1.2g
249	14	11	23.3	11.2	48.1	0.0	0.0	none	0.0	0.0	none	0.0	0.0	none	11.2	100.0	femoral/tibial shaft fragments
		12	108.5	67.1	61.8	2.7	4.0	vault fragments	0.0	0.0	none	11.5	17.1	radial shaft 6.7g	52.9	78.8	femoral/tibial shaft fragments

Table 9.43: Identifiable Phase 3 burnt human bone

SG	Land-use Area	Sample number	Total **weight of cremated bone (g)**	**Residue (g)**	**Largest fragment (mm)**	**Mean fragment (mm)**	**>10mm (g)**	**% total**	**>5mm (g)**	**% total**	**>2mm (g)**	**% total**
141	13	162	81.7	198.7	32	10	25.3	31.0	56.4	69.0	0.0	0.0

Table 9.44: Weight and fragmentation of burnt bone from Phase 5 cremation burial SG141 (L13)

SG	Land-use Area	Sample number	Total weight of cremated bone (g)	Body zone ID fragments (g)	% total	skull	% id.	Full ID	axial	% id.	Full ID	u.limb	% id.	Full ID	**l.limb**	**% id.**	**Full ID**
141	13	162	81.7	27.8	34.0	14.9	53.6	vault fragments	0.0	0.0	none	4.6	16.5	humeral shaft fragments	8.3	29.9	femoral shaft fragments

Table 9.45: Identifiable bone from Phase 5 cremation burial SG141 (L13)

the basis of context significance, phasing and quantity of identifiable charcoal; the latter was informed by the charred plant remains assessment undertaken by John Giorgi (Giorgi 2019c). Significant features included the Bronze Age (Phases 2 and 3) cremation burials and late Iron Age/early Roman and Roman farmstead features (Phase 5 and 6), comprising pits, ditches and a posthole.

Methodology

In many instances, there were multiple samples from the same features (especially the cremation burials) and all of the samples were scanned with a single, representative sample analysed in full (up to 50 fragments per sample where available). Standard identification procedures were followed using identification keys (Hather 2000; Schweingruber 1990) and modern reference material. The charcoal was fractured and examined at low magnification (up to 45), with representative fragments examined in longitudinal sections at high magnification (up to 400). Observations on maturity and other features were made where appropriate. Classification and nomenclature follow Stace 2010.

Results

Some 30 samples were examined, with the results from six Bronze Age cremation burials presented in Table 9.46 and ten late Iron Age and Roman features presented in Table 9.47. The full results are recorded in the archive. Charcoal preservation at the site was generally fair, albeit fragmented. Eight taxa were positively identified:

Quercus sp., oak
Corylus avellana, hazel
Populus/*Salix*, poplar/willow
Prunus sp., blackthorn/cherry
Maloideae, hawthorn, apple, rowan/whitebeams etc.
Rhamnus cathartica, purging buckthorn
Acer campestre, field maple
Fraxinus excelsior, ash

Phase 3: middle-late Bronze Age cremation burials

Of the nine cremation burials, only six produced identifiable charcoal. A total of 16 samples was examined and, since no significant differences were observed between assemblages from a single feature, one sample from each burial was analysed in full (Table 9.46). All of the charcoal was highly comminuted and it was notable that three burials (SG65, SG150 and SG148) yielded scant quantities of charcoal. The others (SG149, SG248 and SG249) had more abundant, but still fragmented, charcoal that was clearly dominated by *Quercus* sp. (oak), with rare fragments of other species. There was insufficient material to assign taxonomic dominance (or not) to SG65, SG150 and SG148, although oak was recorded in all three, along with some hawthorn group and ash.

The majority of the burials were of middle Bronze Age date, although SG248 was radiocarbon-dated to the late Bronze Age (Table A4). Since this burial produced a similar fuel assemblage to SG149 and SG249, all of which were dominated by oak, it indicates that there was no appreciable difference in fuel-wood selection practices between the two dates. Equally, there were no significant differences between urned burial SG149 and unurned burials SG65, SG150, SG248 and SG249. The other urned burial, SG148, differed in the quantity of hawthorn group, but the assemblage was too sparse to be considered a reliable indicator of pyre fuel. This assemblage also contained ash and oak; while it may represent a more diverse fuel composition, it may also reflect other elements, such as kindling or pyre goods. All of the burials, except SG65 (which was a sub-adult), were of adults, with one probable male (SG150). Despite the limited evidence, it is worth noting that the charcoal assemblage from SG65 did not appear distinct from the fuel used for the adult burials. In any case, the main pyre fuel was evidently oak, which was commonly utilised in Bronze Age cremation burials. More than half of 208 Bronze Age cremation burials analysed by the author across England produced charcoal assemblages dominated by oak. Charcoal assemblages from nine early Bronze Age, five middle Bronze Age and one mid–late Bronze Age cremation burials from Biddenham Loop contained oak (Challinor 2016). Seasoned oak wood, especially heartwood, provides the high calorific value required for efficient cremation. The calcination of the human bone in the HRN3206 cremation burials indicates that sufficiently high temperatures had been achieved (*see* Powers above).

