

A ROMANO-BRITISH SETTLEMENT AND CEMETERY AT HIGHAM ROAD, BURTON LATIMER, NORTHAMPTONSHIRE



BY MIKE LUKE AND JO BARKER

ALBION ARCHAEOLOGY MONOGRAPH 4



A Romano-British Settlement and Cemetery at Higham Road, Burton Latimer, Northamptonshire

By Mike Luke and Jo Barker

With contributions by

Dana Challinor, Hilary Cool, Corinne Duhig, Holly Duncan, Jill Eysers,
John Giorgi, Peter Guest, Mark Maltby and Jackie Wells

Illustrations by

Joan Lightning, Cecily Marshall and Mike Trevarthen

Albion Archaeology Monograph 4

Published by
Albion Archaeology
St Mary's Church
St Mary's Street
Bedford
MK42 0AS

Copyright © Albion Archaeology 2019
ISBN 978 0 9556546 9 5

Designed and produced by 4word Ltd, Bristol

Other Albion Archaeology monographs:

No. 1, 2012: Harrold: 5,000 Years of Life and Death in a North Bedfordshire Village

No. 2, 2015: A Romano-British Farmstead at Stretton Road, Great Glen, Leicestershire

No. 3, 2016: Margetts Farm, Buckden, Cambridgeshire: Remains of a Prehistoric Landscape in the Great Ouse Valley

Cover illustrations

Front: aerial view of the excavation area

Back: local schoolchildren tour the excavations on a site open day

Contents

List of Figures	v
List of Tables	v
List of Plates	vii
List of contributors	viii
Acknowledgements	ix
About this publication	x
Summary	xii
Chapter 1. Introduction and discussion	1
I. Introduction	1
II. Discussion	5
Chapter 2. Origins of the settlement (Phases 1 and 2)	27
I. Pre-Roman (Phase 1)	27
II. Late 1st to mid-2nd century (Phase 2)	27
Chapter 3. Mid-2nd to mid-3rd century (Phase 3)	29
I. Overview	29
II. Earliest enclosure L4	29
III. 'Ladder' enclosure system L5	29
IV. Domestic foci L6, L7 and L8	32
V. Trackway L12	34
VI. Enclosures L10	34
VII. Unenclosed activity L13	35
VIII. Activity focus L32	35
Chapter 4. Late 3rd to early 5th century (Phase 4)	37
I. Overview	37
II. Earliest enclosures L14	37
III. Main 'ladder' enclosure system L15	37
IV. Final alterations L31 to enclosures	40
V. Domestic focus L18/19	40
VI. Domestic focus L20/L21	42
VII. Activity focus L24	43
VIII. Small oval enclosure L27	47
IX. Activity focus L28	47
X. Quarrying L30	47
XI. Peripheral enclosures L11/L15 to east	51
XII. Peripheral enclosures L29	51
XIII. Activity focus L34	51
XIV. Inhumations L16, L17, L22, L23, L25 and L26	53
Chapter 5. Artefacts	61
I. Introduction	61
II. Pottery	61
III. Ceramic building material	65
IV. Coins	67
V. Glass	70
VI. 'Other artefacts' (excluding coins and glass)	71
Chapter 6. Ecofacts	89
I. Introduction	89
II. Animal bone	89
III. Charred plant remains	101
IV. Charcoal	111
V. Human remains	114
Appendix I. Roman pottery type series	123
Appendix II. Samian pottery	124
Appendix III. Brick and tile fabric types	125
Appendix IV. Coin catalogues	126

Appendix V. Photographic catalogue of inhumations	137
Appendix VI. Human remains catalogue	142
Appendix VII. Community engagement	145
Appendix VIII. Non-ceramic artefacts from the Bungalow excavation	147
Bibliography	149

List of Figures

Chapter 1. Introduction and discussion

Figure 1.1: Location plan	2
Figure 1.2: All-features plan	3
Figure 1.3: Comparative plans showing the changes in layout of the Higham Road settlement over time	6
Figure 1.4: Comparative plans of selected excavated rural settlements within the region	9
Figure 1.5: Comparative plans of possible rectangular buildings at Higham Road and Marsh Leys, Bedfordshire	12
Figure 1.6: Comparative layout plans of rural inhumation cemeteries at Higham Road and other contemporary rural settlements	15
Figure 1.7: Comparative plans of possible cemetery structures at Higham Road and elsewhere	20
Figure 1.8: Plot of metalworking debris within Phase 3 and 4 settlements	24

Chapter 2. Origins of the settlement (Phases 1 and 2)

Figure 2.1: Overall plan of early-middle Iron Age (Phase 1) activity with selected section drawings	27
Figure 2.2: Overall plan of late 1st- to mid-2nd-century (Phase 2) settlement with selected section drawings.....	28

Chapter 3. Mid-2nd century to late 3rd century (Phase 3)

Figure 3.1: Plan of mid-2nd- to late 3rd-century (Phase 3) settlement with Phase 2 layout	30
Figure 3.2: Overall plan of mid-2nd- to late 3rd-century (Phase 3) settlement	31
Figure 3.3: Selected section drawings of Phase 3 ditches	32
Figure 3.4: Detailed plan of domestic foci L6, L7 and L8 (Phase 3)	33
Figure 3.5: Selected section drawings associated with possible buildings	34

Chapter 4. Late 3rd to early 5th century (Phase 4)

Figure 4.1: Overall plan of late 3rd- to early 5th-century (Phase 4) settlement with Phase 3 layout	38
Figure 4.2: Overall plan of late 3rd- to early 5th-century (Phase 4) settlement with ditch systems and selected find-spots labelled.....	39
Figure 4.3: Overall plan of late 3rd- to early 5th-century (Phase 4) settlement with main plots and activity areas labelled	41
Figure 4.4: Selected section drawings	42
Figure 4.5: Detailed plan of domestic focus L18/L19 and inhumation cluster L17	43
Figure 4.6: Selected section drawings	47
Figure 4.7: Detailed plan of domestic focus L20/L21	50
Figure 4.8: Selected section drawings	51
Figure 4.9: Detailed plan of enclosures L29 and activity focus L34	52
Figure 4.10: Selected section drawings	53
Figure 4.11: Detailed plan of inhumation cemetery L16 and adjacent burial SG185.....	54
Figure 4.12: Detailed plans of multiple burials: SG177 and SG217; SG182 and SG218; and SG178, SG179 and SG180	56
Figure 4.13: Detailed plan of inhumation cluster L22	58
Figure 4.14: Detailed plan of inhumation clusters L23, L25 and L26.....	60

Chapter 5. Artefacts

Figure 5.1: Selected pottery from Phase 4 inhumations	65
Figure 5.2: Graph showing Roman coins from Higham Road and five other rural sites.....	69
Figure 5.3: Graph showing coin loss profiles from Higham Road and five other rural sites.....	69
Figure 5.4: Glass vessel body fragment GL4 with vertical indented trail	70
Figure 5.5: Selected 'other artefacts' (OAs 4–8, 13, 15, 16 and 18).....	73
Figure 5.6: Selected 'other artefacts' (OAs 19 and 21–25).....	75
Figure 5.7: Selected 'other artefacts' (OAs 27, 28 and 30–35).....	79
Figure 5.8: Selected 'other artefacts' (OAs 37–43)	81
Figure 5.9: Selected 'other artefacts' (OAs 44–50)	82
Figure 5.10: Selected 'other artefacts' (OAs 51 and 53–57).....	84

Chapter 6. Ecofacts

Figure 6.1: Sex/age data for the inhumed population (cumulative column graph)	115
Figure 6.2: Proportions of pathological and related changes for the inhumed population	116

List of Tables

Chapter 1. Introduction and discussion

Table 1.1: Summary of all possible buildings.....	11
Table 1.2: Details of water-pits	13

Chapter 3. Mid-2nd to late 3rd century (Phase 3)

Table 3.1: Summary of Phase 3 Land-use areas	29
Table 3.2: Details of Phase 3 cremation burials (all un-turned).....	34

Chapter 4. Late 3rd to early 5th century (Phase 4)

Table 4.1: Summary of Phase 4 Land-use areas	44
Table 4.2: Details of Phase 4 inhumations	48

Chapter 5. Artefacts

Table 5.1: Pottery quantification by phase	61
Table 5.2: Quantification of pottery vessel forms, excluding samian ware (Phases 2–4).....	62
Table 5.3: Phase 3 pottery quantification by Land-use area and sherd count	63
Table 5.4: Phase 4 pottery quantification by Land-use area and sherd count	64
Table 5.5: Brick and tile quantification by Phase and Land-use area	66
Table 5.6: Roman coins ordered by date of production	67
Table 5.7: Roman coins from Higham Road and five sites in Northamptonshire and Bedfordshire	68
Table 5.8: Vessel glass by fragment count and weight	70
Table 5.9: 'Other artefacts' from Phase 3 deposits	71
Table 5.10: 'Other artefacts' in L11, L15 and L30 by functional type (excluding burial evidence)	74
Table 5.11: 'Other artefacts' assemblage from Enclosure C (Phase 4)	75
Table 5.12: 'Other artefacts' assemblage from Enclosure D (Phase 4)	75
Table 5.13: 'Other artefacts' assemblage from peripheral enclosures L11/L15	77
Table 5.14: 'Other artefacts' assemblage from sub-enclosures L27	80
Table 5.15: 'Other artefacts' assemblage from enclosure L31	80
Table 5.16: 'Other artefacts' assemblage from quarry pits L30	80
Table 5.17: Metal artefacts and glass from inhumation cemetery L16	83
Table 5.18: Nail types from confined burials in inhumation cemetery L16	83
Table 5.19: Metal artefacts from inhumation cluster L26	84
Table 5.20: Summary of 'other artefacts' with details of inhumations	87

Chapter 6. Ecofacts

Table 6.1: Animal bone preservation by Phase	89
Table 6.2: Animal bone species counts by Phase	90
Table 6.3: Animal bone species counts by Land-use area (Phase 3).....	90
Table 6.4: Animal bone species counts by Land-use area (Phase 4).....	91
Table 6.5: Animal bone groups (ABG) and substantial portions of skulls (SKL)	91
Table 6.6: Cattle element counts (NISP).....	94
Table 6.7: Cattle element counts (MNE and WBE)	94
Table 6.8: Types of butchery marks observed on cattle bones.....	95
Table 6.9: Cattle and sheep/goat mandibular tooth ageing data	95
Table 6.10: Epiphyseal fusion data	96
Table 6.11: Common measurements (all phases except Phase 6)	97
Table 6.12: Cattle metacarpal measurements (all phases except Phase 6).....	97
Table 6.13: Sheep/goat element counts (NISP)	98
Table 6.14: Sheep/goat element counts (MNE and WBE).....	98
Table 6.15: Pig element counts (NISP)	98
Table 6.16: Pig element counts (MNE and WBE)	99
Table 6.17: Horse element counts (NISP).....	99
Table 6.18: Horse element counts (MNE and WBE)	99
Table 6.19: Dog element counts (NISP)	100
Table 6.20: Dog element counts (MNE and WBE)	100
Table 6.21: Domestic fowl element counts (NISP and MNE) and greatest length measurements	103
Table 6.22: Charred plant remains (Phases 1–2).....	103
Table 6.23: Charred plant remains (Phase 3)	104
Table 6.24: Charred plant remains (Phases 3 and 4).....	105
Table 6.25: Charred plant remains from L11/L15, L15 and L16 (Phase 4).....	106
Table 6.26: Charred plant remains from L16, L17, L19 and L22 (Phase 4).....	108
Table 6.27: Charred plant remains from L25, L27 and L28 (Phase 4)	109
Table 6.28: Charred plant remains from 29 and 34 (Phase 4).....	109
Table 6.29: Charred plant remains from L30 and L31 (Phase 4).....	110
Table 6.30: Notes on charcoal taxa	111
Table 6.31: Charcoal from Phase 3	112
Table 6.32: Charcoal from Phase 4 enclosure ditches	112
Table 6.33: Charcoal from Phase 4 pits and quarry pits	113
Table 6.34: Sex/age data for the inhumed population.....	114
Table 6.35: Osteoarthritis	116

Table 6.36: Schmorl's nodes	116
Table 6.37: Enthesopathies and changes due to activity ('occupational changes')	117
Table 6.38: Parafunctional tooth wear	117
Table 6.39: Stress-indicators	118
Table 6.40: Trauma	118
Table 6.41: Infection/inflammation.....	119
Table 6.42: Dental epigenetic traits.....	119
Table 6.43: Non-dental epigenetic traits: paraxial mesoderm field defects	119
Table 6.44: Non-dental epigenetic traits: 'failure to coalesce': metopism and bifid vertebral arch	120
Table 6.45: Non-dental epigenetic traits: spondylolysis	120
Table 6.46: Non-dental epigenetic traits: other traits	120
Table 6.47: Other conditions	121
Table 6.48: Deviant or possibly deviant burials.....	122

Appendices

Table A1: Roman pottery type series	123
Table A2: Samian quantification by Phase.....	124
Table A3: Quantification of samian vessel types	125
Table A4: Catalogue of coins by production date	126
Table A5: Catalogue of coins by Registered Artefact (RA) number.....	130
Table A6: Catalogue of coins by Phase, Land-use area and Group	132
Table A7: Skeletal information — inhumations (Phase 4)	141
Table A8: Skeletal information — cremated bone (Phase 3).....	144
Table A9: 'Other artefacts' from L29 in the Bungalow excavation	147

List of Plates

Chapter 1. Introduction and discussion

Plate 1.1: Aerial view of the development area's wider setting, looking west across Burton Latimer (May 2011).....	1
Plate 1.2: Aerial view from north-west of the excavation area, with Higham Road in the background (June 2011).....	4
Plate 1.3: Aerial view from south-west of the excavation area (June 2011).....	5
Plate 1.4: How the settlement may have looked during Phase 3 (mid-2nd to late 3rd century), from west.....	7
Plate 1.5: How the settlement may have looked during Phase 4 (late 3rd to early 5th century), from west	7

Chapter 3. Mid-2nd to late 3rd century (Phase 3)

Plate 3.1: Western ditch G5 of trackway L12, looking south. Scale 1m.....	34
Plate 3.2: Internal enclosure ditch G15 (L10), looking west. Scale 1m	35
Plate 3.3: Pit G53 (L13), looking west. Scale 0.4m.....	35

Chapter 4. Late 3rd to early 5th century (Phase 4)

Plate 4.1: Enclosure ditch G22 (L15), looking south. Scale 1m.....	37
Plate 4.2: Enclosure ditch G32 (L15), looking south. Scale 1m	40
Plate 4.3: Quarry pits L30, looking east. Scale 1m.....	47
Plate 4.4: Enclosure ditches G16 (L11) and G32 (L15), looking south. Scale 1m.....	51
Plate 4.5: Graves G68 (L16) under investigation, looking north-east, with SG175 in the foreground	55
Plate 4.6: Graves G68 (L16) under investigation, looking south-west.....	55
Plate 4.7: Structure G78 during cleaning	56
Plate 4.8: Structure G78 looking north, after excavation of first quadrant revealed possible postholes	57
Plate 4.9: Inhumations SG190 and SG191, looking south. Scale 1m.....	58
Plate 4.10: Inhumation SG196 (L26) during excavation, looking east.....	59

Chapter 5. Artefacts

Plate 5.1: Ceramic antefix	66
Plate 5.2: Copper-alloy foot OA35 from a figurine	78

Chapter 6. Ecofacts

Plate 6.1: Human bone: right humerus showing thickening caused by overlapping of the two sections of bone, and disorganised new bone on the surface (SG175).....	118
Plate 6.2: Human bone: left tibia and fibula showing loss of length and natural splinting (SG188).....	118
Plate 6.3: Human bone: right talus lacking head (SG191).....	120
Plate 6.4: Human bone: fragment replaced, showing smooth articulation with fragment (SG191).....	121

Appendix VIII

Plate A1: Glass flask rim and neck fragment (left: RA19), oval 'gem stone' setting from finger-ring (centre: RA1), and equine harness fitting (right: RA12)	148
---	-----

List of contributors

Jo Barker (Albion Archaeology): contextual analysis and co-author

Dana Challinor (freelance): charcoal

Hilary Cool (freelance): glass

Corinne Duhig (McDonald Institute for Archaeology Research and Wolfson College, Cambridge): human bone

Holly Duncan (Albion Archaeology): 'other artefacts'

Jill Eyers (Chiltern Archaeology): samian

John Giorgi (freelance): charred plant remains

Peter Guest (Cardiff University): coins

David Ingham (Albion Archaeology): copy-editor

Iain Leslie (Albion Archaeology): compilation of photographic catalogue of inhumations (Appendix V)

Joan Lightning (Albion Archaeology): structural illustrations

Mike Luke (Albion Archaeology): project management and principal author

Mark Maltby (Bournemouth University): animal bone

Cecily Marshall (freelance): reconstruction illustrations

Tracy Preece (freelance): contextual analysis

Drew Shotliff (Albion Archaeology): editor

Mike Trevarthen (freelance): artefact illustrations

Jackie Wells (Albion Archaeology): pottery and ceramic building material

Adam Williams (Albion Archaeology): artefact photographs

Contact details for all these contributors can be obtained from the authors at Albion Archaeology, St Mary's Church, St Mary's Street, Bedford, MK42 0AS.

Acknowledgements

Inevitably, on a project of this scale, the hard work, advice and co-operation of a large number of people require acknowledgement.

Overall

Albion Archaeology is grateful to Simon Mortimer of CgMs Heritage (part of RPS) for commissioning the project on behalf David Wilson Homes (South Midlands). His input and support proved invaluable throughout this project. The smaller Bungalow investigations were funded by Mr and Mrs Worth as part of a separate development. Lesley-Ann Mather and Liz Mordue monitored the fieldwork on behalf of the Local Planning Authority.

Fieldwork

The fieldwork was managed by Mike Luke. The excavation was directed in the field by Mark Phillips (Project Officer), assisted at times by Ben Barker and Christiane Meckseper (Project Officers). Hand excavation and recording were carried out by the following staff: Richard Gregson and Kathy Pilkinton (Archaeological Supervisors), Jo Ahmet, Ben Carroll, Catherine Godsiffe, Iain Leslie, Claire Lockwood, Gary Manning, Juha-Matti Vuorinen, Wiebke Starke, Jessica Stevens, Adam Williams and Adrian Woolmer (Archaeological Technicians).

Metal-detecting was undertaken on a regular basis by Archie Gillespie and surveying by Mercedes Planas (Souterrain Archaeological Services Ltd). In order to supplement the fieldwork team, Ben Barker and Helen Parslow were on site during the public tours (Appendix VII).

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 ecofact samples was undertaken by Slawomir Utrata, Ben Carroll and Adam Williams, overseen by Gary Edmondson. Digitisation of the site plans was undertaken by Joan Lightning.

Post-fieldwork

The post-fieldwork stages of the project were managed by Mike Luke. Initial contextual assessment and analysis was undertaken by Tracy Preece. The same specialists worked on both the assessment and the analysis/publication, and are duly acknowledged as contributors within this publication. The main significant addition to the team was Jo Barker, who took on the role of co-author.

We are indebted to Dr David Klinge, who shared information with Corinne Duhig in advance of publication (Klinge 2012) of his analyses of eight Roman cemeteries in Cambridgeshire and Bedfordshire. While not immediately in the region of Higham Road, they represent a good-sized and thoroughly examined sample to use as a baseline.

All Albion Archaeology projects are under the overall management of Drew Shotliff (Operations Manager), who also had the unenviable task of reading, commenting on and editing the entire publication.

Photographs

All photographs are copyright by Albion Archaeology except for those in Appendix VII. Photographer credits within the main publication: Plates 1.1–1.3 (Commission Air), Plates 3.1 and 3.2 (Gary Manning), Plate 3.3 (Catherine Godsiffe), Plates 4.1–4.4 (Adrian Woolmer), Plates 4.5 and 4.10 (Mark Phillips), Plates 4.6 and 4.7 (Mike Luke), Plate 4.8 (Ben Barker) and Plate 4.9 (Adam Williams). Photographer credits within Appendix V (photographic catalogue of inhumations): Ben Carroll (163, 188, 190 and 202), Catherine Godsiffe (157, 162, 172, 183, 192, 195, 199 and 200), Claire Lockwood (160, 189 and 197), Mark Phillips (159, 161, 168, 170, 173, 177, 178, 180, 181, 184, 185, 186, 187, 196, 201 and 217), Wiebke Starke (193), Adam Williams (164, 166, 169, 171, 174, 175, 176, 182, 191 and 218) and Adrian Woolmer (158, 165, 179 and 198). All artefact photographs are by Adam Williams.

All photographs in Appendix VII (community engagement) are copyright of David Wilson Homes (South Midlands) and are reproduced with permission of the relevant school.

About this publication

Structure

Following this preamble, both the introduction and the discussion of the results are presented in Chapter 1. Chapters 2–5 contain a phased chronological description of the evidence, each beginning with an overview and a standardised Phase location plan. The text is typically arranged by Land-use area (L number) — domestic foci, activity foci, fields *etc.* — with subdivisions for the more significant Groups (G number), *e.g.* buildings or structures. Plans, section drawings and plates accompany the text. Significant artefactual / ecofactual evidence is included in Chapters 2–5 where appropriate, while the main artefactual and ecofactual chapters (6 and 7) are supplemented by a series 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 (Chapter 1.I). The main elements comprise Phases (written in full), Land-use areas (L prefix) and Groups (G prefix). For ease of reference, the Land-use area and Group numbers indicate which Phase they are from, *e.g.* roundhouse G316 is within L30 of Phase 3. In the artefactual and ecofactual sections, Group and Land-use area numbers may have a decimal point, indicating that they represent a fill, *i.e.* primary fills (.1) secondary fills (.2) or tertiary fills (.3). Single fills are designated .05, *e.g.* G510.05.

The majority of the features' 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 noted to distinguish between different fills. Such detail is only included in the Group text where it aids understanding of the evidence. In general, primary or lower fills tended to be lighter in colour and contain fewer stones.

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 may have included activities such as crafts and food-processing.

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.

Structural slot: gullies interpreted as being associated in some way with the foundations of buildings/structures, but whose form does not suggest that they were dug as beam slots.

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

'Other artefact' (OA): artefacts (other than pottery, ceramic building material, coins and glass) that are discussed in detail within the main publication have been issued an OA number in a unique sequence. Their registered artefact number issued on site is given in the catalogue to assist cross-referencing to the site archive. With the exception of coins, registered artefact (RA) numbers are only referenced in the text and tables where they are not discussed in detail, and therefore have not been given an OA number, in the 'other artefact' report, *e.g.* coffin nails. However, all non-ceramic artefacts from the Bungalow excavation are discussed together in Appendix VIII.

Animal bone group (ABG): articulated or associated groups of bone.

SKL: complete or near-complete animal skulls, numbered in a unique sequence.

Phases and chronological periods

The indicative date ranges for each phase are as follows:

Phase 1: Pre-Roman

Phase 2: Late 1st to mid-2nd century

Phase 3: Mid-2nd to late 3rd century

Phase 4: Late 3rd to early 5th century

Phase 5: Medieval

Phase 6: Modern

The vast majority of the evidence dates to the late 1st century AD and later. Therefore, the AD prefix has only been used where it is considered necessary to avoid confusion.

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. Some tables contain information that transcends individual chapters and are positioned where a constituent element is first mentioned in the text.

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.* There are individual figures for each structure, roundhouse *etc.*

Artefact illustrations are presented within their own specific sections. The illustration numbers for the different artefact types are prefixed as follows: pottery (P) and ‘other artefacts’ (OA). For pottery illustrations, the associated catalogue appears below the figure.

Drawing conventions

Plans

The plans are only labelled with those elements of the structural hierarchy (*e.g.* L or G numbers) referred to in the text. Most plans distinguish between excavated and unexcavated parts of features by the use of shade. Hachures and sections are only shown on the larger-scale plans where they can aid understanding, *e.g.* roundhouses. Where relevant, earlier features are shown in a different colour.

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 section drawings are at a scale of 1:40 or 1:50. Different line types are used for ‘cuts’ and their fills. The upper limit of a drawn section is always the level to which the site was machined, even if the section was located in the side of the excavation area. 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, most fills are not labelled because they are not specifically mentioned in the text.

Pottery

Standard drawing conventions have been used, with vessels usually shown at one-quarter size, although some large vessels are drawn at 1:8. An external view is shown on the right, with a section and internal view on the left. Wheel-thrown vessels are indicated with solid sections, handmade vessels and applied parts with hatched sections. Visible coils are shown in the section.

‘Other artefacts’

The catalogue, which provides the Figure number if they are drawn, is an integral part of the ‘other artefacts’ report so is not repeated below each figure. The illustrations are at a variety of scales.

Reconstruction drawings

This publication includes three reconstruction drawings: one each for the Phase 3 and 4 settlements; and a generic funerary event. Although based on the archaeological evidence, these inevitably require a degree of artistic licence to make them meaningful. The two settlements have been drawn from the same aerial viewpoint to allow easy comparison.

Appendices

Detailed artefactual and ecofactual information is presented in appendices, *e.g.* pottery type series (Appendix I), coin catalogues (Appendix IV) and human remains catalogue (Appendix VI). Other appendices provide a photographic catalogue of all inhumations (Appendix V) and a summary of the community engagement undertaken as part of this project (Appendix VII). The non-ceramic artefacts from the Bungalow excavation are in a stand-alone report (Appendix VIII) because the artefacts report on the main excavation had been completed before it was decided to include the results of the Bungalow excavation in this monograph.

Date of writing

All the specialist reports were completed by March 2015 except for Appendix VIII (non-ceramic artefacts from the Bungalow excavation), which was produced in January 2018. The discussion was largely written in 2016, with only minor amendments in 2017.

Location of the archive

At the time of writing there is no archaeological archive depository in Northamptonshire, but when one exists, with the landowner’s permission, the finds and records will be accessioned.

Summary

This report presents the results of Albion Archaeology's 2011 investigation of part of a Romano-British settlement on land off Higham Road, Burton Latimer, Northamptonshire. The bulk of the work was undertaken ahead of residential development by David Wilson Homes (South Midlands), who had engaged CgMs Heritage (part of RPS) to commission and oversee the archaeological works.

The settlement was established in the late 1st century AD and occupied the same location throughout the Roman period. It underwent two major changes in layout (Phases 3 and 4) and at its height was over 2ha in extent, continuing beyond the limit of the development area to the south. As is often the case, the precise date of the settlement's abandonment is impossible to determine. However, there is sufficient stratigraphical evidence to suggest that part of it remained in use until at least the early 5th century, when burials were still taking place.

An apparent absence of rectangular buildings (as opposed to roundhouses) on rural settlements in the region has been noted for some time. The presence of seven possible rectangular buildings has been suggested at Higham Road, although some remain speculative, *i.e.* do not form a complete ground plan. By contrast, only one possible roundhouse was identified within the settlement.

Of the forty-seven identified graves, thirty were within a cemetery on the northern periphery of the settlement's enclosure system; most of the remainder were in small clusters to the south. All are broadly dated to the late 3rd to early 5th century, with some evidence to suggest that the burials in the clusters date towards the end of that range. The cemetery contained one empty grave, three separate burial plots that had been used sequentially for multiple inhumations, and two decapitation burials. The number of prone burials (nine) is unusually high even for a rural settlement, with eight of them located in the clusters to the south. Although one female of possible African heritage was identified, there is no other evidence to suggest that the inhabitants of the settlement were not drawn from existing local populations.

Overall, this rural settlement compares well, in most respects, to other contemporary examples in the region. Its inhabitants practised mixed farming and some craft activities. The small number of personal items may suggest a lack of 'wealth' or 'status', although this is counterbalanced by the presence of a foot from a copper-alloy figurine and late Roman glassware. Evidence for commerce comes from a steelyard (and weights) and a large number of coins — over 300, including a hoard of at least 100 found by a farmer in 1954. A small number of strap ends and fittings suggest military associations. It is clear that the inhabitants had, at the very least, links beyond 'normal' farming circles. The number of burials within the settlement in itself is also unusual for a rural community.

Archaeological excavations on construction sites such as Higham Road rarely afford opportunities for engagement with the local community. However, with the support of David Wilson Homes (South Midlands) and CgMs Heritage (part of RPS), site tours were given to local residents and school children. In addition, archaeologists visited the two primary schools within the town. The outreach component of the project is described in an appendix to this report.



Reconstruction of how one of the burial ceremonies that would have taken place on site may have looked

Chapter 1

Introduction and discussion

I. INTRODUCTION

Planning background to the investigations

This publication presents the results of two adjacent excavations carried out by Albion Archaeology in 2011 on land off Higham Road, Burton Latimer, Northamptonshire. The larger of the investigations, *c.* 1.8ha in extent, was on a David Wilson Homes (South Midlands) residential development known as Latimer Gardens. The work was commissioned and overseen by CgMs Heritage (part of RPS). The second area, 0.3ha in extent, was undertaken in association with residential redevelopment of a plot formerly known as the Bungalow.

Location, topography and geology

Burton Latimer lies to the east of the River Ise, one of a small number of south-flowing tributaries of the River Nene that drain the boulder-clay watershed between the Nene and the Welland. The two excavation sites lie on the south-east fringes of the town (Fig. 1.1), centred on NGR SP 9030 7450. They are bounded by Higham Road to the south-west and by White Lodge Farm to the east. The western boundary respects the recreational field adjacent to a brook, known locally as simply ‘The Brook’, which drains into the River Ise.

Topographically, the land in this area slopes gently down towards the brook from *c.* 75m OD in the south-east to *c.* 60m OD in the north-west. The Jurassic geology of the locality is complex, reflecting its position on the

valley side of the brook: from east to west are bands of mudstone; limestone; interbedded sandstone and siltstone; and, closest to the brook, ironstone. It was on the latter that the excavation areas were principally located.

Archaeological background

The archaeological potential of the Latimer Gardens development area was revealed by desk-based assessment (JSAC 2000), geophysical survey (GSB 2000; ArchaeoPhysica 2010) and trial trenching (Albion Archaeology 2011a and 2011b). These demonstrated that the western part of the site preserved the remains of a Roman settlement, with ditches, pits and possible masonry walls identified by the trenching. A farmer found *c.* 120 Roman coins, late Roman pottery, iron slag, animal bone and ceramic building material in this area while digging a silage pit in 1954 (HER 347420), while field-walking in 2001 also uncovered Roman artefacts (CgMs 2010a). The finds assemblage from the trial trenches was dominated by pottery — grey wares, colour-coated wares and shelly wares dated to the 2nd to 4th centuries.

Away from the western part of the development area, the geophysical survey and trial trenching revealed no definite archaeological features (apart from furrows). The 2001 field-walking produced small quantities of medieval and post-medieval pottery, interpreted as manuring scatters (CgMs 2010a).



Plate 1.1: Aerial view of the development area's wider setting, looking west across Burton Latimer (May 2011)

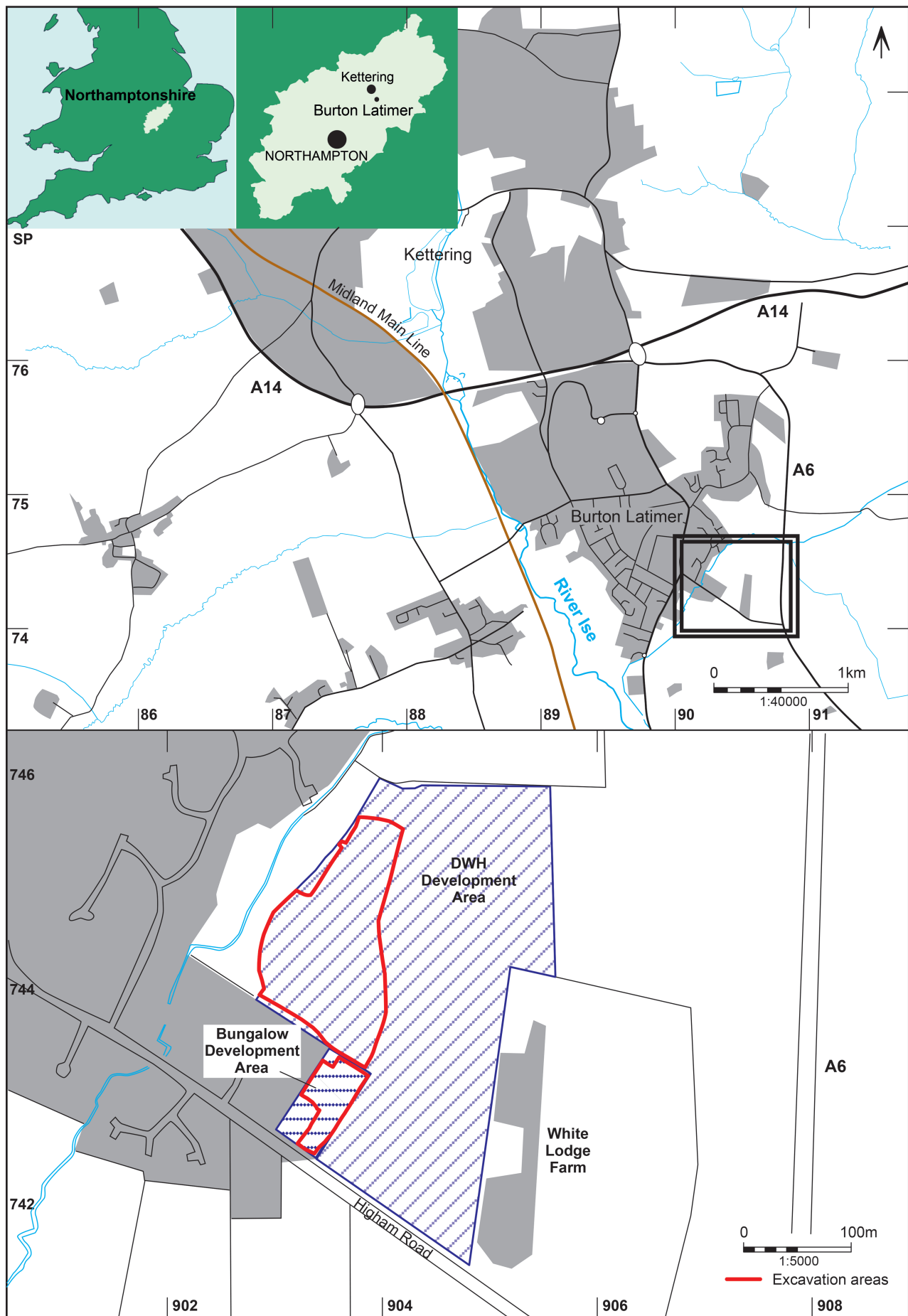


Figure 1.1: Location plan

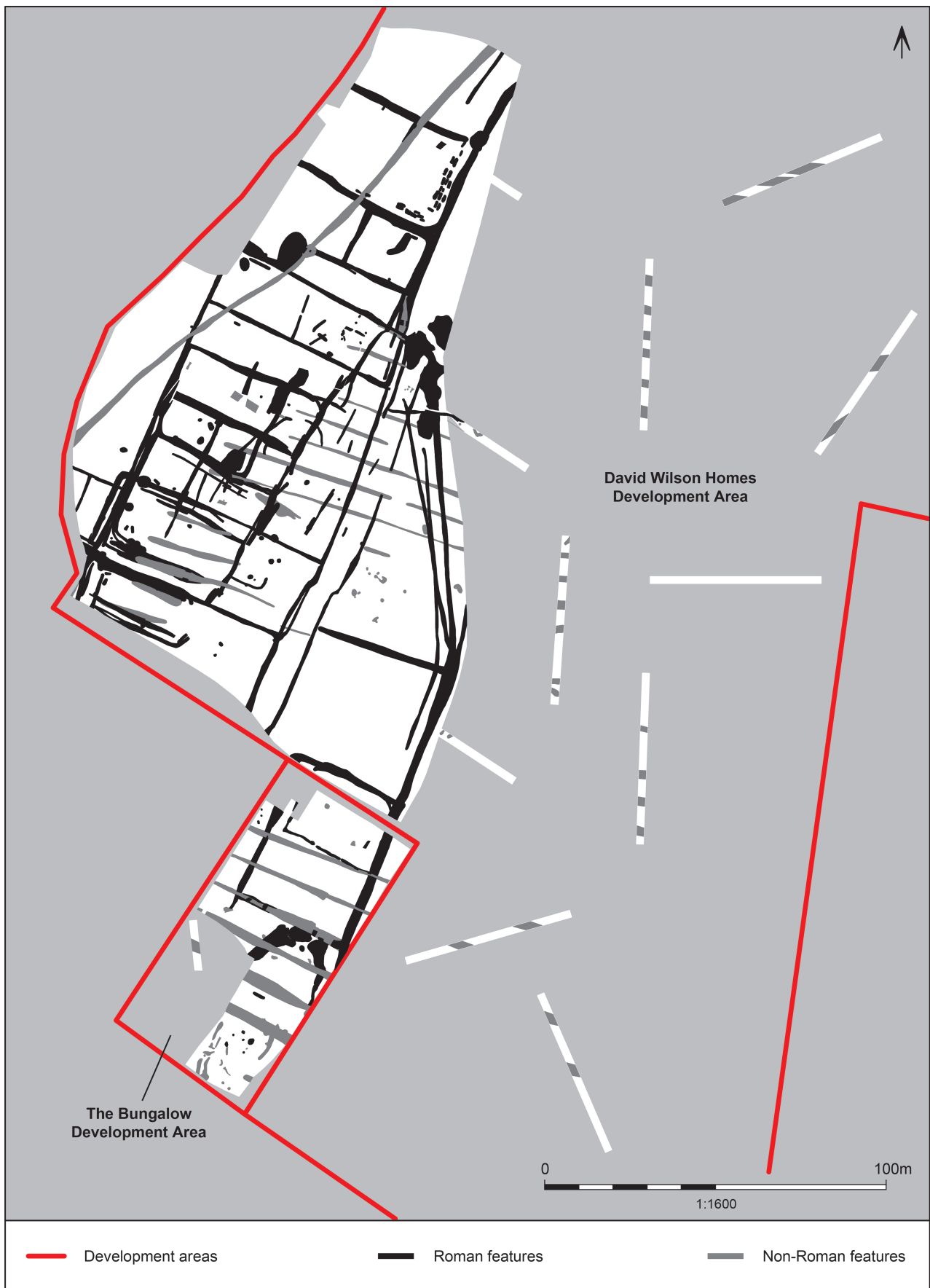


Figure 1.2: All-features plan

The nearest known contemporary Roman settlement is located c. 1km to the north-east at Burton Wold Farm. It comprised a rectangular complex of small enclosures, pits and other features (Edgeworth 2008).

The archaeological excavations

Fieldwork

Using the evaluation results, CgMs Heritage (part of RPS) defined an archaeologically sensitive area within the Latimer Gardens development (Fig. 1.2). The County Archaeological Officer agreed that preservation *in situ* was not possible and that, therefore, an open-area excavation should take place (CgMs 2010b). Albion Archaeology carried this out between March and July 2011. Subsequent evaluation at the Bungalow identified the continuation of Roman settlement and, for the same reason, open-area excavation took place here in April 2012.

The 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 was carried out in accordance with the Project Design (CgMs 2010b) and the Written Scheme of Investigation (Albion Archaeology 2012a). 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, 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-greyish brown, silty clay, with occasional small to large-sized stones and charcoal flecks. Any fills that fell significantly outside that 'norm' are described in more detail in Chapters 2–5.

Assessment

Assessment reports and updated project designs were produced following both excavations (Albion Archaeology 2012b and 2012c), summarising the results and identifying how the recovered data could address local, regional and national research priorities. In addition, they set out the methodological basis for the post-excavation analysis.

Post-excavation analysis

All structural, artefactual and ecofactual data were entered into 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.

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 designs (Albion Archaeology 2012b and 2012c) contain full details of the methodologies applied to each dataset.

In total, 1,244 contexts were recorded during the Latimer Gardens excavation, and 253 during the Bungalow excavation. The contexts from both sites were combined into a hierarchy, comprising:



Plate 1.2: Aerial view from north-west of the excavation area, with Higham Road in the background (June 2011)

SG (Sub-group) — indivisible units of interpretation, *e.g.* the primary fills of the same ditch.

G (Group) — more interpretive entities, *e.g.* buildings, ditch lengths and concentrations of pits.

L (Land-use area) — collections of broadly contemporary and spatially coherent groups, *e.g.* an enclosure or an unenclosed concentration of pits and postholes.

Phases — broad, chronological divisions, *e.g.* mid-1st to mid-2nd century; mid-2nd to mid-3rd century.

Phases, Land-use areas and Groups provide the main framework for the presentation of results within this publication. 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. The terminology used in this publication is described above (page x).

II. DISCUSSION

Mike Luke and Jo Barker, with Hilary Cool, Corinne Duhig, Holly Duncan, John Giorgi, Peter Guest, Mark Maltby and Jackie Wells

The excavations at Higham Road investigated a Romano-British rural settlement situated on a north-west-facing slope above 'The Brook', a tributary of the River Ise, which lay *c.* 1.5km to the west. The following discussion synthesises the more detailed evidence presented in the following chapters and is organised around a number of themes: the Romano-British environs; origins, layout and continuity; extent; settlement components; burial and ritual; 'wealth' and 'status' of individuals within the settlement; economic basis of the settlement; and environment.

Romano-British environs

The nearest major Roman towns were a considerable distance away — Leicester 40km to the north-west and St Albans 70km to the south, although the walled small town at Irchester is only 8km to the south. The nearest roadside settlements are at Kettering, 5km to the north, and Higham Ferrers, 7.5km to the south-east. It is likely that the settlement at Kettering was established on a Roman road linking Irchester with the Gartree Road (Taylor 2002, 7–8), the postulated route of which passes within 2km of the Higham Road settlement (Taylor and Flitcroft 2004, fig. 5.1). The nearest known contemporary settlement was a farmstead situated 1km to the east at Burton Wold Farm (Edgeworth 2008).

A large number of rural settlements are known within Northamptonshire and the East Midlands in general. A great many of these were concentrated along the valley of the River Nene. Surveys carried out around Raunds, Wollaston and Brigstock have contributed massively to an understanding of settlement patterns and shift and how they interacted with one another in the local and wider spatial and economic landscape. The Raunds Area Survey in particular has demonstrated that this part of Northamptonshire was intensively exploited agricultural land (Parry 2006).

In this discussion, Northamptonshire farmsteads referenced more than once include: Burton Wold Farm, Burton Latimer (Edgeworth 2008); Glaphorn Road, Oundle (Maull and Masters 2005); Mawsley, Kettering (ULAS 2012); Milton Ham, Northampton (Northamptonshire Archaeology 2008); and West Haddon (Mason 2006). Two other Northamptonshire sites are also referenced more than once: the roadside settlement of Higham Ferrers *c.* 8 km to the south (Lawrence and Smith 2009), and Stanion Roman villa *c.* 13km to the north



Plate 1.3: Aerial view from south-west of the excavation area (June 2011)

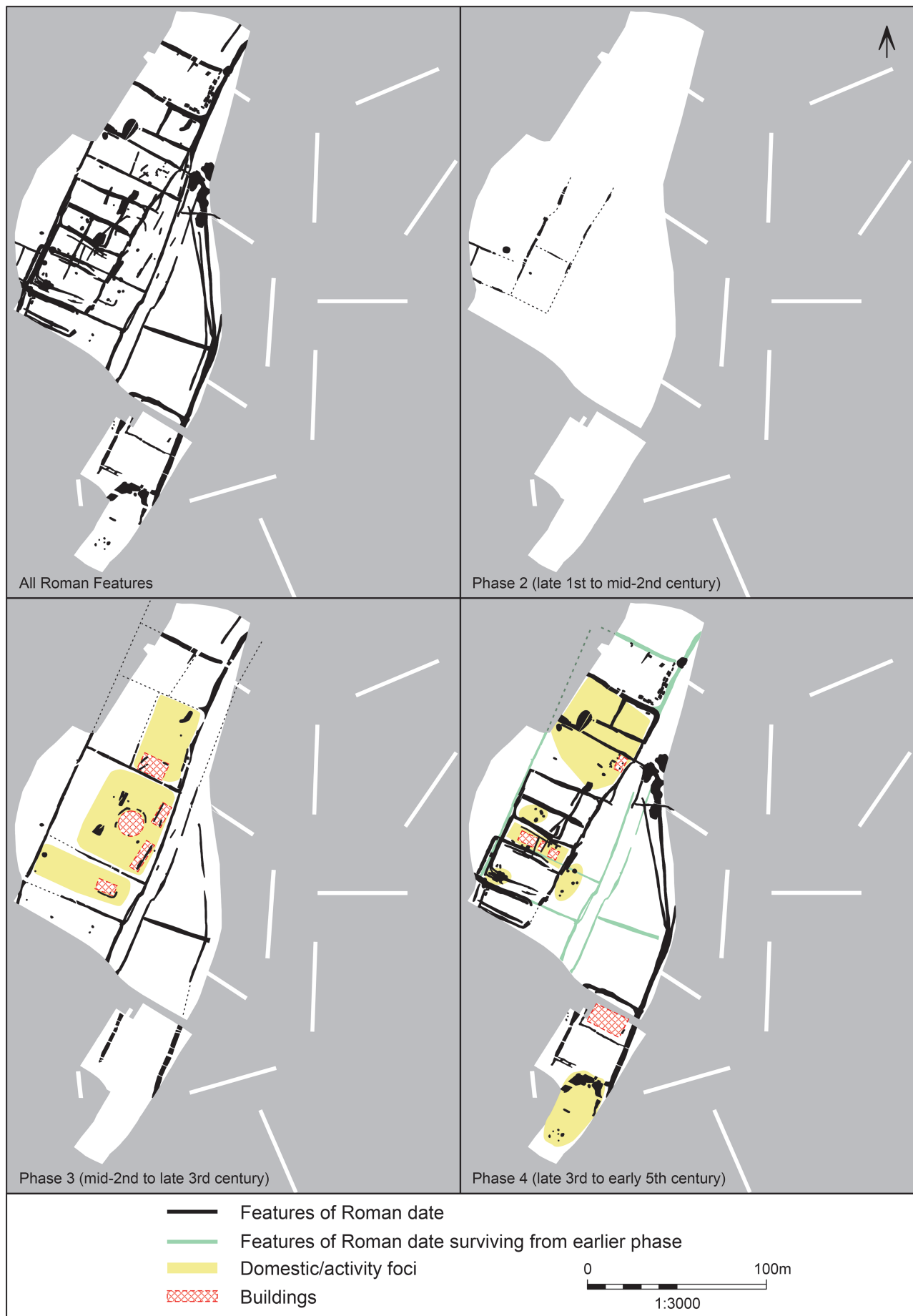


Figure 1.3: Comparative plans showing the changes in layout of the Higham Road settlement over time



Plate 1.4: How the settlement may have looked during Phase 3 (mid-2nd to late 3rd century), from west



Plate 1.5: How the settlement may have looked during Phase 4 (late 3rd to early 5th century), from west

(Northamptonshire Archaeology 2012; Tingle 2008). The Leicestershire farmstead at Stretton Road, Great Glen (Luke *et al.* 2015) is also referenced on a number of occasions.

Origins, layout and continuity

Evidence for pre-Iron Age activity takes the form of worked flint, all of which derived from features containing Romanised pottery. The earliest firm evidence for human activity comprises an area of pits, some of which contained small quantities of possible Iron Age pottery (Chapter 2). Whilst these features hint at some pre-Roman activity, their nature and date do not suggest that they had any direct relevance to the Roman settlement.

The earliest settlement (Phase 2) comprised a system of at least four rectilinear ditched enclosures, which continued to the west beyond the excavation area (Fig. 1.3). The pottery assemblage suggests that it was probably established in the late 1st century — a time when, at least across lowland Britain, new settlements were being created and existing ones were undergoing significant alterations (Williams *et al.* 1996, 83). This is reflected locally at Burton Wold Farm, where the enclosure system was created in the later 1st century (Edgeworth 2008, 41). In the early 2nd century the settlement at Glapthorn Road, Oundle comprised only a small number of enclosures and pits; by the 3rd century a more extensive system of enclosures had been created (Maull and Masters 2005, 53–6; figs 5 and 6). The roadside settlements at Higham Ferrers (Lawrence and Smith 2009, 337) and Kettering (Taylor 2002, 7) probably also originated in this period.

The Higham Road settlement occupied the same location throughout the Roman period but underwent two major changes in layout (Phases 3 and 4). Phasing of these relied heavily on stratigraphic relationships because the dating of the large quantities of pottery that were recovered is not sufficiently refined to date individual features with precision. Moreover, long-lived use of the same piece of land has resulted in a significant degree of residuality within the pottery assemblage.

By the mid-2nd century (Phase 3) a ‘ladder’ enclosure system with integral trackway had been established at Higham Road. This change represented settlement expansion rather than a break in occupation — some of the earlier boundaries were incorporated into the new enclosure system, others were respected by it. Mid- to late 2nd-century settlement expansion and reorganisation are seen elsewhere, *e.g.* Stretton Road, Great Glen (Luke *et al.* 2015) and Marsh Leys, Bedfordshire (Luke and Preece 2011, 140–1) (Fig. 1.4). Similar enclosure systems with an integral trackway have been identified at Glapthorn Road, Oundle (Maull and Masters 2005, fig. 6) and West Haddon (Mason 2006, fig. 5). The Higham Road settlement appears to have been organised into zones: domestic occupation, crop-processing and metal-working took place in the enclosures to the west of the trackway; fields or paddocks (devoid of evidence for internal activity) were located to the east.

A second major change in layout occurred in the late 3rd century (Phase 4), with the creation of a greater number of smaller enclosures and expansion of the enclosure system to the south-east. The new enclosures were generally narrower and more subdivided than their Phase 3 predecessors. It is uncertain precisely how many of the earlier ditches remained in use but it is clear from

the layout that some did, although not necessarily for the duration of the whole phase — for example, the Phase 3 trackway was eventually blocked by quarry pits to the north (Fig. 4.2). Most of the possible domestic foci were located in the same areas as their Phase 3 equivalents. Phase 4 inhumations were present within a cemetery to the north, and in clusters of graves to the south within or adjacent to the ‘ladder’ enclosures.

As is often the case, the precise date of the settlement’s abandonment is impossible to determine. However, there is sufficient stratigraphical evidence to suggest that at least part of it remained in use, and with burials taking place, into the early 5th century and perhaps beyond. The only artefact of probable Saxon date is a pair of tweezers recovered from the topsoil. However, the faunal assemblage hints at Saxon activity because at least seven of the metapodials have been axially split open to access marrow, a technique found more commonly in Saxon assemblages.

No continuity beyond the Saxon period was evident. Medieval/post-medieval furrows were identified on a similar alignment to some of the Roman ditches, but they rarely coincided. They probably, therefore, followed the slope of the land rather than any pre-existing arrangement of the landscape.

Extent

The maximum known extent of the settlement is *c.* 2ha (within Phase 4). However, it is likely that the Phase 2 settlement continued to the west of the excavation area, while the Phase 3 and 4 settlements continued to the south (Fig. 1.3).

Settlement components

Settlement components are described in detail within their relevant phase (Chapters 2–4). Here, they are discussed together, irrespective of their phase, and compared with examples from other sites.

Enclosures/fields

From the establishment of the settlement in the late 1st century, the alignment of enclosures/fields remained the same despite changes in layout over time. The most significant influence on their later arrangement was the establishment of a trackway in the mid-2nd to mid-3rd century (Phase 3). Most of the domestic enclosures were located west of the trackway, with non-domestic enclosures to the east. The latter contained no internal features and are presumed to have been paddocks or enclosed fields. No ‘obvious’ entrances, in the form of breaks in the ditches, provided access from the trackway to the enclosures or between individual enclosures. While this may be partly due to extensive recutting and later truncation, it is also possible that other methods, such as planks laid across the ditches, provided access.

Nearly all of the enclosures within the settlement were rectangular in plan. The Phase 3 and 4 enclosures to the west of the trackway are characteristic of a ‘ladder’-type layout. A partially excavated ‘ladder’ enclosure system at Milton Ham, Northampton was also largely devoid of evidence for internal activity (Northamptonshire Archaeology 2008, 5), as was a comparable ‘ladder’ system of enclosures at Stretton Road, Great Glen, although these were proved to be adjacent to contemporary domestic enclosures (Luke *et al.* 2015, 8). Although not described as a ‘ladder’-type system by the

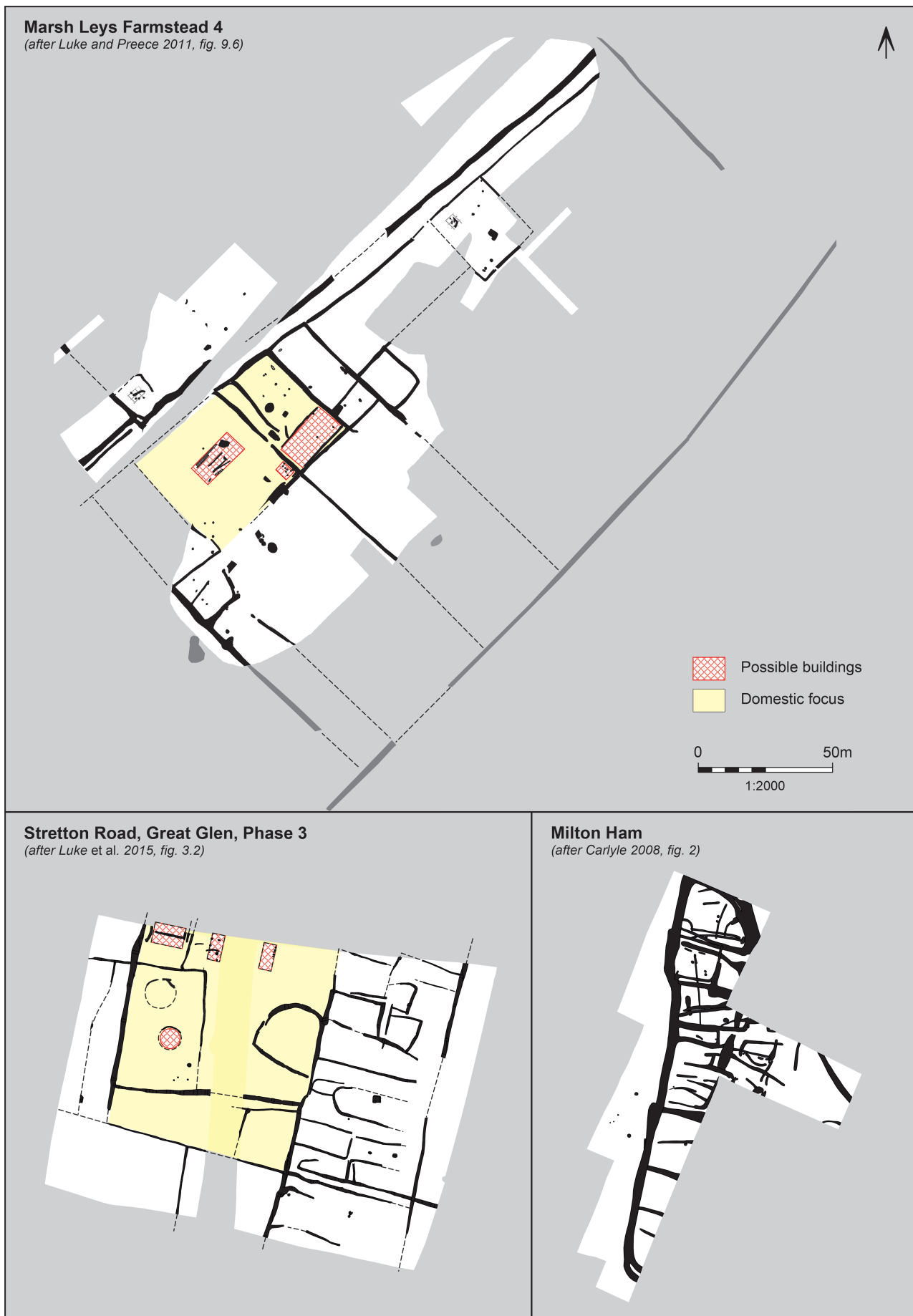


Figure 1.4: Comparative plans of selected excavated rural settlements within the region

excavators, the arrangement of enclosures adjacent to a trackway at West Haddon (Mason 2006, 59 and fig. 5) is comparable to Higham Road; some of these enclosures did contain evidence of occupation. It seems that while some 'ladder' systems were created for the management of animals, *e.g.* Milton Ham and Stretton Road, others such as Higham Road and West Haddon were part of the domestic foci of settlements.

Trackway

A *c.* 8m-wide trackway, defined by two parallel ditches, existed from the mid-2nd century (Phase 3); it was an integral part of the enclosure systems. The trackway probably continued in use until at least the late 3rd century (Phase 4), but its north end was eventually blocked by ditches and quarry pits. Even in Phase 3 the two ditches did not extend as far as the northernmost enclosures. Either the routeway was not defined by flanking ditches here or the trackway was solely associated with the settlement core and never extended the full length of the enclosures.

Trackways associated with contemporary rural settlements are quite common, *e.g.* Haddon, Cambridgeshire (Hinman 2003, 32, fig. 13), West Haddon (Mason 2006, 59 and fig. 5) and Biddenham Loop, Bedfordshire (Luke 2008, 62–3).

Domestic foci

An attempt has been made to identify domestic foci within each phase of the settlement (Fig. 1.3), largely on the basis of concentrations of possible buildings and other features. Some aspects of the artefact and ecofact assemblages have also assisted — *e.g.* a greater abundance of finds indicative of household, personal or craft activities (Tables 2.1, 3.1 and 4.1). At its simplest, the term 'domestic focus' has been taken to mean the area of the settlement where the occupants actually lived. However, this does not mean that were solely domestic in nature, as there is good evidence for other activities' being undertaken within them, *e.g.* crop-processing and small-scale metalworking. It seems quite possible that the range of activities varied, perhaps on a seasonal basis.

Domestic foci L6, L7 and L8 within the mid-2nd- to late 3rd-century (Phase 3) settlement contained evidence for five possible buildings. Domestic foci L18/19 and L20/21 within the late 3rd- to early 5th-century (Phase 4) settlement contained two possible buildings, although two of the Phase 3 buildings may also have remained in use.

Buildings

The apparent absence of buildings, especially rectangular ones, within many Romano-British rural settlements has been noted on many sites in the region, *e.g.* Stretton Road, Great Glen (Luke *et al.* 2015, 10), Wavendon Gate, Milton Keynes (Williams *et al.* 1996, 86) and Biddenham Loop, Bedfordshire (Luke 2008, 61).

Roundhouses

One possible roundhouse G13 was identified within the settlement Table 1.1), alongside possible rectangular buildings in domestic focus L7 (Fig. 3.4). G13 existed in the mid-2nd to late 3rd century (Phase 3) but clearly went out of use thereafter, when new enclosure ditches were dug in the same location. It was defined by a small drainage gully, enclosing an area *c.* 17m in diameter. The gully was too heavily truncated by later activity to

identify any definite entrances, although an east-facing one is possible, which would match the commonest position in the Iron Age, *i.e.* east to south-east (Knight 1984, 144–5; Hill 1995, 54).

Whilst roundhouses were the main building type in Iron Age settlements, they continued to be built into the early Roman period, especially within rural settlements. In fact, some were still being built in the 3rd and 4th centuries (Hingley 1989, 31). In Northamptonshire, Roman-period roundhouses often had stone foundations (Taylor 2006, 146), *e.g.* Higham Ferrers (Lawrence and Smith 2009, 52–7; figs 4.6 and 4.7) and Mawsley, Kettering (ULAS 2012, 56–8 and fig. 30). Roundhouses with ephemeral gullies, like those at Higham Road, were found alongside rectangular buildings within the Roman farmstead at Stretton Road, Great Glen (Luke *et al.* 2015, 9).

Possible rectangular buildings

The apparent absence of rectangular buildings, in contrast to roundhouses, has been noted for a long time on many sites in the region, *e.g.* Wavendon Gate, Milton Keynes (Williams *et al.* 1996, 86). This may be explained, in part, by the fact that most roundhouses were enclosed by a drainage gully, which tends to survive all but the most severe truncation and is, therefore, easily identifiable. It seems likely that some rectangular buildings were constructed in a way that left little sub-surface evidence. An attempt has been made to identify the location of possible less obvious rectangular buildings at Higham Road (Fig. 1.3; *cf.* Figs 3.4, 4.5, 4.7 and 4.9), even though the results are sometimes speculative, *i.e.* do not form a complete rectangle or even have only two sides (Fig. 1.5; Table 1.1).

At least seven possible rectangular buildings were identified: four in Phase 3 (G18 x2, G24 and G79) and at least three in Phase 4 (G30A/B/C, G43/97 and G119) — G30 may comprise three small buildings rather than a single one. In no case was it possible to determine the building's full extent with any certainty. However, it is likely that they were all less than 16m by 8m. Two types of evidence were present: postholes and gullies/slots. The nature of most of the latter suggests that they were for drainage rather than for holding structural timbers. With the possible exception of G79, the features and the finds they contained did not provide any additional information on the nature of the buildings. All were located within the domestic foci of the settlement and were generally parallel or perpendicular to the enclosure ditches. While the majority are likely to have been dwellings, some may have served other functions; for example, the features assigned to G79 contained a small amount of industrial debris and similar material was found in the adjacent enclosure ditches, suggesting that ironworking might have taken place near this building. No evidence for entrances was found.

Contemporary possible rectangular buildings in the region, as evidenced by postholes or slots, have been identified at West Haddon (Mason 2006, 41–5 and figs 9–10); Stretton Road, Great Glen (Luke *et al.* 2015, 10); and Marsh Leys, Bedfordshire (Fig. 1.5; Luke 2011, 155 and fig. 9.14).

A further possible building may have been located within oval enclosure L27 (Phase 4). No structural elements survived in the interior but, if the ditches did define a single building, it could have been as large as

Group	Land-use area	Phase	Shape	Evidence	Alignment	Extent/diameter (m)	Gully/slot profile	Width (m)	Depth (m)	Contemporary pottery (sherds:kg)	Other finds (kg)
13	7	3	Round	Drainage gully and post-hole	n/a	c. 17	Concave	0.6	0.1–0.4	4:0.25	0.01 animal bone Nail
18N	7	3	Rectangular	Structural slots	NE–SW	c. 12 × 5	U-shaped	0.4	0.2	9:0.17	0.66 animal bone 0.5 tegula, flue tile, imbrex, flange
18S	7	3	Rectangular	Structural slots	NE–SW	c. 16 × 5	U-shaped	0.4	0.2	5:0.04	0.09 animal bone 0.1 combed flue tile
24	8	3	Rectangular	Drainage gullies and post-hole	NW–SE	c. 10 × 5	Concave	0.6	0.1–0.6	8:0.07	1.2 animal bone Red deer antler off-cut 0.06 tegula 0.4 ferrous smithing slag 0.04 hearth lining 0.05 animal bone 0.5 tegula Iron reaping hook (OA22)
30	21	4	Rectangular (or three separate ones)	Drainage gullies	NE–SW	A: 11 × 6 B: 3.5 × 6 C: 6 × 6	Concave	0.5–0.9	0.1–0.5	5:0.03	0.01 animal bone 0.02 tegula
43/97	19	4	Rectangular	Post-holes	NNE–SSW	8 × 4	Nearly vertical sides, 0.4–0.6 flat base	0.4–0.6	0.1	11:0.1	0.36 animal bone 0.05 imbrex, tegula 0.1 ferrous smithing slag 0.06 ferrous slag Nails × 2 Lead waste/scrap 7.6 plaster/mortar Nails × 2 Hobnails × 2 Possible knife/shears blade fragment Radiate coins × 2
79	6	3	Rectangular	Structural slots	NW–SE	>16 × 8	Concave sides with fairly flat bases	0.6	0.3	15:0.2	
119	29	4	Rectangular	Drainage gully	NW–SE	>20 × 9	Concave	0.6	0.3	2:0.01	

All weights have been rounded up to the nearest 0.01 kg.

Table 1.1: Summary of all possible buildings

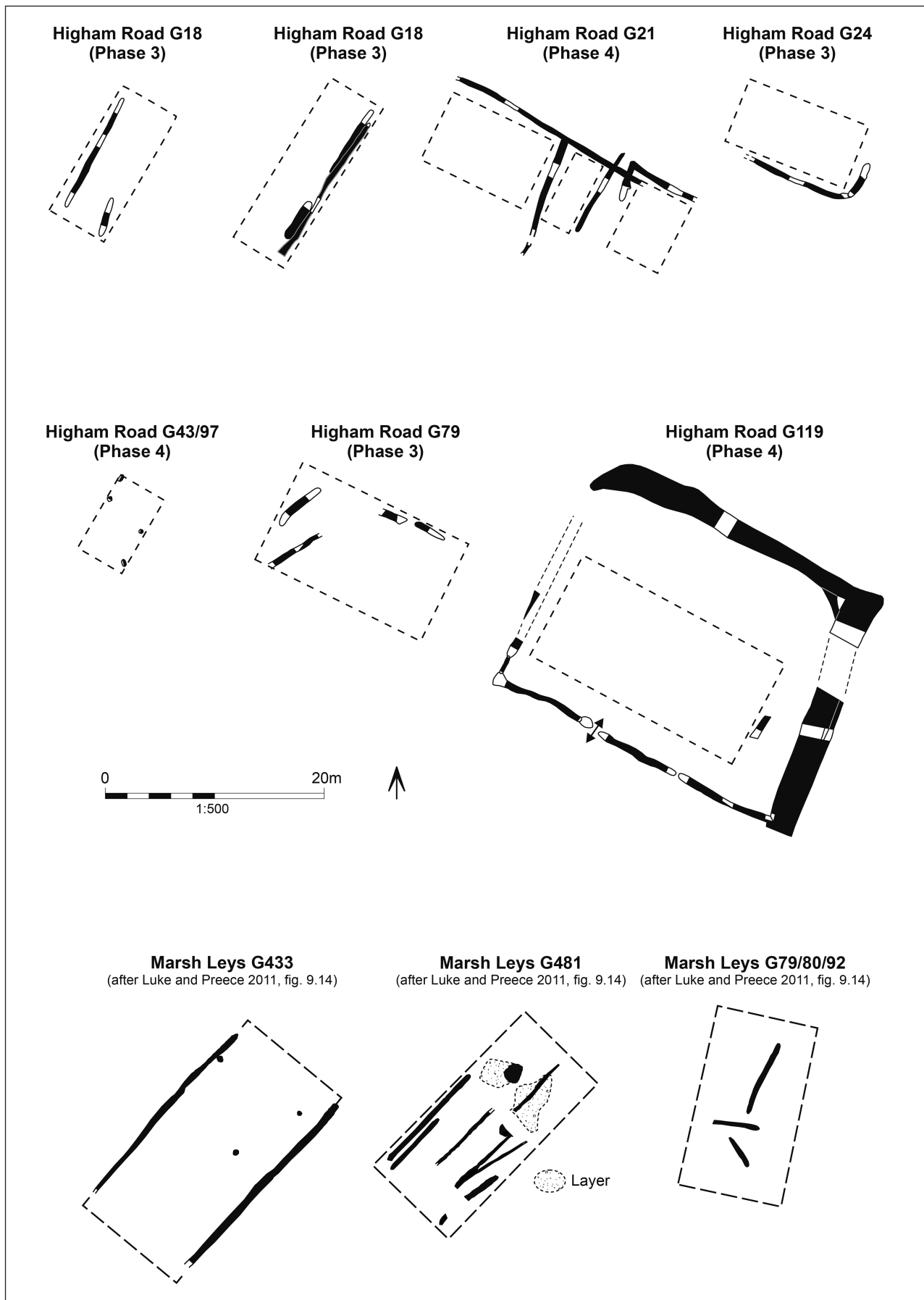


Figure 1.5: Comparative plans of possible rectangular buildings at Higham Road and Marsh Leys, Bedfordshire

23m by 11m (Fig. 4.2). Although there is insufficient evidence to be certain that the enclosure did surround a building, there are parallels at Ivy Chimneys, Witham, Essex (Turner 1999, 41; fig. 37) and Stretton Road, Great Glen (Luke *et. al.* 2015, 13 and fig. 1.7). At these sites, ditches enclosing an oval area (c. 24m by 12m at Ivy Chimneys and 34m by 14m at Stretton Road) were interpreted as drainage ditches around buildings. As at Higham Road, they were located on the edges of enclosure systems.

Water-pits

There was at least one water-pit in each phase of settlement (Table 1.2): G56 (Phase 2), G55 (Phase 3) and G44 (Phase 4). It is possible that the earlier water-pits remained in use during all subsequent phases. The term ‘water-pit’ is used to describe a pit that was deep enough to have reached the water table/level during the Roman period. They had large diameters and steep sides and were usually over 1m deep. G44 had a shallow ledge on one side to aid access (Fig. 4.4: c) and it is possible that the large ironstone blocks found within its fill were originally part of a revetment or steps down to the water. No linings or waterlogged deposits were present. The water-pits associated with the Phase 3 and 4 settlements were located on the periphery of the domestic foci, adjacent to the settlement enclosures’ western boundary ditch.

Comparable contemporary examples from elsewhere in the county include Burton Wold Farm (Edgeworth 2008, 34–5 and fig. 7) and Glapthorn Road, Oundle (Maull and Masters 2005, 56).

Other structures

No *in-situ* remains of ovens, hearths or kilns were identified. However, fragments of hearth bottoms and lining presumed to be associated with metalworking structures were retrieved from Phases 3 and 4 (Chapter 5.VI). The scorching of several tegulae may indicate their reuse in oven structures (Chapter 5.III).

Oven and hearth structures were present at other contemporary rural settlements, *e.g.* Mawsley, Kettering (ULAS 2012, 43, 53–9) and Milton Ham, Northampton (Northamptonshire Archaeology 2008, 4–5). The absence of *in-situ* structures at Higham Road is likely to be the result of truncation by ploughing.

Burial and ritual

Cremation burials (Phase 3), inhumations (Phase 4) and animal burials (Phase 4) occurred within the settlement. No disarticulated human bone was found, other than in features that had disturbed earlier graves.

Inhumations

Forty-seven graves were present including one that was empty, *i.e.* human remains were recovered for forty-six individuals. Most graves (thirty) occurred in cemetery L16 (Fig. 4.11). With the exception of an isolated grave in L19, the others were in five clusters: L17 (two), L22 (seven), L23 (two), L25 (two) and L26 (three) (Fig. 4.3). In most cases it was possible to determine the arrangement of the body prior to lifting. However, in some cases only partial skeletons in poor / very poor condition could be recovered. This variable preservation has somewhat reduced the reliability of comparisons between different burial groups within the settlement.

Dating

All the inhumations were assigned to Phase 4 (late 3rd to early 5th century), largely on the basis of their association with the enclosure ditches — some were dug into Phase 3 ditches; some respected Phase 4 ditches. Twelve burials contained datable grave goods — pottery vessels (Chapter 5.II), coins (Chapter 5.IV) and jewellery (Chapter 5.VI) (Table 4.2). In some cases these objects could only be assigned a broad date of manufacture, *e.g.* the shelly pottery vessels and the bracelets. In others where the manufacture or coin-issue date is quite precise, *e.g.* the late first century coin in SG179 and the 1st/2nd-century coin in SG184 (L16), they contradicted other dating evidence for the burial. These coins were already old when they were incorporated in the graves, and it is possible that their antiquity was thought to give them amuletic qualities, or that they were heirlooms of some kind. This probably also explains why late 3rd-century coins were included with a coin of 318–24 in burial SG178.

Although the evidence is slight, the burials in cemetery L16 may predate those in the clusters to the south. This conclusion is largely based on differences in burial rite (discussed below) and the fact that the cemetery was positioned adjacent to enclosure boundaries that originated in Phase 3, whereas the clusters were generally positioned adjacent to ‘new’ Phase 4 ditches. What is more certain, however, is that some of the burials to the south date to the very end of the 4th century and even the early 5th. This is demonstrated by the presence of a coin of 395–402 within inhumation SG190, and by the stratigraphic relationships which this and other graves within inhumation cluster L22 had with recut enclosure ditches.

With the exception of the multiple burials, the actual sequence of graves within the cemetery and the clusters is impossible to determine. There was no significant intercutting between the graves, and the dating evidence, in the few case where it is available, is often imprecise.

Group	Land-use area	Phase	Shape	Profile	Width (m)	Depth (m)	Pottery (sherds:kg)	Other finds (kg or number)
44	19	4	Oval	Steep sides, flat base	3.7 × 2.5	1	12:0.48	4.84 animal bone 0.16 tegula, flue tile 0.1 mortar 3rd–4th-century coins × 4 (RA2021, 2051–2, 2081)
55	8	3	Circular	Steep, concave sides (not excavated to base)	2.5	>1	9:0.12	0.1 animal bone 0.46 tegula
56	3	2	Circular	Steep sides (base not visible)	3.5	>2	–	–

Weights have been rounded up to the nearest 0.01kg.

Table 1.2: Details of water-pits

Layout of the graves

The majority of the graves were in cemetery L16, at the northern end of 'ladder' enclosure system L15, and with two assigned to L17 in an adjacent enclosure (Fig. 4.11). The remainder were in four small, dispersed clusters L22, L23, L25 and L26, in and adjacent to the southern elements of the enclosure system.

Cemetery L16 was situated in the south-east corner of an enclosure that had been established in Phase 3. It comprised twenty-six graves containing the remains of twenty-nine individuals: one grave was empty; two contained two individuals; and one contained three. The graves were carefully arranged in two alignments, parallel to two sides of the enclosure: G68 (NNE–SSW) and G69 (WNW–ESE). A gap of *c.* 0.4m separated the nearest grave from the enclosure ditch, which probably only survived as a linear depression (perhaps adjacent to a hedge or bank) when the cemetery was in use. At the end of the fieldwork in this area, the interior of the enclosure was reduced by machine under archaeological supervision, to confirm that there were no further graves.

The burials in G68 formed eight 'rows' of between one and three graves, fairly evenly spaced with no intercutting. There was less regularity in the rows and spacing of the burials in G69. A concentration of graves, including the multiple burials, occurred at the eastern end of the alignment, where the graves of single burials SG175 and SG181 appeared to slightly overlap the graves of the multiple burials. Two burials SG183 and SG184 at the western end were 8m beyond the main concentration; this 'gap' appears to be genuine and, although no causeway or change in the adjacent ditch was observed, it is possible that it corresponds with an entrance from the adjacent enclosure. Such an access point might also explain the location of inhumation cluster L17 in the adjacent enclosure.

The only burials with coins (SG178, SG179 and SG184) occurred within G69, whereas the only burials with pottery vessels (SG168, SG169, SG170 and SG171) occurred in G68. Given the relatively small numbers, it is difficult to know if these differences are significant. However, it is possible that the two grave groups either represent two different families or are chronologically distinct.

No exact parallels have yet been found for the arrangement of the graves in cemetery L16 — in short rows, parallel to two sides of an enclosure, most of which was devoid of evidence for activity. The occurrence of graves alongside enclosure ditches on rural Roman settlements is, however, quite common, *e.g.* Lynch Farm, Peterborough (Jones 1975, fig. 4); Great Barford, Bedfordshire (Poole 2007, 91; fig. 4.15) and Biddenham Loop, Bedfordshire (Luke 2016, fig. 5.53) (Fig. 1.6). The arrangement of graves at these sites can be described as linear: they were not in rows as seen at Higham Road and in larger cemeteries. Linear rows more akin to L16 were present at Lynch Farm, but the rows were east–west (not parallel to the enclosure ditch) and one row contained as many as eight graves (Jones 1975, fig. 4).

The fourteen graves in the southern part of the enclosure system were generally located at the back of the enclosures away from the trackway *e.g.* L23, L25 and L26 (Fig. 4.3). A similar pattern was seen at Great Barford, Bedfordshire (Poole 2007, 91 and fig. 4.15) and at Higham Ferrers, where there were inhumations in 'small clusters, linear groups as well as isolated burials

along boundary ditches, typically at the back of the road-side settlement' (Witkin 2009, 283 and fig. 6.1). However, the graves in the inhumation clusters at Higham Road were usually aligned parallel to the enclosure ditches, as in cemetery L16.

Although some patterning within the burials was observed, there were enough exceptions to suggest that there was no 'standard practice'. For example, in some of the rows within G68 (cemetery L16) the heads were at the same end of the grave, *e.g.* SG163/164/165 and SG171/172, but in other rows they were not, *e.g.* SG159/160 and SG168/169/170. The two probable child burials, SG166 and SG167, were in the same row. Equally, no specific patterning was observed within the graves in clusters, though perhaps significant were the female adult SG199 and child SG198 in adjacent graves (cluster L23) and the adult male with a severe limp SG188 in a peripheral position within cluster L22.

Two main differences were apparent between the burials in cemetery L16 and those within the clusters to the south: the individuals in cemetery L16 comprised a fairly even mix of men and women; whereas, with the possible exception of L23, the individuals within the clusters to the south tended to be men. More striking, the majority of the burials within cemetery L16 were supine; those within the clusters were mainly prone (see below).

Multiple burials

There were three examples of later burials in the same location as an earlier grave (Fig. 4.12), all adjacent to one other within G69 (cemetery L16). Given the apparent absence of limitations on burial space and the generally 'neat' arrangement of the other graves within the cemetery, it seems likely that there was a reason (*e.g.* family relationship) for these individuals to be buried in the same plot.

SG217 was the burial of a child, aged approximately 1–3 years. The plot was later reused for the burial of an adult possible male SG177. The pelvic area of the adult was over the original child's grave, with the legs flexed outwards into a splayed position. Graves containing adults and children are not unknown, *e.g.* the adult female and 3-year old at Lankhills, Winchester (Booth *et al.* 2010, 37). However, males with children are relatively rare, and the leg position of the adult burial is very unusual.

The grave containing adult SG182 was reopened to allow the insertion of another adult SG218. This displaced many of the bones of the original burial, suggesting that the connective tissue of the first body had decomposed. Many of the disturbed long bones were placed against the northern edge of the grave, but some against the southern edge. The skull of the original body was placed (one assumes deliberately) next to the head of the new burial. The reopening of graves is unusual on rural cemeteries and not common on urban ones; there was only one possible example at Higham Ferrers (Lawrence and Smith 2009, 92 and fig. 4.27). At Lankhills, Winchester, just five out of 307 inhumations showed evidence of reopening, and in only one case (530/535) were the bones of the original body moved (Booth *et al.* 2010, 37–8 and fig. 2.22).

In the third case of multiple burials, the first burial SG178 was in a deep grave, presumably dug deliberately with the knowledge that later burials would be added. Based on grave profile and iron objects, the first



Figure 1.6: Comparative layout plans of rural inhumation cemeteries at Higham Road and other contemporary rural settlements

individual may have been placed in a coffin, although the extended right arm casts some doubt on this. Two later burials, both within their own graves, overlay the primary burial, although only the cut for the tertiary burial SG180 closely matched that of the original grave. Both were shallower than the primary burial and for this reason they did not disturb it. Unlike the primary burial, there was no evidence that the secondary and tertiary burials had been placed in coffins, and each had a slightly different body position. In order of burial, the three individuals were an

18-year-old female SG178, a 40- to 45-year-old possible male SG179, and an indeterminate SG180. It could be argued that the primary and tertiary burials represent an example of 'stacked' burial, *i.e.* where later inhumation takes place within the same grave but without disturbing the original burial. Such burials are commoner in urban cemeteries, where space may have been at a premium, *e.g.* the Eastern Cemetery of Roman London (Barber and Bowscher 2000, 100–1 and table 4.3), but they are rare in rural cemeteries.

Body posture

Taking the burial population from the site as a whole, 63% of individuals were in an extended, supine position within individual graves (twenty-two of the thirty-five individuals where posture could be identified). Within cemetery L16 this proportion rose to 85% (eighteen of twenty-one) and in grave group G68 within the same cemetery it was 92% (twelve of thirteen). This body position can be described as the 'norm' for the Roman period (Taylor 2001, 109), *e.g.* 97% of burials at the Eastern Cemetery in London (Barber and Bowsher 2000, 87) and 94% of adult burials at Lankhills, Winchester (Booth *et al.* 2010, 40). Of the non-supine burials at Higham Road, four were on their sides and nine were prone (Chapter 6.V).

Four burials were on their side (11% of the thirty-five individuals where posture could be identified): three on the left (SG180, L16; SG187, L19; and SG190, L22) and one on the right (SG175, L16). The significance of this body position is uncertain. However, it is perhaps worth noting that SG175 had a broken but healed right humerus that had resulted in a shorter arm. SG187 was accompanied by five pottery vessels (see below) and SG190 by a coin, so in terms of grave goods these burials do not appear to have been treated with 'disrespect'.

Nine prone burials were identified at Higham Road. Only one (SG165) was within cemetery L16; the others were within the inhumation clusters to the south. Philpott suggests that prone burials were often located on the edges of cemeteries (1991, 73) and this was the case at Lankhills, Winchester (Booth *et al.* 2010, 478 and fig. 7.9). This preference may be in evidence at Higham Road, as all of the prone burials were located at the periphery and generally 'back' of the enclosures — cluster L26, which comprised three prone burials, was actually outside the enclosure system. Given the small sample size, any apparent differences between prone and supine burials — *e.g.* greater number of males, greater number with grave goods or greater number within coffins — may be statistically unreliable. However, it is striking that the three prone burials in cluster L26 were all male, all buried with grave goods and probably all in coffins (Table 4.2).

While prone burials are considered to be more common on rural settlements (Taylor 2008, 100), the number found at Higham Road appears to be unusually high. They represent 20% (nine out of forty-five) of all the inhumations and over half (eight of fourteen) of those in the southern clusters. Whichever value is used, it is still considerably higher than the 9% (two of twenty-two) at Higham Ferrers (Witkin 2009, table 6.7) or the 13% (twelve of eighty-eight) at Kempston Church End, Bedfordshire (Boylston *et al.* 2000, 241). It is also much higher than the proportions found in urban cemeteries, *e.g.* 3% (fourteen of 420) at the Eastern Cemetery of Roman London (Barber and Bowsher 2000, 87) and 4% (seven of 196) at Lankhills, Winchester (Booth *et al.* 2010, 40). McWhirr (1973, 198) suggests that prone burials might be 'an error in interment, that is, if hidden by a lidded coffin they could inadvertently have been buried upside down' (Barber and Bowsher 2000, 87). While this is a possible explanation for the occasional example — perhaps the single prone burial within cemetery L16 — it surely cannot apply to the high percentage within the inhumation clusters to the south. If prone burial is considered a distinctive rite, then it may be related to the

date of the interments. Philpott (1991, 71) suggests that prone burials become more common in the 4th century, which would fit with the impression that the inhumation clusters to the south at Higham Road were later in date than cemetery L16.

Within cemetery L16 the head was generally placed at the northern end of the grave — to the north-east in the case of graves G68 and to the north-west in G69. There was more variety in the clusters to the south, but in most cases the head was to the south-west or south-east. Within coffined burials, a non-standard head position may be explained by an error in interment. Interestingly, in one of the two decapitation burials (SG160, G68), the body had been laid out contrary to the standard alignment in that part of the cemetery but the head had been placed at the same end of the grave as the other burials.

There was no consistency amongst the burials in the placement of the arms, hands or legs/feet. The commonest arm position was extended on either side of the body; in some cases the lower arm rested on the body. Hand positions included extended at the side and clasped together on the chest or at the pelvis. Where both legs survived, they were generally extended and straight, although in a few cases the lower legs were crossed. In some cases, the legs were slightly flexed. In burial SG177 the legs were flexed into an unusual splayed position (see below).

There were two adult decapitation burials (SG160 and SG173), both within cemetery L16. As at the Eastern Cemetery of Roman London, 'decapitation is used as shorthand for "deliberate removal of the head"', however this was accomplished, whether at the time of death or afterwards' (Barber and Bowsher 2000, 89). In burial SG160, the head had been placed beside the right lower leg at the north-east end of the grave. In burial SG173, it had been placed between the lower legs at the south-east end. These positions are considered quite common by Philpott (1991, 78 and table 13). Neither burial could be sexed, but removal of the head appears to have taken place post-mortem, which is generally considered to be the norm (Philpott 1991, 80). There was nothing otherwise unusual about the two burials compared to the others in cemetery L16: both were supine, with no grave goods and no obvious evidence for a coffin. The location of burial SG173 was slightly unusual in that it was within the only grave aligned WNW–ESE in the otherwise NNE–WSW-aligned group G68. However, it was the southernmost grave in this group and was, therefore, on the fringes of the WNW–ESE-aligned group G69.

Although decapitation has been described as a 'deviant' type of burial (Taylor 2008, 102–7), there are a few examples within most cemeteries in southern England. Those within cemetery L16 represent 7% of burials where head position is known (two of twenty-nine), comparable to Philpott's average of 6.1% (Philpott 1991, 80). The percentage would be lower (4% or two of forty-six) if all the buried population at Higham Road was included. The proportion at Higham Ferrers is 14% (three of twenty-two) (Witkin 2009, 286 and table 6.7), similar to the 13% (twelve of ninety-two) recorded at Kempston Church End, Bedfordshire (Boylston and Roberts 2004, 349). Comparison of such percentages is not especially instructive, as some are based on the total number of individuals and others on the total number of individuals where head position is known. However, the number of decapitations at Higham Road broadly appears to conform to the norm. It was clearly a non-Christian

practice, but there was nothing in the treatment of decapitated individuals to suggest that they were outcasts, as was once thought. The practice was presumably associated with a particular cult, possibly one associated with the head, and appears mainly to have been a feature of rural cemeteries (Boylston and Roberts 2004, 348–9).

Unusual limb positioning in three burials is noteworthy. The legs of burial SG177 (L16), as noted above, were splayed outwards over a child burial. The female in burial SG178 (L16) had an outstretched right arm, whereas the left side of the body was flush against the side of the grave. However, the skull was also in a slightly unusual position, and therefore another possible explanation would be ‘body roll’ within a coffin, although this would suggest that the coffin was considerably larger than the body. Another possibility, given the apparent empty space under the right arm, is that the individual was buried holding a piece of clothing or some other accessory item which has since decomposed. An individual with their left arm in a similar position was burial 8154 at Higham Ferrers, although this was not commented on (Lawrence and Smith 2009, 136 and fig. 4.52). Another possible example of ‘bone roll’ is SG185, whose upper and lower right leg bones were offset. There is no other evidence to suggest that this individual had been buried in a coffin.

Graves and body containers

Most of the graves were sub-rectangular in plan with steep sides and flat bases, although it was not always possible to identify the precise edge of the grave (especially the shallower ones). There is good evidence (*i.e.* two or more coffin-type nails and/or coffin fittings and/or grave shape and/or constricted body position) that at least seven burials were coffined: four in cemetery L16, one in inhumation cluster L22 and two in inhumation cluster L26 (Table 4.2). The layout of the body in burial SG163 (G68, L16) also hints at a coffin, even though only one coffin nail was recovered. The absence of nails does not prove the absence of a coffin — some were probably fixed with wooden pegs.

The evidence from burial SG178 is somewhat contradictory. The grave profile and the presence of iron nails and fittings suggest the presence of a coffin; however, the left side of the body was flush with the side of the grave, and the outstretched right arm appears incompatible with a coffin burial. The iron fittings in burials SG169 and SG178 suggest the use of hinged coffins. All the coffined burials within L16 were supine, as was the ‘norm’ for this cemetery; of the three identifiable individuals, two were young adult women. In contrast, the three coffined burials of adult males in L22 and L26 were prone — again, the ‘norm’ within the inhumation clusters. Three quarters of the burials in coffins also contained grave goods; burial within a coffin is generally thought to equate with a higher social standing (Chapter 5.VI). These factors appear to rule out any suggestion that a prone burial was designed to be disrespectful.

Large packing stones featured in two graves: SG185 (L17) had stones placed around the head and feet; SG218 (L16) had a single stone placed at the head end. The placement of large stones at the head and feet is well known and quite common within some rural cemeteries, *e.g.* Bletsoe, Bedfordshire (Dawson 1994, 29). Large tiles instead of stones were used at Higham Ferrers, *e.g.* burial 8123 (Lawrence and Smith 2009, 136 and

fig. 4.51). Philpott suggests that in some case the stones may have been used to secure un-nailed coffin lids or covers (Philpott 1991, 63) but the position and size of the stones at Higham Road make this unlikely. In the case of SG185, although there is insufficient evidence to suggest the presence of a coffin, it is possible that loose timbers were rested on the four smaller stones at the corners of the grave, creating a void for the body.

In the absence of any surviving textile, the presence of a shroud can be inferred from the position of the body, *e.g.* the shoulders can appear constricted as a result of being tightly bound (Booth 2010, 474–5). This is possibly the case with two individuals in cemetery L16 — SG163 is the more likely candidate; with SG178, the outstretched right arm makes the use of a shroud less likely.

Finally, brief mention should be made of empty grave SG167 (L16). The size of the grave is indicative of a child burial, and the absence of bone is most likely to be the result of poor preservation (*cf.* SG174 where only a few bones survived). However, possible ‘cenotaph’ graves are known, *e.g.* grave G154 at Kempston Church End, Bedfordshire (Dawson 2004, 266) and grave S3027 within the cemetery attached to farmstead SL54 at Biddenham Loop, Bedfordshire (Luke 2016, 319 and fig. 5.53).

Grave goods

Of the forty-six inhumations at Higham Road, twelve (26%) contained grave goods (one or more pottery vessels, coins and jewellery): seven in cemetery L16 and one in each of the inhumation clusters L19, L22, L23, L25 and L26 (Table 4.2). In addition, an adult female lapdog (ABG6) was placed at the feet of burial SG197 (L26), and the upper jaw (SKL4) of another small dog next to the mouth area of the human skull in grave SG196 (also L26). The richest graves, in terms of quantity of items, were SG178 (L16), SG187 (L19) and SG198 (L23). Other than the quantity of grave goods and the fact that SG178 was the earliest in a sequence of three burials within the same plot, there was nothing exceptional or unusual about these burials: SG187 was isolated and SG198 was a child burial.

Five graves contained pottery vessels: single vessels in four cases and five vessels in SG187 (Table 4.2). The vessels reflect the range of local wares and forms identified in the settlement as a whole, *i.e.* Nene Valley colour-coated wares and sandy wares (see Chapter 5.II). Booth *et al.* note that the practice of placing vessels within graves was abandoned from the mid-4th century (2010, 454). The positioning of the vessels varies — next to the head, by the pelvis and at the feet. The vessels in SG171 (L16) and SG187 (L19) appear to have been broken prior to deposition, with the sherds placed in several different locations within the graves. The vessel in SG170 (L16) is also a possible example of this practice but the evidence is inconclusive. Three burials in the Eastern Cemetery in Roman London contained deliberately broken pottery vessels (Barber and Bowsher 2000, 124).

Coins were recovered from four graves. Burial SG178, the earliest of multiple burials, contained three coins, dated to AD 260–300 (RA2248), the late 3rd to 4th century (RA2265) and AD 318–24 (RA2249). A late 1st-century coin (presumably an heirloom) was also found in association with burial SG179, which was stratigraphically later than SG178. In two cases the position of

the coins by the pelvis suggests that they may have been contained within purses (Chapter 5.VI).

Personal items were recovered from only two graves: up to four bracelets (OA23–26) in SG198 (L23) and a copper-alloy mount or strap fitting (OA50) in SG178 (L16). These objects were found in positions which suggest that they were worn at the time of burial: the bracelets on the wrists and arms; and the mount at the neck. The latter was found beneath the chin of the young woman, suggesting that this ornament was worn perhaps in the manner of a choker or pendant. Part of a brooch pin was also recovered from SG178 (G69, L16), a glass bead from SG184 (G69, L16) and a possible glass bead from SG202 (G77, L25). These items were recovered from environmental samples and it is unclear if they represent grave goods or accidental inclusions in grave backfill.

The placement of dogs in graves, especially in rural cemeteries, is well known (Philpott 1991, 204), *e.g.* Lankhills cemetery (Booth *et al.* 2010, 430–1). The lapdog accompanying burial SG197 may have been a pet, but the significance of the upper jaw from the dog in grave SG196 is unclear, although its position next to the mouth area of the human skull suggests deliberate placement. It probably corresponds to the practice of placing the jaws of goat/sheep, pig or ox in graves, on which Philpott comments: ‘these animal remains seem to have been visualised either as token offerings, the inedible counterparts of joints of meat consumed by the mourners as part of the funerary rites, or as symbols of status or social identity’ (Philpott 1991, 203). This may explain the dog skull placed in an empty grave at Kempston Box End, Bedfordshire (Luke and Preece 2017), although intact dogs accompanying inhumations are more common (Philpott 1991, 204). Other fragmentary animal bone from the graves was probably incorporated accidentally during backfilling (Chapter 6.II).

Evidence for the age, sex, lifestyle, congenital disorders and ethnicity of the population

Although limited by the condition of the surviving bone, skeletal evidence from the inhumations can provide information on the population living in the Higham Road settlement. No useful information could be gleaned from the cremated bone due to its small quantity and the lack of age or sex identifiers.

Age and sex

Thirty-six of the forty-six buried individuals at Higham Road were adults. There were also four adolescent adults (SG168, SG177, SG183 and SG218), one child/adolescent (SG158), four children (SG166, SG198 and SG217, based on skeletal evidence, and SG174, based on grave size), and one neonate (SG195). In addition, the size of empty grave SG167 suggests that it was associated with the death of a child.

All the children were in individual graves, although in the case of young child SG217 an adult had been (one assumes deliberately) buried above it. Only the child in SG198, who wore three or four copper-alloy bracelets, was accompanied by grave goods. The less robust nature of children’s bones and the relatively shallow depth of their graves mean that children are likely to be under-represented in the Higham Road assemblage. Perhaps for the same reasons there is only one neonate. However, Philpott (1991, 101) notes that in the Roman world newborn individuals were not considered to have their

own personality or identity until they were old enough to talk or walk and were, therefore, treated differently in death. Neonates/infants were often buried in domestic rather than funerary contexts; at Higham Ferrers all the neonate burials occurred within buildings (Witkin 2009, 283–4). For this reason, the presence of neonate SG195 within its own grave in inhumation cluster L22 at Higham Road is unusual.

Where sex could be determined, sixteen males and nine females (all adolescents or adults) were identified. The peak of deaths occurred in the 17–35 age band, for which the hazards of childbirth and warfare are often invoked (Chapter 6.V). Only five individuals survived beyond the age of 35, with all but one buried in cemetery L16. The male SG188 (L22) is noteworthy because at 27–66 he was potentially the oldest individual from Higham Road, and was buried away from the other inhumations in this cluster. This age profile contrasts strongly with Klinge’s profile for the Roman cemeteries he examined in Bedfordshire and Cambridgeshire (Klinge 2012, fig. 6.4). Overall, these results suggest either that those in early adulthood experienced unusually great hazards to die before they reached more advanced ages, or that the living community had an unbalanced age profile dominated by young adults. The latter, combined with the abnormal sex-ratio, suggests that the population was not a normal one, perhaps a ‘pioneer community’ — but the numbers are too small for more than speculation.

Lifestyle

Changes to the bones and teeth brought about by specific activities (*e.g.* heavy lifting, frequent bending and repetitive hand action) and the effect on the body of fractures are described in greater detail in Chapter 6.

Changes to the hand of SG202 may be linked to rope-making. The teeth of SG159 may have been altered by skin/textile-processing. Hollowing of the surfaces of the teeth of SG191 and SG200 may be linked to the consumption of a particularly abrasive food.

The presence of a ‘groove of pregnancy’ on the pelves of three females (a third of the adult women) indicates at least one pregnancy. This is a high proportion, especially given that the absence of the ‘groove’ does not necessarily mean that a woman did not have pregnancies.

The right upper arm of an adult male (SG175) had been shortened by a healed fracture. An adult male (SG188) had a healed double fracture of the left lower leg that would have left him with a stable but severe limp. An adult male (SG200) had considerable arthritic and weight-bearing damage to the vertebrae and signs of strenuous activity in the arm and shoulder.

Congenital disorders

Epigenetic traits may represent familial markers; dental ones are particularly useful, as tooth development is less susceptible to environmental influences. The evidence is summarised here and discussed in relation to the location of the relevant burials (see Chapter 6 for greater detail). Three individuals had teeth with extra cusps: SG170 and SG175, from different grave groups within cemetery L16; and the presumed disturbed burial from ditch fill SG8.4 (probably associated with cluster L22). Another three individuals (SG185, L16; SG187, L19; and SG193, L22) had possible or probable congenital absence of wisdom teeth (a well-known tendency). Two — SG159 and SG175, from different grave groups within cemetery

L16 — had ‘shovelling’ (curving of the biting edges of the upper incisors). With these, and the other examples discussed in Chapter 6, it is apparent that some individuals with the same epigenetic traits occurred in cemetery L16. However, they did not occur in adjacent graves or even in the same grave group and, therefore, their location does not assist in determining whether or not these individuals were family members.

Other conditions

The skeleton in SG190 appears to have an arch in one of the vertebrae; it may be associated with spina bifida, but poor bone preservation makes this uncertain. Osteoarthritis is present in eight of the forty-six individuals (17.4%), all likely to be adult males. This preponderance of males would appear to be significant, even after allowing for the fact that twice as many males as females were identified in the buried population (Chapter 6.V).

Ethnicity

The skull of female SG199 (L23) was reconstructed and scored for ethnicity according to current forensic-anthropological practice. As a result, it is suggested that this woman’s genetic heritage is African, or mixed, but mainly from Africa (Chapter 6.V). This burial was perhaps also unusual in that its grave was aligned north–south rather than parallel to the enclosure ditches. The body was also supine, when most others in the vicinity were prone. Child burial SG198, the only individual interred wearing bracelets, was only c. 2m away, but the skull of this individual did not exhibit any obvious similarities. At Larkhills, Winchester, Clarke used variation in burial rites to identify ‘foreign’ burials (Clarke 1979, 174–5 and 377–403). The use of isotope analysis on more recent excavations has found no evidence to support this approach (Booth *et al.* 2010, 512). However, the isotope signature of three people within the Larkhills cemetery, all females, was ‘significantly warmer than is typical for Britain, suggesting origins in an area with a hot and/or arid environment, consistent with many areas of the Mediterranean, and perhaps even North Africa’ (Booth *et al.* 2010, 513). ‘Recent work on isotopes and ancestry assessment has shown that Roman Britain was perhaps even more diverse than previously thought’ (Eckardt 2014, 86). While the identification of ‘incomers’ within the military is well known and has also been scientifically proven within urban cemeteries, *e.g.* with the so-called ‘Ivory Bangle Lady’ from Roman York (Eckardt 2014, 86), there is still only limited evidence for them within the rural population. One exception is the so-called ‘Beachy Head Lady’ buried near Eastbourne around the mid-2nd–early 3rd century (Olusoga 2016, 32–3).

Disarticulated bone

No disarticulated human bone was found, other than in features that disturbed earlier graves. In some ways this is unusual because such material is quite common on Roman rural settlements where few if any burials were found, *e.g.* Higham Ferrers (Whitkin 2009, 283), Milton Ham, Northampton (Northamptonshire Archaeology 2008, 14) and Stretton Road, Great Glen (Luke *et al.* 2015, 17). It is possible that the absence of such material at Higham Road is because the burials had suffered only minimal post-deposition disturbance by later activity, in contrast to the other sites listed.

Cremation burials

All four cremation burials were assigned to Phase 3: two (SG126 and SG127) within domestic focus L7; one (SG117, G54) adjacent to the western boundary of the settlement; and the fourth (SG133, L32) dug into the eastern trackway ditch. In terms of their proximity to boundary ditches, the last two are analogous to the later inhumations. The cremation burials were all unurned and contained no grave goods. The individuals generally fell between adolescent and adult in age, but sex could not be determined (Table 3.2).

Of the four cremation deposits, only SG133 comes close to the expected weight range for a body after burning: 1,500–2,000g (Chapter 6.V). The other three range in weight from 4g to 105g, probably as a result of post-depositional disturbance. Similar variation was seen in the weight of cremated bone from the burials at Milton Ham, Northampton (Northamptonshire Archaeology 2008, 14).

Possible cemetery structure G78

Structure G78 was located to the north of grave group G68 within cemetery L16 (Fig. 4.11). It was constructed over a Phase 3 enclosure ditch, presumed at this time to have survived as a linear hollow with an adjacent bank/hedge (see above). The structure comprised a 6m x 4m sub-rectangular area of unmortared but compacted limestone, brick and tile fragments (0.3m thick). Its alignment and location suggest an association with the cemetery.

There were two slightly comparable structures (12456 and 13035) at Higham Ferrers, although neither was situated near burials. Structure 13035 was perhaps most comparable to G78 and comprised ‘a thin layer of sandy silt and small stone fragments ... measuring c. 3.5m by 5.5m’; it featured a row of four posts (Lawrence and Smith 2009, 105–6 and fig. 4.36). Structure 12456 was ‘a discrete area of pitched limestone slabs and tegula fragments set into the underlying colluvium, measuring 2.3m N-S’ (Lawrence and Smith 2009, 100). Both structures were interpreted as the foundations for surfaces associated with buildings. Structure 12456 was interpreted as a ‘subsidiary roadside shrine’, partly because of a minor concentration of metal finds, including two copper-alloy votive leaves, and partly because of the existence of a larger shrine c. 35m to the south.

Smaller but again slightly comparable structures have been found elsewhere associated with cemeteries, *e.g.* G4807 at Kempston Church End, Bedfordshire (Dawson 2004, 227 and fig. 5.116) and F7.78 at the Eastern Cemetery of Roman London (Barber and Bowsher 2000, 326–7). They too featured areas of flat stones or tiles (Fig. 1.7). In the case of the London example, it was suggested that it might have housed burial(s) placed at ground level (Barber and Bowsher 2000, 113). Given the location of the Higham Road structure on the boundary of the enclosure containing cemetery L16, it is perhaps more likely that it was the foundation for an entrance building rather than a shrine or tomb.

Dog burials

Three examples of the deliberate burial of complete dogs or parts of dogs were identified at Higham Road. The two associated with inhumations SG196 and SG197 (L26) are discussed above. The third was an adult dog buried in its own grave SG194 within cluster L22. It was larger than those interred with inhumations, probably similar in

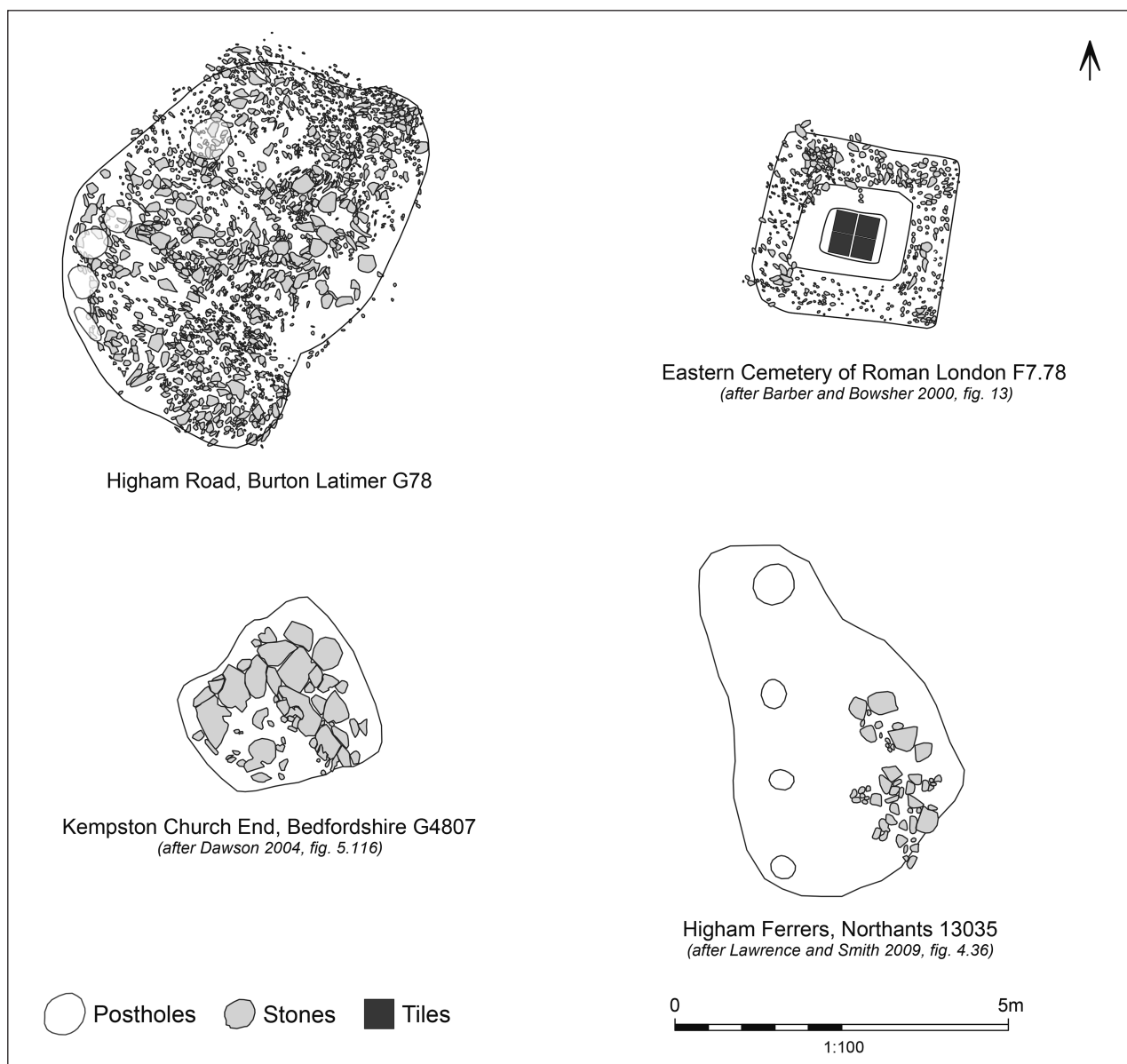


Figure 1.7: Comparative plans of possible cemetery structures at Higham Road and elsewhere

size to a large collie. It is presumed that this dog died of old age, rather than being killed when its master died (as was surely the case with the lapdog in SG197). This may also explain why its grave does not seem to be spatially associated with a specific inhumation within cluster L22.