Phase 5: late Iron Age/early Roman

Of the 27 samples taken from late Iron Age/early Roman Phase 5 features, only four (from enclosed farmstead SL55) produced identifiable charcoal. Pit G46 produced fragments that were too small to provide reliable identifications and was not analysed in full, although some oak was recorded. The other three (Table 9.47) produced moderately abundant but highly comminuted assemblages composed mostly of oak. Pit G103, however, did not contain oak, but rather a mixed assemblage of shrub and scrub-type taxa, comprising hazel, blackthorn/cherry, hawthorn group and purging buckthorn. Purging buckthorn is a relatively infrequent component of charcoal assemblages and was not widely used for fuel. The shrub itself is not as ubiquitous as blackthorn, though it grows well in most soil conditions, preferring moist but well-draining soils. A number of samples from the farmstead produced assemblages rich in charred plant remains, indicating crop-processing activities (*see* Giorgi above), but those samples were not directly associated with those in which charcoal was preserved. In the absence of evidence for any industrial activities, the charcoal is likely to have derived from domestic fires, with differences in taxonomic composition reflecting different burning events.

Phase 6: Roman

Phase 6 produced more abundant charcoal than Phase 5, with analysis on seven samples from SL57, SL58, SL59 and SL60 representing consecutive layouts of the same Roman farmstead (Table 9.47). The majority of these samples were associated with features containing charred crops or cooking remains, particularly those from L160 (SL58), from which a large number of sprouted grains were recorded (*see* Giorgi above). This indicates that the charcoal derived from fuel used for crop-processing activities, suggesting that hazel, oak and, to a lesser extent, ash were utilised. Insect tunnels were observed in several of the hazel roundwood fragments from the samples in L160, showing that the wood had decayed prior to burning, perhaps indicative of seasoning. Only one sample, from roundhouse G153 (SL57), was dominated by oak. Other samples also produced some oak,

Site Landscape	**52**			**53**		
Land-use Area	**8**		**12**			**14**
Group	**51**	**7**		**8**		**152**
Sub-group	**65**	**148**	**149**	**150**	**248**	**249**
Feature type	**Unurned cremation burial**	**Urned cremation burial**	**Urned cremation burial**	**Unurned cremation burial**	**Unurned cremation burial**	**Unurned cremation burial**
Quercus sp. oak	25	1	49 (shr)	13 (r)	50 (s)	49 (sh)
Corylus avellana L. hazel	-	-	1r	-	-	-
Maloideae hawthorn group	-	13	-	2	-	-
Fraxinus excelsior L. ash	-	1	-	-	-	-
Indeterminate	-	-	-	-	-	1r

Key: r = roundwood, s = sapwood; h = heartwood; brackets denotes occasional presence

Table 9.46: Charcoal from Phase 3 middle–late Bronze Age cremation burials

Phase		**5**					**6**			
Site Landscape		**55**		**57**			**58**		**59**	**60**
Land-use Area	**26**	**27**	**31**	**152**	**154**		**160**	**207**	**232**	**222**
Group	**118**	**103**	**60**	**153**	**206**	**162**	**169/170**	**516**	**364**	**431**
Feature type	**Posthole**	**Pit**	**Ditch**	**Ditch**	**Pit**	**Ditch**	**Possible drying oven**	**Pit**	**Ditch**	**Water-pit**
Quercus sp. oak	30 (h)	-	28 (h)	28 (s)	6	11 (s)	3r	12 (s)	7r	16 (r)
Corylus avellana L. hazel	-	5	-	-	-	19r	39r	4	9 (r)	-
Alnus/*Corylus* alder/hazel	-	4	-	2	-	-	-	-	7	-
Populus/*Salix* poplar/willow	-	-	2	-	-	-	-	-	-	-
Prunus sp. cherry type	-	7	-	-	-	-	-	4 (r)	-	7 (r)
Maloideae hawthorn group	-	2	-	-	-	-	-	5	3	3
Rhamnus cathartica L. purging buckthorn	-	10 (r)	-	-	-	-	-	1	-	-
Acer campestre L. field maple	-	-	-	-	-	-	-	2	1	-
Fraxinus excelsior L. ash	-	-	-	-	-	-	8 (hr)	-	-	4
Indeterminate	-	3	-	-	14b	-	-	2d	3d	

Key: r = roundwood, s = sapwood; h = heartwood; b = bark; d = diffuse porous; brackets denotes occasional presence

Table 9.47: Charcoal from Phases 5–6 features

along with a greater quantity and frequency of hazel and additional taxa, including blackthorn/cherry, hawthorn group, field maple and ash. Traces of purging buckthorn were also recorded in G516 (SL59).

There was insufficient charcoal data to make useful comparisons in fuel use between the four iterations of the farmstead. However, the use of oak, supplemented with a range of other hardwood type taxa, would be suitable for crop-processing and cooking activities and has also been recorded at nearby sites within the HRN1 development area (Challinor 2018; 2019; forthcoming (a) and (b).

Appendix I

Pottery type series

by Jackie Wells

Pottery was examined in accordance with PCRG/SGRP/MPRG guidelines (2016). The assemblage was quantified by minimum vessel and sherd count, and weight, and assigned forms and fabric groups. Sherds belonging to the same vessel, but deriving from separate contexts, were quantified as one. Vessel attributes, including decoration, manufacturing techniques and levels of abrasion, together with evidence for use (modification, residues/sooting and wear) were recorded.

Pottery fabrics, based on surface appearance and the type, size and density of principal inclusions are summarised below (Table A1) by chronological period in accordance with the Bedfordshire Ceramic Type Series, with concordance where possible with the National Roman Fabric Reference Collection (Tomber and Dore 1998). Samian identifications are by Dr Jill Eyers. No new fabric types were identified. Published descriptions are recorded in *Archaeology of the Bedford Region* (Dawson 2004, 443–55).

Fabric type	Common name (NRFRC code)	Sherd No.	Wt. (g)
Bronze Age/Early Iron Age			
F01A	Coarse flint	117	2066
F01B	Fine flint	32	401
F01C	Flint and quartz	202	2868
F02	Grog and flint	5	55
Iron Age			
F03	Grog and sand	74	1049
F05	Grog and shell	7	71
F06A	Fine grog (SOB GT)	141	1422
F06B	Medium grog (SOB GT)	481	7261
F06C	Coarse grog (SOB GT)	107	3926
F07	Shell	156	2958
F09	Sand and grog	510	8837
F29	Coarse sand	3	190
F34	Sand	275	3724
F39	Grog and mica	6	176
Roman			
R01A	Central Gaulish samian (LEZ SA)	90	1140
R01B	South Gaulish samian (LGF SA)	3	19
R01C	East Gaulish samian (SIN SA)	1	3
R01D	Colchester samian (COL SA)	5	51
R02	Mica gilded ware (ROB MD)	2	10
R03	White ware	19	798
R03A	Verulamium region white ware (VER WH)	14	186
R03B	Gritty white ware	32	493
R03C	Smooth white ware	10	109
R05A	Oxidised sandy	112	1361
R05B	Fine oxidised sandy	5	62
R05D	White-slipped oxidised sandy	10	68
R06A	Nene Valley grey ware	5	57
R06B	Coarse grey ware	1152	13,258
R06C	Fine grey ware	599	6701
R06D	Micaceous grey ware	10	214
R06F	Grog and sand grey ware	12	226
R06G	Silty grey ware	2	21
R06H	White-slipped grey ware	18	313
R06I	Black-slipped grey ware	149	2432
R07A	Black-burnished ware (DOR BB)	39	671
R07B	Sandy black ware	264	3438
R07C	Gritty black ware	39	682
R08	Micaceous black ware	1	6
R09A	Pink-grogged ware (PNK GT)	168	14,684
R10A	Gritty buff ware	63	983
R11	Oxford oxidised ware (OXF OX)	25	297
R11D	Oxford red-slipped ware (OXF RS)	30	641
R11E	Oxford white ware mortaria (OXF WH)	23	1212
R11F	Oxford oxidised ware mortaria (OXF RS)	3	77
R12A	Nene Valley mortaria (LNV WH)	2	9
R12B	Nene Valley colour-coated ware (LNV CC)	39	546
R13	Shelly ware (HAR SH)	1006	17,428
R13B	Shelly with limestone and sand	10	194
R14	Sand (red-brown harsh)	164	1922
R17	Smooth oxidised sandy	63	675
R18A	Gritty pink ware	30	404
R19	Amphora – unsourced (AM)	2	464
R19A	Amphora – Dressel 20 (BAT AM)	1	338
R21	Mortaria (unsourced)	1	172
R22A	Hadham oxidised ware (HAD OX)	40	720
R23	Roughcast colour-coated ware	1	2
R26	Terra Nigra (TN)	3	41
R33	Verulamium region mortaria (VER WH)	1	36
R35	Grog (GT)	14	412
R38	Colour-coated ware (unsourced)	8	44
R42A	Horningsea ware (HOR RE)	2	71
R	Non-specific Roman	2	40
Post-Roman			
A16	Early to middle Saxon mixed coarse quartz	1	219
P01	Post-medieval glazed red earthenware	1	23