‘Wealth’ and ‘status’ of individuals within the settlement

Some evidence for the ‘wealth’ and ‘status’ of the inhabitants of the Higham Road settlement can be inferred from the artefactual, ecofactual and structural datasets. However, such evidence is never particularly clear-cut and cannot be directly equated with particular types of rural settlement (Taylor 2001, 50; Hingley 1989, 159–61).

The settlement originated in the late 1st century AD, a time when major towns and roadside settlements were being established across southern England. However, most rural settlements in Northamptonshire, as elsewhere, are believed to have originated in the late Iron Age (Taylor 2006, 150). Although this was not the case for the excavated part of the Higham Road settlement, it is likely that late Iron Age settlements existed in the

vicinity (as demonstrated by the iron currency bars recorded in the HER). The artefactual dating evidence suggests that the Higham Road settlement was occupied into the early 5th century. There is some evidence for continued occupation into the 5th century at other rural settlements, *e.g.* Glapthorn Road, Oundle, where there was an Anglo-Saxon cemetery (Maull and Masters 2005), at villas such as Ringstead, Stanwick and Redlands, and to a lesser extent at the roadside settlement at Higham Ferrers (Lawrence and Smith 2009, 342).

While there is some evidence that one woman within the settlement was of African genetic heritage (see above), there is nothing in the nature of the settlement or the artefactual assemblage to indicate that its inhabitants were anything other than indigenous people. The presence of a roundhouse, the characteristic building type of Iron Age Britain, suggests that the inhabitants were familiar with pre-Conquest building traditions. It has been suggested that the switch from roundhouses to rectangular buildings could represent ‘the desire of individuals or families to acquire symbols of wealth and civilisation’ (Hingley 1989, 34). The presence of a roundhouse in Phase 3

(mid-2nd to mid-3rd century) but not in Phase 4 (late 3rd to early 5th century) could support such an argument; however, the quantity of buildings involved is too small to be meaningful. The roundhouse also coexisted with rectangular buildings — whatever gains, perceived or actual, accrued from the adoption of rectangular structures, the roundhouse still retained some functional and/or cultural importance at Higham Road until the late 3rd century.

The presence of window glass, floor and roof tile and *opus signinum* indicates the existence of at least one substantial building and, therefore, presumably people of higher 'wealth'. However, the evidence for the buildings within the excavated part of the settlement demonstrates that none had cement floors, glazed windows or tiled roofs. It is impossible to know if this substantial building was located in the unexcavated part of the Higham Road settlement or in an entirely separate settlement. This building material was fairly evenly distributed across the excavation area, suggesting that it may have been brought in as, or mixed in with, hardcore.

Although the layout of the settlement changed significantly on two occasions (Phases 3 and 4), there is no real evidence for a corresponding change in 'wealth' or 'status' — throughout its existence the settlement was probably occupied by the same family groups.

A small number of artefacts provide some evidence for 'status', 'wealth' or 'Romanisation'. The majority come from Phase 4 (late 3rd- to early 5th-century) deposits. This does not necessarily indicate an increase in 'wealth' — Phase 4 ended with the abandonment of the farmstead after a long period of occupation during which the re-working of earlier deposits would have resulted in a degree of artefact residuality. Items of personal adornment are limited to brooches (OA40, OA51, OA53 and OA54), a trinket ring (OA6), a finger-ring (OA33), bracelets (OA21 and OA23–26), strap mounts (OA18 and OA49) and a glass bead (GL7). The presence of hobnails suggests that at least some of the inhabitants adopted Roman footwear. A pair of tweezers (OA16) represents the only toiletry implement. Although the quantities seem small, personal items account for 3.2% (excluding hobnails and coins) of the Phase 4 assemblage, on a par with the Higham Ferrers settlement, where personal items (excluding hobnails and coins) formed 3.5% of the late 3rd- to 4th-century (Phase 5) assemblage (Scott 2009, 201 and table 198). The absence of hair pins from any phase of the Higham Road settlement may suggest that adoption of Roman hair styles was not a priority for the inhabitants.

Assuming it belonged to an inhabitant of the settlement, the foot from a cast copper-alloy figurine (OA35) does suggest a degree of 'wealth'. This is also partly reflected in the vessel glass assemblage — not the 1st- to 3rd-century blue/green examples but rather the 4th-century material, which hints at a population with higher pretensions. No glass of this date was recovered from the much larger settlement at Higham Ferrers (Cool 2009, 250). Decorated fragment GL4, in particular, is significant due to its rarity in Britain — the only other example known in Northamptonshire is from the Alchester Road suburb of Towcester (Chapter 5.V).

The assemblage of 191 coins is the principal evidence for commerce, with more coins recovered than from most rural settlements in the region (Chapter 5.IV). Numbers do vary: *e.g.* none from West Haddon (Mason 2006);

ten from Mawsley, Kettering (ULAS 2012, 141); thirteen from Milton Ham, Northampton (Northamptonshire Archaeology 2008, 13); thirty-one from Glapthorn Road, Oundle (Hylton *et al.* 2005, 64); and eighty-seven from Upton, Northampton (Walker and Maull 2010, 33). The roadside settlement at Higham Ferrers produced 478 coins (King 2009, 184–99); the comparable site of Kempston Church End, Bedfordshire produced 692 (Table 5.7). It is possible that some of these variations do reflect the 'status' and/or 'wealth' of the individuals within the settlements. However, other significant factors include the particular activities undertaken within different settlements, the extent of the excavation areas, and whether or not an experienced metal detectorist was used during the fieldwork (as was the case at Higham Road).

Most of the coins were struck in the period 330–378, including seven coins all struck between 330–348 that may have been deposited together as a hoard. Based on cumulative 'per mill' values, several rural Romano-British sites in the south-east Midlands shared similar coin histories (Fig. 6.3), though the correspondence between the settlement at Higham Road and the villa at Croughton indicates that this may have been determined by more than the settlements' apparent status and the relative wealth of their inhabitants.

Six of the thirty-two 3rd-century examples are official coins, struck for the British usurpers Carausius (286–293) and Allectus (293–296) (Casey 1994), a significant number for this kind of site. It is likely, however, that most, if not all, of these Carausian and Allectan radiates were not lost as part of day-to-day use, but were part of a hoard of at least 111 late 3rd-century coins discovered during the digging of a silage pit in 1954 that included 109 examples of the two usurpers (HER 347420). It is worth noting that the location of the coin hoard found in 1954 was identified within domestic focus L19 (Fig. 4.5: G84). We cannot be certain when the hoard was actually buried, so a link to the usurpers' loss of power — and therefore the end of the coins' face value — must remain speculative.

The presence of a steelyard (OA32), steelyard weights (OA46–47) and a possible balance 'pan weight' (OA39) is also suggestive of commercial transactions (Chapter 5.VI), although these items may have belonged to traders visiting the settlement rather than to any of the inhabitants. Despite this evidence, no styli or seal boxes that would have been used to record these dealings were recovered.

A small number of artefacts may have military associations, *e.g.* a riveted amphora-shaped strap end (OA49) and to a lesser extent two strap fitting (OA18 and OA50). However, the recovery of small numbers of generally 2nd- to 3rd-century military fittings from civil settlements is now recognised as a widespread phenomenon (Scott 2009, 201; Bishop 1991). Whether these indicate people who had served in the military or traded with such people is impossible to determine. For example, similar mounts to OA50 are thought to have possible military associations, yet, this item was worn by the 18-year old woman in grave SG178 (L16), suggesting that the mount, if military, was a keepsake of a parent or partner. Small numbers of objects with military associations have been found on other rural settlements in the region, *e.g.* Stretton Road, Great Glen, Leicestershire (Luke *et al.* 2015, 19) and Kempston Church End, Bedfordshire (Luke 2016, 335).

Pottery can be an indicator of 'wealth' and 'status'. However, the Higham Road assemblage is dominated by domestic and utilitarian types and forms, with persistence in the use of local pottery sources, such as the Nene Valley kilns. Regional imports from Verulamium, Hadham, Mancetter/Hartshill and Oxfordshire only constitute 2% of the total assemblage (Chapter 5.II) — only slightly higher than the 1.2% from Higham Ferrers (sherd count derived from Timby 2009, table 5.1). Continental imports at Higham Road comprise only forty-six sherds of samian (1.4% by sherd count of the whole assemblage) and two sherds of Baetican Dressel 20 amphora. This is lower than the 3.9% at Higham Ferrers (Timby 2009, 147) and the 4% from recent excavations at Irchester (Timby 2009, 183). Notwithstanding the minor variations between these sites, regional imports overall represent a very small proportion of the recovered assemblages. Rather than indicating an absence of 'status' or 'wealth', this is more likely to be a reflection of the local dominance of the Nene Valley and Midlands shelly-ware industries. At Higham Road, there were no repairs or modifications within the pottery assemblage; this easy access to new vessels may be an indicator of 'wealth'. By contrast, the non-ceramic assemblage does display evidence for vessel repair, suggesting that some items were less easily replaced (Chapter 5.VI).

The charred plant and animal bone assemblages suggest that the settlement's inhabitants practised mixed farming. Evidence for crop-processing activities is largely confined to the final stages of crop-cleaning and food preparation (Chapter 6.III), but whether this means that initial processing was undertaken away from the excavated parts of the settlement or within 'subsidiary' settlements is impossible to prove. In this context the absence of querns or millstones (Chapter 5.VI) is difficult to explain. However, the presence of primary butchery waste demonstrates that the inhabitants were not wholly reliant on imports, unless they were preparing all the meat on site for transport to local centres (Chapter 6.II).

A paucity of wild animal and fish bones is a consistent feature of all rural settlements in the region, *e.g.* Mawsley, Kettering (ULAS 2012, 167) and Glapthorn Road, Oundle (Deighton 2005, 64), and is part of a wider phenomenon (Meade 2010, 143). Although the roadside settlement at Higham Ferrers and the villa at Stanion had a wider variety of wild species remains (red deer, roe deer, wild boar, hare and rabbit), their assemblages are still small (Strid 2009, 292; Northamptonshire Archaeology 2012, 93). It suggests that hunting and fishing were rarely undertaken by the local population. There may have been many reasons for this: practical ones, such as an absence of suitable woodland for deer; religious ones, such as the sacredness of wild species; or legal ones, such as landowners' restriction of access to these resources. Larger numbers of wild animal and fish bones have certainly been found on some villa settlements, such as Gorhambury, Hertfordshire (Locker 1990, 209 and 212). It has been suggested that hunting might have been the preserve of landowners (Luke and Preece 2011, 166) or the upper classes (Mackreth 1996, 225), with the majority of the population, like those who lived within the Higham Road settlement, having neither the rights nor the time for such activities.

In summary, the picture that emerges of the inhabitants of the Higham Road settlement compares well, in most respects, with those from other contemporary rural

settlements in the region. Its inhabitants practised mixed farming and some craft activities. The small number of personal items may suggest a lack of 'wealth' or 'status', although this is counterbalanced by the foot from a copper-alloy figurine and the late Roman glassware. The steelyard (and weights) and the large number of coins provide evidence for commerce. A small number of strap ends and fittings suggest military associations. All this, along with the possible import of coal from Warwickshire (Chapter 6.IV), suggests that the inhabitants had, at the very least, links beyond 'normal' farming circles. The number of burials within the settlement is, in itself, unusual for a rural community and they do provide an insight into actual people and their lifestyles. Although one female of possible African heritage was identified, there is no other evidence to suggest that the inhabitants were not drawn from existing local populations. Perhaps the most significant aspects of the inhumations is the high number of both young adult males and prone burials (Chapter 6.V). This is most marked within the burials in the southern part of the enclosure system, many of which are believed to be the latest burials within the settlement.

Economic basis of the settlement

Situated on low-lying land near a tributary of the River Ise, the Higham Road settlement was in a good topographical location for a mixed farming economy. More direct evidence for this comes from the charred plant and animal bone assemblages, and to a lesser extent the artefacts. There is also some evidence for craft activities.

Cultivation

The charred plant remains provide a general picture of crops grown in the vicinity. They suggest that spelt wheat was the main cereal used and presumably cultivated at the settlement, particularly during the later period of occupation (late 3rd to early 5th century), while free-threshing wheat and hulled barley appear to have been less important crops (Chapter 6.III). This is consistent with Stretton Road, Great Glen (Luke *et al.* 2015, 16), but in contrast to the assemblages recovered from the Northamptonshire sites of Mawsley, Kettering (ULAS 2012, 171) and Milton Ham, Northampton (Northamptonshire Archaeology 2008, 16–17) where barley was more dominant. The weed-seed evidence, albeit limited, suggests that a range of soils may have been used for cultivation.

Evidence for crop-processing activities is largely confined to the final stages of crop-cleaning and food preparation, reflected in the predominance of grain and chaff fragments in the samples. There is extensive evidence for the de-husking of spelt wheat, the chaff being burnt during this process and/or afterwards as fuel or for waste disposal. At Upton, Northampton, it was suggested that batches of semi-cleaned grains were imported from elsewhere and only subject to final processing at the site (Walker and Maull 2010, 46–7). It is, therefore, likely that the primary processing and storage of cereal grains took place away from the excavated part of the Higham Road settlement and possibly at a different site.

Agricultural artefacts comprise only a small reaping hook (OA22) and parts of a few pruning or leaf-cutting hooks (OA13). These would have been used to cut cereals and fodder respectively (Chapter 5.VI). Querns and millstones were noticeably absent, given that they are commonly recovered from rural settlements, *e.g.* Burton Wold Farm (Edgeworth 2008, 39), West Haddon

(Chapman 2006, 55) and Milton Ham, Northampton (Northamptonshire Archaeology 2008, 11). However, the excavations at Mawsley, Kettering (ULAS 2012) produced no querns or millstones, nor did Upton, Northampton (Walker and Maull 2010). It is possible, therefore, that the grain at some settlements was taken elsewhere for grinding after initial processing.

The apparent absence of larger field systems away from the settlement (as demonstrated by the geophysical survey and trial trenching) may indicate the presence of extensive areas of unenclosed permanent pasture or arable fields that were not bounded by ditches.

Animal husbandry

There is indirect evidence for livestock within the settlement — the presence of enclosures (which could have been used as paddocks or holding pens) within each phase and two shears blades (OA30 and OA31) possibly used for sheep-shearing. However, the majority of the evidence derives from the animal bone assemblage (Chapter 6.II). Cattle were dominant (64%) followed by sheep/goat (31%), with a low incidence of pig, horse and dog. The pattern of species representation is fairly typical of rural settlements (King 1999) and is comparable to those at Burton Wold Farm (Blockley 2008, 40) and Milton Ham, Northampton (Northamptonshire Archaeology 2008, 14–15).

The Higham Road assemblage provides evidence that the meat diet was dominated by beef, supplemented by lamb and mutton and, to a lesser extent, pork, horse-meat and chicken. Venison, hare and goose were very rare additions to the diet, and there is no evidence for fish consumption. Where age at death of cattle could be identified they were over four years of age and probably substantially older in some cases. Many of these animals could have been involved in breeding, working and/or dairy production before slaughter. Calves were present and could have been slaughtered for veal, which may have been a by-product of dairy production. The relatively low number of elderly sheep suggests that meat rather than wool or milk production was the focus of sheep husbandry.

The increased subdivision of the enclosure system in Phase 4 could have been in response to a need for more stock-sorting pens. Oval enclosure L27, which was associated with peripheral enclosures L11/L15, may have served a similar function. However, unlike the 'ladder' enclosure systems at Milton Ham, Northampton (Northamptonshire Archaeology 2008, 5), Stretton Road, Great Glen (Luke *et al.* 2015, 8) and to the south of the trackway at Glapthorn Road, Oundle (Maul and Masters 2005, 53–55 and fig. 6), most of the enclosures at Higham Road contained evidence for domestic or industrial activity and burials.

Horse and pig, 7% and 5% respectively of the total cattle, sheep/goat and pig elements, were present in all phases. The evidence suggests that at least some of the horse carcasses were processed for their skin and meat, although such exploitation was much less intensive than for cattle. Horses would also have been kept for transport, traction and perhaps status.

Most of the animals processed for meat and marrow appear to have been slaughtered and butchered at the settlement, although some shoulders of beef might have been imported. There is little evidence that specialist butchers were operating at this site. This reflects a similar pattern

of butchery to those at Mawsley, Kettering (ULAS 2012, 168) and Milton Ham, Northampton (Northamptonshire Archaeology 2008, 15). The quantity of primary butchery waste in Phases 3 and 4 indicates that animal carcasses were being processed within the settlement.

Dogs and cats

A high percentage of bones of dog were recovered, but these numbers are inflated by the presence of three articulated bone groups (Chapter 6.II). Based on age at death, dogs were allowed to fulfil their natural lifespan in their role as pets and working animals, although it is likely that the lapdog accompanying inhumation SG197 was killed to accompany its owner to the afterlife. One unusual find was a perforated dog scapula recovered from quarry pits L30. Such perforations are normally associated with the hanging of the shoulder on a hook during meat preservation, although there is no evidence that dogs were eaten. Cats were presumably kept both as pets and as a deterrent to rodents.

Wild resources

No evidence was found for the exploitation of wild foods, such as nuts and berries. Arable weeds, like onion couch, may represent a by-product of harvesting but could equally have been collected for kindling.

Wild animals, as is often the case on Romano-British rural settlements, are poorly represented (Chapter 6.II). Small quantities of red deer bone and antler were present; some show evidence for working (see below). One bone may be from a wild boar, although gnawing damage has prevented any metrical analysis. Domestic fowl account for only 6% of the total sheep/goat and domestic fowl bones. Although this percentage is higher than that encountered on many rural sites (Maltby 1997; forthcoming), it does not appear that chickens were kept in large numbers. There are a few bones of goose, rook/crow and hare, but whether these were exploited as food resources is impossible to determine. As is the norm on contemporary rural settlements, there is no evidence for fishing at Higham Road, despite the proximity of a watercourse and an extensive sieving programme. Some possible reasons for this are discussed on the previous page.

Craft activities

The majority of the evidence for non-agricultural activities is associated with metalworking, although there is also limited evidence for the working of bone, leather, wood and textile.

Metalworking

Approximately 9kg of metallurgical residues were recovered from Phase 3 and 4 settlement features; the material is indicative of ironworking (mainly blacksmithing). The majority was found in Phase 4 quarry pits L30 and the adjacent boundary ditch (Fig. 1.8). Assuming that this material derives from nearby ironworking, then this activity appears to have taken place slightly away from the domestic foci, as was the case at Bancroft, Milton Keynes (Williams and Zeepvat 1994, 195–6). Hingley notes that distinct smithing areas were often situated in the periphery of enclosed sites (Hingley 1997, 12), for which Henderson suggests both practical and symbolic reasons (Henderson 1992, 114). Given the fire risk and the disagreeable fumes, a peripheral location is not



Figure 1.8: Plot of metalworking debris within Phase 3 and 4 settlements

surprising. Hingley suggests that iron smithing may also have had magical and symbolic associations, which may have influenced its location within settlements (Hingley 1997, 13). He notes a preference for locations near entrances and in positions for which a cosmological basis could be adduced. The material from Higham Road cannot really contribute to this debate, although it should be noted that the quarry pits (where most of the residues were found) blocked an earlier routeway.

Slag was present, including hearth-bottom portions, hammerscale, hammerslag and possible off-cuts of bar iron or stock iron (OA7–11). There are also some indication of both hot and cold non-ferrous metalworking in the form of copper-alloy and lead-alloy spillage/runnels and off-cuts; the amount of waste material suggests, however, that this was only occasional activity. No metalworking tools could be identified with certainty, due to incomplete survival, but there is one possible punch (OA36).

The evidence suggests small-scale, perhaps seasonal ironworking, carried out throughout the Roman period to serve the needs of the community (Chapter 5.VI). Similar activity was evident at the roadside settlement of Upton, Northampton (Walker and Maull 2010, 44). In its wider context, the Higham Road settlement is located within an important iron-producing landscape, based on access to ironstone. Nearby Kettering is considered to have been a centre for extraction and smelting (Taylor 2002, 11). However, at some sites with late Iron Age metalworking, *e.g.* Mawsley, Kettering, there is no evidence for its continuation into the Roman period, a change that has been attributed to increased trade links (ULAS 2012, 192).

Antler, bone, leather, wood and textile working

Evidence for other crafts comprises a small number of items for each category. Four fragments of antler show evidence of working. Waste and saw marks in the

animal bone assemblage are indicative of bone-working (Chapter 6.II), but only two items of worked bone were found (Chapter 5.VI). The small chisel (OA12) and axe head (OA45) may have been used in woodworking. The crank handle of a trowel (OA44) may belong to a mason's or plasterer's tool. A single awl (OA19) suggests leatherworking; iron needle OA3 could suggest sewing of either textile or leather; and it is likely that iron needle OA20 was used to sew leather as opposed to textiles. The remains of two shears blades (OA30 and OA31) are of a size suggestive of sheep-shearing or cloth-cutting. In addition, the human bone assemblage (Chapter 6.V) may retain evidence for activities such as rope-making (based on changes to the hand bones of skeleton SG202) and skin/textile-processing (based on changes to the teeth of skeleton SG159).

Environment

There is no direct evidence from waterlogged deposits or pollen to help reconstruct the settlement's wider environment. However, the charred plant remains and animal bone assemblages do provide some information. Weed seeds characteristic of both loams and clay soils are indicative of nearby arable land (Chapter 6.III). There is also some evidence for the presence of grassland habitats, including meadow and pasture. This is not surprising, given the site's valley location, although the precise positions of the contemporary watercourses are uncertain. The presence of cattle and sheep/goat suggests that some of the land was in use as pasture; this is supported by the presence of buttercups, sedges and other grass seeds. The charcoal assemblage is indicative of wood sourced from hedgerows and field boundaries, consistent with an open arable landscape (Chapter 6.IV). It is also likely that areas of scrub or woodland would have existed nearby — potentially the source of the small quantities of red deer bone and antler.

Chapter 2

Origins of the settlement (Phases 1 and 2)

I. PRE-ROMAN (PHASE 1)

The earliest firm evidence for human activity comprised features associated with unenclosed activity focus L1 (Fig. 2.1). The nature of the small assemblage of possibly Iron Age pottery (Chapter 5.II) and the features themselves are suggestive of short-duration activity, some distance from a settlement.

The activity focus comprised a cluster of five pits G3 and a single pit G52, *c.* 22m to the north. The cluster contained two small and three medium-sized pits, 0.5–2m in diameter and generally 0.2m deep. The 2.8m by 1.5m isolated pit was much larger but, at only 0.6m deep, it is not interpreted as a water-pit.

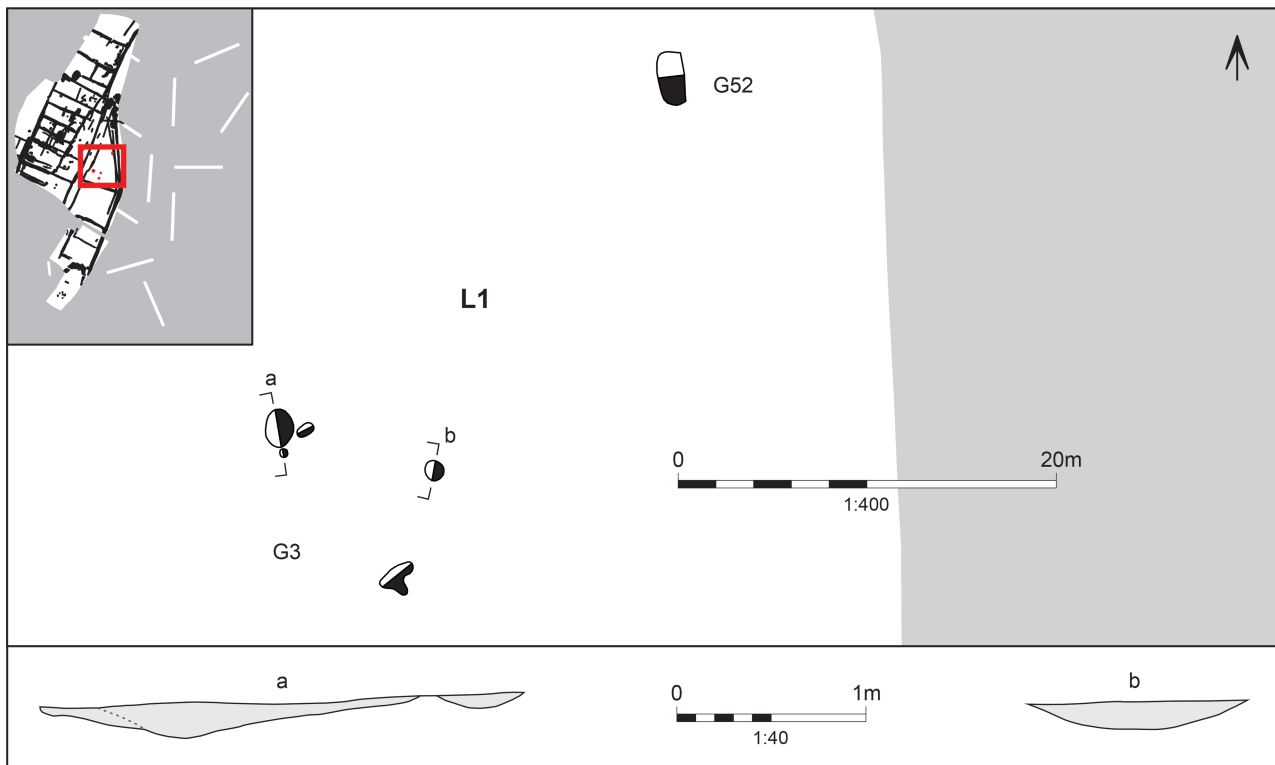


Figure 2.1: Overall plan of early-middle Iron Age (Phase 1) activity with selected section drawings

II. LATE 1ST TO MID-2ND CENTURY (PHASE 2)

The earliest evidence for settlement was located *c.* 30m west of the Phase 1 activity focus and, given the absence of late Iron Age / early Roman pottery, the two are unlikely to have been in any way related. The assignment of features to this phase was largely based on stratigraphic relationships with the Phase 3 features. The settlement was probably established during the late 1st / early 2nd century and appeared to comprise a series of small rectangular ditched enclosures L2. Its full extent is unknown, as it extended beyond the western limit of the excavation area.

Four rectilinear enclosures in an 'L' layout were identified (Fig. 2.2). The ditches defining enclosures G2 were generally 0.5m wide and 0.2m deep; those defining G1

were more substantial — up to 1.3m wide and 0.7m deep. Pit G57 and the adjacent enclosure ditch contained a small amount of cereal debris from the advanced stages of crop-processing (Chapter 6.III). Although this hints at domestic activity within at least one of the enclosures, the main focus of this settlement was probably situated nearer to the brook beyond the excavation area.

A large pit G56 adjacent to the enclosure system was truncated by a Phase 3 enclosure ditch and was only discovered during the final machine work on site. Its depth suggests it may have been a water-pit, although it did not contain any waterlogged deposits (Table 1.2).

The majority of the finds (pottery, animal bone and a nail) were recovered from the ditches defining enclosure G2. Only two fragments of animal bone were recovered from the ditches defining enclosures G1.

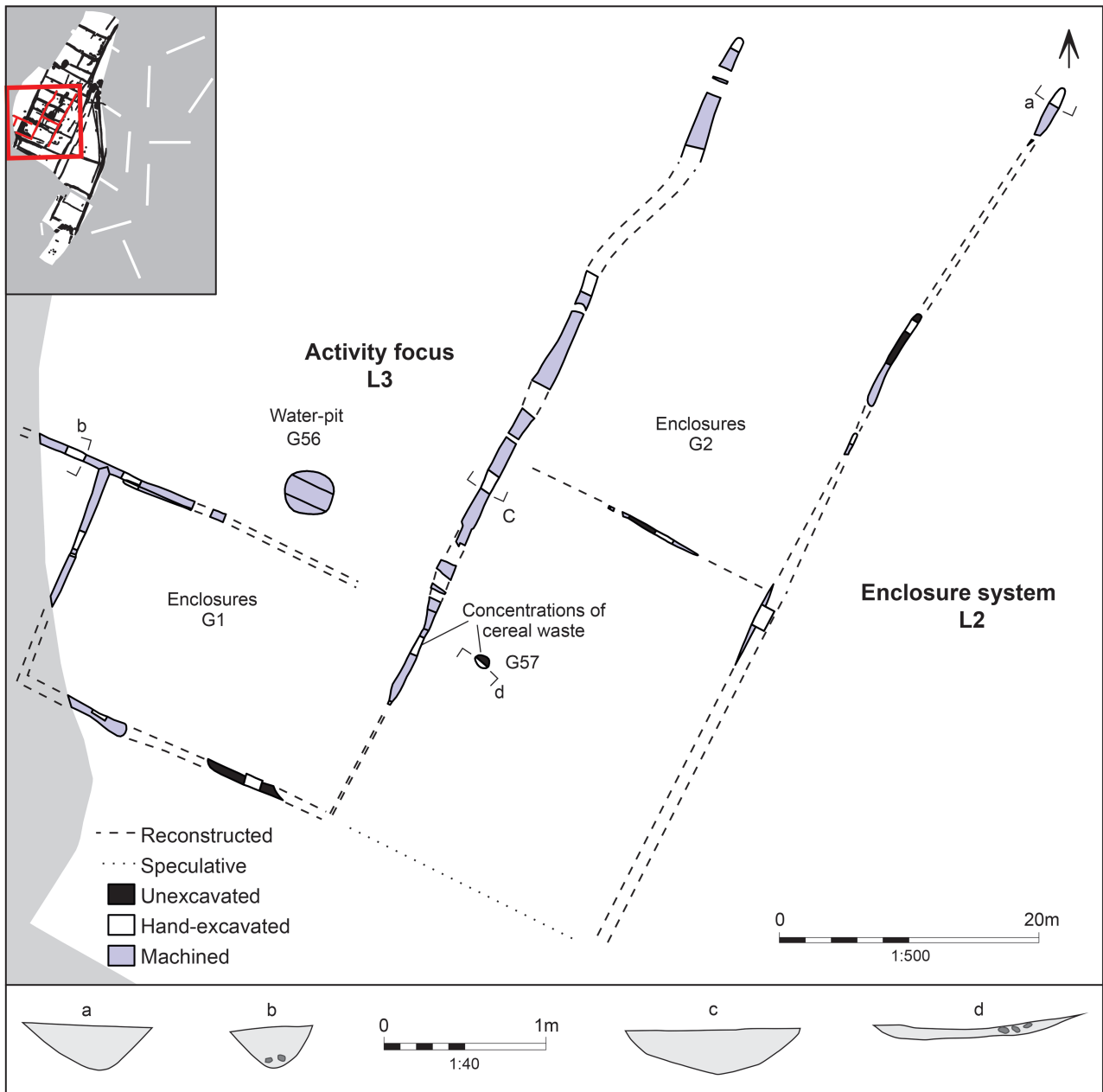


Figure 2.2: Overall plan of late 1st- to mid-2nd-century (Phase 2) settlement with selected section drawings

Chapter 3

Mid-2nd to mid-3rd century (Phase 3)

I. OVERVIEW

By the mid-2nd century the settlement had grown considerably (Fig. 3.1; Table 3.1). It is possible that, initially, enclosure L4 was laid out on the Phase 2 boundaries (Fig. 3.2). However, additional enclosures were created on either side of a NE–SW trackway L12. Enclosures L5 to the west of the trackway took the form of a ‘ladder’. The overall settlement was at least 1.8ha in extent, continuing beyond the excavation area to the north and south.

The number of buildings suggests that the main part of the settlement’s domestic focus L7 was located in a single enclosure. However, parts of adjacent enclosures also contained evidence for single buildings and pits (L6 and L8). Enclosures L10 to the east of trackway L12 contained no evidence for internal activity and are, therefore, presumed to have been animal paddocks.

Features were assigned to this phase because they contained contemporary pottery and were stratigraphically earlier than Phase 4 features. In a few cases, where no pottery was found, their spatial positioning in relation to better-dated features was used to phase them.

II. EARLIEST ENCLOSURE L4

Enclosure L4 was probably the earliest element of the Phase 3 settlement, as it was most closely linked to the ditch alignments of the Phase 2 enclosure system. However, there were no appreciable differences between the pottery assemblage from this enclosure and that from the ‘ladder’ enclosure system L5. Enclosure L4 was

defined to the north and south by ditches generally 1.3m wide and 0.4m deep (Fig. 3.3: h). A possible rectangular structure G24 and water-pit G55 (L8; see below) were situated within the enclosure (Fig. 3.4).

Pottery and animal bone were recovered from L4, mostly from the ditch defining the south side of the enclosure. This ditch also produced parts of two hearth bottoms, indicating smithing activity in the vicinity (Chapter 5.VI).

III. ‘LADDER’ ENCLOSURE SYSTEM L5

‘Ladder’ enclosure system L5 comprised at least five enclosures and covered more than 1.1ha, continuing beyond the excavation area to the north and south (Fig. 3.2). The southern enclosures were defined by smaller ditches, c. 1m wide and 0.5m deep (Fig. 3.3: d and f); to the north the enclosure ditches were larger, c. 2m wide and 0.9m deep (Fig. 3.3: a). The greater size of the latter may have been due to repeated recutting, although firm evidence for this did not always survive. The core domestic focus of the settlement was situated within one of the larger enclosures and comprised a possible round-house G13, two possible structures G18 and two cremation burials (L7: see below). Additional possible buildings and other features were located in adjacent enclosures, but in general, the enclosures further away from the settlement core were devoid of evidence for activity.

Pottery and animal bone were recovered from most of the enclosure ditches. The 5.4kg animal bone assemblage includes the partial skeleton of an adult ox or bull from an

Land-use Area	Description	Extent (ha)	Water-pits	Buildings/structures	Cremation burials	Contemporary pottery (sherds:kg)	Animal bone (kg)	Other finds (kg or number)
4	Earliest enclosure	0.14	–	–	–	22:2	0.84	1.3 slag (including two hearth bottoms) 0.1 tegula
5	‘Ladder’ enclosure system	>1.1	–	–	–	172:3.3	5.4	0.1 slag 0.3 tegula, imbrex Hobnails × 44
6	Domestic focus	N/A	–	1 (G79)	–	42:1	0.9	0.2 slag 0.5 tegula, imbrex, brick Fe needle (OA2) Vessel glass (GL2)
7	Domestic focus	N/A	–	1 (G13) 2 (G18)	2 (SG126, SG127)	49:1.1	1.1	0.2 slag 2.1 tegula, imbrex, flue tile Coin (RA2059) Hobnails × 2
8	Domestic focus	N/A	1 (G55)	1 (G24)	–	21:0.2	1.3	0.4 slag 0.5 tegula, imbrex, flue tile
10	Enclosures east of trackway L12	0.35	–	–	–	11:0.2	6.0	0.17 tegula, imbrex Vessel glass Coin (RA2133)
12	Trackway	>125m	–	–	–	1:0.01	0.07	–
13	Unenclosed activity west of enclosure system	N/A	–	–	1 (SG117)	–	0.05	–
32	Activity focus	N/A	–	–	1 (SG133)	–	–	–

RA = registered artefact number (see Chapter 7.IV and Chapter 7.VI), Fe = iron
All weights have been rounded up to the nearest 0.01kg.

Table 3.1: Summary of Phase 3 Land-use areas

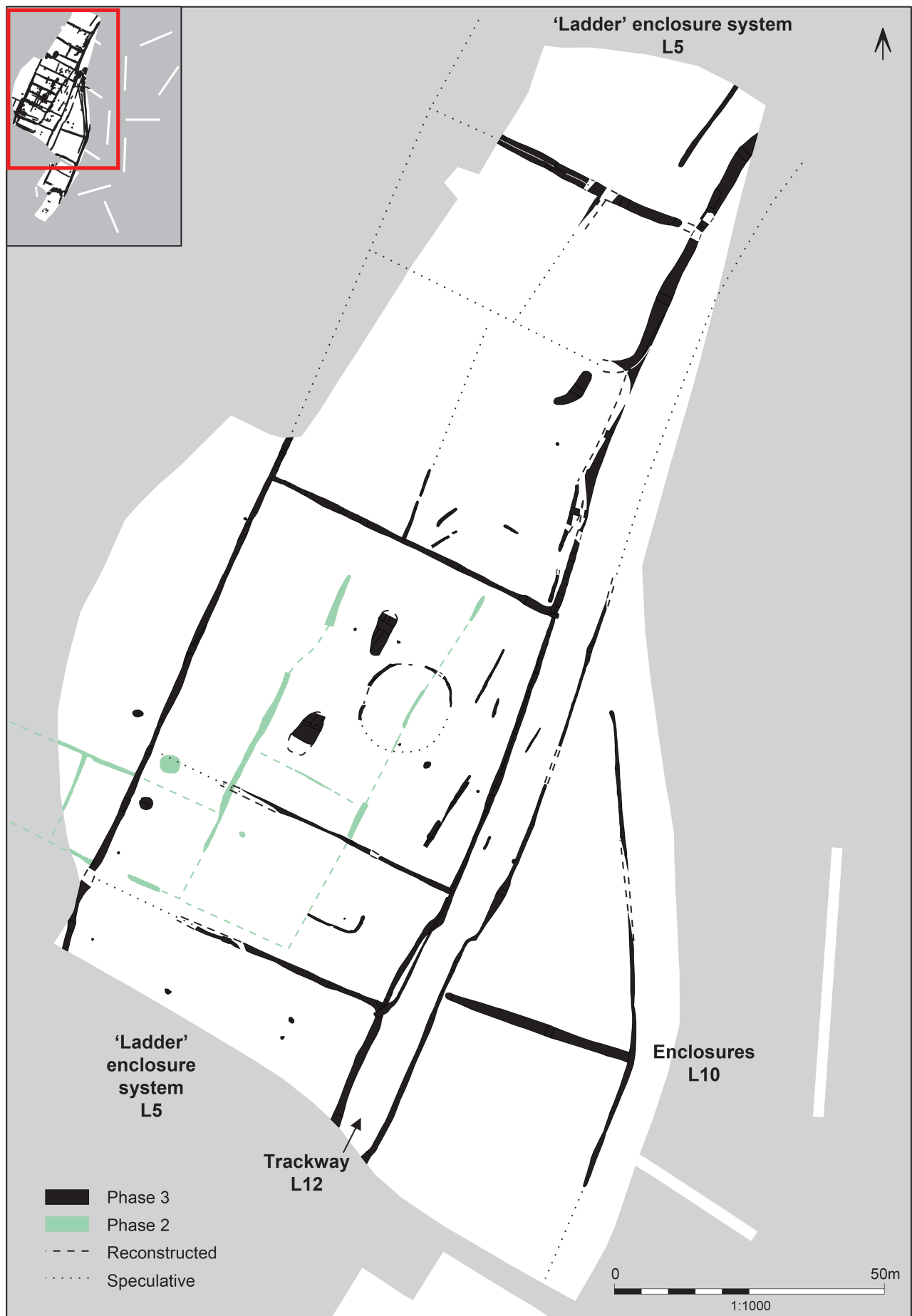


Figure 3.1: Plan of mid-2nd- to late 3rd-century (Phase 3) settlement with Phase 2 layout

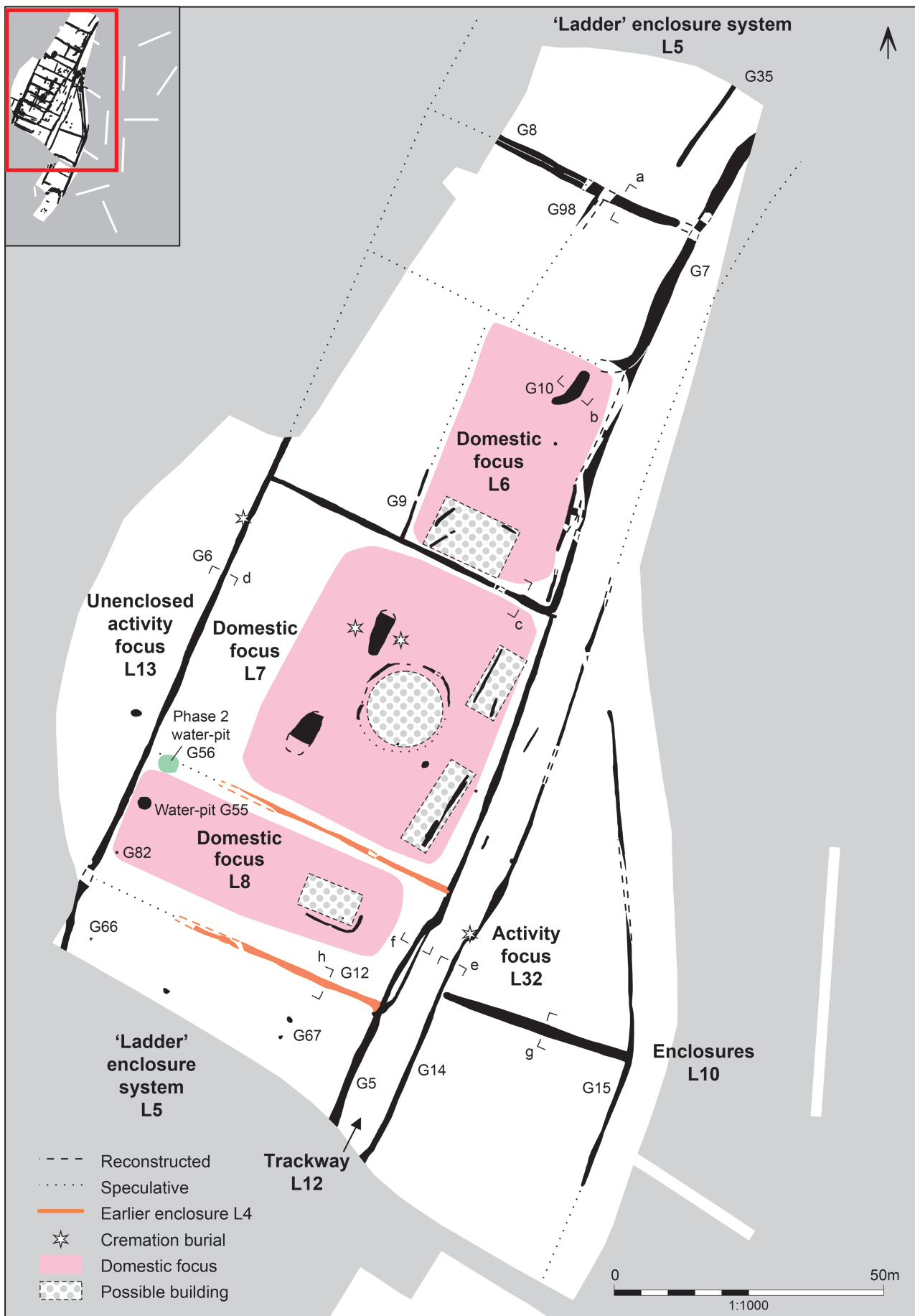


Figure 3.2: Overall plan of mid-2nd- to late 3rd-century (Phase 3) settlement

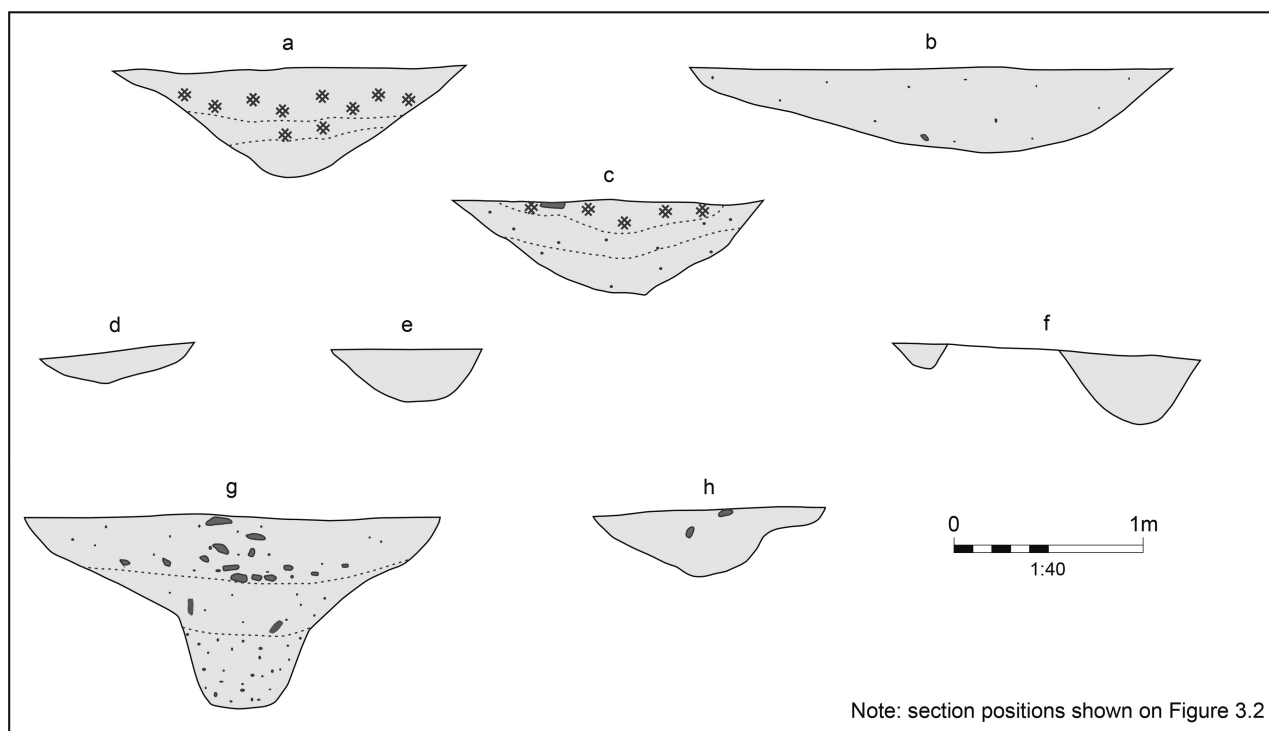


Figure 3.3: Selected section drawings of Phase 3 ditches

enclosure ditch adjacent to domestic focus L7 (Fig. 3.4: ABG1) (Chapter 6.II). Another ditch segment adjacent to L7 produced *c.* 1,500 charred plant items, consisting predominantly of cereal grains (56%) and hulled wheat chaff (33%). This is suggestive of the advanced stages of crop-processing, *i.e.* the de-husking and cleaning of spelt wheat (Chapter 6.III). In the same ditch segment a concentration of forty-four hobnails suggests the discard or loss of at least one shoe (Chapter 5.VI).

IV. DOMESTIC FOCI L6, L7 AND L8

The core of the settlement — a concentration of five buildings and other features — occupied three adjacent enclosures within the ‘ladder’ system (Fig. 3.4). Four of the possible buildings were rectangular in plan; the fifth was a roundhouse. The domestic debris within the adjacent enclosure ditches is described above.

Two presumed quarry pits, G40 and G49 (L7), were located immediately west of the roundhouse and measured up to 8m long, 3m wide and 0.3m deep. A similarly large, probable quarry pit G10 (L6) was located on the northern periphery of the enclosure to the north (Fig. 3.2; Fig. 3.3: b). Two smaller pits were located east of the roundhouse (Fig. 3.5: g). Pit G51 (L7) contained twenty-six sherds (532g) of one pottery vessel that may represent a ‘structured’ deposit. Smithing by-products were also recovered — part of a hearth bottom from pit G49 and hammerscale/hammerslag from pit G51 (Chapter 5.VI). Other small pits G67 were present in domestic focus L8 — they had been backfilled with domestic rubbish — and two postholes G66 and G82 were located adjacent to the western boundary of the ‘ladder’ system (Fig. 3.3).

Roundhouse G13 (L7)

Roundhouse G13 was tentatively identified on the basis of a shallow and intermittent gully that formed

a semi-circle in plan with a diameter of *c.* 17m (Table 1.1). The gully’s concave profile and variable width and depth (Fig. 3.5: c and d) suggest that it was probably a drainage (rather than a structural) feature. Several gaps in the gully might represent entrances to the building, but all are equally likely to result from truncation by later activity, *e.g.* Phase 4 enclosure ditches (see Fig 4.1). A single posthole in the southern part of the roundhouse may have been associated with it.

Possible buildings G18 (L7)

Five straight gullies, all less than *c.* 14m long, were located in two clusters to the north-east and south-east of roundhouse G13 (Table 1.1). The gullies had concave or U-shaped profiles (Fig. 3.5: e and f) and are tentatively interpreted as structural slots. Although the precise extent of these buildings is unknown, they would have been under 12m long and 5m wide. A small pit G51 next to the southern building may have been associated with it (described above).

Possible building G24 (L8)

Two gullies forming an ‘L’ shape in plan may indicate the location of a rectangular building (Table 1.1). The profile and dimensions of the gullies were variable (Fig. 3.5: i and j), suggesting that they were drains rather than structural slots. A single posthole (Fig. 3.5: h) within the area defined by the gullies may be the only surviving structural feature, making the extent of the building impossible to determine.

The gullies produced pottery and a large assemblage of animal bone (1.1kg), including substantial portions of the skulls of a horse (SKL1) and a cow (SKL2) (Chapter 6.II). Other interesting finds include a sawn off-cut of a red deer antler, small quantities of ferrous smithing slag and vitrified clay lining (Chapter 5.VI).