Table A1: Pottery type series

Appendix II

Coin catalogues

by Peter Guest

Date	RA	SL	L	G	Phase	Denomination	Ruler/Obverse	Reverse	Mint Mark	Mint	Reference
117-38	331	63	265	527	9	As	HADRIAN?	Uncertain			
141-61	222	60	208	433	6	Sestertius	DIVA FAUSTINA	AVGVSTA - SC. Vesta with palladium & torch		Rome	RC III: 1125
207	50	58	167	221	6	Denarius	SEPTIMIUS SEVERUS	PM TRP XV COS III PP		Rome	RIC IV.1: 211
218-22	15	59	207	489	6	Denarius frag	JULIA MAESA	PVDICITIA		Rome	RIC IV.2: 268
218-22	77	63	265	527	9	Denarius	ELAGABALUS	PAX AVGVSTI		Rome	RIC IV.2: 125
260-8	20	60	220	509	6	Radiate	GALLIENUS	APOLLINI CONS AVG	//H	Rome	Cunetio: 1386
260-8	76	63	265	527	9	Radiate	GALLIENUS	PROVID AVG		Rome	Cunetio: 1275
260-9	98	57	152	161	6	Radiate	POSTUMUS	IMP X COS V		Principal	Cunetio: 2464
260-96	12	63	265	534	9	Radiate	Uncertain	Uncertain			
260-96	35	63	265	527	9	Radiate	Uncertain	Uncertain			
260-96	87	58	158	184	6	Radiate	Uncertain	Uncertain			
260-96	92	58	158	211	6	Radiate	Uncertain	Uncertain			
260-96	112	58	169	260	6	Radiate	Uncertain	Uncertain			
260-96	329	61	251	526	7	Radiate	Uncertain	Uncertain			
268-70	18	58	219	496	6	Radiate	CLAUDIUS II	Uncertain			
268-70	23	59	207	489	6	Radiate	CLAUDIUS II	VIRTVS AVG			
268-70	27	58	212	470	6	Radiate	VICTORINUS	VIRTVS AVG			
268-70	30	58	212	475	6	Radiate	CLAUDIUS II	FIDES MILIT	/S	Rome	Cunetio: 2259
268-70	36	63	265	527	9	Radiate	CLAUDIUS II	Uncertain			
268-70	138	63	265	527	9	Radiate	CLAUDIUS II	AEQVITAS AVG?			
268-70	316	58	212	470	6	Radiate	VICTORINUS	PROVIDENTIA AVG		Mint II	Cunetio: 2577
268-70	347	58	157	197	6	Radiate	CLAUDIUS II	LIBERT AVG	/X	Rome	
270	3	63	265	533	9	Radiate	DIVO CLAUDIO	CONSECRATIO - altar			
270	174	58	158	211	6	Radiate	DIVO CLAUDIO	CONSECRATIO - altar			
270	314	58	168	212	6	Radiate	DIVO CLAUDIO	CONSECRATIO - altar			
270-4	13	63	265	534	9	Radiate	TETRICUS I?	LAETITIA?			
270-4	135	63	265	527	9	Radiate	TETRICUS I	PAX AVG			
270-5	97	58	160	232	6	Radiate	SEVERINA	VENVS FELIX	//∈	Rome	RIC V.1: 6
270-96	28	63	265	527	9	Barb. Radiate	Uncertain	Uncertain			
270-96	38	63	265	527	9	Barb. Radiate	Uncertain	Uncertain			
270-96	40	63	265	527	9	Barb. Radiate	Uncertain	Uncertain			
270-96	90	58	158	211	6	Barb. Radiate	Uncertain	Uncertain			