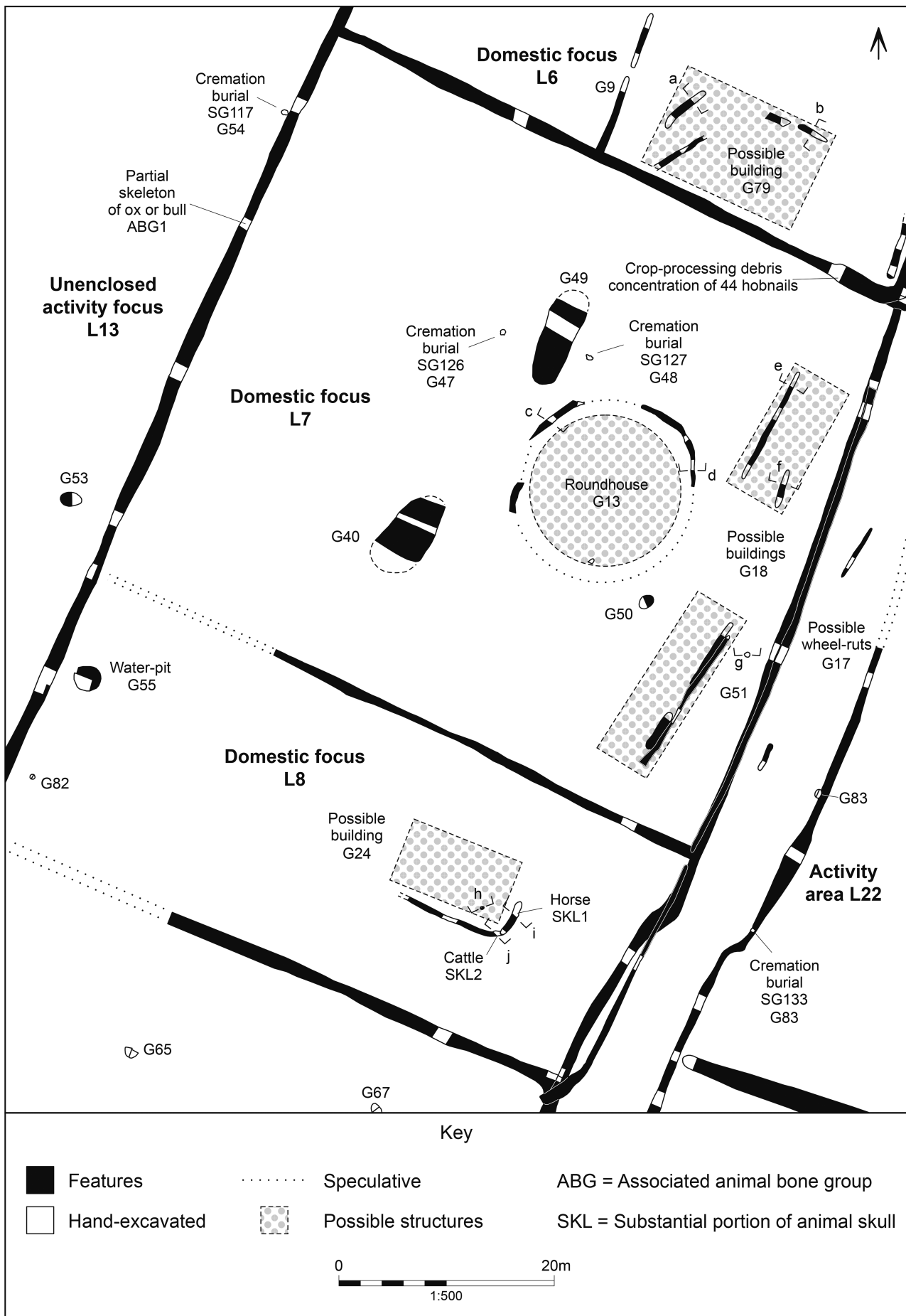


Figure 3.4: Detailed plan of domestic foci L6, L7 and L8 (Phase 3)

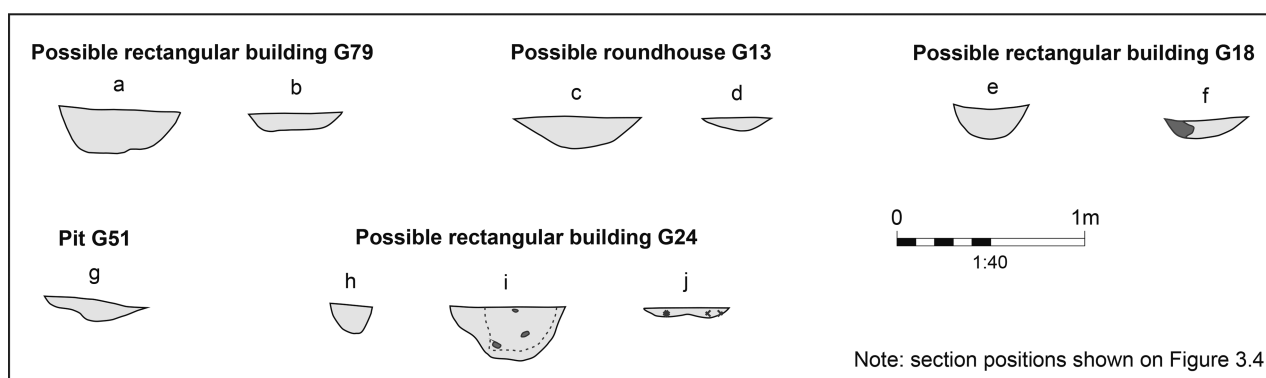


Figure 3.5: Selected section drawings associated with possible buildings

Possible rectangular building G79 (L6)

The possible presence of a rectangular building is indicated by three short lengths of gully (Table 1.1). These generally had flat bases (Fig. 3.5: a and b) and were structural slots. They did not form a coherent pattern but may indicate the approximate location of a building for which no other evidence survives.

The gullies contained pottery and animal bone, as well as limited evidence for metalworking in the form of smithing slag (168g) and hammerscale/hammerslag. A run of slag and a number of other domestic artefacts were also found in nearby enclosure ditch G9 (Chapter 5.VI).

Water-pit G55 (L8)

A large, steep-sided pit G55 was situated adjacent to the enclosure ditch to the west. It was circular in plan, 2.5m in diameter and over 1m deep (Table 1.2). The excavated part did not contain any surviving waterlogged deposits but the feature's shape, size and location suggest it functioned as a water-pit.

Cremation burials SG126 and SG127

Two un-urned cremation burials, c. 8m apart, were located north-west of roundhouse G13. Both had been heavily truncated by later activity and this probably explains the tiny quantity of cremated bone present (Table 3.2) — 15g in grave SG126 (G47) and 4g in grave SG127 (G48). The bone in both graves was poorly cremated (Chapter 6.V).

V. TRACKWAY L12

NE–SW trackway L12 separated enclosure systems L5 and L10, extending beyond the limit of excavation in both directions (Fig. 3.2). It was defined by two parallel ditches, c. 8m apart: G14 to the east; G5 (Pl. 3.1) and G7 to the west. The ditches were c. 0.6m wide and 0.5m deep (Fig. 3.3: e and f), comparable to the enclosure ditches to the west. Two short, narrow gullies G17 between the trackway ditches were probably wheel ruts; they were less than 0.1m deep. A slight kink in the ditches adjacent to early enclosure L4 and near cremation burial SG133 (Fig. 3.4) is difficult to explain, but one possibility is

that a large or significant tree was growing in this area, although no sub-surface evidence for this was visible.



Plate 3.1: Western ditch G5 of trackway L12, looking south. Scale 1m

VI. ENCLOSURES L10

Two enclosures were located to the east of trackway L12 (Fig. 3.2). They were defined by ditches G15 — a continuous one to the east (0.7m wide and 0.2m deep) and a more substantial internal one (c. 2m wide and 1.1m deep) (Fig. 3.3: g; Pl. 3.2). The two enclosures were smaller than those of the 'ladder' system L5; the northern one was also triangular in shape rather than rectilinear. The absence of internal features and the small artefact assemblages from the ditches (Table 3.1) suggest that these enclosures were fields. They did, however, produce the largest animal bone assemblage (6kg) from Phase 3 deposits, perhaps suggesting they were used as paddocks, which at times were associated with the slaughter of animals. The assemblage is dominated by cattle elements and includes three associated ankle bones from a large

Land-use area	Group	Sub-Group	Grave dimensions (m)	Weight (g)	Sex	Age range	Comments
13	54	117	0.45 × 0.1	105	N/D	Adolescent–adult	–
7	47	126	0.45 × 0.1	15	N/D	Adult	Poorly burnt bone
7	48	127	0.45 × 0.1	4	N/D	Adolescent–adult	Poorly burnt bone, unburnt hobnail
32	83	133	0.4 × 0.25	1,300	N/D	Adolescent–adult	–

Table 3.2: Details of Phase 3 cremation burials (all un-urned)



Plate 3.2: Internal enclosure ditch G15 (L10), looking west. Scale 1m

animal (Chapter 6.II), suggesting that at least one animal was slaughtered nearby.

VII. UNENCLOSED ACTIVITY L13

Pit G53 and cremation burial SG117 (G54) were the only evidence for activity to the west of 'ladder' enclosure system L5 (Fig. 3.4). The pit measured 2m x 1.3m x 0.4m deep (Pl. 3.3).

Cremation burial SG117

Un-urned cremation burial SG117 was adjacent to the western boundary of 'ladder' enclosure system L5 (Table 3.2). It contained 105g of cremated human bone (Chapter 6.V).



Plate 3.3: Pit G53 (L13), looking west. Scale 0.4m

VIII. ACTIVITY FOCUS L32

Un-urned cremation burial SG133 (G83) and small pit SG134 (G83) were dug into the fill of the ditch defining the east side of trackway L12. The pit was 0.8m in diameter and 0.1m deep.

Cremation burial SG133

Un-urned cremation burial SG133 (Table 3.2) was dug into partially infilled trackway ditch G14, next to where it kinked slightly. It contained 1,300g of cremated human bone (Chapter 6.V).

Chapter 4

Late 3rd to early 5th century (Phase 4)

I. OVERVIEW

During the late 3rd century, the layout of the settlement changed, albeit reflecting the layout and extent of its Phase 3 predecessor (Fig. 4.1). The Phase 4 settlement was at least 2ha in extent, but continued beyond the excavation area to the south. The earlier enclosure system was modified and reconfigured (while still retaining its 'ladder' form), with at least three significant episodes of change (L14, L15 and L31). In general, the new enclosures were narrower and more subdivided than their Phase 3 counterparts (Fig. 4.2). The Phase 3 boundary ditch to the south-east was redug and new enclosures were created next to it. Despite these developments, there is no evidence for a break in occupation between Phases 3 and 4. It is likely that some of the Phase 3 ditches remained in use, particularly those associated with the enclosures to the north and the trackway. However, the trackway was eventually blocked-off by ditches and pits at its northern end (Fig. 4.1). Based on their positions within the new enclosures, it is also possible that Phase 2 water-pit G56 and Phase 3 water-pit G55 remained in use. There is sufficient evidence to suggest that the settlement continued in some form into the early 5th century.

The presence of possible buildings and clusters of features, such as pits, allows the identification of two domestic foci L18/19 and L20/L21 (Fig. 4.3; Table 4.1). It is also possible that two of the Phase 3 rectangular buildings (assigned to G18) remained in use. A coin hoard found in 1954 (HER 347420) came from the northern domestic focus L19. Approximately 100m to the south-east, another activity focus is represented by a possible building in one enclosure and a pit cluster in an adjacent enclosure.

Forty-seven graves were assigned to this phase. One of them occurred in isolation, sixteen were concentrated into five clusters, and the other thirty formed a more 'formal' cemetery L16 to the north (see Chapter 4.XIV).

The four main enclosures of 'ladder' system L15 were designated A–D to assist with the spatial analysis of the 'other artefacts' (Fig. 4.3). These identifiers are also occasionally used in the following text.

II. EARLIEST ENCLOSURES L14

The earliest alterations to the Phase 3 'ladder' enclosure system were made at the southern end of its excavated extent (Fig. 4.2). Their early date is indicated by stratigraphical relationships between ditches; however, the finds recovered from them were no earlier in date than those from the later modifications to the enclosures (L15 and L31).

The new ditches were generally 0.6–1.6m wide and up to 0.5m deep. Only one entrance was identified with any certainty, in the south-east corner of the northernmost enclosure: all other gaps in the ditches are likely to have resulted from truncation.

Pottery and animal bone were recovered from the majority of the ditches, particularly in the vicinity of

possible buildings L21. Two samples produced modest charred plant assemblages, including cereal debris from the advanced stages of crop-processing and food preparation (Chapter 6.III). Window glass (two sherds) and *opus signinum* (86g) were found in the northernmost enclosure (Chapter 5.VI). However, within the excavated part of the settlement there were none of the substantial wall foundations that would indicate the presence of a building with glass windows and mortar floors.

III. MAIN 'LADDER' ENCLOSURE SYSTEM L15

The most extensive modifications (L15) comprised the creation of new enclosures within the main part of the settlement and the recutting of the boundary ditch to the south-east (adjacent to peripheral enclosures L11/L15 and L29).

The new enclosures (A–D on Fig. 4.3) were c. 45m wide to the north and c. 30m wide to the south (Figs 4.1 and 4.2) — narrower than the Phase 3 enclosures. They were defined by ditches typically 1.5m wide and 0.5m deep, many of which were recut (Fig. 4.4: g and h; Fig. 4.6: a; Pls 4.1 and 4.2). All the enclosures except B were subdivided by existing or later ditches, which varied in size and tended to be smaller than the main enclosure ditches (Fig. 4.6: b and h). No obvious entrances into the



Plate 4.1: Enclosure ditch G22 (L15), looking south.
Scale 1m

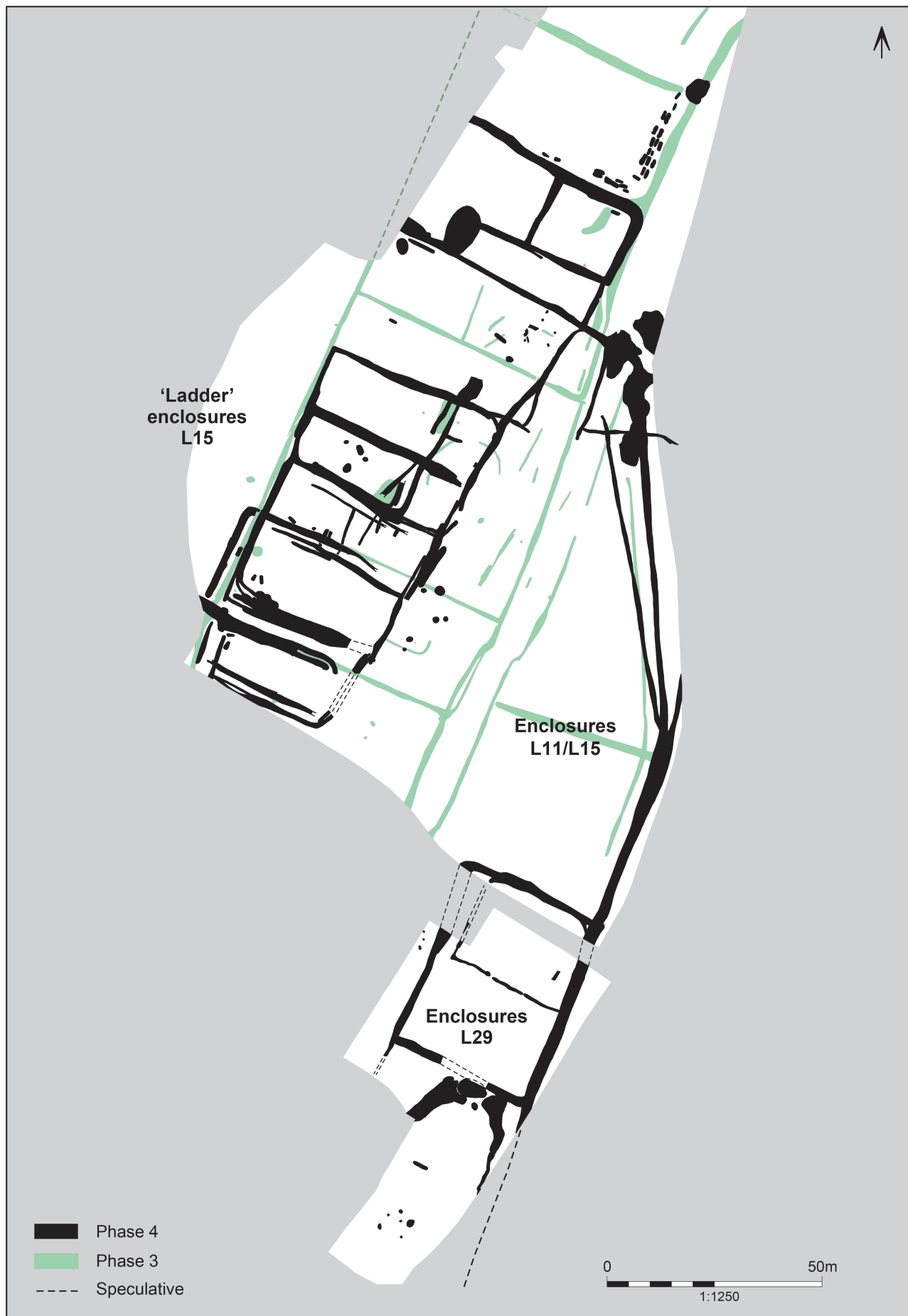


Figure 4.1: Overall plan of late 3rd- to early 5th-century (Phase 4) settlement with Phase 3 layout

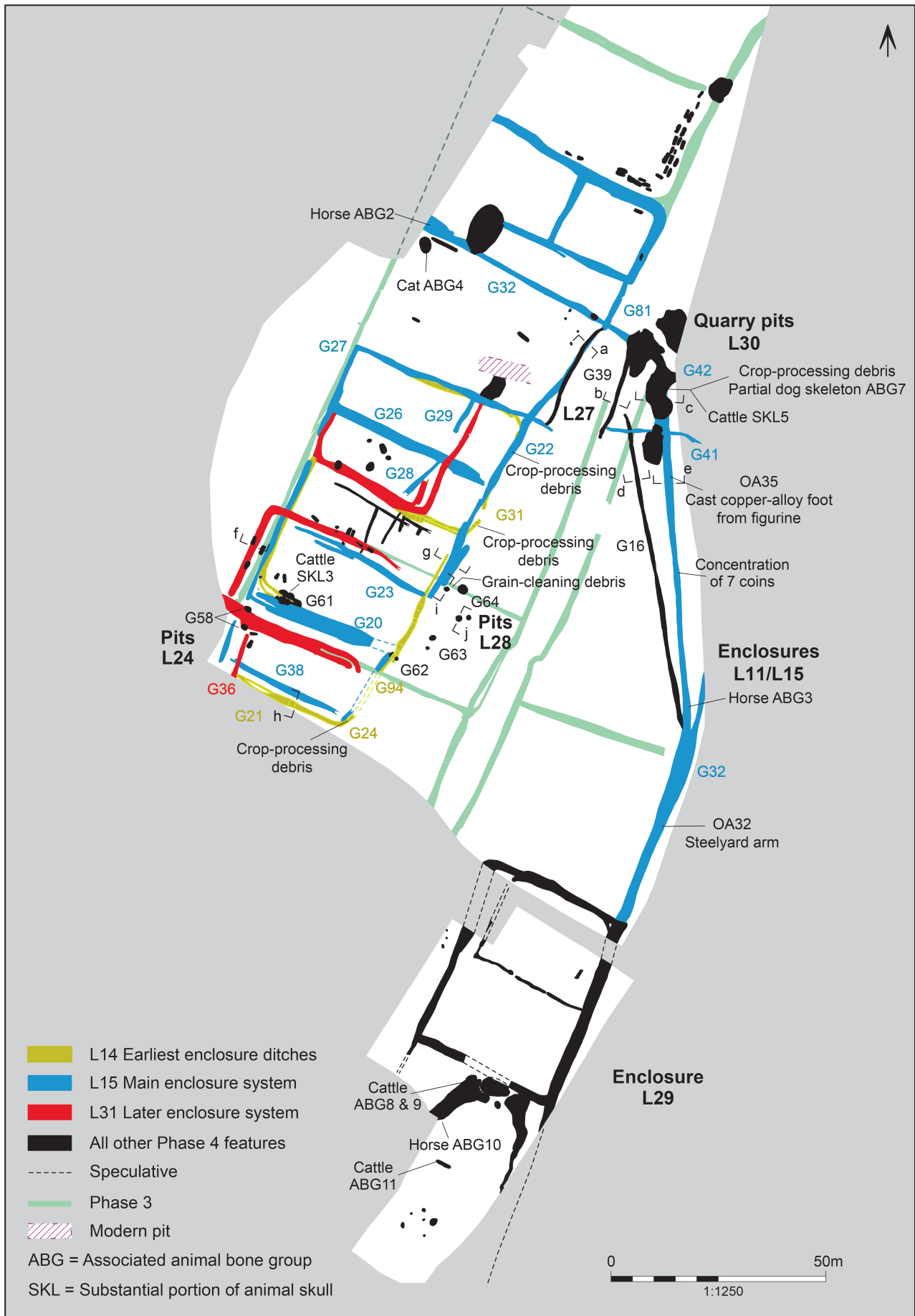


Figure 4.2: Overall plan of late 3rd- to early 5th-century (Phase 4) settlement with ditch systems and selected find-spots labelled

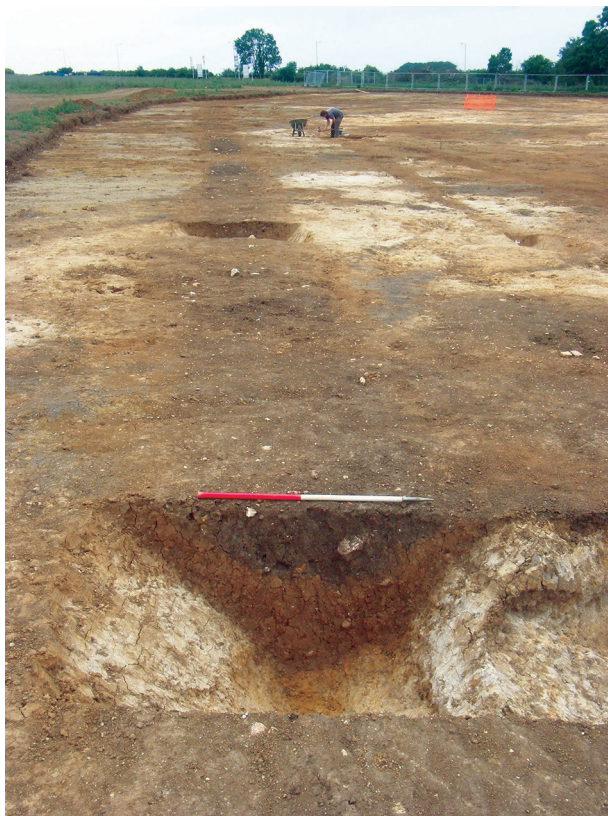


Plate 4.2: Enclosure ditch G32 (L15), looking south.
Scale 1m

enclosures were identified; it is likely that any causeways would have been removed by ditch recuts. Movement within individual enclosures may have been facilitated by gaps left at the ends of the internal subdivision ditches. It is possible that some of the Phase 3 ditches continued in use, defining smaller enclosures next to the trackway (Fig. 4.3).

Domestic activity foci L18/19 and L20/L21 contained possible rectangular buildings, pit clusters and a water-pit (Fig. 4.5). There was a single inhumation on the periphery of L19 and a cluster of seven inhumations (L22) next to possible building L21. There were three further inhumations clusters (L23, L25 and L26) within, or adjacent, to Enclosure D, and a larger cemetery (L16) to the north of Enclosure A, demarcated by ditches that had been dug in Phase 3.

The pottery (256 sherds; 4.5kg), animal bone (35.8kg) and 'other artefacts' from the L15 enclosure ditches represent the largest Phase 4 finds assemblage (Table 4.1). The animal bone assemblage includes two small associated bone groups of horse (ABG2 and 3), both from ditch G32 (Fig. 4.2). The evidence hints at activities such as animal butchery for working bone, metal, leather and wood. A large assemblage of charred plant items, almost entirely cereal remains, from eastern boundary ditch G22 represents material from the final stages of crop-cleaning and food preparation (Chapter 6.III). A double-spiked loop, *opus signinum* (0.5kg) and ceramic building material (12.3kg) were recovered but, again, there was no trace of the type of wall foundations that would indicate the presence of a substantial building

within the excavated part of the settlement. The fragments of roofing tile, some of which were burnt, were presumably imported from elsewhere for reuse in ovens or similar structures (Chapter 5.II).

IV. FINAL ALTERATIONS L31 TO ENCLOSURES

The final alterations to the 'ladder' system relate to the recutting of the ditches of Enclosures C and D (Fig. 4.2). It is uncertain if this represents a contraction of the settlement or just a localised change. The evidence is largely stratigraphic, although the small finds assemblage does contain notably late elements — a coin of 388–402 (RA2115) from one of the ditch fills and a very late 4th-century coin (RA2435) from inhumation SG190 (L22), suggesting that at least this burial took place in the early to mid-5th century (see Chapter 4.XIV). The new ditches were either recuts of earlier ones or were dug to the side, and were generally larger (1.5–3.5m wide and 0.5–1.2m deep, with steep sides) (Fig. 4.4: f). Although medieval ridge-and-furrow cultivation (Phase 5) followed a similar alignment to some of the Roman ditches, they rarely coincided. The furrows probably, therefore, followed the slope of the land rather than any pre-existing boundaries.

Pottery and animal bone were present, although in smaller numbers than in the main 'ladder' system. The assemblage includes several residual items, such as a Colchester B brooch and vessel glass.

V. DOMESTIC FOCUS L18/19

Domestic focus L18/19 was the most northerly within the excavated settlement and was situated to the south of inhumation cemetery L16 (Fig. 4.3; Table 4.1). It contained a single possible rectangular building G43/97, water-pit G44, quarry pits G45 and G85, pit G86 and two isolated short ditch lengths G46 and G80 (Fig. 4.6: e). In addition, there was an inhumation SG187 on the south-western edge of the focus (Fig. 4.5).

The quarry pits were both dug adjacent to enclosure ditches: G45 was c. 12m by 7m and only 0.3m deep; G85 was c. 5.7m by 3.3m and only 0.6m deep. The latter is particularly significant because its northern side was truncated by a modern pit, believed to be the silage pit that contained the coin hoard (HER 347420) found in 1954. A single coin was recovered from the quarry pit and four more from the backfill of the silage pit.

A smaller pit G86 was dug into the top of an enclosure-subdivision ditch. It was 1.8m in diameter and 0.5m deep (Fig. 4.6: d) and was located adjacent to possible building G43/97. It contained ferrous slag (1,091g), including portions of two small smithing hearth bottoms (Chapter 5.VI). Nearby ditches produced nearly 1kg of ferrous smithing slag, some associated with small quantities of hearth lining. This same area produced five iron items that may represent off-cuts from stock or bar iron. Taken together, the evidence is suggestive of small-scale ironworking, perhaps on a seasonal basis.

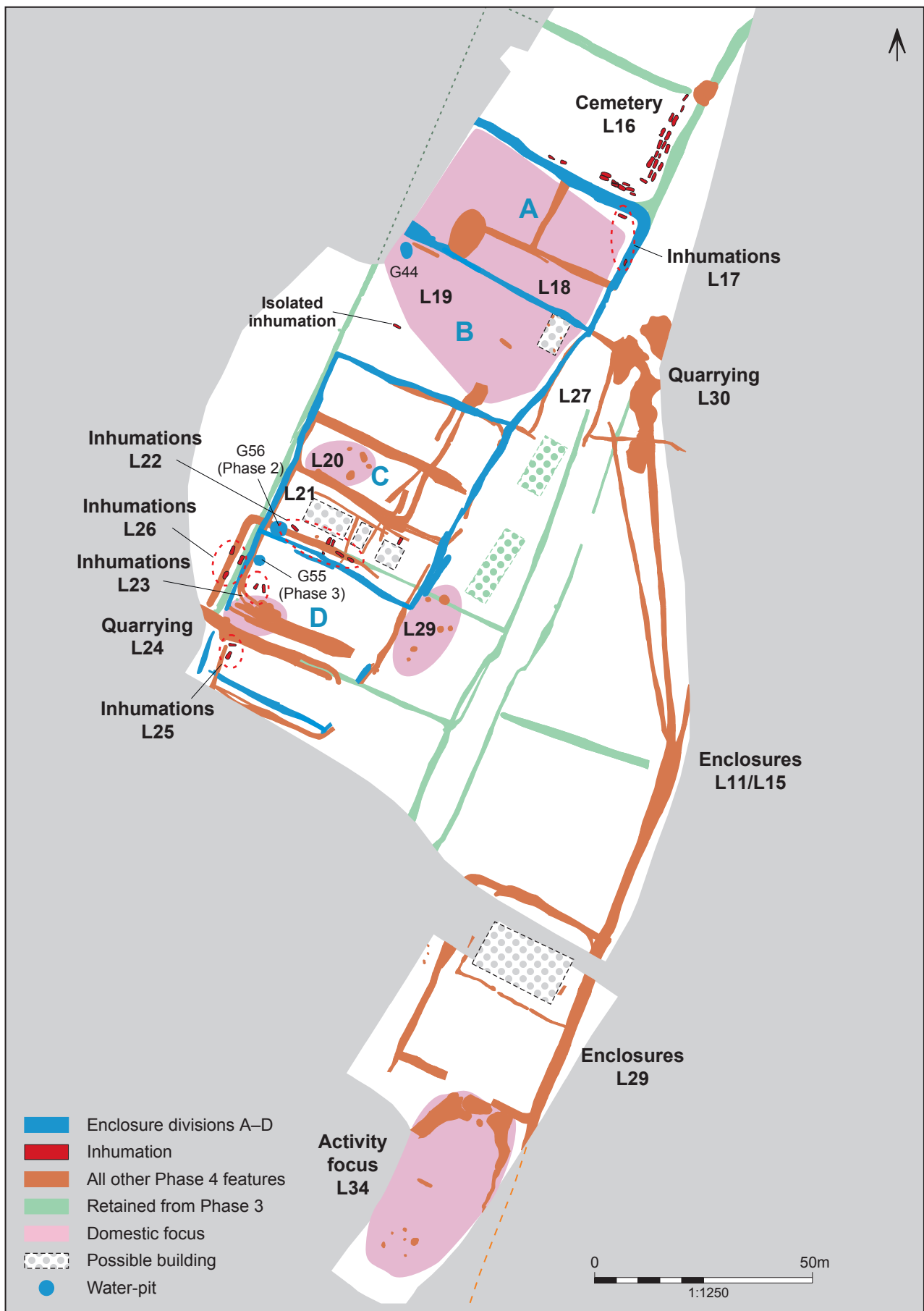


Figure 4.3: Overall plan of late 3rd- to early 5th-century (Phase 4) settlement with main plots and activity areas labelled

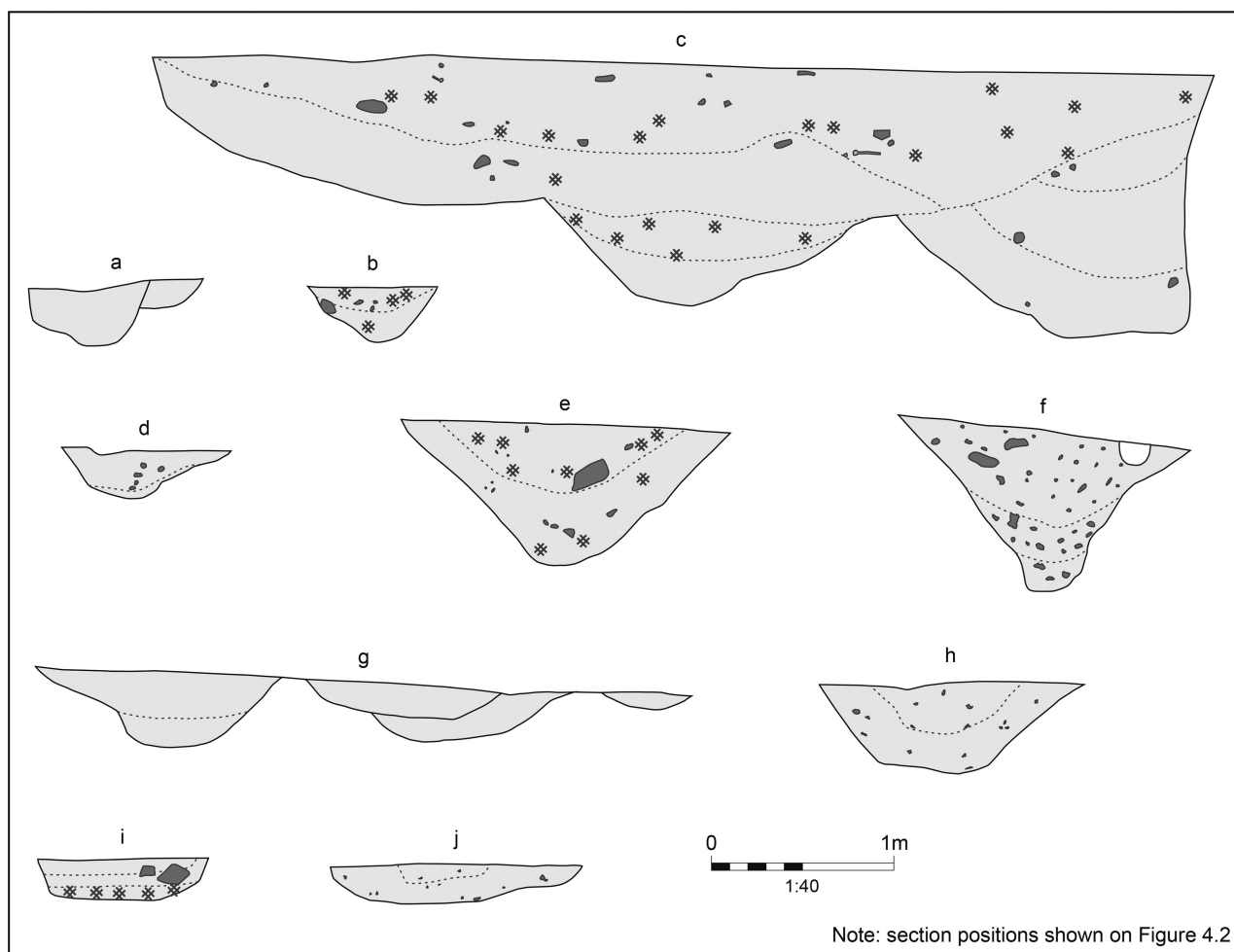


Figure 4.4: Selected section drawings

Possible building G43/97

Possible building G43/97 was represented by a roughly rectangular arrangement of five shallow postholes (Fig. 4.6: f and g; Table 1.1). It was presumably a replacement for possible Phase 3 building G79 that had occupied the same site.

Water-pit G44

Water-pit G44 (Table 1.2) was situated in the north-west corner of enclosure B. It had a shallow ledge on its south side (Fig. 4.6: c) to facilitate access to the water; several large blocks of ironstone found in the pit may have served a similar function.

Pottery, tile, mortar, four coins and nearly 5kg of animal bone, including a partial skeleton of an adult cat (ABG4), were recovered from the water-pit. A coin of 330–335 (RA2081) from the lower fills is presumed to have been deposited a few decades after the water-pit was dug. The latest coin (RA2052) from the upper fills dates to 364–378. One fragment of tile was burnt, possibly from reuse in an oven (Chapter 5.III).

Inhumation SG187

Isolated inhumation SG187 (G71) was dug into the upper fills of a Phase 3 ditch. The use of an existing hollow or soft ground may have been the determining factor in the positioning and alignment of this grave.

The grave contained a male, laid on his left side with no evidence for a coffin (Table 4.2). Of five accompanying

pottery vessels, four were from the Nene Valley: a jar (Fig. 5.1: P5), a beaker (Fig. 5.1: P6), a colour-coated folded funnel scale beaker (Fig. 5.1: P7) and a bowl (Fig. 5.1: P9). The other vessel was an oxidised sandy two-handled jar (Fig. 5.1: P8). P5 and P6 were over the left side of the torso; P7 and P8 were near the head. P9 appeared to have been broken prior to burial, with twelve sherds deliberately placed beneath the skull and a further four along the north side of the grave.

VI. DOMESTIC FOCUS L20/L21

Domestic focus L20/L21 was situated c. 25m south of L18/L20 (Fig. 4.3). It was located entirely within the southern part of enclosure C and in the same area as Phase 3 domestic foci L7 and L8, suggesting a degree of continuity. L21 comprised three possible rectangular buildings, and L22 a cluster of five pits G59 and G60 (Fig. 4.7). The pits were sub-circular in plan, 1–2.3m in diameter and up to 0.6m deep (Fig. 4.8: a–c). One pit truncated a ditch assigned to the final alterations to the Phase 4 enclosure system (L31). A number of inhumations next to buildings L21 were assigned to L22 and are described below (Chapter 4.XIV).

Possible rectangular buildings L21

The layout of five gullies G30 (Table 1.1) and their location within a narrow sub-enclosure may indicate that they were associated with one or more buildings, each

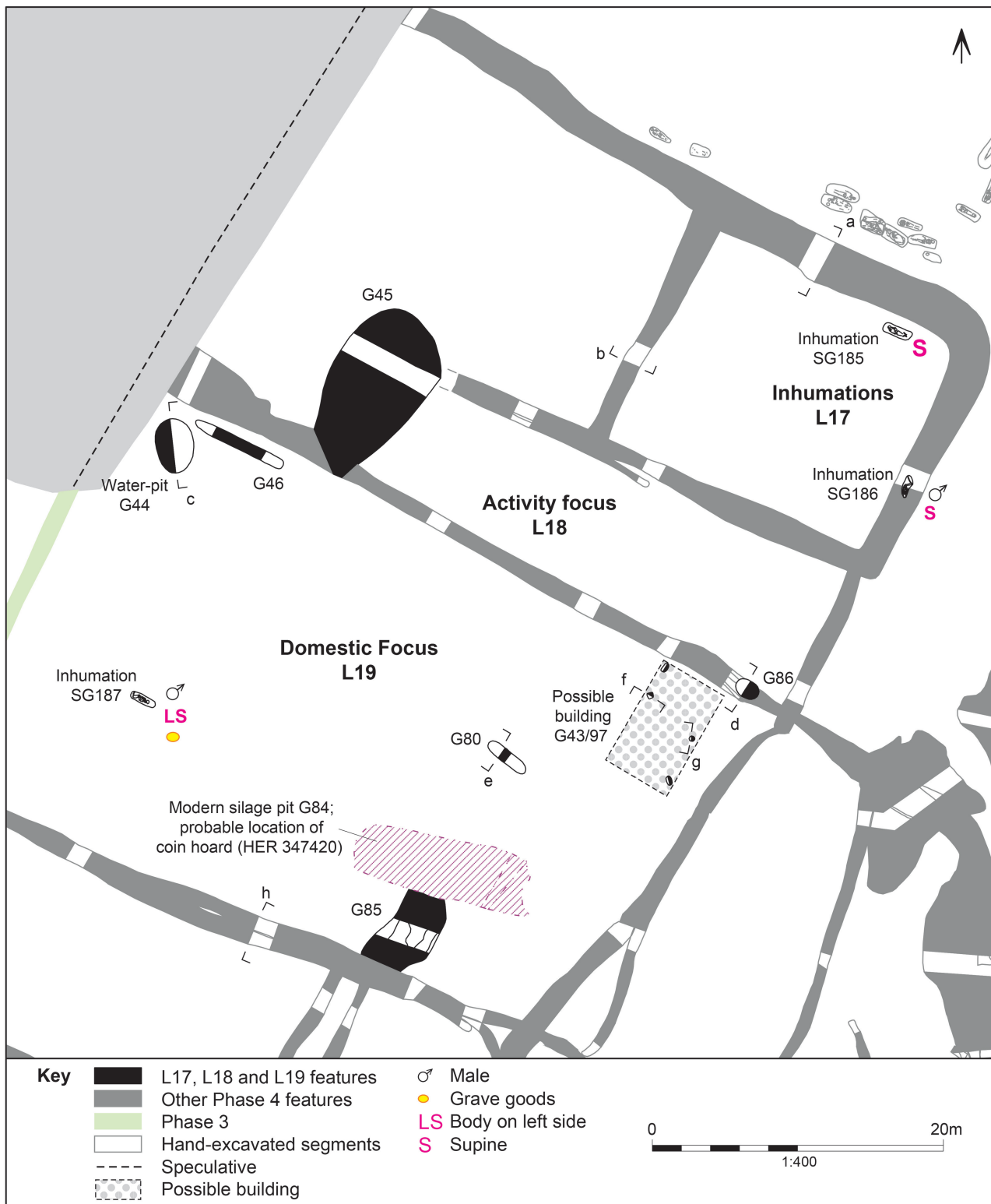


Figure 4.5: Detailed plan of domestic focus L18/L19 and inhumation cluster L17

less than 7m wide. The gullies were up to 0.6m wide and 0.1m deep, with concave basal profiles (Fig. 4.8: d–f) — they are interpreted as drainage gullies around buildings rather than structural slots.

VII. ACTIVITY FOCUS L24

Activity focus L24 comprised a cluster of small quarry pits G58 and G61 in the western part of enclosure D

(L15) (Fig. 4.2). The pits appear to have been dug into enclosure ditches, and in the case of G58 into those assigned to L31, the last identified episode of recutting. It is possible that the digging of the ditches exposed material that was later targeted by the quarrying. The pits were less than 2m in diameter and 0.5m deep. The finds assemblage includes 3kg of animal bone, amongst which is a largely complete cattle skull from pits G61 (SKL3, Chapter 6.II).

Land-use area	Description	Extent (ha)	Buildings/ structures	Water- pits	Inhumations	Animal burials	Dispersed human bone	Contemporary pottery (sherds:kg)	Animal bone (kg)	Other significant finds (kg or number)
11/15	Peripheral enclosures to east	N/A	-	-	-	-	-	-	2.5	-
14	Earliest enclosures	0.3	-	-	-	-	-	30:0.5	2.9	0.02 slag 2.3 tegula, imbrex 0.09 opus signinum Window glass x 2 Cu alloy finger ring (OA6) Coin Fe needle (OA5) Fe drop handle (OA4) Hobnail Nails x 6 2.3 slag 12.3 tegula, imbrex, flue tile, brick 0.46 opus signinum Vessel glass x 2 (GL3, 6) Coins x 28 (RA2042, 2058, 2067, 2073, 2082, 2086, 2098, 2103-8, 2118-19, 2122, 2132, 2136, 2140, 2143, 2149, 2153, 2232, 2282, 2284, 2302, 2400, 2467) Cu alloy figurine shod foot (OA35) Cu alloy joining vessel fragments x 2 (OA14) Cu alloy bracelets x 2 (OA21) Cu alloy finger ring (OA33) Cu alloy tweezers (OA16) Cu alloy frame or rim Cu alloy strap mount (OA18) Cu alloy strip fragment with white metal plating (OA17) Fe pruning/weeding hook (OA13) Bar iron/scrap x 5 (OA7-11) Fe hanger or flesh hook (OA15) Fe collar or socket fragment Part of socket Fe steelyard arm (OA32) Part of Fe shears (OA30-1) Fe awl (OA19) Fe knife/file Fe spatula (OA34) Fe shears blade/type 2 cleaver Fe double-spiked loop fragment x 5 Fe small chisel (OA12) Fe rove Smithy scrap/off-cut (OA27-8) Pb alloy vessel repair (OA29) Bone off-cut/peg (OA38) Nails x 70 Hobnails x 6
15	Main 'ladder' enclosure system	0.5	-	-	-	-	-	256:4.5	35.8	

16	Inhumation cemetery	N/A	-	-	28 (SG157-184)	-	-	66:0.36	0.7	0.1 slag 2.0 tegula, imbrex, flue tile, brick Coins x 5 Cu alloy ring Cu alloy strap mount (OA50) Brooch pin or needle Fe double-spiked loop x 2 Fe staple Nails x 31 Vessel glass Possible glass bead Nail Vessel glass 1.2 slag 0.2 tegula Coins x 2 2.3 tegula, flue tile, brick Coins x 5 (RA2021, 2051-2, 2072, 2081) Nail 0.1 mortar 0.08 slag 0.35 imbrex, flue tile Fe needle (OA20) 0.5 tegula Fe reaping hook (OA22) 0.2 imbrex Coin (RA2435) Nails x 4 Flint arrowhead tip Cu alloy bracelets x 3 (OA23-5) Cu alloy strip fragment 0.35 tegula, imbrex, brick Nail Coins x 2 (RA2117, 2123) Nails x 2 Glass bead (GL7) Coin (RA2462) Nails x 15 0.27 slag 0.88 tegula, imbrex, brick Coins x 3 (RA 2315, 2424-5) Cu alloy runoff/spillage Fe rove Fe pruning hook (OA37) Fe drop handle Fe punch/chisel (OA36) Pb alloy pan weight (OA39) Vessel glass GL1 Nails x 17 0.05 slag 1.24 flue tile, brick Fe staple Hobnails x 4 Nails x 2
17	Inhumation cluster (within enclosure L15 A)	N/A	-	-	2 (SG185-6)	-	-	-	-	-
18	Domestic focus (within enclosure L15 A)	N/A	-	-	-	-	-	3:0.03	0.1	-
19	Domestic focus (within enclosure L15B)	N/A	1 (G43/97)	1 (G44)	1 (SG187)	-	-	102:2.46	8.87	-
20	Domestic focus (within enclosure L15 C)	N/A	-	-	-	-	-	7:0.04	0.5	-
21	Domestic focus	N/A	2 (G30)	-	-	-	-	2:0.01	0.05	-
22	Inhumation cluster (within enclosure L15 D)	N/A	-	-	7 (SG188-9, 190-3, 195)	1 (SG194)	1 (SG8.4)	5:0.03	0.43	-
23	Inhumation cluster (within enclosure L15 D)	N/A	-	-	2 (SG198-9)	-	-	2:0.06	0.01	-
24	Activity focus within enclosure L15 D	N/A	-	-	-	-	-	18:0.15	3.0	-
25	Inhumation cluster (within enclosure L15 D)	N/A	-	-	2 (SG201-2)	-	-	-	-	-
26	Inhumation cluster (west of enclosure system L15)	N/A	-	-	3 (SG196-7, 200)	-	-	3:0.01	0.8	-
27	Small oval enclosure	0.02	-	-	-	-	-	23:0.36	0.8	-
28	Activity focus within field L11	0.8	-	-	-	-	-	11:0.1	0.18	-

Land-use area	Description	Extent (ha)	Buildings/ structures	Water- pits	Inhumations	Animal burials	Dispersed human bone	Contemporary pottery (sherds:kg)	Animal bone (kg)	Other significant finds (kg or number)
29	Peripheral enclosures to south-east	0.16	-	-	-	-	-	19:0.3	2.7	4.1 tegula, imbrex, flue tile, brick Coins x 2 (RA2142, 2283) and 5 from The Bungalow Glass gem from finger ring (The Bungalow (RA1)) Cu alloy equine harness mount (The Bungalow (RA12)) Glass vessel plus flask rim and neck fragment (The Bungalow) Hobnails x 2 Fe possible knife/shears blade fragment (The Bungalow (RA3)) Nails x 5 0.01 plaster 2.37 slag 6.25 tegula, imbrex, flue tile, brick Coins x 15 (RA 2044, 2047-8, 2055, 2131, 2144-7, 2419-22, 2426, 2468)
30	Quarry pits	N/A	-	-	-	-	-	118:1.88	10.25	Cu alloy ring x 2 Cu alloy strap end (OA49) Pb alloy steelyard weights x 2 (OA46-7) Fe wall hook (OA42) Fe trowel (OA44) Fe bolt or counterweight (OA48) Fe T-clamp (OA41) Fe axe head (OA45) Fe flanged socket Bar iron/scrap Fe loop hinge (OA43) Fe double-spiked loop Fe staple Hobnails x 14 Nails x 52 0.17 opus signinum Vessel glass x 2 (GL4, 5) 0.7 slag 4.56 tegula, imbrex, flue tile, brick Coins x 6 (RA2090, 2114-15, 2121, 2127, 2317) Cu alloy brooch (OA40) Bone hairpin/needle Bar iron Nails x 3 Vessel glass x 2 Window glass 0.01 Slag 3.35 tegula, imbrex, brick Nails x 2
31	Final alterations to enclosures	0.26	-	-	-	-	-	82:1.1	10.9	
34	Activity focus to the south-east (within L29)	N/A	-	-	-	-	-	28:0.3	12.9	

Fe = iron, Cu = copper, Pb = lead, OA = 'Other Artefact' number, RA = Registered Artefact number, GL = glass number. All weights have been rounded up to the nearest 0.01 kg.

Table 4.1: Summary of Phase 4 Land-use areas

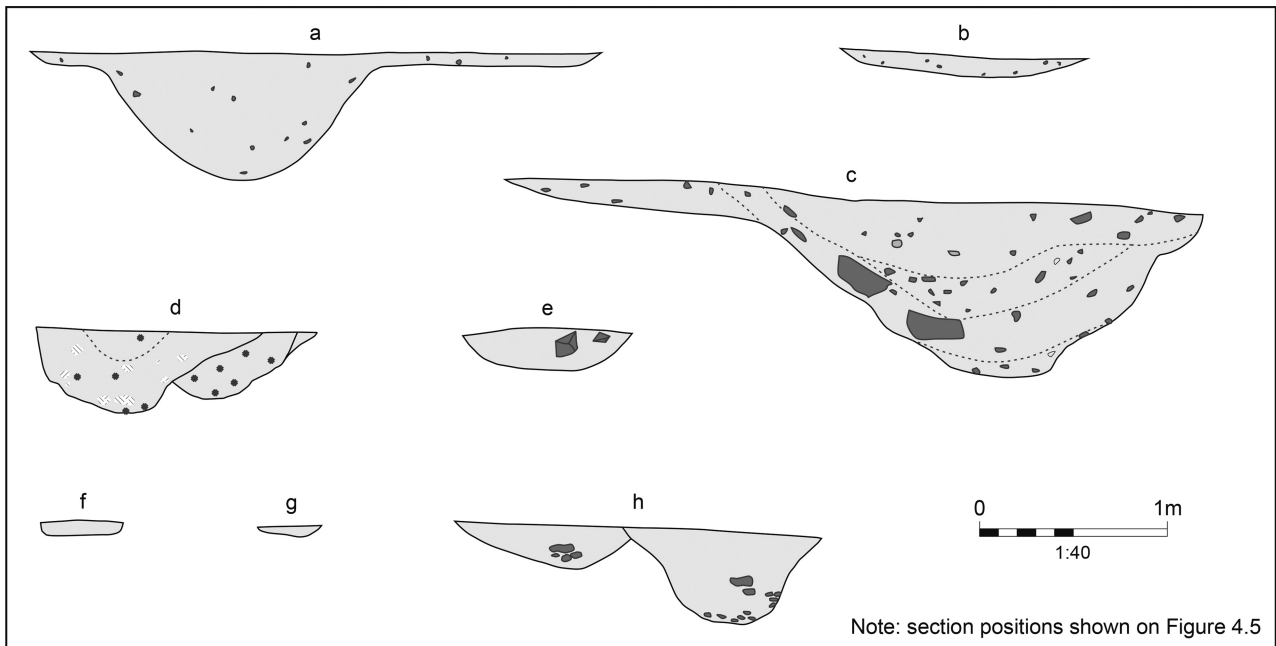


Figure 4.6: Selected section drawings

VIII. SMALL OVAL ENCLOSURE L27

A small oval enclosure L27, c. 23m by 11m, was created by curvilinear ditches to the east of enclosure B (Fig. 4.3). It was open to the south. The ditches were generally 0.8m wide and 0.5m deep (Fig. 4.4: a and b). The location of the enclosure at the northern end of the Phase 3 trackway might suggest that it was associated with livestock management; it is also possible that the ditches defined the site of a building.

The finds assemblage includes small quantities of iron- and copper-working by-products. A possible iron punch or chisel (OA36) may have been associated with the metalworking (Chapter 5.VI).

IX. ACTIVITY FOCUS L28

The features assigned to activity focus L28 were located within the eastern part of a Phase 3 enclosure that presumably continued to exist in some form (Fig. 4.2). Six pits (G63–64) were present, 0.7–2.3m in diameter and 0.25–1m deep (Fig. 4.4: i and j), and also two post-holes (G62).

One of the pits assigned to G64 contained small quantities of vitrified clay and ferrous slag, the presence of three balls of hammerslag suggesting that it may have derived from smithing activity (Chapter 5.VI). Another pit in G64 contained a very large assemblage of charred plant remains, the bulk of which derives from the de-husking of spelt wheat during the final stages of cleaning (Chapter 6.III).

X. QUARRYING L30

Four large areas of quarrying at the northern end of the Phase 3 trackway effectively blocked the former thoroughfare (Fig. 4.2). They were c. 12m x 6m in extent and 1.5m deep (Pl. 4.3). The pit-like profiles at the base of each area (Fig. 4.4: c) suggest that they comprised a series of smaller pits. The stratigraphic relationships with the main boundary ditch were uncertain, but given the

clustering of the pits in this one area, it is likely that the digging of the ditch had exposed geological deposits (*i.e.* clay) that were later targeted by the occupants of the settlement.



Plate 4.3: Quarry pits L30, looking east.
Scale 1m

The volume of pottery, animal bone and metal artefacts recovered from the quarry pits indicates that they were used for rubbish disposal after the quarrying had finished. It is unlikely that all this material came from the excavated part of the settlement because it included a small quantity of *opus signinum* (0.2kg). The presence of ferrous smithing by-products supports the other evidence for metalworking within some of the L15 enclosures (Chapter 5.VI). Quarry pits G42 produced a fragment (GL4) of a type of 4th-century glass vessel that is very rare in Britain (Chapter 5.V). The animal bone assemblage is slightly different to that recovered from the main enclosure ditches L15 in that sheep/goat fragments slightly outnumber those of cattle (Chapter 6.II). In addition, the partial skeleton of an adult dog (ABG7)

Land-use area	Group	Sub-Group	Orientation	Body position	Head position	Sex	Age	Depth of grave (m)	Grave goods and other significant finds	Artefacts possibly suggestive of coffin	Additional comments
16	68	157	NE-SW	Supine	NNE	N/D	18-25	0.15	-	-	-
		158	NNE-SSW	N/D	NNE	N/D	12-15	0.25	-	2 × Fe nails (RA2275-6)	Grave shape not suggestive of burial in a coffin.
	159	159	NNE-SSW	Supine	NNE	N/D	25-35	0.29	-	-	-
		160	NNE-SSW	Supine, decapitated	NNE (repositioned)	N/D	25-35	0.37	-	-	Skull beside right ankle.
	161	161	NNE-SSW	Supine	SSW	?F	18-20	0.51	-	-	Grave slightly disturbed by a modern test pit.
		162	NNE-SSW	Supine	NNE	?F	Adult	0.36	-	-	-
	163	163	NNE-SSW	Supine	NNE	?M	18-25	0.2	-	1 × Fe nail (RA2270)	Probable coffin and/or shroud based on shape of grave and constricted body position. Knee area disturbed by land drain.
		164	NNE-SSW	Supine	NNE	N/D	35-45	0.26	-	-	-
	165	165	NNE-SSW	Prone	NNE	M	25-30	0.41	-	-	-
		166	NNE-SSW	N/D	SSW	N/D	5-9	0.32	-	-	-
	167	167	NNE-SSW	Empty	N/A	-	See comments	0.15	-	-	-
		168	NNE-SSW	Supine	NNE	N/D	Adolescent	0.63	3rd/4th-century Nene Valley colour coated beaker (Fig. 6.1: P1)	4 × Fe nails (RA2266-8, 2271)	Grave size suggests a child burial. Probable coffin based on constricted body position and presence of nails. Beaker placed by the left shoulder.
	169	169	NNE-SSW	Supine	NNE	?F	18-25	0.33	4th-century Nene Valley colour-coated pentice-moulded beaker (Fig. 6.1: P2)	17 × Fe nails (RA2250-64) Coffin fittings: Fe double-spiked loop (RA2260)	Coffin based on constricted body position, nails and fitting. Beaker placed by the right shoulder.
		170	NNE-SSW	Supine	SSW	F	18	0.11	Shelly rilled bowl (Fig. 6.1: P3)	-	Jar placed at the feet (possibly broken before deposition).
	171	171	NNE-SSW	Supine	SSW	M	30-35	0.31	Shelly rilled vessel (Fig. 6.1: P4)	-	Vessel broken prior to deposition and placed on the right side of the skull, to the right of the pelvis and between the legs.
		172	NNE-SSW	Supine	SSW	M	40-45	0.19	-	2 × Fe nails (RA2233-4)	Grave shape, as excavated, not suggestive of burial in a coffin.
69	173	173	WNW-ESE	Supine, decapitated	SE (repositioned)	N/D	25-35	0.5	-	-	Skull between lower legs.
		174	WNW-ESE	N/D	NW	-	See comments	0.1	-	-	Very poorly preserved bone. Skull fragments and grave size suggest a child burial.
	175	175	WNW-ESE	On right side	SE	M	18-25	0.2	-	-	-
		176	WNW-ESE	Supine	NW	N/D	Probable adult	0.1	-	-	-
	177	177	WNW-ESE	Supine with splayed legs	NW	?M	Adolescent	0.2	-	-	Legs splayed over original burial.
		217		N/D	NW	N/D	1y 4m-2y 8m	0.3	-	-	Poorly preserved original burial.
	178	178	WNW-ESE	Supine	SE	F	18	0.58	Late 3rd-4th-century coin (RA2265)	Fe nails × 6 (RA2239-41, 2245, 2247, 2269)	Coffin based on constricted body position, nails and fittings. Earliest burial in sequence with SG179 and SG180. Body has an outstretched right arm.
									AD 260-300 coin (RA2248)	Fe double-spiked loop (RA2243)	
									AD 318-24 coin (RA2249)	Fe rectangular staple (RA2244)	
									Cu alloy strap mount (OA50)		
179									Cu alloy brooch(?) pin tip (RA2474)		
			WNW-ESE	N/D	NW	?M	40-	0.26	Late 1st-century coin (RA2019)	Fe nails × 2 (RA2237-8)	Second burial in sequence (after SG178 and before SG180). Grave shape and body posture not suggestive of burial in a coffin.

180		WNW-ESE	Flexed on left side	N/D	40-45	0.17	-	-	Final burial in sequence (after SG179).
181		WNW-ESE	Supine	?F	Adult	0.27	-	-	-
182		WNW-ESE	N/D	N/D	25-35	0.35	-	-	Original burial.
218		WNW-ESE	Supine	N/D	Adolescent	0.35	-	-	Pillow stone.
183		WNW-ESE	N/D	N/D	Adolescent	< 0.05	-	-	-
184		WNW-ESE	Supine	N/D	Adult	0.10	-	-	-
17	70	NW-SE	Supine	N/D	25-35	0.33	1st-2nd-century coin (RA2014)	-	Packing stones at head and feet.
186		NE-SW	Supine with flexed legs	?M	30-35	< 0.1	Possible glass bead (not issued OA or RA number)	-	Dug into top of enclosure ditch.
19	71	NW-SE	On left side with flexed legs	M	30-35	0.17	-	1 x Fe nail (RA2236)	P5 and P6 were placed over left ribs. P7 and P8 were placed above skull. P9 was broken and placed under skull and along north side of grave.
22	72	NNE-SSW	Supine	M	27-66	0.18	-	-	Probable coffin based on constricted body position and nails. Head end disturbed by Phase 4 ditch; knees disturbed by a land drain. Head end disturbed by L31 ditch.
190		NNE-SSW	On left side with flexed legs	N/D	16-17	0.15	AD395-402 coin (RA2435; found on the pelvis)	-	Head end disturbed by L31 ditch.
191		NNE-SSW	Prone	F	18-25	0.15	Flint arrow tip RA2436 (probably residual)	-	Pelvis area disturbed by land drain.
189	73	NW-SE	Prone	N/D	Adult	0.15	-	-	Grave dug into L31 ditch.
192		NW-SE	Prone	M	18-25	0.2	-	-	Grave dug into L31 ditch.
193		NW-SE	Prone	F	17	0.4	Incomplete shelly vessel (possible grave good)	-	Grave dug into L31 ditch.
195	88	-	N/D	N/D	Neonate	0.05	-	-	Grave dug into Phase 2 ditch G2.
198	76	NE-SW	N/D	N/D	3-5	0.10	Cu alloy bracelets x 3 (OA23-5)	-	Heavily disturbed. Only arms may be <i>in-situ</i> .
199		N-S	Supine	F	25-29	0.32	Possible Cu alloy bracelet (OA26)	-	Possible genetic heritage is African or mixed but mainly from Africa.
201	77	E-W	N/D	M	Adult	0.05	-	-	Upper part of body disturbed.
202		NE-SW	Prone	M	20-30	0.13	Glass bead (GL7)	-	Probable coffin based on constricted body position and nails. Grave dug into later Phase 4 ditch (L31). Canine maxillae found next to mouth of individual.
196	75	NE-SW	Prone	?M	25	0.42	Maxillae of a small dog	Fe nails x 7 (RA2298-301)	Probable coffin based on constricted body position and nails. Grave dug into Phase 3 ditch. Dog positioned at feet of individual. Grave dug into later Phase 4 ditch (L31).
197		NE-SW	Prone	M	25-30	0.31	Adult female lap dog	Fe nails x 5 (RA2289-94)	
200		NE-SW	Prone	M	25-35	N/D	AD 231 coin (RA2462)	Fe nails x 2 (RA2463)	

OA = 'Other Artefact' number, RA = Registered Artefact number, GL = glass number (see Chapter 6.V), N/D = not determined, Fe = iron, Cu = copper

Table 4.2: Details of Phase 4 inhumations

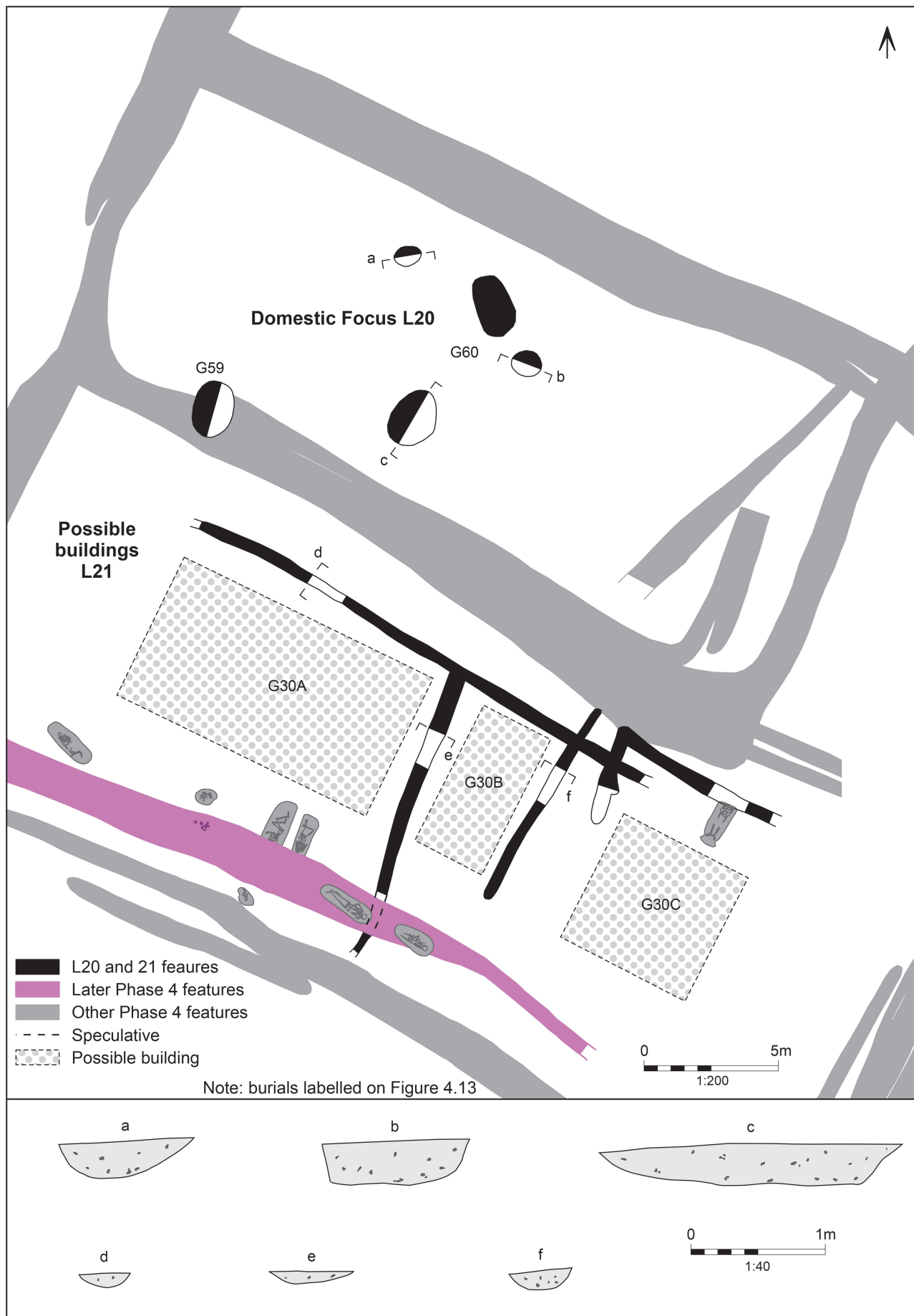


Figure 4.7: Detailed plan of domestic focus L20/L21

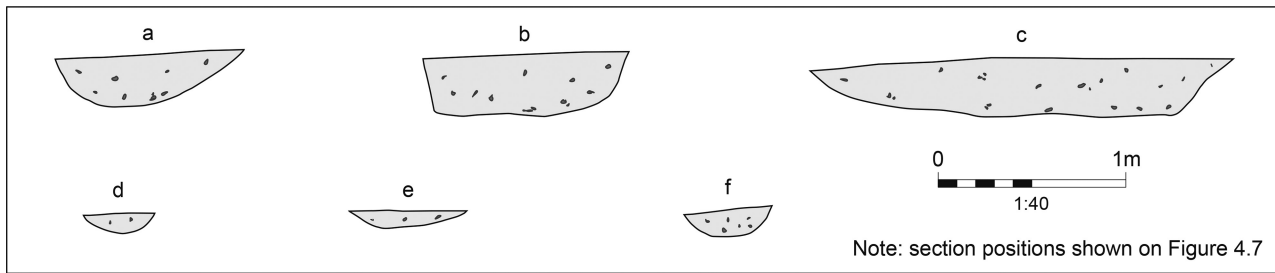


Figure 4.8: Selected section drawings

and part of a calf skull (SKL5) were found in G42. The charred plant assemblage comprises remains largely from the advanced stages of crop-cleaning, including the de-husking of spelt wheat (Chapter 6.III).

XI. PERIPHERAL ENCLOSURES L11/L15 TO EAST

It is likely that the Phase 3 enclosures to the east of the Phase 3 trackway remained in use (Fig. 4.2). No evidence for internal activity was identified, but the eastern boundary ditch was redug twice (initially as G32, a continuation of the ditch separating Enclosures A and B in the main 'ladder' system L15). It was then moved further to the west (L11) to allow for the area of quarrying L30. Ditch G32 (L15) at this point was c. 1–2.5m wide and 0.4–1m deep (Fig. 4.4: e); its replacement G16 (L11) was much smaller at c. 0.6m wide and 0.4m deep (Fig. 4.4: d; Pl. 4.4).



Plate 4.4: Enclosure ditches G16 (L11) and G32 (L15), looking south. Scale 1m

Despite the absence of internal features, eastern ditch G32 produced a range of metal artefacts (Fig. 4.2). These include twelve coins, seven of which were found within 0.1m of each other (RAs 2103, 2104, 2105, 2106, 2107, 2108 and 2302, dating to 330–348 (Chapter 5.IV)); parts of two shears (OA30 and OA31); a steelyard (OA32); a possible iron spatula or spatula probe (OA34); and a foot from a cast copper-alloy figurine (OA35), believed to be of 4th- to 5th-century date (Chapter 5.VI). There was also some evidence for metalworking, in the form of waste and by-products. The ditch fills also contained small associated groups of horse bone — vertebrae from

an adult animal and a group of tarsals and a metatarsal, the latter showing evidence for possible bone-working (Chapter 6.II).

XII. PERIPHERAL ENCLOSURES L29

Rectangular enclosures L29 were located to the south of enclosures L11/L15 — they shared the same eastern boundary (Fig. 4.2) — and continued beyond the limit of excavation. Their constituent ditches were 1.3–2.3m wide and 0.4–1.5m deep; several had been redug at least once (Fig. 4.10: a–c).

The northern enclosure was subdivided by L-shaped gully G101 (Fig. 4.9), which was c. 0.7m wide and 0.2m deep (Fig. 4.10: d–f). This gully may have defined the site of a rectangular building G119. Two narrow gaps on the south side indicate access points; another to the west is hinted at by a marked narrowing of the gully. Ceramic building material weighing 4.1kg was recovered from the main enclosure ditches. Although this is a relatively large quantity, it seems very unlikely that it could have been associated with building G119 or, for that matter, any other building within the excavated part of the settlement. Domestic activity is suggested by the presence of a copper-alloy sheet vessel-repair patch and a glass flask (Appendix VIII).

Possible building G119

A 1.5m stretch of gully provides the only direct, physical evidence for building G119; given its profile (Table 1.1), the gully was probably a drain rather than a structural slot (Fig. 4.10: g). However, the configuration of gully G101 provides compelling, indirect evidence for the site of this rectangular building. The gully contained meagre quantities of plaster/mortar, nails, hobnails, a fragment of a possible knife/shears blade, and two radiate coins, one of which appears to be of Victorinus (268–70) (Appendix VIII).

XIII. ACTIVITY FOCUS L34

Activity focus L34 lay within the south-west enclosure of L29 (Fig. 4.9). It comprised areas of quarrying G105/106, a short length of gully G107, and a cluster of pits and postholes G108/G109 (Fig. 4.10: i and j). The quarrying occupied a distinct curvilinear area, the shape of which was not obviously due to the nature of the material that was being extracted; this perhaps suggests that it was positioned to avoid an existing structure. Hand excavation demonstrated the presence of numerous small pits — some circular, some more oval in plan, and all less than 0.7m deep. The animal bone assemblage from quarry pit G105 includes animal bone groups of cattle (ABG8 and 9) and horse (ABG10) (Chapter 6.II), while

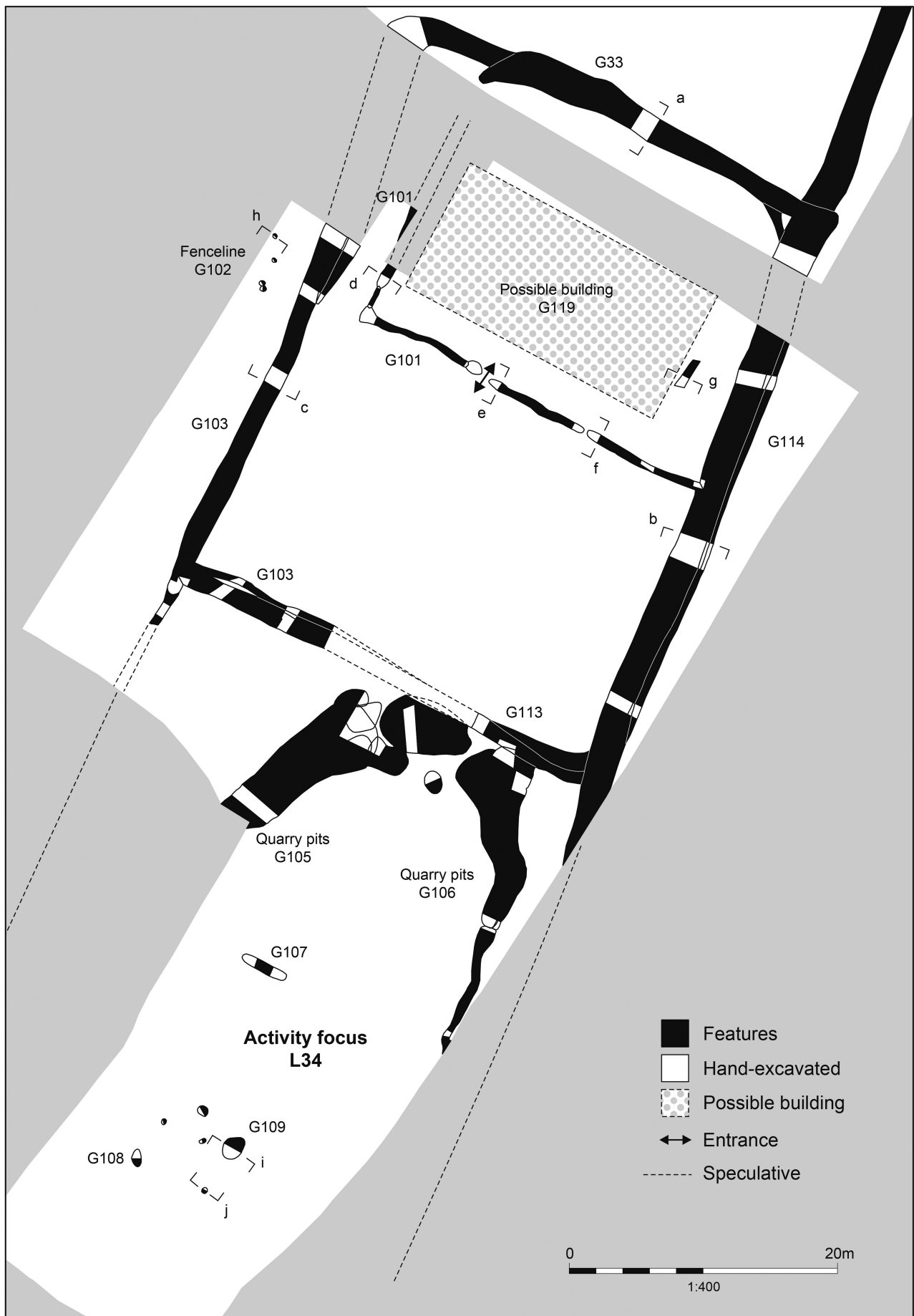


Figure 4.9: Detailed plan of enclosures L29 and activity focus L34

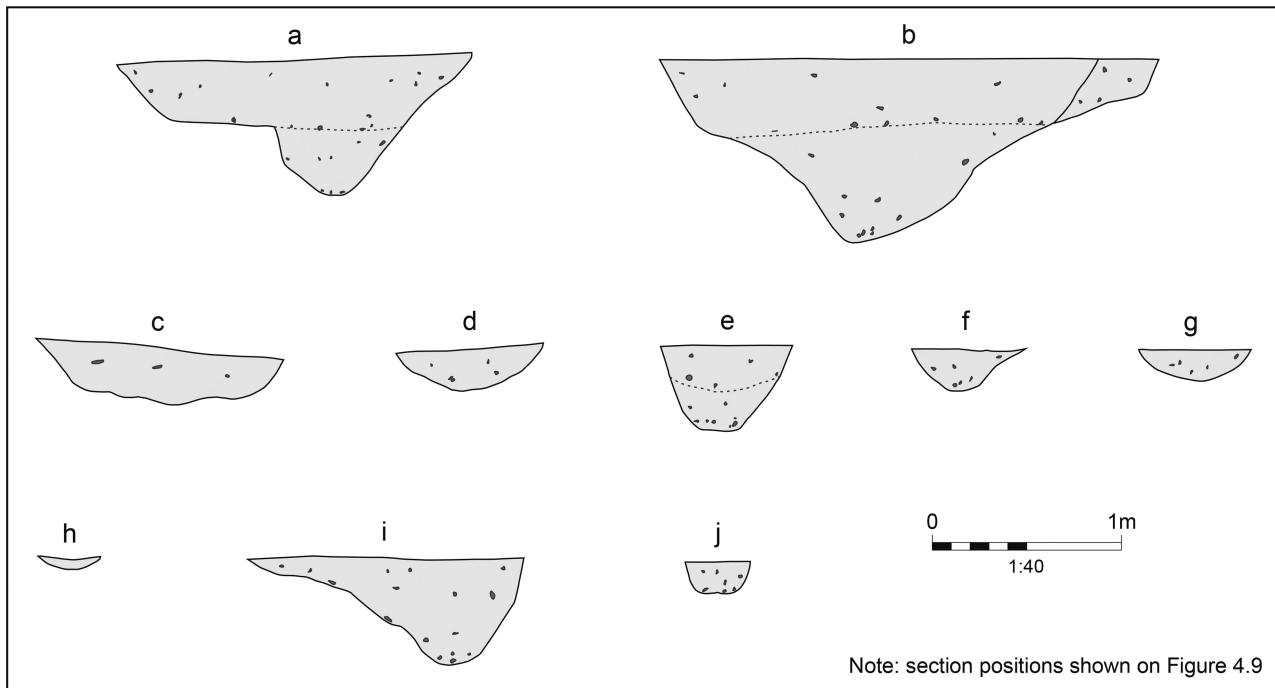


Figure 4.10: Selected section drawings

gully G107 to the south produced another group of associated cattle bone (ABG11).

XIV. INHUMATIONS L16, L17, L22, L23, L25 AND L26

Forty-seven graves were present, with forty-six individuals represented. Thirty graves occurred in a formal cemetery (L16) at the northern end of enclosure system L15, with two (L17) in an adjacent enclosure (Fig. 4.3). Eleven were in clusters within the southern enclosures (L22, L23 and L25), with three immediately to the west of them (L26). There was also a single inhumation near domestic focus L19. One grave within L16 was empty, while there were three cases of interment within an existing burial plot. A photographic catalogue of all inhumations is presented in Appendix V and details of all human remains in Appendix VI.

Both males and females are represented. Ages range from a neonate to a 66-year-old man. A variety of grave goods accompanied some of the burials — pots, coins, personal items and a small dog. Several of the graves had been dug into Phase 3 and Phase 4 boundaries; two had been disturbed by recutting of a Phase 4 ditch.

Inhumation cemetery L16

Cemetery L16 comprised thirty graves; one was empty, so only twenty-nine individuals are represented (Fig. 4.11; Table 4.2).

The graves and skeletons

The cemetery can be divided into two groups: sixteen graves (G68) aligned NNE–SSW (Pls 4.5 and 4.6); and fourteen (G69) aligned WNW–ESE. Most of the graves were sub-rectangular, with steep sides and flat bases; their depths varied. In many cases, especially with the shallower examples, it was not possible to determine the precise edge of the grave because the fill was very similar to the surrounding soil. The size and shape of the graves varied largely in accordance with the size of the body

or coffin, or both. The alignment of the graves respected that of the adjacent enclosure ditches, which originated in Phase 3.

The condition of the bone, on lifting, proved to be variable. Seven individuals were identified as male or possible male, and four as female or possible female; the sex of the remaining skeletons was indeterminate.

Most of the graves were ‘adult’-sized and contained adult skeletons. Empty grave SG167 (G68) was only large enough for a child burial, although no skeletal remains were recovered. It is presumed that this is due to poor bone preservation or later truncation — the grave was only 0.15m deep — although genuinely empty graves are not unknown in Roman Britain. The adjacent, slightly larger grave SG166 contained the skeleton of a 5- to 9-year-old child. Similarly sized grave SG174 (G69) contained only fragmentary skeletal remains that could be neither aged nor sexed, but the grave size is suggestive of a child burial. The remains of a 1- to 2-year-old child SG217 (G69) were found in the same grave as an adult possible male (SG177).

Body position

Where body position was identifiable, all but one of the G68 burials were supine, the exception being a prone male (SG165). All but two of the G69 burials were supine; SG175 was on his right side and SG180 was flexed. Throughout the cemetery there was no pattern in the positioning of the head, except for a few instances where neighbouring individuals were similarly laid out (perhaps suggesting a deliberate choice, or burial at the same time).

Two adults of indeterminate sex had been decapitated; their heads were between the lower legs (SG173) and adjacent to the right lower leg (SG160). Otherwise, their bodies did not appear to have been treated any differently — they were supine and laid out in a similar fashion to the other burials. Inhumation SG173 did seem to occupy an intermediate position between the two groups of graves in the cemetery, however: it was aligned WNW–ESE

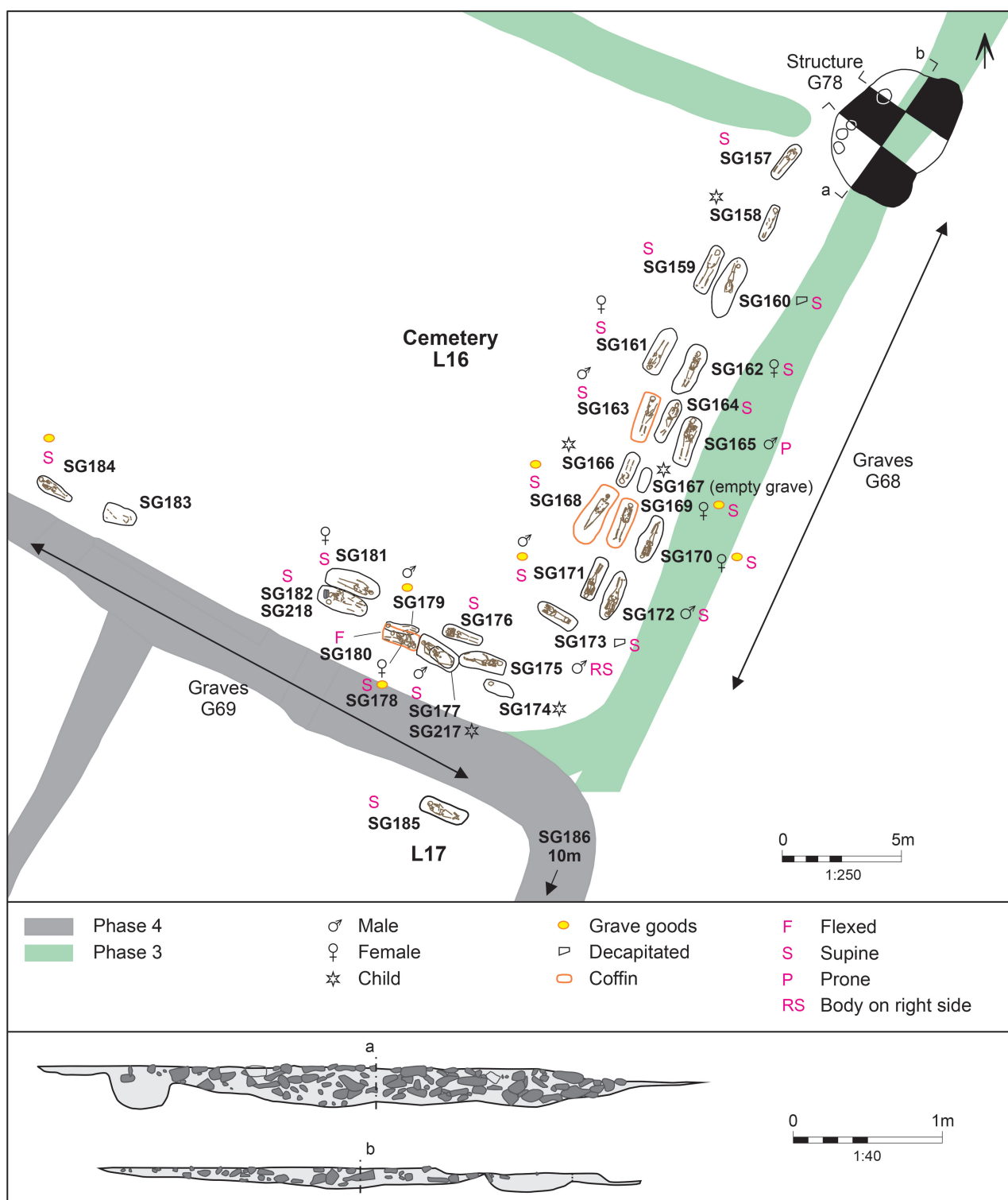


Figure 4.11: Detailed plan of inhumation cemetery L16 and adjacent burial SG185

(and therefore assigned to G69) but was spatially closer to the NNE–SSW graves of G68.

Reuse of burial plots

One area at the southern end of cemetery L16 contained three adjacent burial plots to which subsequent burials were added (Fig. 4.12): SG177/217 (adult and young child), SG182/218 (two adults) and SG178/179/180 (three adults).

The small grave dug for child burial SG217 reflected the size of the body. Subsequently, an adult possible male

SG177 was buried in a new, larger grave dug directly over the earlier burial. The skeleton of the child, although poorly preserved, was not significantly disturbed because the base of its grave was slightly deeper than the later grave. It is likely that the position of the earlier burial had been marked in some way to enable the positioning of the later burial. The adult burial was supine, although the legs were in an unusual, splayed position.

Adult burial SG218 was disturbed when a second adult SG182 with a large pillow stone was placed in the same grave. Most of the long bones of the original burial



Plate 4.5: Graves G68 (L16) under investigation, looking north-east, with SG175 in the foreground



Plate 4.6: Graves G68 (L16) under investigation, looking south-west

were moved to the edges of the grave, and the skull was placed next to the head of the newly buried body.

One burial plot was used for the separate interment of three individuals, SG178, SG179 and SG180. Variations in the depth and extent of the grave ‘cuts’ and the position of the skeletons suggest that the burials took place at different times. The original grave of a supine, 18-year-old female SG178 was the deepest (0.58m) in the cemetery. The head lay to the east-south-east, and the left side of the body was flush with the side of the grave. The grave profile and the presence of iron nails and fittings suggest that the burial may have been cofined; however, this seems to be contradicted by the outstretched right arm. Three late 3rd–4th-century coins were recovered from this burial. The second burial SG179 was a poorly preserved, possible male adult (aged 40+) in a new grave that partly truncated the northern side of the original grave. The head was to the west-north-west, in contrast to the original burial. The third burial of a 40- to 45-year-old adult SG180 was flexed, with the head to the west-north-west. The grave was dug directly over (but not deep enough to disturb) the original burial, as if the latter were still marked in some way.

Coffins and packing stones

Convincing evidence for coffins — sufficient coffin-type nails and iron fittings (SG168, SG169 and SG178), or the shape of the grave (SG163) — was identified in four graves. The numbers of nails varied from four (SG168) to seventeen (SG169). Other graves contained nails, but never more than two, and these have not been taken as

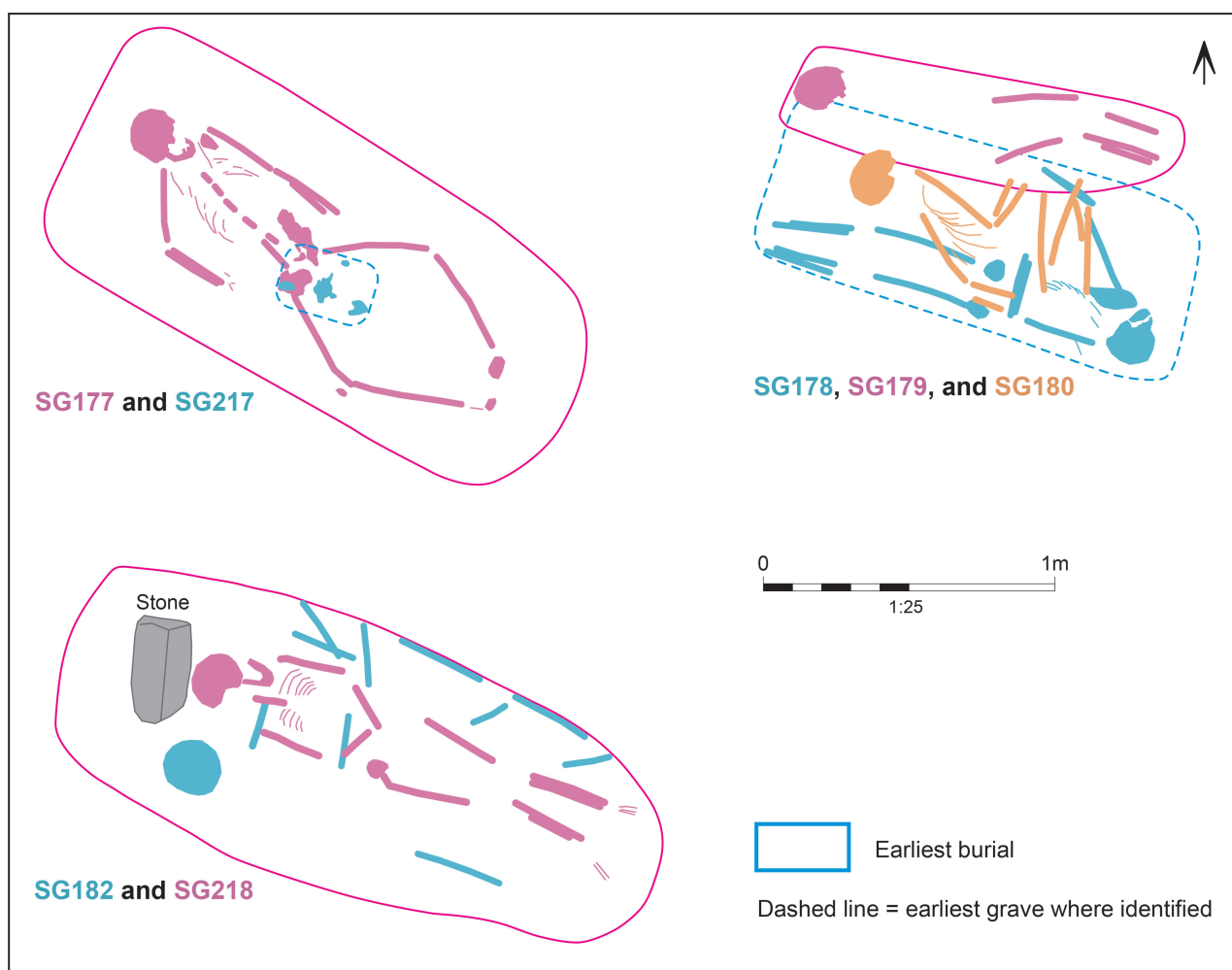


Figure 4.12: Detailed plans of multiple burials: SG177 and SG217; SG182 and SG218; and SG178, SG179 and SG180

evidence for the presence of a coffin. Burials SG169 and SG178 shared a common feature in having a double-spiked loop, and in the case of SG178 two rectangular staples, perhaps suggesting a hinged lid (Chapter 5.VI). SG182 had a piece of limestone, c. 0.4 x 0.2m, positioned at the head end of the grave like a pillow stone.

Grave goods

Seven burials were accompanied by grave goods, most commonly pottery vessels and coins. Four burials (SG168, SG169, SG170 and SG171, all within grave group G68) contained pottery vessels (Fig. 5.1). They were placed by the left shoulder (SG168), the right shoulder (SG169) and the feet (SG170). The fragmented nature and distribution of the pottery within SG170 and SG171 suggests that the vessels may have been deliberately broken prior to burial. This is particularly clear in the case of SG171, where sherds from the same vessel were found in three different locations within the grave.

Coins were found in three graves: SG178 (two late 3rd-century and one early 4th-century), SG179 (late 1st-century) and SG184 (1st- to 2nd-century) (Chapter 5.IV). Dark brown staining around the coin in SG184 suggests that it may have been in a purse next to the upper left leg. The same burial also produced a possible glass bead, while SG178 contained a brooch pin (RA2474) and a copper-alloy mount / strap fitting (OA50). However, it is uncertain if the latter are grave goods or accidental inclusions in the backfill (Chapter 5.VI).

Possible cemetery structure G78

A sub-rectangular area of compacted limestone rubble (6m x 4m and 0.3m thick) was positioned over part of Phase 3 enclosure ditch G7 (L5) (Figs 1.7 and 4.11; Pl. 4.7). The excavated segments produced 1.6kg of ceramic building material; this is insufficient to suggest a tiled roof, and probably represents hardcore. Four post-holes were tentatively identified within the rubble on the western side of the structure (Pl. 4.8), and a small circular arrangement of limestone fragments on the south-eastern side may represent part of a post-pad or the



Plate 4.7: Structure G78 during cleaning



Plate 4.8: Structure G78 looking north, after excavation of first quadrant revealed possible postholes

basal remains of another posthole. However, none of these was convincing or positioned in a way to suggest the presence of a timber superstructure.

The rubble was probably the foundation for a structure or building. Its proximity to the northern end of grave group G68 suggests some sort of association with the cemetery. A narrow gap between the structure and the terminus of the adjacent Phase 3 enclosure ditch G8 may indicate that it was part of an entrance into the cemetery from the north. It may even represent the base of a tomb or mausoleum, although this is impossible to prove.

Inhumation cluster L17

Two adult inhumations SG185 and SG186 (G70), c. 10m apart (Fig. 4.5), were situated in the north-east corner of Enclosure A (L15). SG185 was parallel to the adjacent NW–SE enclosure ditch, whereas SG186 was dug into the upper fills of the NE–SW element of the enclosure ditch. Both burials were supine, but the position of some of the bones in SG185 was slightly odd — the bones of the upper and lower right leg were offset. Neither burial contained grave goods. SG185 produced a flat-headed nail, but a single nail is insufficient evidence on its own to indicate the presence of a coffin (Chapter 5.VI). SG185 featured blocks of limestone around both ends of the body — a larger stone (c. 0.45m by 0.2m) at each end of the grave, and two smaller, paired stones to either side of the head and feet.

Inhumation cluster L22

Six (generally young) adults, a neonate and an adult dog were buried in the southern part of Enclosure C (L15), adjacent to possible buildings L21 (Fig. 4.3). The adult inhumations have been divided into two groups (G72 and

G73) on the basis of grave alignment (Fig. 4.13; Table 4.2).

Graves SG188, SG190 and SG191 were aligned NNE–SSW (G72). The latter two had been dug next to each other into the top of a Phase 2 ditch; their heads were later truncated by the re-digging of a Phase 4 enclosure ditch (Pl. 4.9). Two of the ESE–WNW graves in G73 had been dug into this Phase 4 ditch, indicating that not all the graves were contemporary and suggesting that the alignments might reflect two episodes of burial, separated by a considerable period of time. The Phase 4 enclosure ditch produced a small assemblage of bone SG8.4, presumably derived from disturbed graves. The head of SG188, c. 14m to the north-east, had also been truncated by a Phase 4 enclosure ditch.

There was no pattern in terms of the sex of the burials, but most of them were prone. SG190 is unusual for the burials from this site in that it was placed on its left side. Four nails were found in association with SG188 — three in a line along the foot of the burial and a fourth to the right of the pelvis, suggesting that this individual had been buried in a coffin (Chapter 5.VI). The only accessory item was a coin of 395–402 (RA2435) found in the pelvic area of SG190, possibly suggesting it had been in a purse suspended from a belt. The coin indicates a very late Roman date for this specific grave (Chapter 5.IV), and probably for the remaining G72 graves and the re-digging of the Phase 4 enclosure ditch. As graves G73 are stratigraphically later, a date in the early 5th century appears likely.

ESE–WNW graves G73 were either dug into (SG192 and SG193) or just north of (SG189) the southern Phase 4 enclosure ditch. All three burials were prone. Burial SG193 (a female) contained sherds of an incomplete,

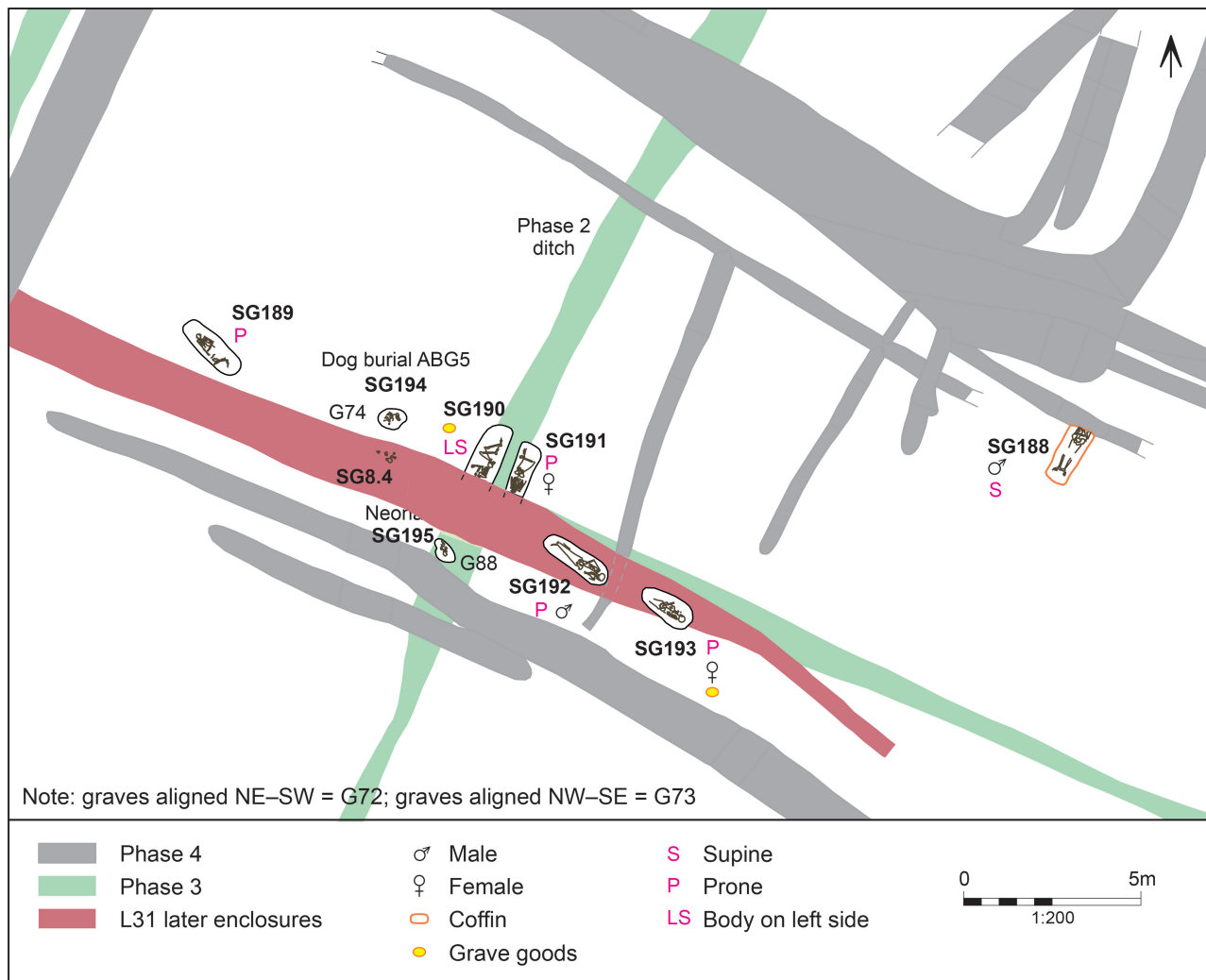


Figure 4.13: Detailed plan of inhumation cluster L22



Plate 4.9: Inhumations SG190 and SG191, looking south. Scale 1m

fragmented shelly-ware vessel, but it is uncertain whether they represent grave goods or not.

The grave of neonate SG195 (G88) was dug into the Phase 2 ditch immediately south of the southern Phase 4 enclosure ditch. Dog burial ABG5 (SG194; G74) was in its own grave nearby, but was not close enough to any particular human burial to suggest a clear association.

Inhumation clusters L23, L25 and L26

Three small clusters of inhumations (L23, L25 and L26) were situated within or adjacent to Enclosure D (L15; Fig. 4.3). Five of the seven graves were aligned NNE–SSW, SG199 was aligned north–south, and SG201 east–west (Fig. 4.14; Table 4.2). All were positioned near existing or former enclosure ditches, with the three in L26 dug into ditches (Pl. 4.10); this factor may account for the varying alignments of the graves.

All were adults except SG198, a 3- to 5-year-old child. Most of the adults were identified as male or possible male; there was only one female (SG199). Four of the burials were prone, including all three males within cluster L26. Sufficient nails were found in SG196 and SG197 to suggest the presence of a coffin, especially because of the constricted body position. Two nails were found within SG200, one near the skull and one near the feet; however, the shape of the grave is not suggestive of a coffined burial.

Grave goods were found in five of the seven graves — four copper-alloy bracelets/armlets in SG198 (OA23–26) (Chapter 5.VI); a glass bead (GL7) in SG202 (Chapter 5.V); a forged silver coin of AD231 (RA2462) in SG200 (Chapter 5.IV); a small adult dog (ABG6) at the feet of the adult male in SG197 (Chapter 6.II); and part of the skull of another small dog (SKL4) next to the mouth area of the human skull in SG196 (Chapter 6.II).

The single female amongst these burials (SG199) had possible African genetic heritage (Chapter 6.V). Her burial was unusual as it was the only one within this area in a north–south grave, and one of the few outside formal cemetery L16 and adjacent cluster L17 that was definitely supine.



Plate 4.10: Inhumation SG196 (L26) during excavation, looking east

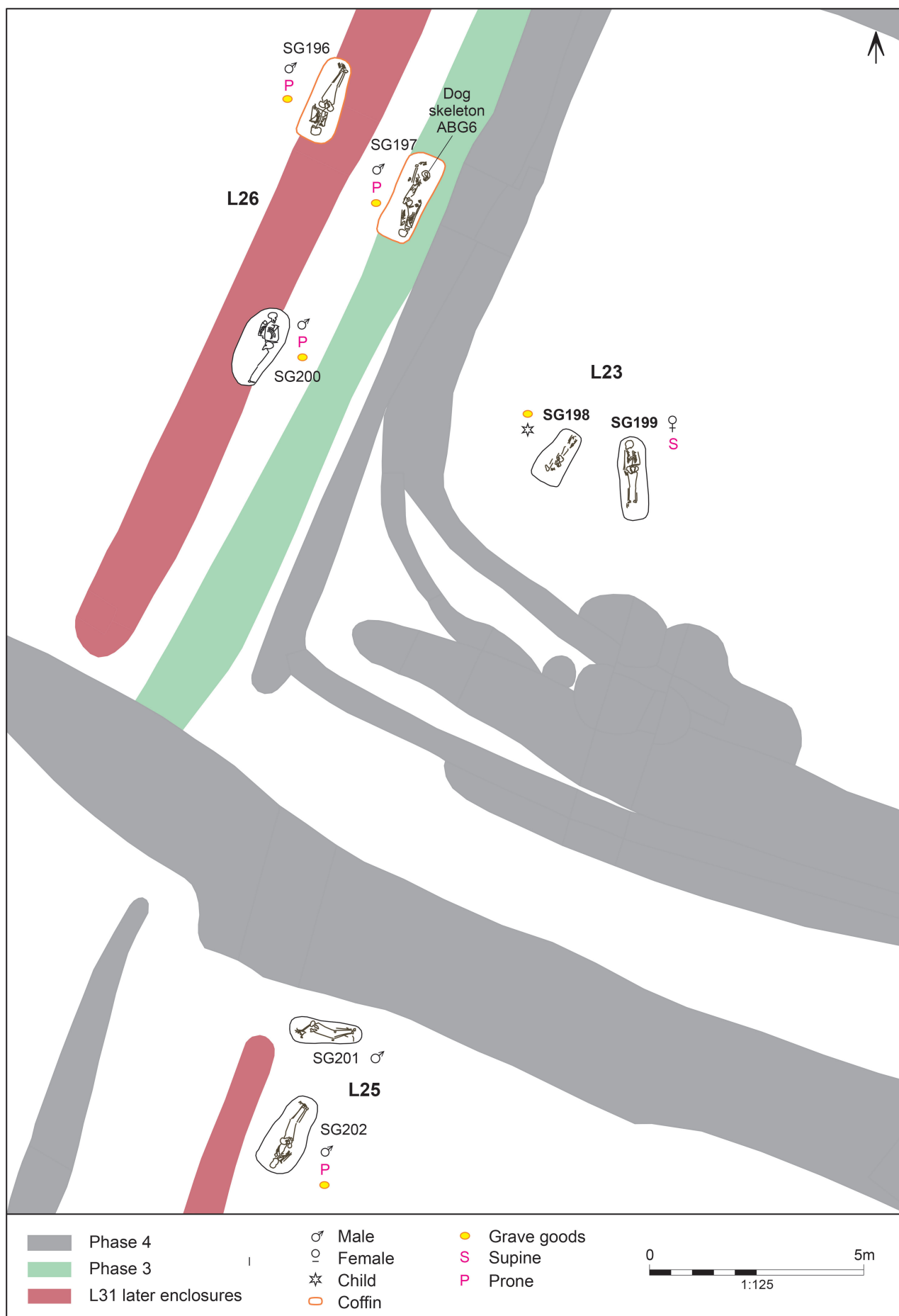


Figure 4.14: Detailed plan of inhumation clusters L23, L25 and L26

Chapter 5

Artefacts

I. INTRODUCTION

The investigations yielded an artefact assemblage comprising pottery, ceramic building material, metal *personalia* and objects associated with domestic and agricultural activity. 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); samian (Appendix II); brick and tile fabric types (Appendix III) and coin catalogues (Appendix IV).

II. POTTERY

Jackie Wells

Introduction and methodology

An assemblage comprising 3,398 sherds (63.5kg) was recovered, the majority associated with Phase 4 features (Table 5.1). Quantification was by minimum vessel and sherd count, and weight. Sherds belonging to the same vessel, but deriving from separate contexts, were quantified as one. The condition of the pottery from each deposit was noted, and attributes such as decoration, manufacture, levels of abrasion and evidence of function (residues, sooting and wear marks *etc.*) were recorded. Selected pottery is illustrated in Figure 5.1; vessels are shown at one-quarter size, external view on the right and internal view on the left. As the assemblage comprises a standard range of well-documented Roman forms, only a small selection have been reproduced in this report.