Date	RA	SL	L	G	Phase	Denomination	Ruler/Obverse	Reverse	Mint Mark	Mint	Reference
270-96	101	59	244	375	6	Barb. Radiate	Uncertain	Uncertain			
270-96	223	58	158	211	6	Barb. Radiate	as DIVO CLAUDIO	as CONSECRATIO - altar			
270-96	270	63	265	527	9	Barb. Radiate	Uncertain	Uncertain			
270-96	279	63	265	527	9	Barb. Radiate	as TETRICUS I	Uncertain			
270-96	351	63	265	527	9	Barb. Radiate	as TETRICUS I	Uncertain			
273-4	86	58	160	230	6	Radiate	TETRICUS II	SPES PVBLICA		Mint I	Normanby: 1526
273-4	124	60	221	507	6	Radiate	TETRICUS I?	SPES AVGG?			
273-96	348	58	157	233	6	Barb. Radiate	as TETRICUS II	as PRINC IVVENT?			
275-6	67	59	179	226	6	Radiate	TACITUS	Uncertain			
286-93	315	58	219	525	6	Radiate	CARAUSIUS	SALVS PVBLICA	B/E//[…]	London	RIC V.2: 165
293-6	26	60	220	208	6	Quinarius	ALLECTUS	LAETITIA AVG	//QC	London	RIC V.2: 124-5
310	49	57	156	237	6	AE2	CONSTANTINE I	SOLI INVICTO COMITI	T/F//PLN	London	RIC VI: 121a
310	62	59	199	394	6	AE2	CONSTANTINE I	SOLI INVICTO COMITI	S/F//PLN	London	RIC VI: 125 var
318-24	45	60	221	507	6	AE3	House of Constantine	BEATA TRANQVILLITAS	//[…]		
320	66	59	179	226	6	AE2	CONSTANTINE I	VIRTVS EXERCIT	A/S//PLG	Lyons	RIC VII: 107
321	29	58	212	480	6	AE2	CONSTANTINE I	BEATA TRANQVILLITAS	//PTR	Trier	RIC VII: 303
323-4	33	63	265	527	9	AE2	CONSTANTINE I	SARMATIA DEVICTA	//PTR	Trier	RIC VII: 429
324-30	19	63	265	527	9	AE2	House of Constantine	PROVIDENTIAE AVGG	//[…]		
324-5	352	63	265	527	9	AE3	CONSTANTINE II Caesar	PROVIDENTIAE CAESS	//PLG	Lyons	RIC VII: 229
326	85	58	161	167	6	AE3	CRISPUS Caesar	PROVIDENTIAE CAESS	// STR •-in-wreath	Trier	RIC VII: 477
330-40	14	63	265	534	9	AE3	VRBS ROMA	Wolf & twins	//[…]		
330-40	22	60	225	523	6	AE3	CONSTANTINOPOLIS	Victory on prow	//PL[..]	Lyons	
330-48	39	63	265	527	9	AE3 copy	as VRBS ROMA	as Wolf & twins			
330-5	37	63	265	527	9	AE3	House of Constantine	GLORIA EXERCITVS - 2 stds	//[…]		
330-5	53	58	167	222	6	AE3	House of Constantine	GLORIA EXERCITVS - 2 stds	//[…]		
330-5	268	63	265	527	9	AE3	VRBS ROMA	Wolf & twins	//TRS	Trier	LRBC I: 51
335-40	34	63	265	527	9	AE3	House of Constantine	GLORIA EXERCITVS - 1 std	//[…]		
335-40	84	58	167	221	6	AE3	House of Constantine	GLORIA EXERCITVS - 1 std	//•TRP•	Trier	
335-40	278	63	265	527	9	AE3	House of Constantine	GLORIA EXERCITVS - 1 std	//TR[..]	Trier	
335-7	2	63	265	533	9	AE3	CONSTANTINE I	GLORIA EXERCITVS - 1 std	//[…]		
353-64	16	60	221	507	6	AE3 copy	as House of Constantine	as FEL TEMP REPARATIO (falling horseman)			overstruck on an official coin?
353-64	24	60	221	507	6	AE4 copy	as House of Constantine	as FEL TEMP REPARATIO (falling horseman)			

Date	RA	SL	L	G	Phase	Denomination	Ruler/Obverse	Reverse	Mint Mark	Mint	Reference
353-64	31	63	265	527	9	AE3 copy	as House of Constantine	as FEL TEMP REPARATIO (falling horseman)			
353-64	82	58	167	221	6	AE3 copy	as House of Constantine	as FEL TEMP REPARATIO (falling horseman)			
364-75	106	58	157	210	6	AE3	GRATIAN	GLORIA NOVI SAECVLI	//[…]	Arles	
364-75	145	57	154	185	6	AE3	VALENTINIAN I	SECVRITAS REIPVBLICAE	OF/[I]//CON[..]	Arles	
364-78	46	60	221	507	6	AE3	House of Valentinian	GLORIA ROMANORVM	//[…]		
364-78	81	58	167	221	6	AE3	VALENS	GLORIA ROMANORVM	[OF]/II//[…]		
364-78	83	58	167	221	6	AE3	House of Valentinian	SECVRITAS REIPVBLICAE	//[…]		
364-78	267	60	198	365	6	AE3	House of Valentinian	GLORIA ROMANORVM	//[…]		
367-75	25	60	221	507	6	AE3	GRATIAN	GLORIA NOVI SAECVLI	OF/II//[…]	Arles	
367-75	93	61	251	526	7	AE3	House of Valentinian	SECVRITAS REIPVBLICAE	OF/[..]//[LVGP]B	Lyons	
367-75	280	63	265	527	6	AE3	GRATIAN	GLORIA NOVI SAECVLI	//TCON	Arles	LRBC II: 529
388-402	136	63	265	527	9	AE4	House of Theodosius	Victory advancing left	//[…]		
4th c.	107	58	157	196	6	AE4	Diademed bust	Uncertain	//[…]		
4th c.	336	63	265	527	9	AE3	Diademed bust	Uncertain	//[…]		
early 3rd c.	78	63	265	527	9	Denarius copy	as CARACALLA?	Uncertain			
late 3rd-4th c.	1	63	265	533	9	AE3	Uncertain	Uncertain			
late 3rd-4th c.	4	63	265	533	9	AE3	Uncertain	Uncertain			
late 3rd-4th c.	5	63	265	533	9	AE4 minim	Uncertain	Uncertain			
late 3rd-4th c.	21	60	221	507	6	AE4	Uncertain	Uncertain			
late 3rd-4th c.	32	63	265	527	9	AE3	Uncertain	Uncertain			
late 3rd-4th c.	41	63	265	527	9	AE4	Uncertain	Uncertain			
late 3rd-4th c.	42	63	265	527	9	AE3	Uncertain	Uncertain			
late 3rd-4th c.	54	58	167	222	6	AE2	Uncertain	Uncertain			
late 3rd-4th c.	96	63	265	527	9	AE4 minim	Uncertain	Uncertain			
late 3rd-4th c.	108	61	251	526	6	AE4 minim	Uncertain	Uncertain			
late 3rd-4th c.	164	58	167	220	6	AE3	Uncertain	Uncertain			
late 3rd-4th c.	350	63	265	527	9	AE4	Uncertain	Uncertain			
late 3rd-4th c.	353	63	265	527	9	AE3	Uncertain	Uncertain			
19th-20th c.	109	60	226	290	6	Farthing	Uncertain	Uncertain			