Residual Roman pottery deriving from medieval and modern deposits (Phases 5 and 6) totals approximately 3% of the assemblage (by sherd count) and, unless of intrinsic interest, is not further discussed.

Post-Roman pottery comprises a single, intrusive sherd of 17th-century stoneware in a Phase 4 feature.

Phase 1: Pre-Roman

Pits G3 contained twenty-six handmade body sherds (62g), representing five vessels, in fabrics containing shell (eighteen sherds) and quartz/flint (eight sherds). All are highly abraded and fragmentary, with a mean sherd weight of 2g. No diagnostic vessel elements occur, and decoration comprises finger impressions on two sherds. The wares are thought to be of early Iron Age date, although their very poor condition precludes positive identification.

Phase	Sherds	%	Wt (g)	%
1	26	0.8	62	0.1
2	39	1.1	443	0.8
3	408	12.0	7,720	12.1
4	2,819	83.0	53,430	84.1
5	16	0.5	227	0.4
6	90	2.6	1,619	2.5
Total	3,398	100	63,501	100

Table 5.1: Pottery quantification by phase

Phases 2–4: Roman

Over 96% of the pottery derives from Phases 2–4. The material was collected from 257 features — principally boundary or enclosure ditches and pits. The basic, utilitarian types present, coupled with the relatively small amount of both regional and continental imports, are indicative of domestic activity of modest status. The Roman pottery generally survives in good condition, indicated by a mean sherd weight of 19g. A number of vessels are represented by more than single sherds, and several full vessel profiles can be reconstructed. This suggests that the pottery occurred in its primary context, close to areas of original use; this conclusion is corroborated by the low incidence of residuality within the assemblage.

Fabrics

Where possible, codes from the National Roman Fabric Reference Collection (NRFRC) (Tomber and Dore 1998) have been used (Appendix I). Wares not occurring in the NRFRC have been assigned an alphabetic code based on principal inclusion type and colour (Table A1; *cf.* Timby 2009).

Local wares

The assemblage is primarily local in character, dominated by products of the Nene Valley industries and Midlands shelly wares.

Nene Valley reduced wares, dating from the second quarter of the 2nd century to the late 3rd or early 4th century (Perrin 1999, 78), total 26% of the assemblage by weight and 31% by sherd count. Nene Valley colour-coated wares, fairly well established by the later 2nd century (Perrin 1999, 87), total 12% by weight and 16% by sherd count.

Shell-tempered wares (37% by weight and 28% by sherd count) of the general South Midlands shelly tradition derive from a number of local sources, including the 1st- to late 4th-century production centre at Harrold, Bedfordshire (Brown 1994).

Reduced and oxidised sandy wares collectively total 10% by weight and 11% by sherd count. They encompass a range of fabrics likely to derive from various unprovenanced local sources, particularly during the early Roman period, when small-scale localised manufacture would have been the main means of production.

Grog-tempered wares, a distinct local tradition (Timby 2009, 178; Marney 1989, 64–9), total 6% by weight and 5% by sherd count. The earliest examples are three 1st-century sherds in the ‘Belgic’ tradition. The majority comprise grog-tempered sandy wares of later 1st- to 2nd-century date (124 sherds). Seven sherds from storage jars also occur in Midlands pink grogged ware of later 2nd- to 4th-century date (Booth and Green 1989, 82).

Regional wares

Regional imports span both the early and later Roman period; they total 2% by weight and sherd count. They

comprise a small number of vessels from Dorset, Hertfordshire (Verulamium and Hadham), Warwickshire/Leicestershire (Mancetter/Hartshill) and Oxfordshire.

Imports

Forty-six samian sherds were collected, the majority of central Gaulish origin (Appendix II); they represent 1.4% by sherd count of the whole assemblage. Only one decorated sherd was found. *Amphorae* are represented by two sherds of the Baetican Dressel 20 form, known to occur widely on post-conquest sites and up to the mid-3rd century.

Forms

As with many rural sites (*cf.* Timby 2009, 181) the assemblage is dominated by jars, with bowls, dishes and 'specialised' forms occurring in smaller quantities. Forms include narrow-necked and wide-mouthed jars with triangular, bead, and everted rims; storage vessels; lid-seated bowls and jars; bowls with flanged, plain, reeded and rectangular rims; flagons; folded beakers; plain-rim beakers; lids; dishes; *mortaria*; *amphorae*; castor boxes; and single examples of a pentice-moulded beaker and a folded funnel scale beaker. The widest range of forms comes from Phase 4 deposits (Table 5.2).

A standard range of decorative elements occurs, including rouletting, rilling, burnishing (overall and lattice), slipping, painting and barbotine motifs, the latter restricted to colour-coated wares. Post-firing graffiti, in the form of crudely incised crosses, occur on the bases of two Nene Valley grey-ware vessels. A number of the coarse ware jars are sooted, indicating their use as cooking pots. Few vessels appear to have been deliberately curated, modified or repaired, suggesting ready access to new pottery.

The assemblage appears to be typical for the region, reflecting the availability of products from the Nene Valley and other local industries. The poor representation of imported wares, particularly samian, also appears to reflect local trends. The pottery complements the smaller assemblage recovered from the nearby enclosure complex at Burton Wold Farm (Webster 2008) and generally compares well with assemblages recovered from other rural settlements in Northamptonshire, *e.g.* Oundle (Timby 2005), Higham Ferrers (Timby 2009) and Overstone (Williams 1976).

Discussion by phase (Roman)

Phase 2 (late 1st to mid-2nd century)

The ditches defining enclosure G2 (L2) yielded thirty-nine Roman sherds (443g), representing thirty-three

vessels. Shelly and Nene Valley grey wares dominate (fifteen and fourteen sherds respectively), with six sherds of 1st- to 2nd-century grog-tempered ware and a scrap of samian. Diagnostic forms comprise single examples of shelly jars with everted and triangular rims. Three Nene Valley colour-coated sherds (34g) within this phase are considered to be intrusive.

Phase 3 (mid-2nd to late 3rd century)

Features assigned to Phase 3 yielded 408 sherds (7.7kg), representing 262 vessels, the largest assemblage deriving from 'ladder' enclosure system L5 (3.7kg). The secondary and tertiary ditch fills contained the greatest accumulations of pottery, with negligible quantities deriving from the primary fills. With the exception of quantity, there is no appreciable difference between the L5 assemblage and the material collected from the ditches defining enclosure L4 (believed to be the earliest element of the Phase 3 settlement). The small assemblages from domestic foci L6, L7 and L8 (Table 5.3) are also closely comparable in terms of fabric type and vessel form. Pit G51 (L7) contained twenty-six sherds (532g) from the same vessel which may represent a 'structured' deposit.

Negligible assemblages, weighing 283g and 2g respectively, derived from peripheral enclosures L10 and trackway L12. Three residual pre-Roman sherds (45g) were recovered from enclosures L4 and L10.

The Phase 3 pottery displays variable fragmentation, with sherds ranging from 1g to 229g. Local wares comprise the majority of the assemblage. Products of the Nene Valley industries total 38% (by sherd count), principally grey ware — the dominant fabric across all Land-use areas. Local sandy reduced and oxidised wares total 30%, followed by shelly wares (25%). Regional and continental imports respectively total approximately 1% and 3% of the assemblage.

Phase 4 (late 3rd to early 5th century)

Phase 4 features accounted for 84% of the site assemblage (by weight): they yielded 2,819 sherds, representing 2,077 vessels (53.4kg). The majority derived from enclosures and associated activity (74% by sherd count), followed by quarrying (20%) and burials (6%). The largest pottery concentrations were associated with 'ladder' enclosure system L15 and nearby quarrying L30; they respectively produced 19.1kg and 10.6kg. As in Phase 3, the secondary and tertiary ditch fills contained the majority of the pottery, with smaller quantities deriving from the primary fills.

Negligible assemblages, each weighing less than 200g, were recovered from enclosures L11/L15, domestic foci L20 and L21, and burials L23, L25, L26 (Table 5.4). Residual pre-Roman pottery (43g) derived from L15 and L16.

The condition and degree of pottery fragmentation compare well with the Phase 3 assemblage. Again, local wares account for the majority. Products of the Nene Valley industries are dominant across all Land-use areas, with grey wares totalling 32% (by sherd count) and colour-coated wares 18%. The proportion of shelly wares has increased to 29%, possibly reflecting the dominance of the Harrold industry in the later Roman period. Local sandy reduced and oxidised wares total 17%.

The proportion of regional imports has marginally increased to 2%, while continental wares have reduced, representing 1% of the assemblage.

Form	Phase 2		Phase 3		Phase 4	
	Vessels	%	Vessels	%	Vessels	%
Jar	2	66.6	16	43.2	91	40.1
Bowl / dish	—	—	11	29.7	87	38.6
Mortarium	—	—	3	8.2	11	4.8
Lid	—	—	—	—	2	0.8
Beaker	1	33.4	7	18.9	29	12.8
Flagon	—	—	—	—	2	0.8
Box	—	—	—	—	3	1.3
Amphora	—	—	—	—	2	0.8
Total	3	100	37	100	227	100

Table 5.2: Quantification of pottery vessel forms, excluding samian ware (Phases 2–4)

	Fabric	Enclosures		Domestic foci within L5			Field	Trackway	Total
		L4	L5	L6	L7	L8	L10	L12	
Local	BW	—	4	7	—	—	—	—	11
	GT	6	27	1	—	1	—	—	35
	GT WW	3	3	3	—	1	2	—	12
	GW BS	1	—	—	—	—	—	—	1
	GW MI	2	4	2	2	—	—	—	10
	GW SA	1	4	1	1	2	—	—	9
	GW WS	—	23	—	—	—	—	—	23
	LVN CC	—	10	10	3	4	2	—	29
	LVN PA	—	—	1	—	—	—	—	1
	LVN RE	23	54	17	14	8	7	—	123
	LVN WH	—	3	—	—	—	—	—	3
	OX SA	—	3	—	—	1	1	—	5
	SA BB	—	—	1	—	—	—	—	2
	SA LI SH	—	12	—	—	1	—	—	13
	SH	8	39	11	35	5	3	1	102
Regional	DOR BB1	—	—	—	—	—	1	—	1
	OXF	—	—	1	—	—	—	—	1
	OXF RS	—	1	—	—	—	—	—	1
	OXF WHM	—	—	1	—	—	—	—	1
	VER WH	1	2	—	—	—	—	—	3
Import	CG SAM	—	11	—	—	1	—	—	12
	EG SAM	—	—	1	—	—	—	—	1
	SAM	—	1	—	—	—	—	—	1
Unknown	CC	—	—	2	—	—	—	—	2
	MO	—	1	—	—	—	—	—	1
	OX MI	—	—	1	2	2	—	—	5
Total sherds		45	203	60	57	26	16	1	408
Total wt (g)		1,027	3,788	1,257	1,123	240	283	2	7,720

Table 5.3: Phase 3 pottery quantification by Land-use area and sherds count

Enclosures systems L14, L15 and L31

These Phase 4 enclosures represent the reconfiguration and modification of Phase 3 enclosure system L5. The small assemblage (3kg) from the earliest alterations L14 differs little from the L5 material. A sizeable assemblage (19kg) from main enclosure system L15 — while seeing the continued dominance of Nene Valley reduced wares — is characterised by an increase in the quantity of shelly wares and Nene Valley colour-coated wares (the latter with the addition of grey-ware copies to the form repertoire). Regional imports from Hertfordshire and Oxfordshire occurred in L15 and L31, with the greatest quantity in the latest enclosure. Forms are mainly bowls — some with rouletted decoration — a flanged mortarium, and a flagon or jar handle.

The smaller size of the pottery assemblage (8kg) from L31 may correspond with a contraction of the settlement area in the later Roman period.

The range of vessel forms is comparable across all enclosures and, with the exception of a small quantity of Nene Valley and Oxfordshire mortaria, and two amphora sherds, displays a general dearth of specialist forms.

Burials**Inhumation cemetery L16**

Eleven burials yielded a total of 148 sherds (1.2kg). In seven cases, the pottery derived from the backfill and was not associated with the inhumations, but fragmentary accessory vessels were recovered from the other four burials). They comprise a Nene Valley colour-coated beaker (SG168; Fig. 5.1: P1); a 4th-century Nene Valley colour-coated pentice-moulded beaker (SG169; Fig. 5.1: P2); and two rilled shelly vessels (SG170; Fig. 5.1: P3 and SG171; Fig. 5.1: P4). The fragmented nature and distribution of the pottery within graves SG170 and SG171 suggest that the vessels may have been deliberately broken prior to burial. This is particularly clear in

SG171, where sherds from the same vessel were collected from three different locations within the grave.

Isolated inhumation SG187

Burial SG187 (G71), on the periphery of domestic focus L19, yielded 122 sherds (2.4kg), representing five accessory vessels. They comprise a Nene Valley grey-ware jar and beaker (Fig. 5.1: P5 and P6), the former with rouletted decoration and a crudely incised X on the base; a Nene Valley colour-coated folded funnel scale beaker of mid-to late 3rd-century date (Fig. 5.1: P7); an oxidised sandy two-handled jar (Fig. 5.1: P8); and a Nene Valley colour-coated shallow bowl (Fig. 5.1: P9). The latter appeared to have been broken prior to burial, with twelve sherds deliberately placed beneath the skull and a further four along the north side of the grave.

Inhumation clusters L22, L23, L25 and L26

Sixty sherds (670g) derived from inhumations in clusters L22, L23, L25 and L26. Nearly all the sherds occurred in the graves' backfill and did not appear to be directly associated with the burials. The only possible exception is the shelly-ware vessel in SG193 that may represent an accessory vessel.

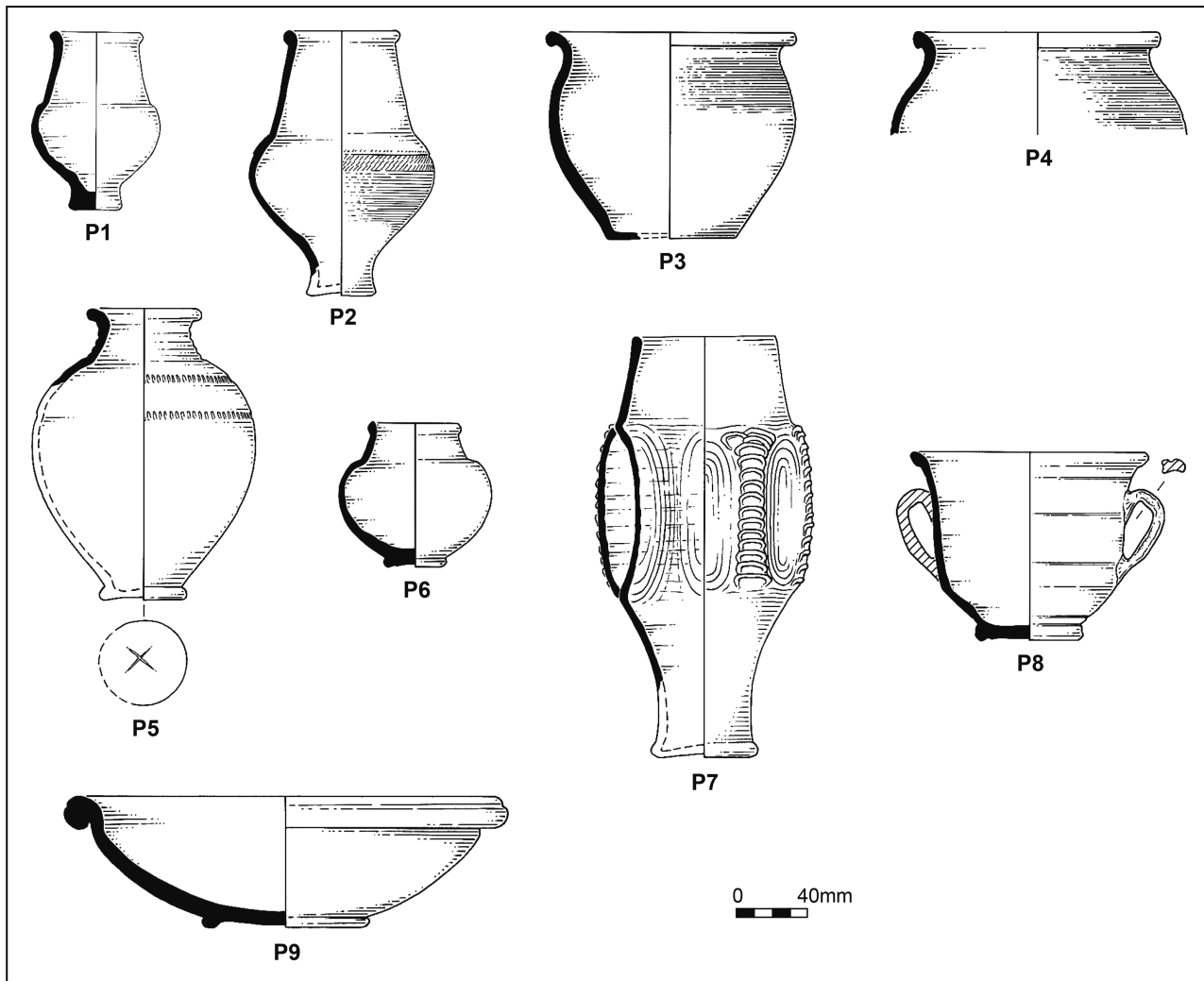
Quarrying activity L30

Located in the north-east part of the settlement, quarry pits G11 and G42 (L30) yielded an entirely Roman assemblage weighing 10.6kg, the majority deriving from the secondary and tertiary fills. Sherds are sizeable, with a mean weight of 20g, and are likely to represent discarded material associated with activity within nearby enclosure system L15. Wares are predominantly shell-tempered and comprise sizeable rilled jars and bowls, many characteristic of the later Harrold industry. Nene Valley reduced and colour-coated wares continue to be important, with colour-coated forms including flanged

	Fabric	Enclosures		Activity within enclosures							Inhumations				External activity			Quarry		Total	
		L14	L15	L27	L29	L31	L18	L19	L20	L21	L24	L16	L22	L23	L25	L26	L11/15	L28	L34		L30
Local	BM MIC	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
	BW	1	20	2	2	18	-	2	-	-	2	-	2	-	-	-	-	-	7	8	64
	GT	4	14	2	1	36	-	2	1	-	-	1	4	-	-	-	1	1	1	5	79
	GT GW	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	3
	GT WW	1	6	1	1	10	-	-	-	-	-	-	-	-	-	-	-	1	5	-	25
	GW BS	-	8	1	3	2	-	-	-	-	2	-	-	-	-	-	-	2	-	-	18
	GW MI	4	32	5	3	16	-	2	1	1	2	-	-	-	-	-	-	3	5	6	80
	GW SA	2	35	2	3	23	2	2	-	1	3	2	-	1	-	-	1	-	7	-	84
	GW WS	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	5
	LNVC	11	117	9	13	83	-	89	5	1	4	63	2	-	-	3	-	8	13	89	510
	LNVR	52	373	33	23	123	4	50	7	1	25	3	6	5	-	-	-	18	21	154	898
	LNVR WH	2	4	1	2	2	-	1	-	-	-	2	-	-	-	-	-	-	1	2	13
	OX SA	-	3	-	2	2	-	25	-	-	-	-	-	-	1	-	-	-	1	2	38
	OX WS	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
	PNK GT	-	-	1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	5	1	6
	PNK SA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3
	SABB	-	-	-	-	1	-	1	-	-	-	1	-	-	-	-	-	-	-	-	6
	SALISH	-	20	-	-	3	-	-	-	-	-	-	2	-	-	-	-	-	-	-	25
	SH	34	223	24	20	93	3	27	4	1	11	70	20	2	1	2	1	7	28	253	824
Regional	DOR BB1	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	7
	HAD OX	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2
	HADRE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	3
	MAH WH	1	2	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4
	OXF	-	1	-	-	2	-	-	-	-	1	-	-	-	-	-	-	-	-	-	4
	OXF PA	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	1
	OXF RS	-	5	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	16	28	
	OXF RSM	-	-	-	-	2	-	1	1	-	1	-	-	-	-	-	-	-	3	8	
	VER WH	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
	BAT AM	-	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2
Import	CG SAM	3	13	4	-	2	-	-	-	-	-	-	-	-	-	-	-	1	4	27	
	SAM	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1	
	CC	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	2
Unknown	MI	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
	MO	-	2	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4
	OX MI	3	8	5	-	5	-	1	1	-	-	-	-	-	-	-	-	1	3	2	29
UNID	-	-	-	-	-	-	-	-	-	-	3	-	-	1	-	-	-	-	-	4	
Total sherd	120	895	91	72	440	9	203	20	5	51	145	37	8	3	12	2	41	105	552	2,811	
Total wt (g)	3,082	19,094	1,391	863	8,608	181	4,501	143	29	693	1,202	421	92	32	125	9	408	1,801	10,655	53,330	

Excludes pre-Roman pottery

Table 5.4: Phase 4 pottery quantification by Land-use area and sherd count



Inhumation cemetery L16

P1	Nene Valley colour-coated beaker (fabric LNV CC)	SG168
P2	Nene Valley colour-coated beaker (LNV CC)	SG169
P3	Shelly bowl (SH)	SG170
P4	Shelly vessel (SH)	SG171

Isolated inhumation L19

P5	Nene Valley grey-ware narrow-necked jar with incised base (LNV RE)	SG187
P6	Nene Valley grey-ware beaker (LNV RE)	SG187
P7	Nene Valley colour-coated folded funnel scale beaker (LNV CC)	SG187
P8	Wide-mouthed jar with handles (OX SA)	SG187
P9	Nene Valley colour-coated bowl (LNV CC)	SG187

Figure 5.1: Selected pottery from Phase 4 inhumations

and painted bowls, castor boxes and imitation samian bowls.

III. CERAMIC BUILDING MATERIAL

Jackie Wells

Introduction

The excavations produced 290 fragments of Roman building material (34.7kg), mostly deriving from roof tiles (Table 5.5). Phase 3 settlement activity accounted for 10% (by weight), with the remainder from Phase 4. The assemblage comprises sizeable pieces with a mean fragment weight of 120g; it is moderately abraded. Fabrics are tempered with either sand, shell or sand and shell, which constitute 63%, 26% and 11% of the assemblage respectively (Appendix III). Raw materials for the

brick and tile are likely to have been sourced locally. The shelly tile fabric is similar to that of the shell-tempered pottery, and at least some examples may derive from the same source.

Roof tile

Roof tiles occur in all fabric types. Tegula fragments total 60% of the assemblage and are of standard type. Rectangular, square or rounded flanges have variable widths and internal heights ranging from 15mm to 30mm. Most external flange depths fall below the average of 50mm quoted by Brodribb (1987, 13), with the exception of a single example at 55mm. Tile thickness ranges from 15mm to 28mm. The assemblage was too fragmentary for further measurements to be obtained. One example has a knife-cut rebate, and five have knife-trimmed edges. Five tegulae have a finger-impressed

Phase	Land-use area	Description	Tegula		Imbrex		Brick		Flue tile	
			No.	Wt (g)	No.	Wt (g)	No.	Wt (g)	No.	Wt (g)
3	4	Earliest rectilinear enclosure	1	125	—	—	—	—	—	—
	5	'Ladder' enclosure system	1	193	—	—	—	—	—	—
	6	Internal activity in northern enclosure	3	329	1	23	2	157	—	—
	7	Domestic focus in central enclosure	9	1,928	1	87	—	—	2	114
	8	Internal activity in southern enclosure	6	524	—	—	—	—	—	—
4	10	Trackway and enclosures to east	1	78	1	91	—	—	—	—
	14	Earliest enclosures within L15	3	199	6	1,493	—	—	—	—
	15	Main 'ladder' enclosure system	59	7,599	15	1,674	9	1,442	3	168
	16	Cemetery	11	1,311	1	92	—	—	3	242
	18	Pits within northern enclosure	1	243	—	—	—	—	—	—
	19	Activity within enclosure	8	1,171	—	—	1	935	1	81
	20	Pitting within enclosure	—	—	6	310	—	—	1	37
	21	Possible structural gullies within enclosure	2	514	—	—	—	—	—	—
	22	Inhumations within enclosure	—	—	2	204	—	—	—	—
	24	Pitting within southern enclosure	1	110	2	180	1	56	—	—
	27	Small internal curvilinear enclosure	5	598	5	200	1	79	—	—
	28	Open area between L15 and L29	3	863	—	—	1	381	2	342
	29	Enclosure	4	270	2	46	2	439	—	—
	30	Quarrying east of L15	32	3,051	6	373	16	2,125	6	203
	31	Latest enclosure ditches	24	1,992	6	466	9	1,456	2	147
	34	Unenclosed activity south of enclosure L29	34	2,576	7	338	2	403	1	32
Total			174	21,098	54	5,239	42	7,070	20	1,334

Table 5.5: Brick and tile quantification by Phase and Land-use area

groove on the angle between the inside of the flange and the tile face. Signatures occur on three tiles and comprise concentric rings and a V-shaped impression. The reuse of tegulae in the construction of ovens or similar structures is suggested by burning on five fragments.

Imbrex fragments account for 19% of the assemblage, ranging in thickness from 10mm to 20mm. They include a shell-tempered example (measuring 70mm at the height of the apex and with an external width of c. 150mm) that has an integral antefix (Pl. 5.1); this is decorated with a series of three finger-impressed concentric rings. Two curved tile fragments with thicknesses exceeding 21mm may derive from ridge tiles.

Box flue

Flue tiles occur exclusively in shell-tempered fabric and total 16% of the assemblage. They range in thickness

from 12mm to 16mm. Keying patterns were achieved by combing. Five examples have linear patterns, four are wavy/swirling, and one is decorated with a herring-bone motif. The patterns were executed using combs of varying prong width.

Brick

Brick fragments account for 5% of the assemblage, occurring in all fabric types. Most probably derive from bricks used for flooring and the *pilae* stacks used to support the floor. Thicknesses range from 30mm to 47mm, with a shelly outlier at 70mm; this outlier has pre-firing perforations of approximately 7mm in diameter, possibly to facilitate drying, or assist in the firing process.



Plate 5.1: Ceramic antefix

IV. COINS

Peter Guest

Introduction

The excavations produced 191 Roman coins and a single 16th-century copper jetton. The assemblage is large for a Romano-British rural settlement and the level of recovery, particularly of the small copper-alloy coins typical of the later Roman period, was undoubtedly enhanced by the presence of an experienced metal-detectorist on site for much of the fieldwork.

The catalogue of all coins from the investigations is presented in Table A4 (arranged by date of production with Group, Land-use area and Phase), Table A5 (arranged by RA number) and Table A6 (arranged by Phase, Land-use area and Group). The remainder of this section first describes the coins as an assemblage, then discusses their deposition in and around the settlement, before concluding with a comparison with other excavated assemblages from selected sites in the south-east Midlands.

Chronology

All but one of the 191 Roman coins are copper-alloy and were struck between the end of the 1st and the late 4th centuries (Table 5.6). The exception is a plated denarius of Alexander Severus (RA2462) from inhumation SG200 (L26) at the southern end of the Phase 4 ladder enclosure system. Forged silver coins of this type are relatively common from the early 3rd century, when Roman silver coinage was becoming increasingly unpredictable. Clearly, at this time there was profit to be had by running the risk of passing off a plated forgery for an official denarius with a much higher silver content — though RA2462 had probably been in circulation for a considerable time before it was deposited presumably as a grave-good.

A total of 162 coins could be identified at least to an emperor's reign or a 4th-century Issue Period. The earliest

coins in the assemblage are four large bronze denominations of the later 1st and 2nd centuries. All of these are very worn and only two could be tentatively identified as a Flavian dupondius and an uncertain denomination of a 2nd-century empress, probably Faustina the Younger. Two of these early bronzes (RA2019 and RA2014) were found in inhumations SG179 and SG184 respectively (cemetery L16). Thirty-two coins date to the 3rd century. Except for the denarius previously mentioned, these coins were radiates struck between 260 and about 290, with local copies ('barbarous radiates') outnumbering official issues nineteen to twelve. Half of the official coins were struck for the British usurpers Carausius (286–293) and Allectus (293–296), a significant number for this kind of site. It is likely, however, that most, if not all, of these Carausian and Allectan radiates were not lost in day-to-day use, but were part of a hoard of at least 111 late-3rd-century coins discovered during the digging of a silage pit in 1954 that included 109 examples of the two usurpers (HER 347420). It is probably no coincidence that three of the four coins recovered during partial re-excavation of the silage pit G84 are of Carausius.

The majority of the coins (129) were produced in the 4th century, with most struck in 330–378. These include seventeen examples of the VICTORIAE DD AVGG QNN two victories type (347–348), of which all are likely to be official issues, and twenty of the FEL TEMP REPARATIO falling horseman type (348–361), of which all, conversely, are copies. Three of the four coins of Magnentius or Decentius (350–353) are also copies, and this demonstrates both the demand for small change at this time and the steps taken to meet this demand when official supplies to a site declined (as appears to have been the case more widely in Roman Britain). The Valentinianic period (364–378) produced a further twenty-five coins, while seven coins struck between 388–402 are the latest Roman coins in the assemblage.

Provenance

Eighty-one coins were found in Roman features/deposits (Table A6), the overwhelming majority from Phase 4 (late 3rd to early 5th century). Medieval layers produced four coins, while 106 were from the subsoil and topsoil (all recovered by metal-detector).

The coins from Phases 3 and 4 derived from ditches, pits of various types and, occasionally, graves. Those from the main enclosure ditches (L15, L29 and L31) are a mixture of late 3rd- and 4th-century coins, indicating that the ditches remained open until at least 380. The seven coins found as a group (RAs 2103–2108 and 2302) in the eastern ditch G32 (L15) were all struck between 330–348 and may have been deposited together as a hoard (find-spot shown on Fig. 4.2). The presence of a Theodosian bronze struck in 388–402 (RA2115) from the latest enclosure ditches (L31) shows that coins were still being lost in the very last years of the 4th century and probably into the 5th. Other large groups of coins were recovered from pits within domestic/activity foci L18, L19 and L24; ditches forming small oval enclosure L27; and the large quarry pits to the east of the site (L30).

Graves produced seven coins: five from three graves (SG178, SG179 and SG184) within cemetery L16; and single coins from SG190 (cluster L22) and SG200 (cluster L26) in the southern enclosures. SG190 contained a Honorous bronze, struck in 395–402 (RA2435), indicating a very late date for this grave. The coin from

Date	Issue period	No. of coins	% of coins
to AD 41	I	—	0.0
41–54	II	—	0.0
54–68	III	—	0.0
69–96	IV	1	6.2
96–117	V	—	0.0
117–138	VI	—	0.0
138–161	VII	—	0.0
161–180	VIII	—	0.0
180–192	IX	—	0.0
193–222	X	—	0.0
222–238	XI	1	6.2
238–260	XII	—	0.0
260–275	XIII	11	67.9
275–296	XIV	20	123.5
296–317	XV	1	6.2
317–330	XVI	6	37.0
330–348	XVII	61	376.5
348–364	XVIII	29	179.0
364–378	XIX	25	154.3
378–388	XX	—	0.0
388–402	XXI	7	43.2
Sub-total		162	1,000
Æ: 1st–2nd c.		2	
Æ: 2nd c.		1	
Æ: late 3rd–4th c.		23	
Æ: mid–late 4th c.		3	
Total		191	

Table 5.6: Roman coins ordered by date of production

SG200 (RA2462) is the silver-plated Alexander Severus denarius forgery described above. Two of the site's four very worn 1st- or 2nd-century large bronzes were found in SG179 and SG184. These coins were already old when they were incorporated into the graves and it is possible that their antiquity was thought to give them amuletic qualities, or that they were heirlooms of some kind.

Discussion

In order to appreciate the significance of the Roman coin assemblage from the settlement, in terms of both the site's history and its economic basis, it is necessary to compare these coins with excavated assemblages from other sites in the region (Table 5.7). The 162 dateable coins from the site are compared to assemblages from five Romano-British rural settlements in Northamptonshire and Bedfordshire:

- 622 coins from Kempston Church End to the west of Bedford, found during work associated with a major sewer (Guest 2004)
- 70 coins also from Kempston Church End, found during work associated with the Bedford Western Bypass (Guest 2016). (Here referenced as SL155, as it was in the publication, to differentiate it from the above).
- 31 coins from Marsh Leys to the south-west of Bedford (Guest 2011)
- 28 coins from Ruxox, found within a pipeline between Bedford and Luton (Guest 2004)
- 80 coins from the villa at Croughton to the south-west of Brackley in Northamptonshire (Guest 2008).

The methodology involves a series of relatively simple statistical manipulations that set the Higham Road and

other assemblages against the background of coin-supply to Britain, in order to see when and how they deviate from the notionally average Romano-British site. The coins are converted into 'coins per mill' values, which are then added cumulatively and deducted from the Romano-British mean (an average of the coins from 140 sites). This technique produces a sequence of values that shows the extent to which a site's coins diverge from this provincial mean (Reece 1995).

Figure 5.2 plots 'coins per mill' values for the six sites' assemblages and shows that the Higham Road coins include relatively very few coins from Issue Periods I to XII (up to 260), while the later Roman period is characterised by two main episodes of coin loss, from 260–296 (Issue Periods XIII and XIV) and 330–348 (XVII). The Higham Road coin profile is very similar to those from SL155 and Croughton, as well as from Kempston Church End and Ruxox, though the last two sites had slightly later peaks of coin loss in the 4th century. Only the rural settlement at Marsh Leys appears to tell a different numismatic story, where late-3rd-century radiates were far more common than 4th-century coins.

Figure 5.3 shows the cumulative 'per mill' values deducted from the British mean for all six sites. This illustrates the close similarity of the Higham Road coins with those from Croughton and, to a lesser extent, with SL155, Kempston Church End and Ruxox. This suggests that several rural Romano-British sites in the south-east Midlands shared similar coin histories, though the correspondence between the settlement at Higham Road and the villa at Croughton indicates that this may have been determined by more than the settlements' apparent status and the relative wealth of their inhabitants.

Issue period	Higham Road		Croughton		Kempston Church End: Sewer		Kempston Church End: Bypass SL155		Marsh Leys Farm		Ruxox	
	Coins	Coins %	Coins	Coins %	Coins	Coins %	Coins	Coins %	Coins	Coins %	Coins	Coins %
I	–	0	–	0	2	0.3	–	0	–	0	–	0
II	–	0	–	0	4	0.6	1	1.4	2	6.5	–	0
III	–	0	–	0	2	0.3	–	0	–	0	–	0
IV	1	0.6	–	0	17	2.7	–	0	–	0	–	0
V	–	0	–	0	3	0.5	1	1.4	1	3.2	–	0
VI	–	0	1	1.3	3	0.5	2	2.9	–	0	–	0
VII	–	0	1	1.3	7	1.1	1	1.4	1	3.2	1	3.6
VIII	–	0	–	0	2	0.3	–	0	–	0	1	3.6
IX	–	0	–	0	1	0.2	–	0	–	0	–	0
X	–	0	–	0	5	0.8	–	0	1	3.2	1	3.6
XI	1	0.6	–	0	1	0.2	1	1.4	–	0	–	0
XII	–	0	–	0	–	0	–	0	–	0	–	0
XIII	11	6.8	8	10	90	14.5	14	20	12	38.7	5	17.9
XIV	20	12.4	7	8.7	90	14.5	10	14.3	13	41.9	5	17.9
XV	1	0.6	1	1.3	4	0.6	–	0	–	0	2	7.1
XVI	6	3.7	1	1.3	3	0.5	2	2.9	–	0	1	3.6
XVII	61	37.7	13	16.2	131	21.0	23	32.9	1	3.2	8	28.6
XVIII	29	17.9	24	30	66	10.6	5	7.1	–	0	1	3.6
IXX	25	15.4	15	18.7	136	21.9	5	7.1	–	0	2	7.1
XX	–	0	1	1.3	9	1.5	–	0	–	0	–	0
XXI	7	4.3	8	10	46	7.4	5	7.1	–	0	1	3.6
Total	162	100	80	100	622	100	70	100	31	100	28	100

Table 5.7: Roman coins from Burton Latimer and five sites in Northamptonshire and Bedfordshire

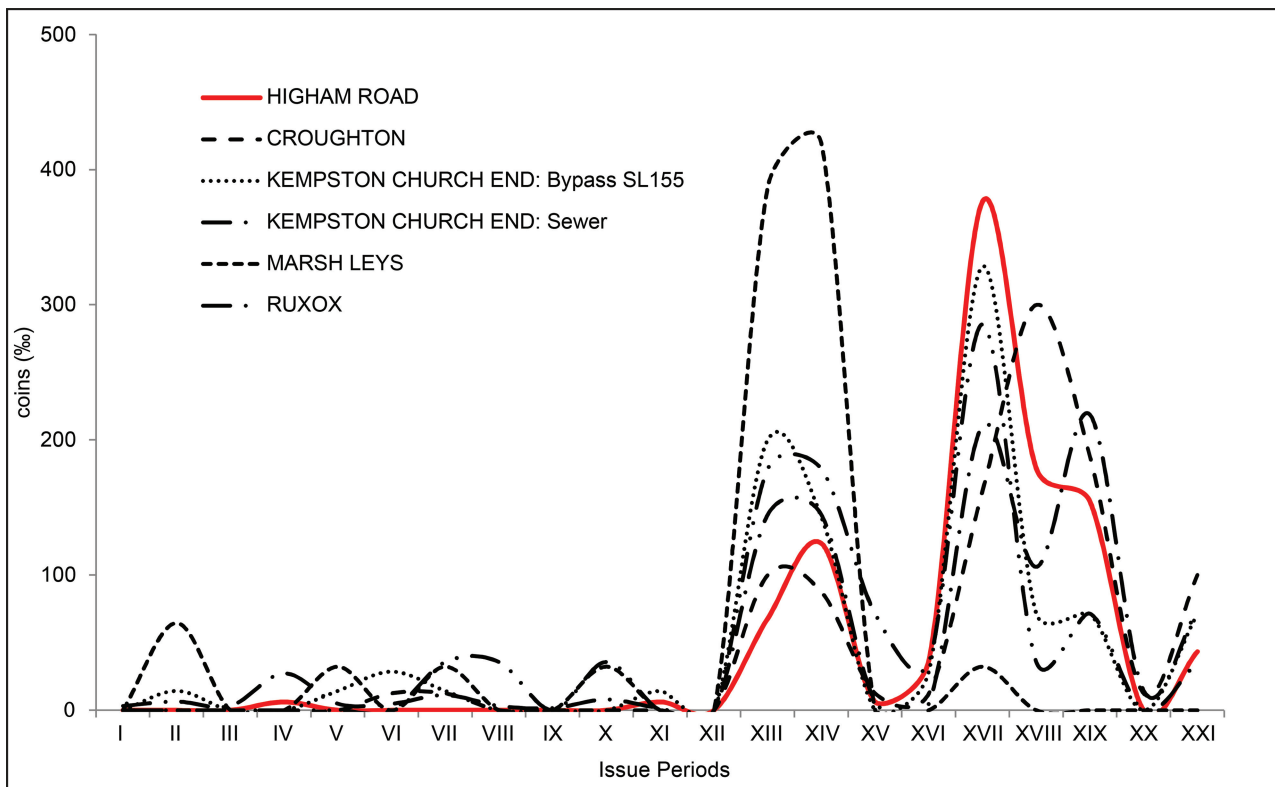


Figure 5.2: Graph showing Roman coins from Higham Road and five other rural sites

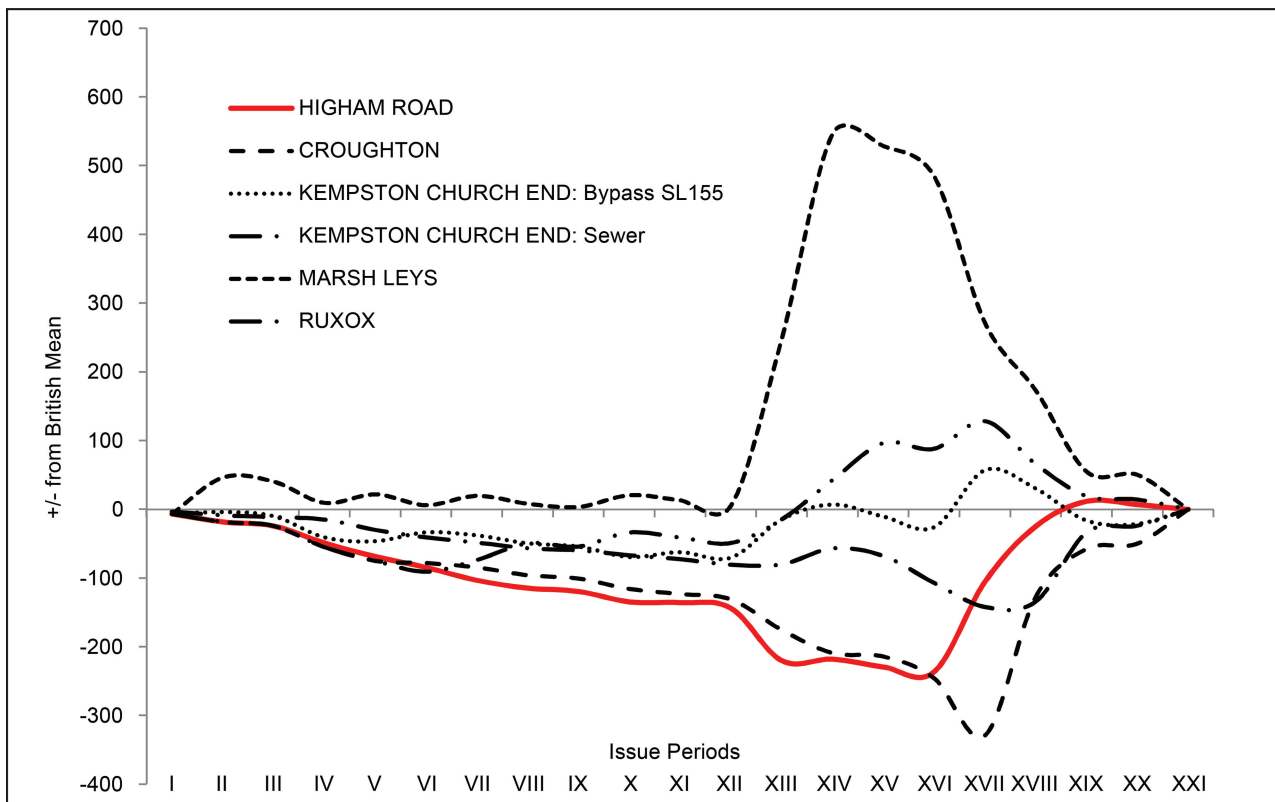


Figure 5.3: Graph showing coin loss profiles from Higham Road and five other rural sites

V. GLASS

Hilary E. M. Cool

Introduction

The excavations produced vessel glass, window glass and glass beads, discussed in separate sections below. Only relatively diagnostic pieces are included in the catalogue. Undiagnostic body fragments *etc.* are detailed in the archive.

Vessel glass

The excavations produced twelve fragments of vessel glass, summarised in Table 5.8 by fragment count and weight. The size and relatively undiagnostic nature of the material meant that quantifying the number of vessels represented was not appropriate.

Only one fragment was found in Phase 3 deposits; the rest derived from Phase 4. There are, however, grounds for thinking that the blue/green glass found in the Phase 4 (late Roman) deposits was probably residual. Blue/green glass was generally in use from the 1st to 3rd centuries, with blue/green bottles commonest in the later 1st and 2nd centuries. Some continued to be used into the 3rd century, but they are not to be expected from late 3rd-century deposits; certainly all the fragments of bottle glass found in Phase 4 deposits are smaller than the single fragment from Phase 3.

Bottles (GL2 and GL3) are the only form identifiable amongst the blue/green glass (*cf.* Price and Cottam 1998, 194–200). This is unsurprising as it is the commonest form found on early to mid-Roman rural sites. Basal fragment GL1 and some body fragments indicate that other blue/green vessels were present. There is no evidence of any use of colourless tableware. In this respect, the assemblage is very similar to the larger one from the domestic (non-shrine) deposits at Higham Ferrers (Cool 2009, 250). Where it differs from the Higham Ferrers assemblage is in the presence of 4th-century glass: despite the much larger area excavated at Higham Ferrers and occupation clearly going into the mid-4th century, there was no evidence of 4th-century use of glass vessels.

The Higham Road 4th-century vessels provide tantalising hints of what may have been present but, unfortunately, the assemblage consists of body fragments that do not allow the forms to be identified with certainty. GL6 from the edge of a concave base could have come from either a cup or a flask, probably the former because they were much more common in the 4th century. The most likely vessel form for GL5 is a Frontinus bottle (Price and Cottam 1998, 209–11); the fragment appears to have part of one corrugation but is broken before the full curve develops, making the identification insecure. Frontinus bottles are a long-lived form, but in this colour, a 4th-century date is appropriate. They went out of use before the end of that century.

Phase	B/G vessel Frag Wt (g)		B/G bottle Frag Wt (g)		4th-century Frag Wt (g)		Total Frag Wt (g)	
3	–	–	1	6.7	–	–	1	6.7
4	2	3.0	4	9.9	5	5.3	11	18.2
Total	2	3.0	5	16.6	5	5.3	12	24.9

B/G = blue/green

Table 5.8: Vessel glass by fragment count and weight

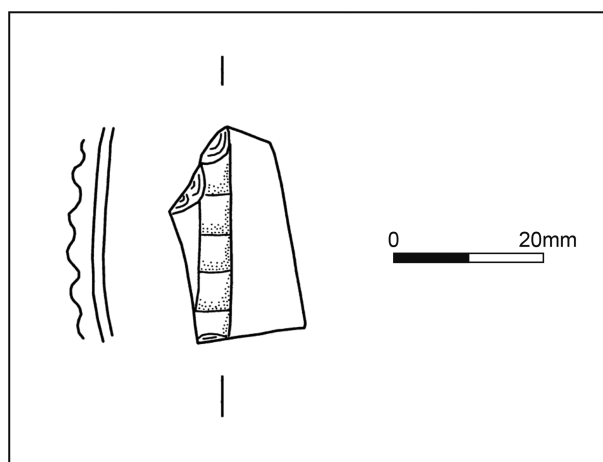


Figure 5.4: Glass vessel body fragment GL4 with vertical indented trail

GL4 (Fig. 5.4) from the largest of quarry pits G42 (L30) is by far the most unusual fragment in this assemblage. Vessels decorated with trails that have been indented like this and made in the typical bubbly light green glass of the 4th century are very rare in Britain. When examples are found they generally consist only of body fragments, as here, and so the form is not identifiable. This fragment has a fairly straight side and so may have come from a beaker like that from Épiais-Rhus Val-d'Oise, France (Vanpeene 1993, 51: 084). Price (2000, 110: 29–30) notes the small number of fragments known from Britain, drawing attention to the late 4th-century dating and citing as a *comparandum* the famous Mucking claw beaker that stands at the point where the exuberant products of the late Roman industries developed into recognisable claw beakers. The Mucking beaker was found in a 6th-century grave but was clearly a century or so old when deposited (Evison 2009, 551–3). It has indented trails like that on GL4, running vertically between the claws and on the claws themselves. Given the rarity of fragments decorated like this in 4th-century assemblages, it is interesting that this is the second one from Northamptonshire — another was found in the Alchester Road suburb at Towcester (Price and Cool 1983, 130 no. 28, fig. 46).

Unlike the blue/green glass that was found across the settlement, the 4th-century glass was found only in quarry pits L30 and the adjacent ditches of 'ladder' enclosure system L15 (both Phase 4). The blue/green glass would not be out of place within a modest rural settlement in this area, but the 4th-century glass, by contrast, hints at occupation of higher pretensions. While it has been assumed that the quarry pits were filled largely from adjacent domestic activity foci, it may well be that some of the material came from another part of the settlement.

Vessel catalogue

GL1 Base fragment. Blue/green. Tubular pushed-in base ring, flat base, side grooved. Dimensions 29 × 16mm. Weight 2.9g. Phase 4; L27; G39.5.

GL2 Prismatic bottle, base fragment. Blue/green. Small part of side and base retaining part of circular moulding. Heat-affected. Present height 15mm. Weight 6.7g. Phase 3; L6; G9.5.

GL3 Prismatic bottle, base fragment. Blue/green. Base pattern: edge of curved moulding. Heat-affected. Dimensions 14 × 13mm. Weight 1.7g. Phase 4; L15; G32.2.

GL4 Body fragment. Pale greenish colourless, bubbly. Very slightly convex. Vertical indented trail. 29 × 16mm, wall thickness 2mm. Weight 2.1g. Phase 4; L30; G42.3, Fig. 5.4.

GL5 Frontinus bottle (?), body fragment. Light green, some small bubbles. Straight side, part of one corrugation. Dimensions 23 × 15mm. Wall thickness 2mm. Weight 1.2g. Phase 4; L30; G42.3.

GL6 Base fragment. Light greenish bubbly. Side curving into edge of concave base. Dimensions 20 × 14mm. Weight 0.7g. Phase 4; L15; G32.2.

Glass objects

A small annular bead (GL7) was found within the fill of inhumation SG202 (G77, L25), made in one of the less common shades of green (Booth *et al.* 2010, 293). In general, little annular beads like this fall within Guido's Group 6 (Guido 1978, 65), though this shade is not one she noted, and even her 'small' category is somewhat larger than this example. Small glass beads were most prolific in the late Roman period and so GL7 is likely to be contemporary with this burial.

There is the possibility that one other glass bead was found in an environmental sample from inhumation SG184 (G69, L16). It comprises a tiny yellow/brown chip and was not issued an OA or RA number. It does not retain surfaces that would help identify it as either a bead or a vessel fragment. In the absence of both strongly coloured vessel glass in this assemblage and vessel glass from deposits phased to the earlier Roman period (when yellow/brown glass would have been in use), an origin from a bead seems most likely.

Glass objects catalogue

GL7 Annular bead. Translucent green/blue. Diameter 5mm, length 2.5mm, perforation diameter 2mm. Phase 4; L25; G77; SG202; RA2470.

Window glass

Two pieces of blue/green matt/glossy window glass were recovered from the eastern ditch of enclosures L14. Such glass is typical of the 1st to 3rd centuries. Whilst the quantity is only small — the two fragments combined have an area of 5.5cm² — these finds do indicate that there were buildings with glazed windows in the vicinity.

VI. 'OTHER ARTEFACTS' (EXCLUDING COINS AND GLASS)

Holly B. Duncan

Methodology

Each object was assigned an identification and functional category, and was quantified by number and/or weight. All ironwork and selected copper-alloy items were x-rayed by Lincolnshire Archives (Lincolnshire County Council); the x-ray plates form part of the site archive. A date range was assigned, where applicable, with reference to standard typological works. The objects from the main excavations below are discussed by phase. Phase 4 witnessed the most extensive occupation and this section has been subdivided into enclosures, quarry pits and burials. Further items assigned to Phase 4 that were recovered from 'ladder' enclosure system L15, enclosure L29 and quarrying to the south-west of L34 during the Bungalow excavation are reported on separately in Appendix 8. A small, residual assemblage of early prehistoric struck flint, mostly debitage, was quantified in the assessment report (Albion Archaeology 2012c) but is not discussed further here.

Catalogue descriptions include both illustrated and non-illustrated artefacts, with the figure numbers provided as appropriate:

* (illustrated) or + (photographed) OA1 ('other artefact' catalogue no.); object type, material, and description; project phasing information; RA (registered artefact no.); Fig. (Figure no.)

Phase 2 (late 1st to mid-2nd century)

The ditch fills of enclosures G2 (L2) produced a very meagre and uninformative assemblage, comprising a small piece of amorphous lead waste/runoff (18.2g) and one flat-headed nail.

Phase 3 (mid-2nd to late 3rd century)

Earliest enclosure L4

The southern ditch produced parts of two hearth bottoms, indicating ferrous smithing activity in the vicinity.

'Ladder' enclosure system L5

Minor quantities of 'other artefacts' were recovered from the enclosure ditches; they are discussed together with the finds from internal features within each of the enclosures from south to north.

No 'other artefacts' were found in the eastern or western enclosure ditches defining the two southern enclosures. Gullies associated with possible building G24 (L8) produced small quantities of ferrous smithing slag (38.2g) and vitrified clay lining (38g) (Table 5.9).

Land-use Area	Group	Description	Wt (g)
4	4.3	Cu alloy radiate coin	—
	12.5	Ferrous smithing hearth bottom fragments × 2	1,307
5	5	Cu alloy hollow, domed tack	—
	6.2	Iron sheet or strap fragment	—
	7.2	Iron pyramidal hobnails × 44	—
		Flat-headed/T-shaped iron nail	—
		Hammerscale and hammerslag	0.1
6	8.1	Ferrous smithing slag	111
	35.2	Flat-headed iron nail	—
	9	Iron nail shanks × 2	—
	9.2	Ferrous slag — fayalitic run	57.8
		Iron sheet fragment	—
		Iron nail shank	—
		Iron eyed needle	—
		Blue/green glass prismatic bottle base fragment (see Cool, GL2)	—
	79.5	Iron nails × 2	—
		Ferrous slag; undiagnostic	60
7		Lead alloy waste/scrap	8.8
		Ferrous smithing slag	108
	13.5	Iron nail with L-shaped head	—
		Lead object/waste	16.9
	48	Pyramidal-headed iron hobnail	—
	49.5	Cu alloy 4th-century coin	—
		Ferrous slag — smithing	200
	50.5	Iron strap fragment	—
		Pyramidal-headed iron hobnail	—
	51.5	Vitrified clay	5.5
8		Iron nail shank	—
		Hammerslag and hammerscale	2.4
	24.2	Hearth lining	38
		Ferrous slag	382
10	65.5	Hammerscale and hammerslag	0.1
	15.2	Flat-headed iron nail	—
		Iron nail with T-shaped head	—
	15.3	'Water clear' glass base sherd (modern) — Cu alloy coin of Tetricus (AD270–4)	—

Cu = copper

Table 5.9: 'Other artefacts' from Phase 3 deposits

Small pit G65 within the adjacent enclosure to the south produced a modest four flakes of hammerscale and a sphere of hammerslag. This could suggest that iron-working was carried out within the building but, if so, it was on a small-scale and infrequent basis.

The enclosure ditches defining domestic focus L7 yielded a nail, seven flakes of hammerscale, three spheres of hammerslag and a concentration of forty-four hobnails, the latter suggesting discard or loss of at least one shoe. The features of the domestic focus itself yielded single instances of hobnails from pit G50 and from an unurned cremation burial SG127 (G48). The example from the burial is not heat-affected and so is unlikely to have been a pyre good; it was probably incorporated into the burial either during the collection of material from the pyre site or inadvertently during the interment. Small quantities of smithing by-products were again present: a fragment from a smithing hearth bottom (200g) from large pit G49; and vitrified clay (5.5g) and frequent amounts of hammerscale and hammerslag (2.4g) from pit G51. A nail shank was also found in G51, while the gully defining roundhouse G13 produced a Manning type 4 nail with an L-shaped head (Manning 1985, 135 and fig. 32). The gully also yielded a sub-oval, domed piece of lead; it could be scrap, waste or perhaps a weight (OA2).

The majority of the 'other artefacts' associated with domestic focus L6 came from the ditch it shared with domestic focus L7 (described above). Ditch G8 to the north did yield a small (111g) amount of smithing slag. Small quantities of ferrous slag were also recovered from the south-east quadrant of the enclosure's interior — the gullies of possible building G79 produced 168g of smithing slag, while adjacent ditch G9 contained a fayalitic run. The latter is more frequently associated with smelting activities; however, runs can be formed during smithing (Hatton 2009, 252). Ditch G9 also yielded three nail shanks (with two more from the gullies of possible building G79) and a piece of lead scrap. The ditch produced further hints of domestic occupation in the form of a fragment from a prismatic bottle (Chapter 5.V) and a possible iron needle (OA3). The needle survives as part of the upper shank; its x-ray shows that one end of the fragment is split, suggesting it was part of an eyed needle. Examples of other Roman iron needles are known from Higham Ferrers (Scott 2009, 214), London (Manning 1985, 35–6) and Castleford, Yorkshire (Scott 1998, fig. 47: 45).

The only 'other artefact' from the ditches associated with the northernmost enclosure was a flat-headed nail.

Enclosures L10

Only ditch G15 to the east yielded 'other artefacts': two nails, one flat-headed (Manning type 1b) and one with a T-shaped head (Manning type 3) (Manning 1985, 134–5).

Catalogue: Phase 3

OA1 Tack. Copper alloy. Small, hollow-domed, circular-headed tack, with short section of square-sectioned shank surviving. Length 7.7mm; head diameter c. 6.5mm. Phase 3; L5; G5; RA2235.

OA2 Unidentified object. Lead. Sub-oval, domed piece of lead, irregular flat surface. Height 11.4mm; length 20mm; width 15mm; weight 16.9g. Phase 3; L7; G13.5; RA2077.

OA3 Needle. Iron. Rounded square-sectioned, broken both ends, tapering to one end. Opposing end is split before the break. Dimensions 2.2mm × 2.2mm; length 29mm. Phase 3; L6; G9.5; RA2456.

Phase 4 (late 3rd to early 5th century)

Earliest enclosures L14

Gully G94 provided hints of domestic occupation: three flat-headed nails; part of a small iron drop handle (Fig. 5.5: OA4), perhaps from a piece of furniture; the remains of a second iron, eyed needle (Fig. 5.5: OA5); and a single hobnail. Northern enclosure ditch G31 produced some evidence for a structure in the form of two sherds of blue/green window glass (Chapter 5.V), three flat-headed nails (Manning type 1b; 1985 134–5) and 86g of *opus signinum*. Small quantities of undiagnostic ironworking slag (18.6g), and associated hammerscale and hammerslag, may have derived from Phase 3 activity. A fragment from a 'trinket' finger-ring decorated with transverse grooves was found (Fig. 5.5: OA6). These light but decorative finger-rings developed in the later 3rd century and continued in use into the 4th century (Cool 1998a, fig. 18 no. 168 and 58).

Catalogue: L14

*OA4 Drop handle? Iron. Small drop handle, retaining portion of one hooked end and part of 'loop'. Loop is of narrow rectangular cross-section, 3.5mm × 3mm. Hooked end thickens slightly. Length 40mm. Phase 4; L14; G94.5; RA2325. Fig. 5.5.

*OA5 Needle. Iron. Upper portion of needle, rectangular in section, ovoid eye just before break; shank alters to rounded section before break. Length 70mm; diameter lower shank c. 1.25mm; upper shank 2.9mm × 2mm. Phase 4; L14; G94.5; RA2326. Fig. 5.5.

*OA6 Finger-ring. Copper alloy. Narrow annular ring, broken, with 12 transverse grooves either side of break, no tapering of ends of ring evident. Rectangular in cross-section (0.9mm by 1.1mm). Length 17mm; width 15mm. Phase 4; L14; G31.5; RA2281. Fig. 5.5.

Main 'ladder' enclosure system L15 and its internal activity

Enclosure system L15 was divided into four enclosures (A, B, C and D) to facilitate spatial analysis of the 'other artefacts' (Fig. 4.3; Table 5.10).

Enclosure A

The ditches defining the northernmost enclosure produced a double-spiked loop; an assemblage of nine nails, including three flat-headed ones and a domed-headed nail conforming to Manning's type 1A (1985, 134–5); and 983.2g of ferrous smithing slag, some associated with small quantities of hearth lining. The majority of the slag occurred in the south-east corner (part of ditch G32). This same area produced five iron items that may represent off-cuts from stock or bar iron (OA7–OA11). Four of the five are rectangular-sectioned; one is sub-triangular. The longest piece is 50mm; most are 28–48mm long, suggesting that they are the ends of the bar. Widths range from 13mm to 40mm, thicknesses from 8.8mm to 18.9mm. Some ends are bevelled (e.g. Fig. 5.5: OA7); others are slightly flared (e.g. Fig. 5.5: OA8). Very small quantities of copper-alloy waste (15.3g) appear to be spills/drips or miscast. Although these quantities are meagre, they might suggest the production of composite items, such as an iron knife with a copper-alloy riveted handle. These finds hint at the possibility that ferrous smithing was carried out within this enclosure. Further evidence was found in small pit G86 (L18), which truncated enclosure ditch G32 and yielded a further 1,091g of ferrous slag, including portions of two small smithing-hearth bottoms. The size of the hearth bottoms, 80mm × 85mm (thickness 68.5mm) and 75mm × 55mm (thickness

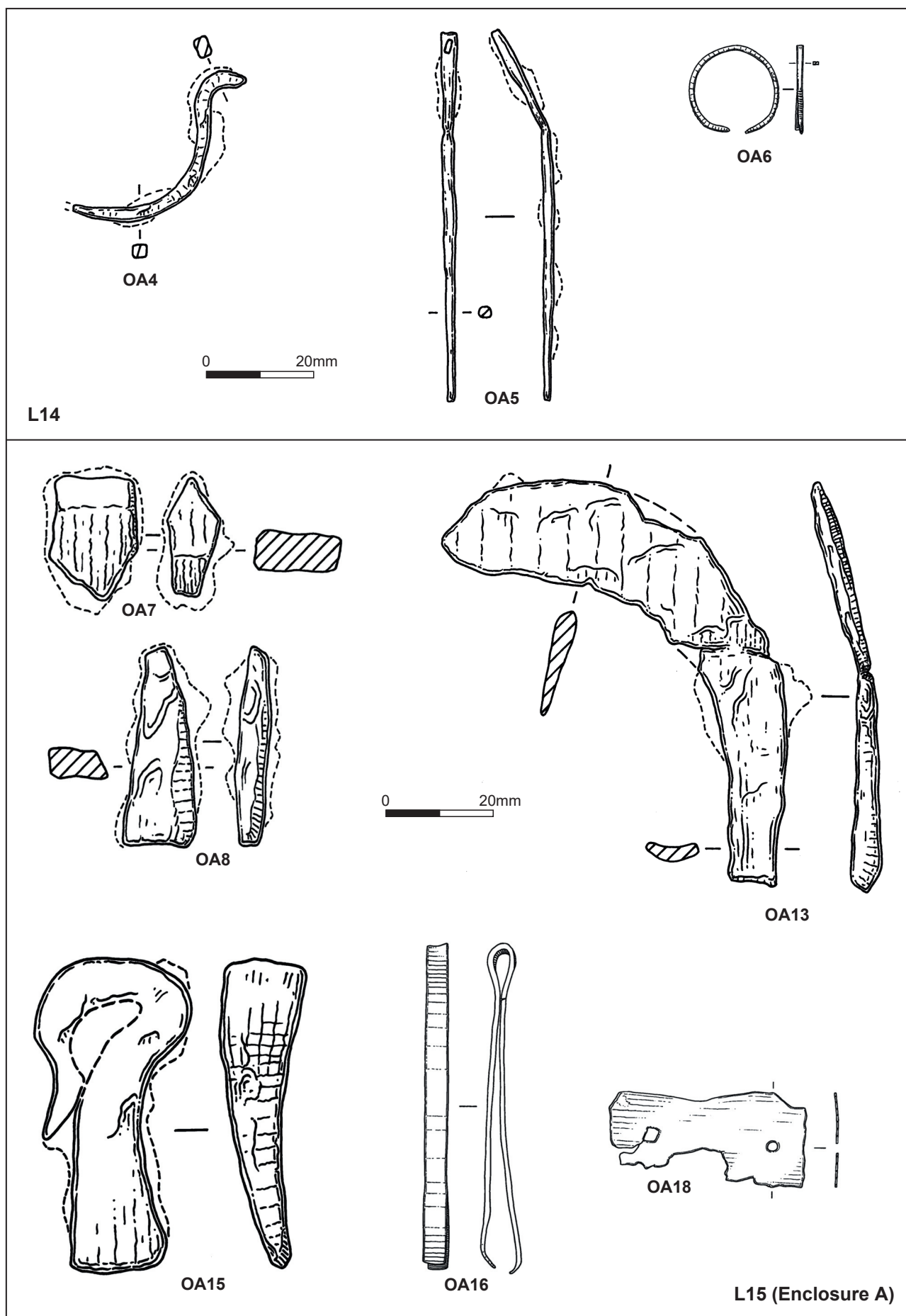


Figure 5.5: Selected 'other artefacts' (OAs 4-8, 13, 15, 16 and 18)

Functional types	L11/L15 Peripheral enclosures	L15 Enclosure A	Enclosure B	Enclosure C	Enclosure D	L30 Quarry pits
Building materials	—	—	√	△++	—	△+
Fasteners and fittings	√++++	√++	√	√+	√+	√++++
Household	√+	√+	—	—	—	√+
Personal (excluding hobnails)	√+	√+	—	√	—	—
Crafts	√+	√+	—	√+	—	√++
	△++++	△++++	—	△	—	△++++
Subsistence	√+	√	—	—	√	—
Commerce-related items	√+	—	—	—	—	√+
Coinage	√++++	—	—	√+	√++	√++++
Transport	—	—	—	—	—	√(?)
Military	—	—	—	—	—	√
Religion	√	—	—	—	—	—

Individual items: √ = 1; √+ = 2–5; √++ = 5–10; √+++ = 11–20; √++++ = >20

Bulk finds (weight): △ = below 100g; △+ = 100–300g; △++ = 301–600g; △+++ = 601–900g; △++++ = >901g

Table 5.10: ‘Other artefacts’ in L11, L15 and L30 by functional type (excluding burial evidence)

55mm), may suggest small-scale, perhaps seasonal iron-working. Smithing tools are, however, absent from the assemblage.

Evidence for other crafts is limited; a small iron chisel (OA12) may suggest woodworking, although the condition of this tool makes it uncertain. Agricultural tools are equally rare — a single socket starting to form a blade may be the remains of a small pruning or weeding hook (Fig. 5.5: OA13). Three socket-like items — one perhaps for a tool, the others possibly forming collars — were also recovered, along with the crumpled remains of a repaired copper-alloy sheet vessel (OA14) and an iron, hooked terminal and stem (Fig. 5.5: OA15), perhaps from a cauldron hanger or flesh hook. The bits of tools (in addition to a number of strip and strap fragments of both iron and copper alloy) were all found within the ditch defining the south-east corner of Enclosure A. The relative concentration of objects recovered from this corner of the enclosure is in marked contrast to the meagre numbers found within other sections of the enclosing ditches. It is possible that this area of Enclosure A was designated for the disposal of rubbish. However, the possibility that these items may represent stock, items awaiting repair or by-products of a smithing workshop should not be overlooked.

The recovery of items of a more personal nature, which might suggest domestic occupation, was limited. A pair of tweezers (Fig. 5.5: OA16) and a white metal (silver?) plated copper-alloy strip (OA17), possibly a component of a dress fitting, were recovered from ditch G34, which formed the north side of the enclosure. A strap mount with a shallow notch on one edge (Fig. 5.5: OA18) was found in ditch G81, which formed the east side of the enclosure. None of these items is closely datable, although the strap mount was associated with a late 3rd-century coin RA2153 (Chapter 5.IV).

Inhumation burial SG185 (within cluster L17) contained a flat-headed nail; a single nail, however, does not necessarily indicate the presence of a coffin, as it may have been inadvertently included in the grave’s backfill. Inhumation SG186 (within cluster L17) also appears to have lacked grave furniture or goods. It did, however, contain a minor quantity of flake hammerscale. If smithing were carried out within the enclosure, the presence of hammerscale would not be unexpected.

Catalogue: Enclosure A

*OA7 Off-cut of smithing stock/bar iron. Iron. Short section of ‘bar’, all four edges of one end are cut at an angle creating a pyramidal point, opposing end broken. Length 28mm; width 20mm; thickness 12.3mm. Phase 4; Enclosure A; L15; G32.2; RA2448. Fig. 5.5.

OA8 Off-cut of smithing stock/bar iron. Iron. Bar fragment, rectangular in section and plan, broken one end, opposing end slightly flared. Length 40mm; width 13mm (flared end 15mm); thickness 9.5mm. Phase 4; Enclosure A; L15; G32.2; RA2446. Fig. 5.5.

OA9 Off-cut of smithing stock/bar iron. Iron. Thick, sub-triangular bar; fractures along edges. Length 48mm; width 26mm; thickness 8.8mm. Phase 4; Enclosure A; L15; G32.2; RA2395.

OA10 Off-cut of smithing stock/bar iron. Iron. Thick bar, rectangular in cross-section, both ends broken and of irregular shape. Edges fairly straight. Length 35mm; width 30mm; thickness 15mm. Phase 4; Enclosure A; L15; G32.2; RA2391.

OA11 Off-cut of smithing stock/bar iron. Iron. Irregular thick sub-rectangular block, some voids in x-ray. Length 50mm; width 40mm; thickness 18.9mm. Phase 4; Enclosure A; L15; G32.2; RA2392.

OA12 Chisel? Iron. Small chisel, rectangular-sectioned shaft, tapering to wedge-shaped tip? In poor condition. Length 86mm; width 9mm; thickness 7mm. Phase 4; Enclosure A; L15; G32.2; RA2397.

*OA13 Pruning/weeding hook? Iron. Start of rectangular-sectioned tang, incomplete but appears to be starting to form a socket or flange just before break. The blade is made in one with the tang and is curved, possibly equating with Manning type 2 pruning hooks. Blade damaged. Blade width c. 20mm; tang width c. 9mm. Phase 4; Enclosure A; L15; G32.2 (context 2641); RA2343. Fig. 5.5.

OA14 Vessel. Copper alloy. Fragments of vessel rim, slightly thickened and everted with indentation below rim. The vessel has a sheet repair(?) or suspension attachment held in place by two rivets (only one rivet *in situ*); the repair/attachment is crumpled and folded over. The rim has little or no curvature (diameter not discernible). Phase 4; Enclosure A; L15; G32.2; RA2430/2431.

*OA15 Uncertain. Iron. Fairly robust looped-over terminal and part of rectangular stem/tang, the stem tapers in thickness and is slightly curved in side elevation. Part of cauldron hanger or flesh hook? Length 59.3mm; max. width stem 20mm; max. width terminal 29.4mm; max. thickness terminal 18.4mm; max. thickness stem 12.4mm. Phase 4; Enclosure A; L15; G32.2; RA2433. Fig. 5.5.

*OA16 Tweezers. Copper alloy. Complete but broken in two pieces. Plain with very slightly flared, in-turned tips, possibly cut from a sheet? Length 60mm; width 4.4mm (max.), 4.2mm along length; thickness 1.1mm. Phase 4; Enclosure A; L15; G34.2; RA2054. Fig. 5.5.

OA17 Strip fragment. Copper alloy with white metal plating. Narrow rectangular-sectioned strip, broken both ends, bent into a ‘?’ shape along its length. Length (straightened) c. 32mm; width 4.4mm; thickness 1mm. Phase 4; Enclosure A; L15; G34.2; RA2134.

*OA18 Strap mount. Copper alloy. Roughly rectangular sheet with a circular perforation at either end. The edge of the sheet has a wide and shallow notch, creating an elongated and flattened 'M'-shaped profile on one long edge; the opposing edge is too heavily damaged to determine if it was symmetrical. Length 37mm; width 17mm; thickness 1.3mm. Phase 4; Enclosure A; L15; G81.2; RA2029. Fig. 5.5.

Enclosure B

The 'other artefacts' from internal activity L19 are meagre, comprising one nail shank from pit G85, and 85g of leached mortar/bonding from water-pit G44 in the north-west corner of the enclosure. Finds from the shared boundaries with Enclosure D were limited and are discussed under the adjoining enclosures.

Enclosure C

The 'other artefacts' assemblage from Enclosure C is insubstantial (Table 5.11). Two flat-headed nails (Manning type 1b), a double-spiked loop and a piece of *opus signinum* could have derived from a structure. Some craft-level activity is suggested by a possible leather-working awl (Fig. 5.6: OA19) and needle (OA20, L20); although ferrous slag and hammerscale were recovered, the quantities do not suggest that ironworking was carried out in the vicinity. Personal items are few, comprising a single hobnail and a portion of a ribbon-strip bracelet with hook-and-eye closure (Fig. 5.6: OA21). An S-shaped motif enclosed in a linear border runs down the centre of the bracelet. This motif can be paralleled on a number of these later 3rd- and 4th-century, light bangle bracelets, for example from 4th-century deposits at Colchester (Crummy 1983, fig. 44 no. 1700).

Catalogue: Enclosure C

*OA19 Awl? Iron. Square-sectioned tang, tapering at both ends, one end incomplete, the tip of the opposing end is bent. Length 110mm; width 8mm; thickness 8mm. Phase 4; Enclosure C; L15; G22.2; RA2377. Fig. 5.6.

OA20 Needle. Iron. Fragment of a needle shank of square-sectioned wire, one end hammered into rectangular section (2.6mm × 0.85mm) just before break. Both ends broken, shank bent. Wire c. 2mm × 2mm. Length 40mm+. Phase 4; Enclosure C; L20; G60.5; RA2444.

*OA21 Bracelet. Copper alloy. Thin rectangular strip bracelet, now partially flattened, retaining a very slight curvature and broken at both ends. One end retains part of a rounded perforation, suggesting a hook and eye closure. The centre line of the bracelet is decorated by a linear rectangular band, c. 3mm wide, which has 'S-shaped' decoration.

Land-use area	Group	Description	No.	Wt (g)
15	27	Cu alloy ribbon strip bracelet	1	—
		Cu alloy coins (late 3rd; mid-4th)	2	—
	22	<i>Opus signinum</i>	—	446
		Iron flat-headed nails	2	—
		Iron nail shank	1	—
		Iron double-spiked loop	1	—
		Iron leather-working awl	1	—
		Cu alloy annular ring	1	—
		Iron hobnail	1	—
		Iron sheet fragment	1	—
	26	Iron flat-headed nails	1	—
		Iron nail shank	1	—
		Hammerscale and hammerslag	—	—
		Cu alloy coins (later 4th century)	2	—
20	60	Ferrous slag	—	78
		Iron needle	1	—

Cu = copper

Table 5.11: 'Other artefacts' assemblage from Enclosure C (Phase 4)

Current length 38.5mm; width 6.7mm; thickness 1.1mm. Phase 4; Enclosure C; L15; G27.5; RA2064. Fig. 5.6.

Enclosure D

Few finds were recovered from enclosure ditches G19 and G22. With the exception of coins, the same is true of the internal subdividing ditches G20 and G23, and quarry pits L24 (Table 5.12). The majority of the finds were nails, which give little insight into activities carried out by the inhabitants. One of the ditches associated with possible building L21 produced the only activity-related item, a Manning type 2 reaping hook (Fig. 5.6: OA22), a tool primarily used for cutting cereals (Manning 1985, 53–5).

The remaining assemblage derived from three inhumation clusters L22, L23 and L25. Only adult male burial SG188 (G72, L22) yielded evidence to suggest a possible coffin: despite fairly extensive truncation by later ditches, three of the four nails were found in a line along the foot of the burial, while the fourth nail was adjacent to the right pelvis. All the surviving nails are flat-headed; two of the heads are hexagonal. Burial SG190 (G72, L22), aged 16–17 years, was accompanied by a late 4th- to very early 5th-century coin (Chapter 5.IV). The coin was found in the pelvic area of the inhumation, possibly suggesting it had been placed in a purse suspended from a belt. A small quantity of hammerscale and traces of hammerslag were recovered from dog burial SG194 (G74, L22). Although this may suggest small-scale smithing in the vicinity of the burial, it does not relate directly to the burial itself.

One of the two adjacent inhumations (G76, L23) in the western part of Enclosure D contained 'other artefacts'. Burial SG198 of an individual aged 3–5 years was poorly preserved but was accompanied by worn ornaments: two bracelets/armlets found on the upper left arm (Fig. 5.6: OA24 and OA25); and a third in the wrist area (Fig. 5.6: OA23). All three bracelets/armlets have a diameter in the region of 40mm, suggesting that they were worn by a juvenile. Two of the bracelets (OA23 and OA24) are of the light bangle variety with hook and eye fastening; both appear to have been cut from a sheet, suggesting

Land-use area	Group	Burial	Description	No.	Wt (g)
15	19	—	Cu alloy coin (late 3rd century)	1	—
	22	—	Iron flat-headed nails	3	—
	20	—	Cu alloy coins (mid-4th century)	2	—
	23	—	Cu alloy coin (mid-4th century)	1	—
		—	Iron strip fragment	1	—
21	30.5	—	Iron reaping hook	1	—
22	72	SG188	Iron flat-headed nails	4	—
		SG190	Cu alloy coin (late 4th / early 5th century)	1	—
	74	SG194	Hammerscale and hammerslag	—	—
23	76	SG198	Cu alloy bracelets	3	—
			Cu alloy strip fragment	1	—
24	61	—	Cu alloy coins (late 3rd century)	2	—
		—	Iron flat-headed nail	1	—
		—	Iron nail shank	1	—
25	77	SG201	Vitrified clay	—	1.2
			Hammerscale and hammerslag	—	—
		SG202	Iron flat-headed nail	1	—
			Iron L-shaped nail	1	—
			Glass bead (see Cool, GL7)	1	—

Cu = copper

Table 5.12: 'Other artefacts' assemblage from Enclosure D (Phase 4)

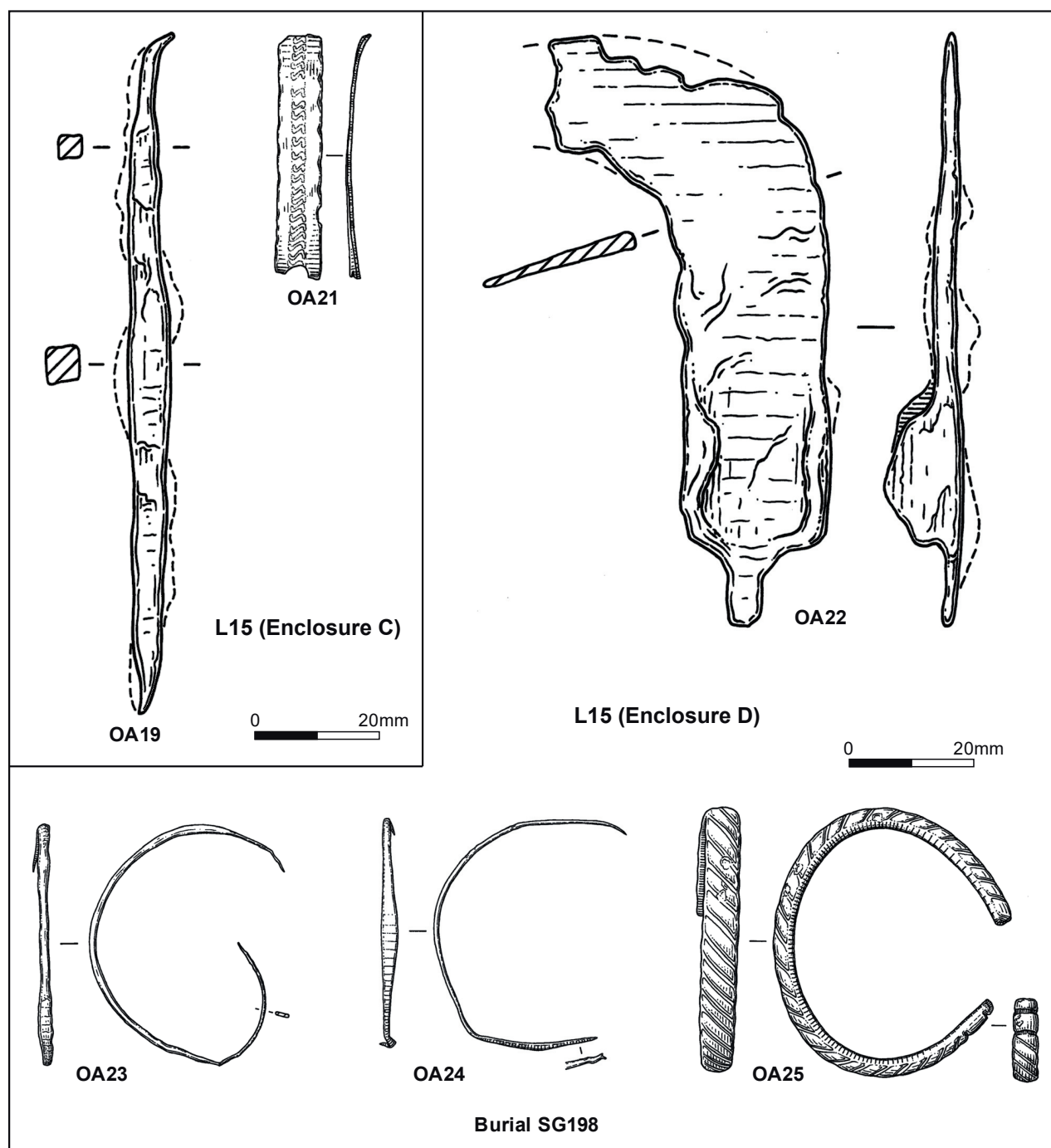


Figure 5.6: Selected 'other artefacts' (OAs 19 and 21–25)

that they were homemade. A narrow strip fragment of varying width was also found in the area of the right ribs (OA26); its similarity to OA23 and OA24 suggests that another bracelet of this type was worn on the right arm. Bracelet/armlet OA25 (Fig. 5.6) was cast and decorated with diagonal grooves, presumably imitating cable and twisted wire bracelets. The bracelet tapers to one end, marked by two vertical grooves; the opposing end does not taper and the diagonal grooves continue to the break. This arrangement suggests that the bracelet was altered to fit the arm of the child.

Two adult inhumation burials SG201 and SG202 (G77, L25) were located near the south-west corner of Enclosure D. Minor quantities of vitrified clay, hammerscale and hammerslag were recovered from burial SG201; these are presumed to be inadvertent inclusions. Although two nails

were found within burial SG202, one in the skull area and one near the feet, the grave shape does not suggest a coffined burial. A small translucent green biconical bead (RA2470) was found within the grave; it is thought to be of late Roman date but it is unclear whether it was an intentional inclusion (Chapter 5.V).

Catalogue: Enclosure D

*OA22 Reaping hook. Iron. Small Manning type 2 reaping hook, open flanged socket with small broken continuation, which may have originally been bent over (clenched). Blade incomplete. Length 100mm; socket width 25mm; blade width 26.5mm. Phase 4; Enclosure D; L21; G30.5; RA2403. Fig. 5.6.

*OA23 Bracelet. Copper alloy. Bangle bracelet, cut from sheet(?), expanded in width at mid-point, tapering to both ends. Both ends incomplete but one has the start of an eye for a hook and eye closure? Bracelet outline is distorted, estimated diameter 40mm; width (max.)

2.8mm; thickness 0.9mm. Found at bottom of lower left arm/wrist of SG198. Phase 4; Enclosure D; L23; G76; SG198; RA2437. Fig. 5.6.

*OA24 Bracelet. Copper alloy. Narrow bracelet, perhaps cut from sheet, the bracelet is of variable width, with two wider areas near the ends of the bracelet. Bracelet tapers to both ends: one incomplete, the other appears to have an edge of a circular perforation near its end, suggesting a hook and eye closure. Outline distorted, diameter 40mm or less. Width (max) 2.3mm; thickness 1.9mm. Found at top of upper left arm of SG198, under bracelet OA25. Phase 4; Enclosure 15D; L23; G76; SG198; RA2439. Fig. 5.6.

*OA25 Bracelet. Copper alloy. Cast D-shaped sectioned bracelet with continuous diagonal grooves on obverse face only, the surface of the bracelet is very worn at mid-point. Tapers to one end, which has two vertical grooves before break. The opposing end does not taper, the grooves continue to the broken end. The bracelet has been altered to fit the arm of a child. Somewhat oval in outline, estimated diameter of 40mm. Width 5.3mm; thickness 2.9mm. Found at top of upper left arm of SG198. OA25 overlay OA24. Phase 4; Enclosure D; L23; G76; SG198; RA2438. Fig. 5.6.

OA26 Fragment. Copper alloy. Strip fragment, narrow, thin and of varying width, similar to RA2437 and RA2439. Length 27mm; width (max.) 3.8mm; thickness 1.6mm. Found in right rib area of SG198. Phase 4; Enclosure D; L23; G76; SG198; RA2440.

Peripheral enclosures to the east (L11/L15) and south-east (L29)

With the exception of pitting activity adjacent to Enclosure D (L15), and quarry pits L30 to the north, large areas of peripheral enclosures L11/L15 were devoid of features. Despite this, the main boundary ditch G32 produced finds along its length (see Table 5.13).

Group	Description	No.	Wt (g)
32	Iron flat-headed nails	13	—
	Iron T-shaped nail	1	—
	Iron L-shaped nail	1	—
	Iron nail shanks	31	—
	Iron double-spiked loop	2	—
	Iron pentagon-shaped rove	1	—
	Ferrous smithing slag	—	1,224
	Hammerscale and hammerslag	—	—
	Ferrous slag (undiagnostic)	—	375
	Iron fragment (lumps — smithing waste?)	3	—
	Iron — bar iron or scrap	1	—
	Iron bar iron/scrap/unfinished object	2	—
	Vitrified clay	—	77.6
	Cu alloy waste/spillage	—	0.7
	Lead scrap/off-cut	3	—
	Lead vessel patch	1	—
	Glass blue/green prismatic bottle (see Cool, GL3)	1	—
	Glass light greenish glass base fragment (see Cool, GL6)	1	—
	Iron shears	2	—
	Iron steelyard arm	1	—
	Cu alloy coins (4th-century)	18	—
	Cu alloy coin (late 3rd-century)	1	—
	Cu alloy finger ring	1	—
	Iron hobnail	5	—
	Iron spatula?	1	—
	Cu alloy figurine (shod foot)	1	—
	Iron perforated strap fragment	3	—
	Iron strap fragments	3	—
	Iron strip and sheet fragments	11	—
	Cu alloy strip and sheet fragments	4	—
33	Iron flat-headed nails	3	—
	Iron nail shanks	2	—
	Cu alloy coins (one late 3rd-century, one mid-4th-century)	2	—
	Iron strap fragment	1	—

Cu = copper

Table 5.13: 'Other artefacts' assemblage from peripheral enclosures L11/L15

Nails are one of the more numerous class of finds recovered. General-purpose, flat-headed nails (Manning type 1b) are best represented, with only single examples of nails with T-shape (Manning type 3) and L-shape (Manning type 4) heads (Manning 1985, 134–5 and fig. 32). Nails were absent from the southern portion of the main boundary ditch G32, increasing in numbers towards Enclosure A (L15). Southern boundary G33 produced the remains of five nails.

Evidence for metalworking, in the form of waste and by-products, follows a similar pattern to the nails. None was recovered from the south-east segments of the main boundary ditch G32; small quantities were present in the middle segments of the ditch, increasing in frequency as it neared the area of quarrying L30. Iron-smithing was best represented, but the quantities indicate that this was not undertaken on a large scale. A further instance of bar or stock iron, two possible unfinished objects (resembling tanged bladed implements but with the blades as yet unshaped (Fig. 5.7: OA27 and OA28)), and hints of copper-alloy working were also recovered. It is suggested above that ironworking and occasional copper-alloy casting may have been carried out, perhaps on a seasonal basis, in Enclosure A (L15), and some of this material may have originated from that activity. Quarrying in the general area (see L30 below) may have contributed to the wider dispersal of these by-products.

Occasional bone-working is suggested by a peg recovered from ditch G32 immediately east of enclosure L27 (Fig. 5.8: OA38).

Household items are few, consisting of a prismatic bottle and the base fragment of a cup or flask (see Chapter 5.V, GL3 and GL6 respectively) and a lead-alloy vessel repair of the 'waisted' variety (OA29). These items were restricted to the north-east portion of the main boundary ditch G32.

Parts of two shears, comprising the blades and portions of handles, were found within G32, one at the north end (Fig. 5.7: OA30) and the other at the south (Fig. 5.7: OA31). Both appear to be examples of medium-sized shears, having blades longer than 80mm; they could have been used for shearing sheep and cutting cloth (Manning 1985, 34).

Commerce is indicated not only by the coin assemblage but also by steelyard OA32 (Fig. 5.7), found in enclosure ditch G32 at its southern end. It comprises a rounded bar with knob end; the opposing end has a flattened plate containing three perforations, two for suspending the fulcrum, and one at the end for the 'loading hook'. The perforation closest to the bar carries a loop from a suspension hook. This arrangement is in contrast to the normal pattern, the suspension loops articulating via D-shaped expansions cast in one with the rest of the beam (e.g. Scott 2009, fig. 5.26 no. 74; Manning 1985, 106–7 and pl. 52). A copper-alloy steelyard of similar form to OA32 was found at Pear Tree Farm, near Bedford (Cool 1998b, 21).

Items of dress are few, comprising a single hobnail and a finger-ring. Ring OA33 (Fig. 5.7) is incomplete, comprising only a solid oval bevel and the stub of a shoulder. No inscription or decoration is visible on the bevel; there is no evidence to suggest that a box-setting may have existed. Without the shoulders and hoop it is difficult to suggest a date for this ring. A child's ring with plain circular bevel was found in the 4th-century northern

courtyard at Gadebridge Park Villa, Hertfordshire (Neal and Butcher 1974, fig. 60 no. 118).

Part of a possible iron spatula or perhaps spatula probe OA34 (Fig. 5.7) was recovered from the middle portion of ditch G32. The identification is tentative, as most toilet and medical implements are made of copper alloy, with the exception of scalpel blades. There is an example of an iron spatula spoon from Hod Hill (Manning 1985 pl. 34, L2), which has a narrower blade (c. 6mm wide) but is of similar length to OA34. There are also a few iron toilet/medical implements from Catterick, including a spatula blade of similar dimensions, albeit leaf-shaped (Mould 2002, 93 and fig. 275 no. 173). Two iron ligulae were found at Higham Ferrers, 6km to the south (Scott 2009, fig. 5.40 nos 320 and 321).

One of the more interesting finds is part of a cast copper-alloy figurine OA35 (Fig. 5.7; Pl. 5.2) from the northern part of G32. It comprises the shod right foot of a figure, broken off at the ankle. The absence of the rest of the figure precludes ascription to a particular god or person. The style of the depicted footwear, however, is more informative: the shoe has several similarities to those on the statue of the Tetrachs in St Mark's Square in Venice, and is of a type dated by van Driel-Murray (2001) as 4th–5th-century (Quita Mould, pers. comm.).

Catalogue: peripheral enclosures

*OA27 Smithing scrap/off-cut/ unfinished object. Iron. File/knife blank? Rectangular-sectioned tang expanding to rectangular-sectioned 'blade'. Length 55mm; width 18mm; thickness 8.6mm. Phase 4; L15; G32.2; RA2466. Fig. 5.7.

*OA28 Smithing scrap/off-cut/unfinished object. Iron. Short section of square-sectioned 'tang' leading to wider 'blade' of rectangular section, the end of which is bevelled/cut on the diagonal. Length 49mm; blade width 11.2mm; tang width 5.5mm; blade thickness 7.8mm; tang thickness 5.8mm. Phase 4; L15; G32.5; RA2374. Fig. 5.7.

OA29 Vessel repair. Lead. Sub-triangular 'waisted' vessel patch. Weight 76g; length 40mm; width 37mm; thickness 10mm. Phase 4; L15; G32.2; RA2071.

*OA30 Shears. Iron. One blade and short portion of rectangular-sectioned handle. Blade continues line of arm. Blade edge straight, blade back rises up before sharp curve down to tip. Length 116mm. Phase 4; L15; G32.2; RA2335. Fig. 5.7.



Plate 5.2: Copper-alloy foot OA35 from a figurine

*OA31 Shears. Iron. Short portion of square-sectioned tang, blade back continues line of tang and is straight. The blade edge is slightly convex and rises to the pointed tip. Heel of blade is sloped. Total length 180mm; blade length 147mm; blade width 41.6mm; blade (back) thickness 7.6mm. Phase 4; L15; G32.2; RA2465. Fig. 5.7.

*OA32 Steelyard. Iron. Rounded bar with knob terminal at one end, opposing end has been flattened and has two complete circular perforations (and possibly the edge of a third), presumably serving as two fulcrums and a loading hook. In the one closest to the bar are the remains of a loop from a suspension hook. The arm is damaged and bent; corrosion has obscured/removed evidence of the scales. Length c. 250mm; bar diameter c. 6mm; 'flattened' end 16.5mm x 3.2mm. Phase 4; L15; G32.2; RA2464. Fig. 5.7.

*OA33 Finger-ring. Copper alloy. Finger-ring fragment comprising raised solid oval bezel and stub of shoulder; no inscription or decoration is visible on bezel on x-ray. Bezel length 10mm; width 7.9mm; height 3mm. Phase 4; L15; G32.2; RA2423. Fig. 5.7.

*OA34 Spatula. Iron. Short flat spatula blade with rounded end and start of either tang or socketed handle? Length 45mm; blade width 12mm; blade thickness 1.9mm. Phase 4; L15; G32.2; RA2307. Fig. 5.7.

*OA35 Figurine/statuette. Copper alloy (lead?). Cast right shod foot from figurine, broken off at ankle. Appears to be an ankle shoe with tie across the upper foot immediately below the ankle area; sole indicated by incised line; further incised line on both sides of the shoe running on a diagonal from the tie joining towards the top of the somewhat pointed toe. The outer face of the shoe has a line of punched dots running parallel to the 'seam'. There is also a group of three punched dots in a triangular pattern near the tie on the outer face of the shoe (Quita Mould pers. comm.). Length 31mm; width (max.) 11.7mm; height 11.9mm. Phase 4; L15; G32.2; RA210. Fig. 5.7 and Pl. 5.2.

*OA38 Peg? Bone. Tapering, in both width and thickness, sub-rectangular-sectioned worked long-bone. One original surface unworked, remaining surfaces thinned, with knife marks visible. Tapered end broken, opposing end is a modified end of bone. Length 60.5mm, width (max.) 9mm; thickness (max.) 7.3mm. Phase 4; L15; G41.5; RA2441. Fig. 5.8.

Oval enclosure L27 and activity focus L28

Oval enclosure L27 yielded a similar profile of finds to that noted in both Enclosure A (L15) and enclosures L29 (Table 5.14) — small quantities of general-purpose flat-headed nails, little in the way of household items beyond two vessel repairs (one a copper-alloy 'paper clip' rivet and one lead) and a glass vessel base (Chapter 5.V), and a minor concentration of iron- and copper-working by-products. Few tools were present. A possible iron punch or chisel OA36 (its incomplete survival precluding certain identification) may have been associated with the metalworking, while a curving blade (Fig. 5.8: OA37) may have belonged to a pruning or leaf-cutting hook. Commerce is hinted at by the recovery of a square pan weight (Fig. 5.8: OA39), for use with a balance; its closest weight equivalent is an *uncia*. Items of dress are confined to a concentration of thirty-seven hobnails, suggesting the discard of at least one shoe.

The assemblage of 'other artefacts' from activity focus L28 is meagre. It comprises two flat-headed nails, small quantities of vitrified clay (4.5g) and ferrous slag (51g) — the presence of three balls of hammer slag suggesting that the slag may have derived from smithing activity — and four hobnails.

Catalogue: oval enclosure L27

OA36 Punch/chisel? Iron. Tapering rectangular-sectioned bar, tapered end has rounded point. Opposing end broken. Length 107mm; width 16mm; thickness 9.5mm. Phase 4; L27; G39.5; RA2351.

*OA37 Pruning hook? Iron. Incomplete, part of curving blade? Length 61mm; width 23.4mm; thickness c. 3mm. Phase 4; L27; G39.5; RA2352. Fig. 5.8.

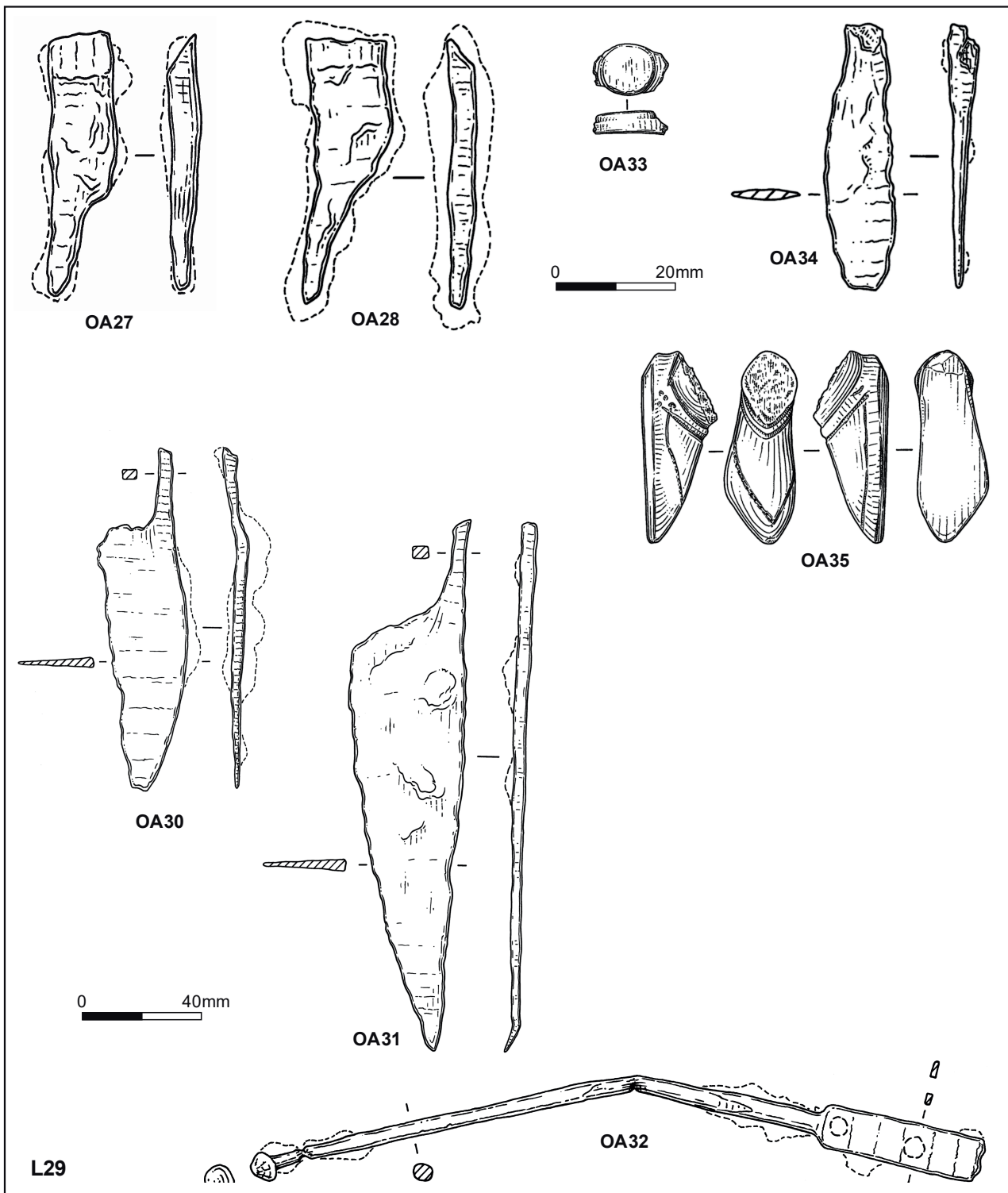


Figure 5.7: Selected 'other artefacts' (OAs 27, 28 and 30–35)

*OA39 Square pan weight? Lead. Square in outline, with obverse face having inset/bevelled face, rectangular in cross-section. Current weight of 27.3g compares well with an *uncia* (27.4g). Phase 4; L27; G39.2; RA2152. Fig. 5.8.

Later enclosure system L31

Although the coin assemblage (Chapter 5.IV) confirms 4th-century activity, perhaps unsurprisingly there are indications that many of the other finds are residual. This is not only suggested by the 1st–3rd-century vessel glass (Chapter 5.V), but also by a Colchester B brooch (Fig. 5.8: OA40), dating to the second half of the 1st century

AD (Table 5.15). The rest of the assemblage from enclosure system L31 is not typologically datable and hence it is possible that the small quantity of ironworking debris derived from earlier Phase 3 activity.

Catalogue: enclosure system L31

*OA40 Brooch. Copper alloy. Colchester B brooch (*i.e.* two-piece, two holes in head of brooch for coil and chord,) catch plate with single triangular perforation and grooved for pin. Cavetto moulding on bow. A few coils of spring survive (detached), pin does not survive. Length 39mm. Phase 4.3; L31; G37.7; RA2344. Fig. 5.8.

Land-use area	Group	Description	No.	Wt (g)
27	39	Iron flat-headed nails	7	–
		Iron nail shanks	11	–
		Iron rove	1	–
		Glass blue/green vessel base (see Cool, GL1)	1	–
		Cu alloy vessel repair (paperclip rivet)	1	–
		Ferrous smithing slag	–	415
		Hammerslag and hammerscale	–	0.1
		Vitrified clay/hearth lining	–	0.5
		Cu alloy spillage/run-off/miscast	–	36
		Lead; partially melted	–	10.2
		Iron punch or chisel	1	–
		Cu alloy coins (late 3rd century)	2	–
		Cu alloy coin (late 3rd–4th century)	1	–
		Lead alloy pan weight?	1	–
		Iron pruning hook	1	–
		Iron hobnails	37	–
		Lead alloy strip fragment	1	–
		Iron strap fragment	2	–
		Iron perforated strap fragment	1	–
		Iron sheet/blade fragment	2	–
		Cu alloy S-shaped strip fragment	1	–
		Iron strip fragment	1	–
15	41	Iron flat-headed nails	3	–
		Iron nail shanks	3	–
		Lead alloy vessel repair	1	–
		Vitrified clay/hearth lining	–	5
		Bone peg/off-cut	1	–

Cu = copper

Table 5.14: ‘Other artefacts’ assemblage from sub-enclosures L27

Group	Description	No.	Wt (g)
25	Iron flat-headed nail	1	–
	Ferrous smithing hearth bottom	–	420
	Lead alloy folded scrap	1	–
	Cu alloy coins (4th century)	2	–
37	Iron nails (one flat-headed; one nail shank)	2	–
	Glass vessels (two prismatic bottles; one light greenish, colourless body sherd)	3	–
	Lead alloy vessel repair	1	–
	Ferrous slag (undiagnostic)	–	171
	Vitrified clay lining and ferrous slag	–	102
	Iron smithing scrap?	1	–
	Cu alloy coins (one late 3rd-century; three 4th-century)	4	–
	Cu alloy Colchester B brooch	1	–
	Bone needle shank?	1	–

Cu = copper

Table 5.15: ‘Other artefacts’ assemblage from enclosure L31

Quarry pits L30

To a large extent the ‘other artefacts’ assemblage from quarry pits L30 mirrors that from the south-east corner of Enclosure A (L15), oval enclosure L27 and the northern ditches of enclosure L11/L15. It comprises building fastenings and fittings, ferrous smithing by-products, the occasional tool and limited items of dress. What is apparent is the greater quantity and range of building fasteners, and although the number of tools remains limited, types not encountered in earlier phases make an appearance (Table 5.16).

The T-clamp (Fig. 5.8: OA41), the wall hook (Fig. 5.8: OA42) and the loop hinge (Fig. 5.8: OA43) would have derived from a building, as would the small quantity of *opus signinum*. The mason’s or plasterer’s trowel (Fig. 5.9: OA44) are also indicative of building work. The axe head (Fig. 5.9: OA45) conforms to Manning’s

Group	Description	No.	Wt (g)
11	Iron T-clamp	1	–
	Iron double-spiked loop	2	–
	Iron L-shaped wall hook	1	–
	Iron flat-headed nails	13	–
	Iron nail shank	26	–
	Ferrous smithing slag (including hearth bottom)	–	726
	Hammerscale and hammerslag (one ball)	–	–
	Ceramic hearth lining	–	20
	Iron smithing scrap	1	–
	Cu alloy sheet off-cut	1	–
	Lead alloy sheet off-cut	1	–
	Lead sheet, folded and partially melted	2	–
	Iron mason’s or plasterer’s trowel	1	–
	Cu alloy coins (one late 3rd-century; two 4th-century)	3	–
	Iron hobnails	2	–
	Cu alloy cast ring	1	–
	Iron fragments (strips, straps)	8	–
	Iron flanged socket	1	–
	Iron blade? fragments	4	–
	Iron counterweight or bolt?	1	–
42	<i>Opus signinum</i>	–	172
	Iron flat-headed nail	6	–
	Iron T-shaped nail	2	–
	Iron nail shank	4	–
	Iron loop hinge	1	–
	Glass vessels (4th century) (see Cool, GL4–5)	2	–
	Lead vessel patch	1	–
	Ferrous smithing slag (including hearth bottom)	–	1,591
	Hammerslag	–	0.1
	Bar iron/smithing scrap	1	–
	Lead alloy waste — spillage/runnels	–	7.4
	Iron axe head	1	–
	Cu alloy coin (late 3rd century)	1	–
	Cu alloy coins (4th century)	11	–
	Lead alloy steelyard weights	2	–
	Cu alloy strap end	1	–
	Iron hobnails	14	–
	Cu alloy riveted sheet fragments	2	–
	Cu alloy strip fragment	2	–

Cu = copper

Table 5.16: ‘Other artefacts’ assemblage from quarry pits L30

type 4 (1985, 16 and fig. 3); its weight of 653g, including corrosion by-products, indicates that it was used for more delicate tasks, as opposed to felling. Other tools may be represented amongst the ‘fragment’ assemblage — the flanged socket and at least one curving blade fragment may have derived from a reaping or pruning hook; other blade fragments may have derived from shears.