Table A2: Catalogue of coins by production date

RA	Date	SL	L	G	Phase	Denomination	Ruler/Obverse	Reverse	Mint Mark	Mint	Reference
1	late 3rd-4th c.	63	265	533	9	AE3	Uncertain	Uncertain			
2	335-7	63	265	533	9	AE3	CONSTANTINE I	GLORIA EXERCITVS - 1 std	//[…]		
3	270	63	265	533	9	Radiate	DIVO CLAUDIO	CONSECRATIO - altar			
4	late 3rd-4th c.	63	265	533	9	AE3	Uncertain	Uncertain			
5	late 3rd-4th c.	63	265	533	9	AE4 minim	Uncertain	Uncertain			
12	260-96	63	265	534	9	Radiate	Uncertain	Uncertain			
13	270-4	63	265	534	9	Radiate	TETRICUS I?	LAETITIA?			
14	330-40	63	265	534	9	AE3	VRBS ROMA	Wolf & twins	//[…]		
15	218-22	59	207	489	6	Denarius frag	JULIA MAESA	PVDICITIA		Rome	RIC IV.2: 268
16	353-64	60	221	507	6	AE3 copy	as House of Constantine	as FEL TEMP REPARATIO (falling horseman)			overstruck on an official coin?
18	268-70	58	219	496	6	Radiate	CLAUDIUS II	Uncertain			
19	324-30	63	265	527	9	AE2	House of Constantine	PROVIDENTIAE AVGG	//[…]		
20	260-8	60	220	509	6	Radiate	GALLIENUS	APOLLINI CONS AVG	//H	Rome	Cunetio: 1386
21	late 3rd-4th c.	60	221	507	6	AE4	Uncertain	Uncertain			
22	330-40	60	225	523	6	AE3	CONSTANTINOPOLIS	Victory on prow	//PL[..]	Lyons	
23	268-70	59	207	489	6	Radiate	CLAUDIUS II	VIRTVS AVG			
24	353-64	60	221	507	6	AE4 copy	as House of Constantine	as FEL TEMP REPARATIO (falling horseman)			
25	367-75	60	221	507	6	AE3	GRATIAN	GLORIA NOVI SAECVLI	OF/II//[…]	Arles	
26	293-6	60	220	208	6	Quinarius	ALLECTUS	LAETITIA AVG	//QC	London	RIC V.2: 124-5
27	268-70	58	212	470	6	Radiate	VICTORINUS	VIRTVS AVG			
28	270-96	63	265	527	9	Barb. Radiate	Uncertain	Uncertain			
29	321	58	212	480	6	AE2	CONSTANTINE I	BEATA TRANQVILLITAS	//PTR	Trier	RIC VII: 303
30	268-70	58	212	475	6	Radiate	CLAUDIUS II	FIDES MILIT	/S	Rome	Cunetio: 2259
31	353-64	63	265	527	9	AE3 copy	as House of Constantine	as FEL TEMP REPARATIO (falling horseman)			
32	late 3rd-4th c.	63	265	527	9	AE3	Uncertain	Uncertain			
33	323-4	63	265	527	9	AE2	CONSTANTINE I	SARMATIA DEVICTA	//PTR	Trier	RIC VII: 429
34	335-40	63	265	527	9	AE3	House of Constantine	GLORIA EXERCITVS - 1 std	//[…]		
35	260-96	63	265	527	9	Radiate	Uncertain	Uncertain			
36	268-70	63	265	527	9	Radiate	CLAUDIUS II	Uncertain			
37	330-5	63	265	527	9	AE3	House of Constantine	GLORIA EXERCITVS - 2 stds	//[…]		
38	270-96	63	265	527	9	Barb. Radiate	Uncertain	Uncertain			
39	330-48	63	265	527	9	AE3 copy	as VRBS ROMA	as Wolf & twins			

RA	Date	SL	L	G	Phase	Denomination	Ruler/Obverse	Reverse	Mint Mark	Mint	Reference
40	270-96	63	265	527	9	Barb. Radiate	Uncertain	Uncertain			
41	late 3rd-4th c.	63	265	527	9	AE4	Uncertain	Uncertain			
42	late 3rd-4th c.	63	265	527	9	AE3	Uncertain	Uncertain			
45	318-24	60	221	507	6	AE3	House of Constantine	BEATA TRANQVILLITAS	//[…]		
46	364-78	60	221	507	6	AE3	House of Valentinian	GLORIA ROMANORVM	//[…]		
49	310	57	156	237	6	AE2	CONSTANTINE I	SOLI INVICTO COMITI	T/F//PLN	London	RIC VI: 121a
50	207	58	167	221	6	Denarius	SEPTIMIUS SEVERUS	PM TRP XV COS III PP		Rome	RIC IV.1: 211
53	330-5	58	167	222	6	AE3	House of Constantine	GLORIA EXERCITVS - 2 stds	//[…]		
54	late 3rd-4th c.	58	167	222	6	AE2	Uncertain	Uncertain			
62	310	59	199	394	6	AE2	CONSTANTINE I	SOLI INVICTO COMITI	S/F//PLN	London	RIC VI: 125 var
66	320	59	179	226	6	AE2	CONSTANTINE I	VIRTVS EXERCIT	A/S//PLG	Lyons	RIC VII: 107
67	275-6	59	179	226	6	Radiate	TACITUS	Uncertain			
76	260-8	63	265	527	9	Radiate	GALLIENUS	PROVID AVG		Rome	Cunetio: 1275
77	218-22	63	265	527	9	Denarius	ELAGABALUS	PAX AVGVSTI		Rome	RIC IV.2: 125
78	early 3rd c.	63	265	527	9	Denarius copy	as CARACALLA?	Uncertain			
81	364-78	58	167	221	6	AE3	VALENS	GLORIA ROMANORVM	[OF]/II//[…]		
82	353-64	58	167	221	6	AE3 copy	as House of Constantine	as FEL TEMP REPARATIO (falling horseman)			
83	364-78	58	167	221	6	AE3	House of Valentinian	SECVRITAS REIPVBLICAE	//[…]		
84	335-40	58	167	221	6	AE3	House of Constantine	GLORIA EXERCITVS - 1 std	//•TRP•	Trier	
85	326	58	161	167	6	AE3	CRISPUS Caesar	PROVIDENTIAE CAESS	// STR •-in-wreath	Trier	RIC VII: 477
86	273-4	58	160	230	6	Radiate	TETRICUS II	SPES PVBLICA		Mint I	Normanby: 1526
87	260-96	58	158	184	6	Radiate	Uncertain	Uncertain			
90	270-96	58	158	211	6	Barb. Radiate	Uncertain	Uncertain			
92	260-96	58	158	211	6	Radiate	Uncertain	Uncertain			
93	367-75	61	251	526	7	AE3	House of Valentinian	SECVRITAS REIPVBLICAE	OF/[..]// [LVGP]B	Lyons	
96	late 3rd-4th c.	63	265	527	9	AE4 minim	Uncertain	Uncertain			
97	270-5	58	160	232	6	Radiate	SEVERINA	VENVS FELIX	//∈	Rome	RIC V.1: 6
98	260-9	57	152	161	6	Radiate	POSTUMUS	IMP X COS V		Principal	Cunetio: 2464
101	270-96	59	244	375	6	Barb. Radiate	Uncertain	Uncertain			
106	364-75	58	157	210	6	AE3	GRATIAN	GLORIA NOVI SAECVLI	//[…]	Arles	
107	4th c.	58	157	196	6	AE4	Diademed bust	Uncertain	//[…]		

RA	Date	SL	L	G	Phase	Denomination	Ruler/Obverse	Reverse	Mint Mark	Mint	Reference
108	late 3rd-4th c.	61	251	526	6	AE4 minim	Uncertain	Uncertain			
109	19th-20th c.	60	226	290	6	Farthing	Uncertain	Uncertain			
112	260-96	58	169	260	6	Radiate	Uncertain	Uncertain			
124	273-4	60	221	507	6	Radiate	TETRICUS I?	SPES AVGG?			
135	270-4	63	265	527	9	Radiate	TETRICUS I	PAX AVG			
136	388-402	63	265	527	9	AE4	House of Theodosius	Victory advancing left	//[…]		
138	268-70	63	265	527	9	Radiate	CLAUDIUS II	AEQVITAS AVG?			
145	364-75	57	154	185	6	AE3	VALENTINIAN I	SECVRITAS REIPVBLICAE	OF/[I]// CON[..]	Arles	
164	late 3rd-4th c.	58	167	220	6	AE3	Uncertain	Uncertain			
174	270	58	158	211	6	Radiate	DIVO CLAUDIO	CONSECRATIO - altar			
222	141-61	60	208	433	6	Sestertius	DIVA FAUSTINA	AVGVSTA - SC. Vesta with palladium & torch		Rome	RC III: 1125
223	270-96	58	158	211	6	Barb. Radiate	as DIVO CLAUDIO	as CONSECRATIO - altar			
267	364-78	60	198	365	6	AE3	House of Valentinian	GLORIA ROMANORVM	//[…]		
268	330-5	63	265	527	9	AE3	VRBS ROMA	Wolf & twins	//TRS	Trier	LRBC I: 51
270	270-96	63	265	527	9	Barb. Radiate	Uncertain	Uncertain			
278	335-40	63	265	527	9	AE3	House of Constantine	GLORIA EXERCITVS - 1 std	//TR[..]	Trier	
279	270-96	63	265	527	9	Barb. Radiate	as TETRICUS I	Uncertain			
280	367-75	63	265	527	6	AE3	GRATIAN	GLORIA NOVI SAECVLI	//TCON	Arles	LRBC II: 529
314	270	58	168	212	6	Radiate	DIVO CLAUDIO	CONSECRATIO - altar			
315	286-93	58	219	525	6	Radiate	CARAUSIUS	SALVS PVBLICA	B/E//[…]	London	RIC V.2: 165
316	268-70	58	212	470	6	Radiate	VICTORINUS	PROVIDENTIA AVG		Mint II	Cunetio: 2577
329	260-96	61	251	526	7	Radiate	Uncertain	Uncertain			
331	117-38	63	265	527	9	As	HADRIAN?	Uncertain			
336	4th c.	63	265	527	9	AE3	Diademed bust	Uncertain	//[…]		
347	268-70	58	157	197	6	Radiate	CLAUDIUS II	LIBERT AVG	/X	Rome	
348	273-96	58	157	233	6	Barb. Radiate	as TETRICUS II	as PRINC IVVENT?			
350	late 3rd-4th c.	63	265	527	9	AE4	Uncertain	Uncertain			
351	270-96	63	265	527	9	Barb. Radiate	as TETRICUS I	Uncertain			
352	324-5	63	265	527	9	AE3	CONSTANTINE II Caesar	PROVIDENTIAE CAESS	//PLG	Lyons	RIC VII: 229
353	late 3rd-4th c.	63	265	527	9	AE3	Uncertain	Uncertain			

Table A3: Catalogue of coins by RA number

Appendix III

Radiocarbon dates

SUERC	GU	Material	BP	95.4%	Period	SG	G	L	SL	Phase	Description
88591	52371	Human bone	3032 ± 21	1388–1217	Middle Bronze Age	150	8	12	53	3	Cremation burial
88592	52372	Human bone	2912 ± 24	1207–1016	Middle Bronze Age	248	152	14	53	3	Cremation burial
88593	52373	Human bone	3368 ± 21	1736–1618	Early Bronze Age	497	449	4	51	2	Cremation burial
88594	52374	Human bone	3076 ± 27	1413–1267	Middle Bronze Age	229	239	9	53	3	Inhumation
88595	52375	Human bone	3109 ± 24	1434–1298	Middle Bronze Age	65	51	8	52	3	Cremation burial
89916	52895	Horse bone	2762 ± 25	976–834	Late Bronze Age	3	3	2	51	2	Outer ring-ditch
90830	53494	Human bone	3091 ± 21	1416–1290	Middle Bronze Age	148	7	12	53	3	Cremation burial
91343	53495R	Human bone	3094 ± 25	1423–1287	Middle Bronze Age	152	7	12	53	3	Cremation burial

Table A4: Summary of radiocarbon determinations by SUERC lab number

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This report covers Albion Archaeology's 2018–19 excavation within the Houghton Regis North 1 development in Central Bedfordshire. It produced evidence for activity dating from the late Neolithic to the post- medieval period, but which relates in the most part to an extensively investigated Romano- British farmstead.



The earliest remains are late Neolithic or early Bronze Age in date, comprising a ring-ditch monument and a cremation burial. The former is of particular interest – a small ring-ditch was subsequently encircled by a larger one and buried under a mound. A later spread of post-built structures, pits, postholes and burials were associated with a middle–late Bronze Age field system, the site of which was subsequently occupied by a late Iron Age/early Roman farmstead.

The landscape changed abruptly in the second half of the 1st century AD, with the establishment of a new, differently aligned farmstead on previously unoccupied land to the south. Deliberate planning is clear in the farmstead's original layout of a trackway and enclosures, though it was substantially modified three times, with pottery and coins suggesting that occupation continued into the late 4th and probably even the early 5th century. The farmstead included two roundhouses, up to thirteen rectangular buildings, fifteen water-pits and up to four different types of drying oven.



A few artefacts stand out from what one might expect to find on a rural farmstead in the region, e.g. those associated with the military, with literacy, and with religion, in particular a small stone sculpture. The latter is a rare and exceptional find, which originally may have stood against the wall of a shrine.