Commerce, evident in the assemblages from L11/L15 and L27, is again attested by two lead bi-conical steelyard weights, which retain iron suspension loops (Fig. 5.9: OA46 and OA47). Their weights suggest that they may have been equivalent to 3 *unciae* and 3.75 *unciae* respectively.

The purpose of OA48 (Fig. 5.9) is uncertain. It perhaps served as a form of counterweight or alternatively may have functioned as a bolt that dropped vertically into place, *e.g.* for attaching the yoke to the beam of a cart (*cf.* Manning 1985, 126). Somewhat similar robust hooked rods of rounded and rectangular section were found at Gadebridge, their use also uncertain (Manning 1974, fig. 75 nos 542 and 543), while at Higham Ferrers there was an object described as an iron looped peg or possible lynch pin (Scott 2009, 218 cat. no. 60).

Items of dress and adornment are few; the sixteen hobnails attest to the continued use of Roman-style nailed footwear. Noteworthy, however, is the presence

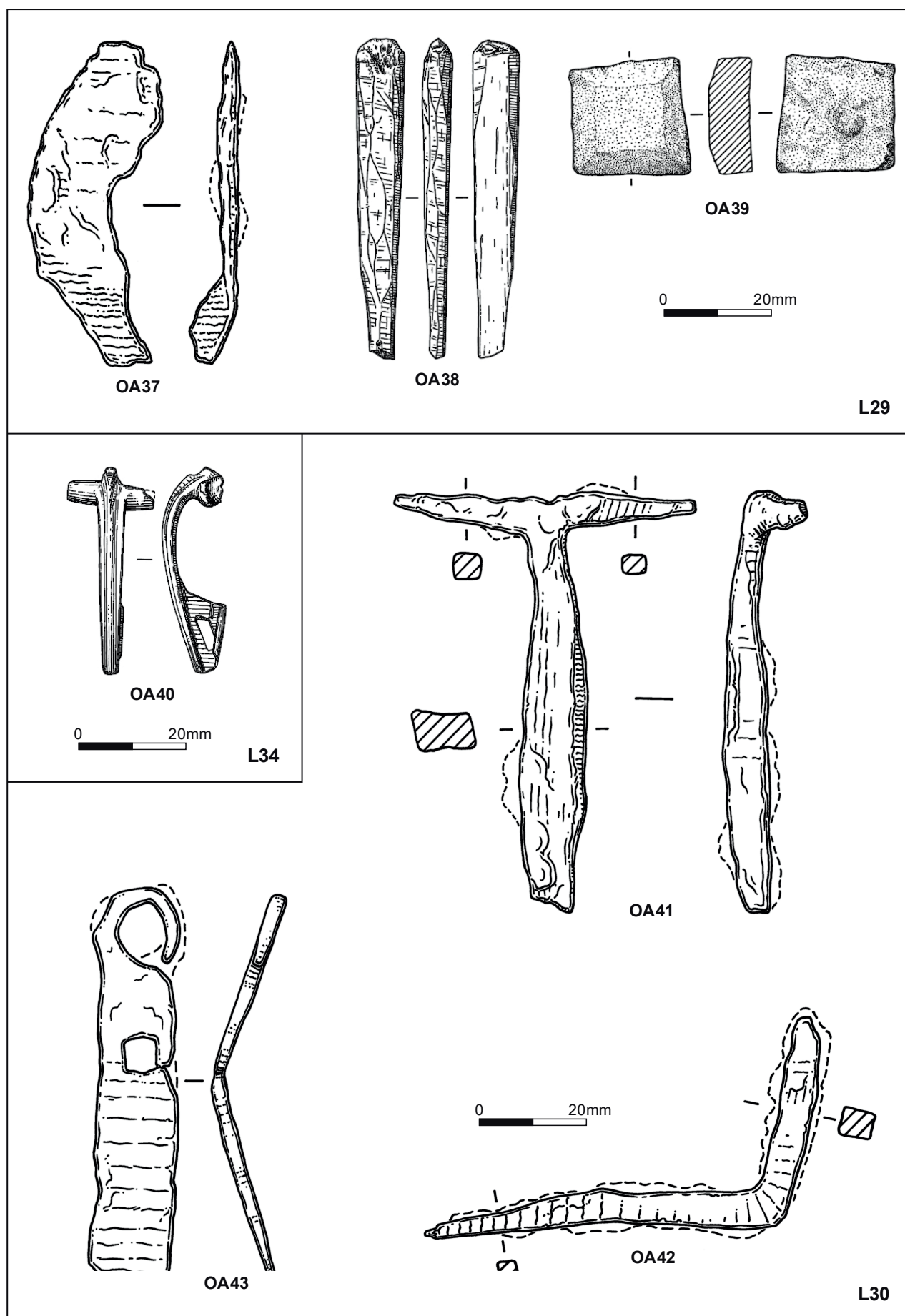


Figure 5.8: Selected 'other artefacts' (OAs 37-43)

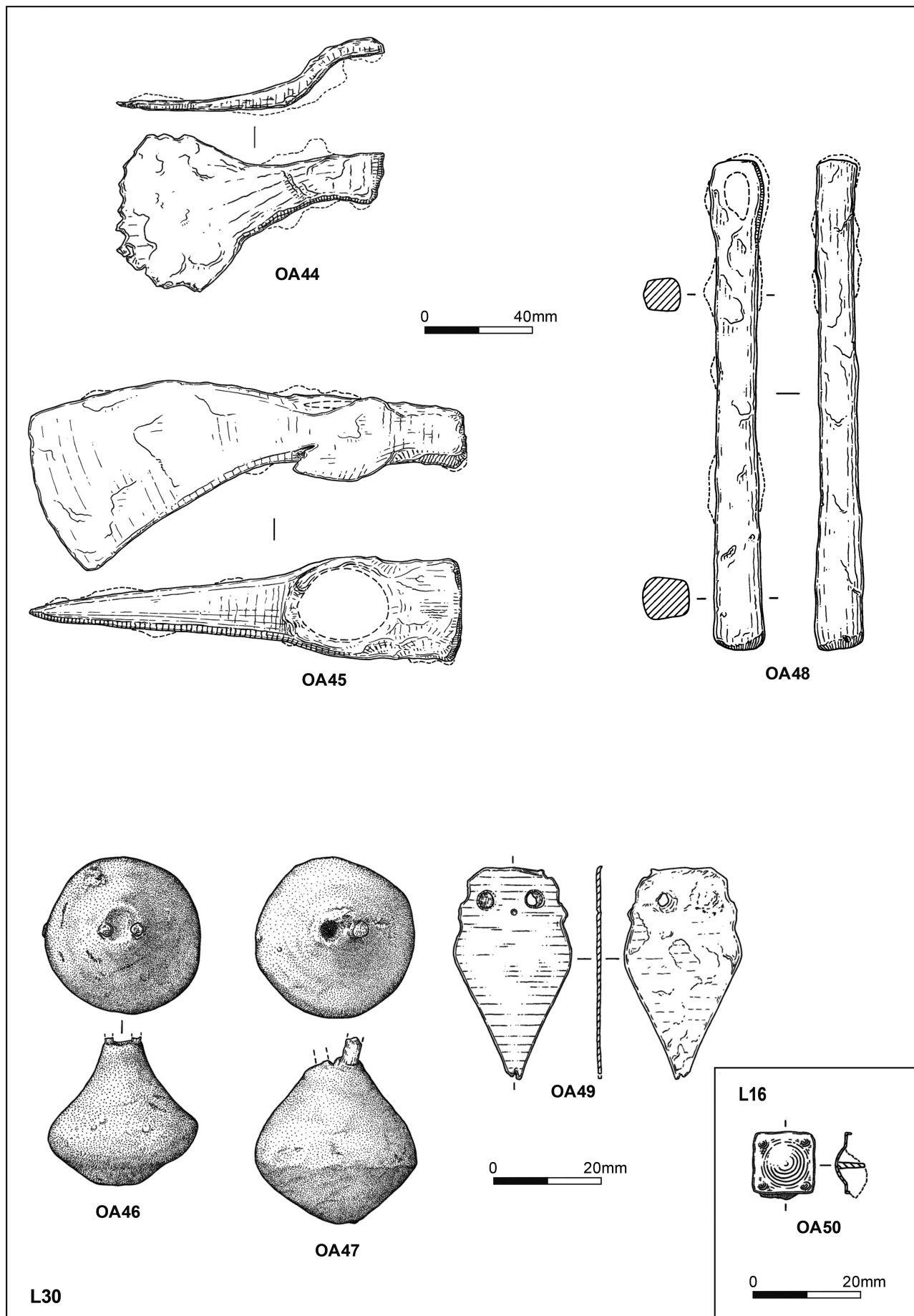


Figure 5.9: Selected 'other artefacts' (OAs 44–50)

of an amphora-shaped strap end (Fig. 5.9: OA49) dating to the 4th century (Simpson 1976, 198–9; Bishop and Coulston 1993, 173). Recovery of small numbers of military fittings, generally of 2nd- to 3rd-century date, on civil settlements is now recognised as a widespread phenomenon (Scott 2009, 201; Bishop 1991). OA49 could represent the presence of a soldier billeted or policing the area, or perhaps a resident veteran.

Catalogue: quarry pits L30

*OA41 T-clamp? Iron. Relatively thick rectangular stem (14mm × 11mm), broken at one end. The opposing end tapers in width and thickness (minimum 8.2mm × 7.8mm) and is split to form a T-shaped terminal. Length shank 78mm; length terminal c. 58mm. Phase 4; L30; G11.2; RA2340. Fig. 5.8.

*OA42 Wall hook. Iron. L-shaped and complete. Rectangular in cross-section. Length 66mm; height 41.5mm. Phase 4; L30; G11.2; RA2332. Fig. 5.8.

*OA43 Hinge. Iron. Part of loop hinge comprising a rectangular (in plan and section) strip, one end broken. The opposing end has been narrowed and formed into a loop in the same plane. A rectangular perforation occurs on the strip, c. 14mm below the base of the hooked end. Bent/damaged mid-section. Length c. 79mm; width 18mm; thickness 3.6mm. Phase 4; L30; G42.3; RA2288. Fig. 5.8.

*OA44 Trowel. Iron. Part rectangular-sectioned handle (cranked but now partially flattened and bent to one side) and blade from mason's or plasterer's trowel? Clear shoulders on blade, blade incomplete. Handle width 18.2mm, thickness 7.7mm; blade width (incomplete) c. 58mm; thickness c. 5mm; length c. 117mm. Phase 4; L30; G11.2; RA2333. Fig. 5.9.

*OA45 Axe head. Iron. Manning type 4 with backward curving blade and slight lugs. Length 158mm; width blade 62mm; weight 653g (including corrosion products in eye). Phase 4; L30; G42.3; RA2076. Fig. 5.9.

*OA46 Steelyard weight. Lead. Roughly biconical lead weight/plumb-bob with iron 'wire' suspension loop and possibly remnants of iron point? Weight 89g; height 28mm; diameter 29.3mm. Phase 4; L30; G42.3; RA2074. Fig. 5.9.

*OA47 Steelyard weight. Lead. Roughly biconical lead weight/plumb-bob with iron 'wire' suspension loop and possibly remnants of iron point? Weight 103g; height 35mm; diameter 31mm. Phase 4; L30; G42.3; RA2075. Fig. 5.9.

*OA48 Uncertain. Iron. Bolt or counter weight? Robust 'bar' one end is rectangular in section, the end flattened and bent over, rejoining the main body, to form an eye or loop. The bar changes to rounded or hexagonal section a quarter of the way along its length. Opposing end is blunt (broken?). Length 179mm; rectangular end 25mm × 18.5mm; rounded end c. 20.5mm diameter. Phase 4; L30; G11.2; RA2339. Fig. 5.9.

*OA49 Strap end. Copper alloy. Amphora-shaped strap end. Decorative edge, flat top, with two rivet holes, sides of sheet plate have 'fillet' just below the rivet holes. The plate edge curves outwards and then tapers in. The point of the strap end has a notch, similar to those found on nail cleaners. Thin rectangular sheet. Length 38.6mm; width 22mm; thickness 0.8mm. Phase 4; L30; G42.3; RA2046. Fig. 5.9.

Cemetery L16

'Other artefacts' were recovered from eight burials, all but one of which yielded nails (Table 5.17). The presence of nails within a grave is often the only surviving evidence for the use of a coffin or bier. As nails can also be inadvertently incorporated into a grave fill, however, the shape of the grave and the positioning of both the body and the nails needs to be considered. SG168 (adolescent-adult), SG169 (?female, aged 18–25 years) and SG178 (female, aged 18 years) are thought to have been buried in coffins of nailed construction. Despite the presence of only one nail in SG163, the shape of the grave and the

Group	Burial	Description	No.
68	SG158	Iron nail shanks	2
	SG163	Iron nail shank	1
	SG168	Iron nails (three with head; one shank)	4
	SG169	Iron double-spiked loop	1
		Iron nails (eleven with head; six shanks)	17
69	SG172	Iron nails (one with head; one shank)	2
	SG178	Iron nails (five with head; one shank)	6
		Iron double-spiked loop	1
		Iron rectangular staple	2
		Cu alloy coins (see Guest)	3
		Cu alloy mount	1
		Cu alloy brooch(?) pin tip	1
	SG179	Iron nails (one with head; one shank)	2
		Cu alloy coin (see Guest)	1
	SG184	Cu alloy coin (see Guest)	1
		Yellow/brown glass splinter (see Cool)	1

Cu = copper

Table 5.17: Metal artefacts and glass from inhumation cemetery L16

constricted position of the body suggest that the individual (?male, aged 18–25 years) had been placed in a coffin or on a bier and/or was wrapped in a shroud.

None of the nails from the coffined burials are complete; however, nearly complete examples from SG169 and SG178 indicate a length of over 55mm. Head form varied between and within graves (Table 5.18). Two slightly different patterns of distribution were noted: the nails in burial SG168 were confined to the head and foot of the grave, whereas in burials SG169 and SG178 nails were also found down the sides of the grave. While this variance may reflect different construction methods, it may also reflect the presence of coffin fittings. Burials SG169 and SG178 shared a common feature in having a double-spiked loop, and in the case of SG178 two rectangular staples, perhaps suggesting a hinged lid.

The coins that accompanied burials SG178, SG179 and SG184 are discussed above (Chapter 5.IV). The 1st/2nd-century coin accompanying burial SG184 (aged 18–25 years) would appear to have been contained in a purse, as indicated by dark brown staining surrounding the find-spot next to the upper left leg of the body. Despite the issue date of the coin, the deposition of coins wrapped in cloth, contained in a purse or placed in boxes rarely occurred before the 4th century (Philpott 1991, 212).

Both the tip of the possible brooch pin from SG178 and the possible glass bead fragment from SG184 (Chapter 5.V) may be inadvertent inclusions incorporated into the backfill. Mount OA50 (Fig. 5.9) that accompanied SG178, however, appears to be an accessory item, and, from its position at the skeleton's neck, worn on the body. This small, square, cast strap mount is plated with a white metal (silver?). It has an integral rivet emerging from beneath the central hollow boss. Each corner of the mount has a small raised dot, which x-raying indicates

Nail type	Burial		
	SG168	SG169	SG178
Flat rectangular	–	3	3
Flat pentagonal or hexagonal	–	1	2
L-shaped	–	5	–
T-shaped	2	2	–
Round and domed	1	–	–

Table 5.18: Nail types from coffined burials in inhumation cemetery L16

are perforated. Somewhat similar mounts, although slightly bigger, are known from 2nd-century deposits at Gorhambury, Hertfordshire (Wardle 1990, fig. 125 nos 185 and 186) and from late 1st- to mid-2nd-century deposits of the *vicus* at Castleford, Yorkshire (Bishop 1998, fig. 23 no. 269). The quoted examples are thought to have possible military associations. Burial SG178 is of a young adult female, suggesting that the mount, if military, was a keepsake of a parent or partner. The accompanying coins indicate a date not before the first quarter of the 4th century.

The only 'other artefacts' from structure G78 comprise a limited quantity of ferrous slag (124g) and a small copper-alloy annular ring (diameter 11mm). Neither can be closely dated and they provide no insight into the function of the structure.

Catalogue: cemetery L16

*OA50 Strap mount. Copper alloy and ?silver wash. Small, square mount with small raised dots, one in each corner. These raised dots show on x-ray as small circular perforations. There is a circular raised and hollow boss at the centre of the mount. The back of the mount currently has 'concretion' adhering but there is a central copper-alloy rivet extending down from the central boss, possibly held in place by solder or perhaps integrally cast? Mount measures 11.6mm x 11.6mm. Found in neck area of skeleton. Phase 4; L16; G69; RA2246. Fig. 5.9.

Inhumation cluster L26

All three burials in L26 contained nails; the quantities in SG196 and SG197 (Table 5.19) suggest that the bodies had been placed in coffins. Burial SG200 had only two nails, one each side of the body at shoulder-height; the accompanying coin of AD231 (Chapter 5.IV) was placed to the west of the back of the skull.

Phases 5 and 6 (medieval furrows and topsoil)

The Phase 5 medieval furrows yielded only small quantities of ferrous slag (39g) and copper-alloy waste (2.8g), which might conceivably have originated from the Roman period occupation. Phase 6 topsoil deposits did,

however, produce some finds typologically dated to the Roman period, which do enhance the overall artefact profile.

In addition to the residual Colchester B brooch from Phase 4 deposits (L31), further evidence suggestive of later 1st-century activity comes in the form of brooches, including an additional Colchester derivative (B) brooch — in this instance one of the more diminutive varieties (Fig. 5.10: OA51). As Olivier (1988, 44) comments, 'the tradition of manufacturing very small (almost miniature) Colchester brooches appears to also have been applied to Colchester derivatives'. There is also part of the head of a possible second Colchester derivative brooch (OA52), in a more standard size, and a battered Hod Hill (or Hod Hill variant) brooch (Fig. 5.10: OA53).

A fourth brooch (Fig. 5.10: OA54) is represented by the lower portion of brooch bow and projecting foot-knob of two cordons, which could date to the late 1st century through the 2nd century. The 3rd century is represented by two finger-rings, both incomplete, one of Henig type Xb, with 'hunched shoulder' (Fig. 5.10: OA55) and one of Henig type VIII (Fig. 5.10: OA56) (Henig 1978, 38 and fig. 1).

A pair of tweezers with flared ends, in-turned tips, linear border and ring-and-dot ornament (Fig. 5.10: OA57), is likely to be of Saxon date, closely paralleled by an example from West Stow (West 1985, fig. 238 nos 24 and 25).

Group	Burial	Description	No.
75	SG196	Iron flat-headed nails	6
		Iron nail shank	1
	SG197	Iron flat-headed nails	4
		Iron nail shank	1
	SG200	Iron flat-headed nails	2
		Copper alloy coin (AD 213)	1

Table 5.19: Metal artefacts from inhumation cluster L26

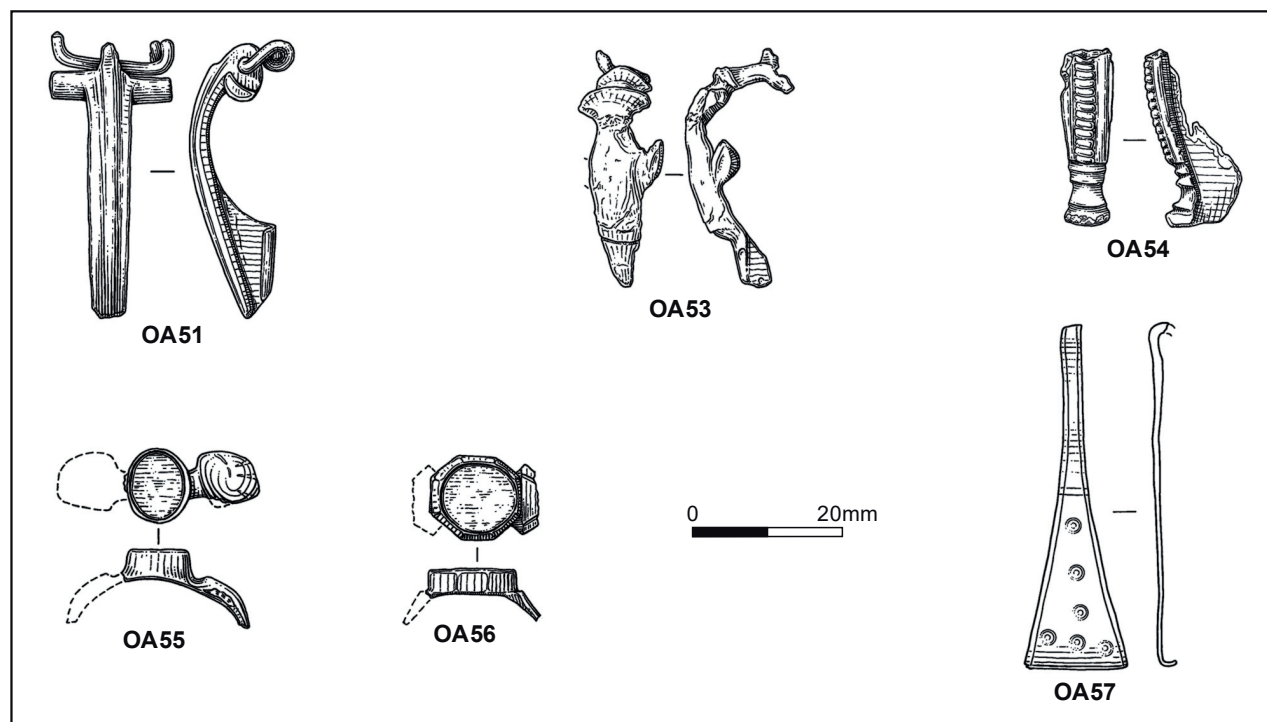


Figure 5.10: Selected 'other artefacts' (OAs 51 and 53–57)

Catalogue: Phase 6 topsoil deposits

*OA51 Brooch. Copper alloy. Colchester derivative B class, possessing plain semi-circular side wings, double perforated lug (retaining part of coil in upper perforation), cavetto moulding down centre of bow, solid catch plate. Length 37mm. Phase 6; L39; G91; RA2087. Fig. 5.10.

OA52 Brooch. Copper alloy. Upper part of Colchester/ Colchester derivative brooch, comprising wings, coils and upper bow. Twelve coils, half side wings with incised groove at end of each wing. Bow of triangular cross-section, raised ridge down centre of bow, ridge decorated with horizontal incised nicks creating beaded appearance. Pin, rest of bow and catch plate do not survive. Spring mechanism uncertain — no forward or rearward facing hook survives. Length c. 18.2mm; width of wings 33.2mm. Phase 6; L39; G91; RA2015.

*OA53 Brooch. Copper alloy. Small Hod Hill or Hod Hill variant. In very poor condition, surfaces pitted (corrosion active?) and upper part of bow bent out of alignment; the hinged head is incomplete. One projecting knob survives. The lower portion of the bow has a raised ridge before dropping to form the foot. The foot of the brooch does not survive, a break occurring just as the catch plate begins. Length c. 32mm. Phase 6; L39; G91; RA2274. Fig. 5.10.

*OA54 Brooch. Copper alloy. Foot-knob, part catch plate and bow. Brooch comprising lower portion of sub-triangular-sectioned bow, which has a vertical groove down each side of the bow and a raised central ridge with closely set horizontal nicking. The demarcation between bow and foot is marked by two horizontal ribs, followed by a concavity and then a projecting foot-knob of two cordons. Catch plate incomplete. Length 24.3mm. Phase 6; L39; G91; RA2017. Fig. 5.10.

*OA55 Finger-ring. Tinned/silvered copper alloy? Fragment from a hunched shoulder finger-ring, comprising part of one raised shoulder, with incised linear decoration. The shoulder drops and narrows, forming a slight curve at the junction with the raised oval bezel. The paste/gem does not survive and only the stub of the corresponding shoulder. The shoulder has a linear border and a 'Y' incised in its centre. Length bezel 10mm; width bezel 8mm; width shoulder 7mm; height bezel 3.8mm. Phase 6; L39; G91; RA2160. Fig. 5.10.

*OA56 Finger-ring. Copper alloy. Henig type VIII shoulder ring fragment, comprising part of one triangular-angled shoulder with linear border and raised octagonal bezel, no enamel or 'gem' surviving within the bezel. Length bezel 12mm; width bezel 11mm; width shoulder 9mm; height bezel 3.7mm. Phase 6; L39; G91; RA2159. Fig. 5.10.

*OA57 Tweezers. Copper alloy. One arm of a pair of tweezers with half of kinked loop surviving. The tweezers are narrow near the loop but flare out one third of the way down their length, creating a 'broad' triangle; the tips are in-turned. Both edges of the external face of the arm have a linear border, c. 0.5mm from the edge. Two transverse marks occur where the arm begins to flair. Below this there is a slightly off-centre line of four single ring and dots down the length of the arm, and two further single ring and dots on either side of the final linear ring and dot, where the tips of the tweezers are in-turned. Length 46mm; width upper arm 2.7mm (min.); width flared section 13.3mm; thickness upper arm 1.5mm (max.). Phase 6; L39; G91; RA2157. Fig. 5.10.

Summary

Occupation evidence

The meagre assemblage of 'other artefacts' from stratified Phase 2 deposits cannot shed light on the settlement's economic basis. However, the small assemblage of later 1st-century brooches from the ploughsoil (Phase 6; see Fig. 6.10: OA51, OA53 and OA54) does suggest activity during this period; this is supported by a residual Colchester B derivative brooch from Phase 4 deposits in L31 (Fig. 5.8: OA40). Overall, the 'other artefacts' assemblage suggests a modest initial stage of occupation.

Although the settlement expanded in size during the mid-2nd to mid-3rd centuries (Phase 3) and more finds were recovered, the size of the assemblage is unexceptional — over 66% of it comprises hobnails. The assemblage is characterised by small quantities of nails and craft-related items. A fragment of an iron needle (OA3) from L6 could indicate sewing of either textile

or leather. The majority of the craft-related finds are by-products of ironworking, including 2,225.8g of ferrous slag. Although a proportion of the slag assemblage is undiagnostic, the presence of fragments of hearth bottom (L4 and L7), along with instances of both hammerscale and hammerslag (shared boundary L6/L7 and L8), suggest that all the ferrous slag assemblage derived from smithing. The quantities of ferrous slag do not suggest intensive ironworking; they are more likely to represent small-scale smithing to meet the immediate needs of the community (e.g. repairs to tools) and could have been undertaken seasonally when the demands of other elements of the settlement's economy diminished.

Few artefacts can be typologically dated to this period; one brooch foot (Fig. 5.10: OA54) from the ploughsoil may have derived from Phase 3 deposits. The general rarity of personal items such as brooches or toilet implements and imported goods (a single sherd from a blue/green glass prismatic bottle; Chapter 5.V) appears to suggest that either the settlement at this time had limited status, or its inhabitants had no desire to adopt certain aspects of Romano-British culture. The concentration of forty-four hobnails within ditch fills L5, along the boundary ditch between domestic foci L6 and L7, does at least attest to the adoption of Roman-style footwear.

The increase in the quantity of 'other artefacts' from the Phase 4 enclosure system L15, small oval enclosure L27, enclosures L11/L15 and quarry pits L30 might suggest that this was the *floruit* of the settlement. Fasteners and fittings mainly comprise nails and occasional staples that may indicate the presence of structures or at least furnishings. Single instances of a T-clamp (Fig. 5.8: OA41), wall hook (Fig. 5.8: OA42) and looped hinge (Fig. 5.8: OA43), likely to have been used in conjunction with structures, were confined to quarry pits L30 and hence cannot be linked to a particular enclosure. No locking mechanisms or keys were found, and household furnishings in general are limited. Restricted numbers of non-ceramic kitchenware and tableware were present. Of the six glass vessel sherds, half are thought to be residual, although there is some indication within the small 4th-century group of a higher-status vessel (Chapter 5.V), again found within quarry pits L30. The crumpled and patched copper-alloy sheet vessel (OA14) from Enclosure A (L15) suggests that imported items were repaired as opposed to replaced and hence may not have been readily available/affordable. The presence of vessel-repair pieces — both copper-alloy 'paper clip' rivets and lead alloy waisted plugs, found in enclosures L29, oval enclosure L27 and quarry pits L30 — supports this suggestion.

The earliest instance of a stratified personal item, part of a trinket finger-ring (Fig. 5.5: OA6), also originated from the northern Enclosure A (L15). A second example of an iron needle (Fig. 5.5: OA5) and part of a small iron drop-handle (Fig. 5.5: OA4) suggest that the southern enclosure also had domestic occupation. One or two personal items occurred in Enclosure A (tweezers OA16 and possible strap mount OA18: Fig. 5.5), Enclosure C (bracelet OA21: Fig. 5.6) and peripheral enclosures L11/L15 (spatula OA34 and finger-ring OA33: Fig. 5.7). The remaining seven items all derived from burials (see Chapter 2.II). All of the jewellery items are in keeping with a late 3rd- to late 4th-century date; the toiletry items are not closely datable. Although the quantities seem small, personal items account for 3.2% of the Phase 4

assemblage (excluding hobnails and coins), on a par with the Higham Ferrers settlement, where personal items (excluding hobnails and coins) formed 3.5% of the late 3rd- to 4th-century (Phase 5) assemblage (Scott 2009, 201; table 198). The absence of hairpins from any phase of the Higham Road settlement may suggest that adoption of Roman hairstyles was not a priority for the inhabitants.

Crafts, in particular ferrous smithing, are relatively well represented. The greatest concentration of evidence for smithing was found in quarry pits L30 and nearby features (Fig. 1.8). Slag was present, including hearth bottom portions, hammerscale and hammerslag, as well as possible off-cuts of bar iron or stock iron (OA7–OA11). There is also some indication of both hot and cold non-ferrous metalworking in the form of copper alloy and lead alloy spillage/runnels and off-cuts, although the amounts of waste material recovered suggest that this was occasional activity. Due to incomplete survival, no metalworking tools could be identified with certainty; however, there is one possible punch (OA36).

Other crafts are represented by single items. The small chisel (OA12) from Enclosure A (L15) may have been used in woodworking, as may an axe head (Fig. 5.9: OA45) of Manning type 4 (1985, 16; fig. 3). The crank handle of a trowel (Fig. 5.9: OA44) may belong to a mason's or plasterer's tool. An awl (Fig. 5.6: OA19) from Enclosure C (L15) suggests leatherworking, and it is likely that the iron needle (OA20) from the same enclosure was used to sew leather as opposed to textiles. Despite the evidence for waste products (Chapter 6.II), there are few other indications of bone-working and in fact only two items of worked bone were found on the entire site (bone peg OA38 from enclosures L29 (Fig. 5.8) and a possible needle shank from enclosure system L31).

Only a few items relate to the subsistence and economy of the settlement. Remains of two shears blades (of a size suggestive of sheep-shearing or cloth-cutting) were found in ditches that formed part of enclosures L29 (Fig. 5.7: OA30 and OA31). A small reaping hook (Fig. 5.6: OA22) from Enclosure D (L15) and parts of a few pruning or leaf-cutting hooks (Fig. 5.5: OA13, Enclosure A (L15); Fig. 5.8: OA37, small oval enclosure L27) would have been used to cut cereals and fodder respectively. This combination of tool types would suggest a mixed farming economy. Despite this, no querns or millstones were recovered; however, Shaffrey (2009, 255) notes in relation to the Higham Ferrers querns that this area is one in which no natural quern resources are readily to hand, and imported Millstone Grit usually predominates. Wheat was grown at Higham Road (Chapter 6.III), but it may be that after initial processing the grain was taken elsewhere for grinding.

Evidence for commerce is largely in the form of coins, which account for over 73% of the copper-alloy artefacts (Chapter 5.IV). The presence of a steelyard (Fig. 5.7: OA32) from enclosures L11/L15 and steelyard weights (Fig. 5.7: OA46–47) from quarry pits L30, along with a possible balance 'pan weight' (Fig. 5.9: OA39) from small oval enclosure L27), is also suggestive of commercial transactions. Despite this evidence, none of the styli or seal boxes that would have been used to record such dealings were recovered.

In contrast to Higham Ferrers, where evidence was found of cart or wagon fittings, harnesses and

hipposandals, no objects definitely associated with transportation were recovered at Higham Road. There is a looped bar of uncertain function (Fig. 5.9: OA48) from quarry pits L30; this may have been used as a bolt that dropped vertically into place, *e.g.* for attaching the yoke to the beam of a cart (*cf.* Manning 1985, 126).

A 4th-century riveted amphora-shaped strap end (Fig. 5.9: OA49) from quarry pits L30 has military associations. Two other strap fittings, one (Fig. 5.5: OA18) from Enclosure A (L15) and one (Fig. 5.9: OA50; see below) from burial SG178 within cemetery L16, may have similar associations. These fittings could represent the presence of a soldier billeted in or policing the area, or perhaps resident retired veterans.

Much of the assemblage relates to crafts, subsistence activities and, to a lesser extent, commerce. However, there are occasional items which suggest that some of the inhabitants may have had higher aspirations. The 4th-century glass vessel has already been mentioned (Chapter 5.V) but there is also the foot from a cast copper-alloy figurine shod in a 4th- to 5th-century-style shoe (Fig. 5.7, OA35; enclosures L11/L15).

The presence of glazed and mortar-floored buildings is hinted at by the recovery, albeit in small quantities, of window glass (Chapter 5.V) and *opus signinum* from Enclosure A (L15). There were also relatively small quantities of *opus signinum* from Enclosure C and quarry pits L30, and mortar or bonding from Enclosure B. This material is likely to have derived from elsewhere, as there was no other physical evidence for a building with these elements within the excavated part of the settlement.

Comparison of the assemblages from Phases 1–4 highlights the disparity in artefact recovery rates. The fluctuations in the quantity of artefacts suggest that the initial stages of settlement were less intense, with enclosure systems L14/L15 representing the settlement's peak, while the final phase of enclosures (L31) witnessed a contraction. This pattern does generally reflect the contextual evidence. However, Scott comments, in relation to a similar pattern at Higham Ferrers, that this might simply reflect the fact that sites were cleared before any changes in structure or use were made, with earlier artefacts removed, recycled or redeposited (Scott 2009, 202).

Burial evidence

Of the four Phase 3 cremation burials, only SG127 (G48, L7) yielded 'other artefacts' — a hobnail. It showed no signs of being heat-affected, suggesting that it had not been recovered from the pyre. It may have become incorporated into the burial during collection of the cremated remains, or perhaps during interment.

The assemblage of 'other artefacts' recovered from the Phase 4 inhumations is presented in Table 5.20.

Evidence for the use of coffins (generally thought to equate with a higher social standing) was rare amongst the fourteen burials within enclosures; the only exception was the adult male burial SG188 (L22). However, burials in cemetery L16 and in cluster L26 to the west of the enclosure system contained more evidence, with three in cemetery L16 (SG168, SG169 and SG178) yielding enough to suggest a coffin. On the basis of grave shape and the positioning of the body, SG163 may also have been buried on/in a bier/coffin and/or wrapped in a shroud. Burials SG169 and SG178 (young adult females) may have had hinged coffins; burial SG178 is also noteworthy in being the initial burial in a sequence of three

Land-use area	Group	Burial	Position	Gender	Age	Coffin nail	Coin	Bracelet	Bead	Strap mount
16	68	SG158	N/D	N/D	12–15	2	–	–	–	–
		SG163	Supine	?Male	18–25	1	–	–	–	–
		SG168	Supine	N/D	Adolescent/adult	4	–	–	–	–
		SG169	Supine	?Female	18–25	17	–	–	–	–
		SG172	Supine	M	40–45	2	–	–	–	–
	69	SG178	Supine	Female	18	6	3	–	–	1
		SG179	Supine	Male	40+	2	1	–	–	–
		SG184	Supine	N/D	18–25	–	1	–	1(?)	–
		SG185	Supine	N/D	25–35	1	–	–	–	–
		SG188	Supine	Male	27–66	4	–	–	–	–
17	70	SG190	On side	N/A	16–17	–	1	–	–	–
22	72	SG198	Supine	N/A	3–5	–	–	3–4	–	–
23	76	SG202	Prone	Male	20–30	–	–	–	1(?)	–
25	77	SG196	Prone	?Male	25	7	–	–	–	–
26	75	SG197	Prone	Male	25–30	5	–	–	–	–
		SG200	Prone	Male	25–35	2	1	–	–	–

Table 5.20: Summary of ‘other artefacts’ with details of inhumations

within the same plot. The three burials in cluster L26 all contained nails; the quantities in SG196 and SG197 are sufficient to suggest the use of coffins.

Grave goods were limited in type and occurrence. Coins occurred in five burials, with three instances in cemetery L16, and one each in clusters L22 and L26 (Table 5.20; Chapter 5.IV). The custom of including coins within a burial was a firmly established practice by the 4th century across a broad cross-section of society (Philpott 1991, 215). Although the Higham Road burials are all thought to date to the late 3rd to early 5th centuries, the coins represent a range of dates, somewhat mirroring the history of the settlement: a late 1st-century dupondius (SG179); a coin dating to the 1st–2nd century (SG184), a denarius copy as Alexander Severus (AD231; SG200); two late 3rd-century coins and a mid-4th-century one (SG178); and a coin of Honorius (395–402; SG190).

Philpott notes that coins most often occur in the mouth, or in such a position that they may have fallen from the mouth (Philpott 1991, 212). This was not the case at Higham Road. The staining surrounding the coin in the area of the upper left leg of SG184 strongly suggests that the coin had been placed in a bag or purse. The same can be suggested for SG190, whose coin was in the pelvic region. The three coins accompanying burial SG178 were positioned to the right of the deceased — one adjacent to the upper leg, one adjacent to the mid-chest, and the third 0.3m distant from the neck. It is unclear whether this was the original arrangement of the coins, as disturbance may have occurred when later burials were added to the same plot (SG179 and SG180); it is possible that the coins were initially in a purse or other organic container. The coin associated with prone burial SG200 was found to the left of the skull base.

SG198 (cluster L23) was the only burial accompanied by worn bracelets: two were found on the upper left arm

(OA24 and OA25), a third on the left wrist (OA23), and possibly the remains of a fourth in the area of the right arm (OA26). SG198 was 3 to 5 years of age and this is reflected in the small diameter of the possibly homemade bangle bracelets and the altered (cut-down) cast bracelet. Burials with worn bracelets have been found at a number of rural settlement sites widely scattered across England, particularly 4th-century ones, reflecting the greater popularity of bracelets during this period. It seems to have been a consistent rite of a minority of the population (Philpott 1991, 143).

One glass bead and a possible fragment from a second (Chapter 5.V) were found in environmental samples taken from burials SG202 (cluster L25) and SG184 (cemetery L16). Whether the beads were grave goods (and, if so, worn or unworn) or inadvertent inclusions within the grave fills is unclear. Although bead GL7 is likely to be of late Roman date and hence contemporary with burial SG202, finds of single unworn beads without any other accompanying personal ornaments are extremely rare (Philpott 1991, 147). Burial SG184, in addition to the possible splinter from a yellow/brown bead, also contained a 1st–2nd-century coin, probably held in a bag or purse. Philpott notes that 4th-century burials with coins are more likely to include unworn personal ornaments (Philpott 1991, 149).

A small mount or strap fitting (Fig. 5.9: OA50) (discussed above due to its possible military associations) was found with skeleton SG178, the primary burial in a group of three in the same plot within cemetery L16. This burial also contained coffin fittings and three coins. The ornament was found beneath the chin of the young woman, suggesting that it was worn, perhaps in the manner of a choker or pendant.

Chapter 6

Ecofacts

I. INTRODUCTION

The investigations yielded an ecofact assemblage comprising animal bone, charred plant remains, charcoal and human remains. The material is discussed below; where appropriate, methodologies are outlined in each section. More detailed information on the human bone is provided in the appendices: a photographic catalogue of the inhumations (Appendix V) and a skeletal catalogue (Appendix VI).

II. ANIMAL BONE

Mark Maltby

Introduction and methodology

All the bones and teeth recovered from hand-collected and sieved samples were recorded individually on a relational database (Microsoft Access), which forms part of the site archive. The following information was recorded for each specimen, where appropriate: species; anatomical element; zones of bone present; approximate percentage of bone present; gnawing damage; erosion; weathering; burning; fusion data; associated bone group number; sample number; other comments. The very limited amount of metrical, butchery and tooth ageing data was also recorded. Tooth eruption and wear descriptions for cattle, sheep/goat and pig follow the method of Grant (1982). Measurements are those described by von den Driesch (1976).

Sample size and preservation

Animal bones were recorded from 277 contexts (excluding modern ones). The assemblages from each context were assigned to five preservation grades (Table 6.1). None were assigned to the highest grade (very good). Forty-six of the assemblages are quite well preserved, with good surface preservation but with evidence of gnawing or other damage on some of the bones. Most assemblages (193) were graded as 'moderate'. Bones in these assemblages generally have fair surface preservation but also include significant numbers of gnawed bones and a few weathered and/or eroded specimens. This category incorporates most of the bones examined. Thirty-six contexts produced quite poorly preserved assemblages. These typically contain higher proportions of eroded and weathered specimens, and are generally more fragmented than the better-preserved assemblages. Only one Phase 4 context, containing a single, heavily eroded bone, was

assigned to the very poorly preserved category. Gnawing damage was observed on 291 of the identified domestic mammal elements.

A total of 3,356 animal bone fragments were recorded from the excavations through a combination of hand-collection and sieving (Table 6.2). Only twenty-three of these were from deposits assigned to Phase 2 (late 1st to mid-2nd century). Phase 3 features (mid-2nd to mid-3rd century) provided 412 fragments, of which 185 were identified. The Phase 4 deposits (late 3rd to early 5th century) produced a much larger assemblage of 2,894 fragments, including 1,484 identified specimens. Only two bones were from medieval features (Phase 5), and twenty-five fragments were from unphased contexts. Sieved samples produced 385 fragments, most of which (339) are unidentified mammal elements. Forty-six fragments from sieved samples were identified as dog, sheep/goat, cattle or pig.

Phase 2 (late 1st to mid-2nd century)

Only twenty-three animal bone fragments were recovered from enclosures L2. Cattle, sheep/goat and horse were identified (Table 6.2). The elements represented can be found in the species tables (Tables 6.6–6.15) but this assemblage is too small to merit further analysis.

Phase 3 (mid-2nd to late 3rd century)

Earliest enclosure L4

Fifteen animal bone fragments were recovered from the enclosure ditch G12. Sheep/goat, cattle, pig and horse were identified (Table 6.3). The assemblage included a complete sheep/goat mandible.

'Ladder' enclosure system L5

Three ditches produced a total of 139 animal bone fragments: fifty from the western boundary ditch G6; seventy-eight from the northern part of the eastern boundary ditch G7; and two from ditch G8 at the north of the enclosure system. Cattle and sheep/goat were the most commonly recorded amongst the sixty-six identified elements (Table 6.3). Small numbers of horse, domestic fowl, cat and rook/crow bones were also identified. Ditch G6 produced two complete cattle metacarpals and seven cattle bones from an associated bone group (ABG1) consisting of both pelves, the sacrum, a caudal and three lumbar vertebrae (Table 6.5). The morphology of the pelvis suggests that this partial skeleton belonged to an adult ox or bull (location shown on Fig. 3.4). However, evidence for canid gnawing and slight charring indicates that this was not a primary deposition. A complete horse tibia, also from ditch G6, bears blade marks indicative of flesh removal.

Domestic focus L6

G9, G10 and G79 produced twenty-five animal bone fragments, sixteen of which were identified as cattle, sheep/goat, horse or pig (Table 6.3). Most of the identified

Phase	Very good	Quite good	Moderate	Quite poor	Very poor	Total
2	–	–	7	–	–	7
3	–	7	41	2	–	50
4	–	39	143	30	1	213
5	–	–	–	1	–	1
Unphased	–	–	2	4	–	6
Total	0	46	193	36	1	277

Table 6.1: Animal bone preservation by Phase

Taxa	Phase					Unphased	Total	Sieved	Mammal %	Domestic %	Cow:Sheep/Goat:Pig %
	2	3	4	5							
Cattle	6	116	755	1	6		884	11	58	59	65
Sheep/goat	3	43	342	–	3		391	14	28	28	31
Pig	–	6	55	–	2		63	3	4	4	5
Horse	1	15	104	–	2		122	–	7	7	
Dog	–	–	184	–	–		184	18	2	2	
Cat	–	1	12	–	–		13	–	0.3	0.3	
Red deer	–	1	6	–	–		7	–	0.5		
Hare	–	–	2	–	–		2	–	0.1		
Domestic fowl	–	2	21	–	–		23	–			
Goose	–	–	1	–	–		1	–			
Corvid	–	1	2	–	–		3	–			
Total identified	10	185	1,484	1	13		1,693	46	1,416	1,407	1,279
Unid. mammal	13	227	1,404	1	12		1,657	339			
Unid. bird	–	–	6	–	–		6	–			
Total unidentified	13	227	1,410	1	12		1,663	339			
Grand total	23	412	2,894	2	25		3,356	385			

Counts are of numbers of individual specimens (NISP). Total includes bones in associated bone groups (ABGs), but total % excludes ABGs (see Tables 6.5, 6.11 and 6.13). Total includes bones in sieved samples.

Table 6.2: Animal bone species counts by Phase

Taxa	Land-use area									Total
	4	5	6	7	8	10	12	13		
Cattle	3	38	9	14	11	40	1	–		116
Sheep/goat	5	20	4	5	4	4	–	1		43
Pig	1	–	1	2	1	1	–	–		6
Horse	1	4	2	1	2	5	–	–		15
Dog	–	–	–	–	–	–	–	–		–
Cat	–	1	–	–	–	–	–	–		1
Red deer	–	–	–	–	1	–	–	–		1
Domestic fowl	–	2	–	–	–	–	–	–		2
Corvid	–	1	–	–	–	–	–	–		1
Total identified	10	66	16	22	19	50	1	1		185
Unid. mammal	5	73	9	32	13	87	2	6		227
Total unidentified	5	73	9	32	13	87	2	6		227
Grand total	15	139	25	54	32	137	3	7		412

Counts are of numbers of individual specimens (NISP). Totals include bones in ABGs, and bones in sieved samples.

Table 6.3: Animal bone species counts by Land-use Area (Phase 3)

fragments have gnawing damage. The cattle assemblage includes a fairly complete calf metacarpal.

Domestic focus L7

Fifty-four animal bone fragments were recovered, including twenty-two identified as cattle, sheep/goat, pig or horse (Table 6.3).

Domestic focus L8

Thirty-two animal bone fragments were recovered. Most of the nineteen identified elements belonged to cattle, with sheep/goat, horse and pig also represented (Table 6.3). A sawn off-cut of a red deer antler was found in the ditch defining possible building G24. The same ditch produced substantial, albeit fragmented portions of the skulls of a horse (SKL1) and a cow (SKL2) (Table 6.5; locations shown on Fig. 3.4). Both horn cores of the cattle skull were recovered. A complete horse scapula was also found.

Enclosures L10

Although 136 animal bone fragments were recovered, all from enclosure ditch G15, only fifty were identified. Most of the unidentified fragments consist of large-mammal

rib shafts, probably from cattle. Cattle elements also dominate the identified material, although small numbers of horse, sheep/goat and pig are also present (Table 6.3). The cattle assemblage includes three associated ankle bones from a large animal. A complete metacarpal also belonged to a large bull.

Trackway L12

Only four animal bone fragments were recovered, including part of a cattle mandible.

Unenclosed activity L13

Only three animal bone fragments were recovered; a sheep/goat humerus was the only one that could be identified.

Phase 4 (late 3rd to early 5th Century)

Earliest enclosures L14

In total, 213 animal bone fragments were obtained from two ditches — twenty-one from G21 and the rest from G31. Eighty-one fragments were identified, mainly cattle and sheep/goat. Small numbers of pig, dog, horse, hare, domestic fowl and goose were also recorded (Table 6.4). The cattle assemblage includes a mandible and a humerus of neonatal calves, as well as four bones from older calves. A complete radius and a scapula of adult cattle were also recovered. The sheep/goat assemblage includes six mandible fragments and a complete sheep metacarpal. A small and a large dog are represented by a pelvis and a scapula respectively.

Main enclosure system L15 and eastern enclosures L11/L15

A substantial faunal assemblage of 954 fragments was recovered. The largest collection (434 fragments) derived from ditch G32 associated with eastern enclosures L11/L15. Assemblages of over fifty elements were obtained from eastern ditch G22 (155), southern ditch G20 (fifty-four) and western ditch G27 (fifty-three). A total of 435 fragments were identified; these are dominated by cattle, followed by sheep/goat, horse, pig and dog (Table 6.4). The cattle assemblage (266) includes twenty-eight mandible fragments, seven of which (mainly from ditch G22) survive largely complete and include two from

Taxa	Land-use area																		Total
	14	11/15 and 15	16	18	19	20	21	22	23	24	26	27	28	29	30	31	34		
Cattle	37	267	9	1	65	7	2	—	—	13	13	7	2	36	98	120	78	755	
Sheep/goat	29	92	4	—	12	7	—	2	1	6	3	13	5	9	106	42	11	342	
Pig	6	16	3	—	—	1	—	—	—	—	—	—	2	1	13	9	4	55	
Horse	1	42	—	—	10	2	—	1	—	2	—	—	—	2	7	16	21	104	
Dog	3	10	—	—	—	—	—	35	—	—	109	—	—	2	20	3	2	184	
Cat	—	—	—	—	10	—	—	—	—	—	—	—	—	—	—	2	—	12	
Red deer	—	3	—	—	—	—	—	—	—	—	—	—	—	—	—	3	—	6	
Hare	1	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	2	
Domestic fowl	3	3	—	—	1	—	—	—	—	2	—	—	—	1	9	1	1	21	
Goose	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	
Corvid	—	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	
Total identified	81	435	16	1	98	17	2	38	1	23	125	20	9	52	253	196	117	1,484	
Unid. mammal	129	519	16	—	76	7	6	5	—	34	4	52	12	79	278	132	55	1,404	
Unid. bird	3	—	—	—	—	—	—	1	—	—	—	—	—	—	1	1	—	6	
Total unidentified	132	519	16	0	76	7	6	6	0	34	4	52	12	79	279	133	55	1,410	
Grand total	213	954	32	1	174	24	8	44	1	57	129	72	21	131	532	329	172	2,894	

Counts are of numbers of individual specimens (NISP). Totals include bones in ABGs.

Table 6.4: Animal bone species counts by Land-use area (Phase 4)

neonatal calves. Fifteen metacarpal and eighteen metatarsal fragments were also recovered, including twelve complete or 75%-complete specimens. Loose teeth (eighteen) and skull/maxilla fragments (fifteen) are also well represented. The abundance of elements of low meat value implies that primary butchery may have been carried out in the vicinity. However, high-quality meat bones were also found in large numbers, including scapulae (seventeen), pelves (seventeen) and femora (thirteen). Vertebrae (twenty-eight) were also quite commonly recovered. There are no significant differences in the makeup of the cattle assemblages obtained from the different ditches. Therefore, the ditches appear to have been depositories for waste associated with cooking as well as primary processing. Mandibles are also quite prominent in the sheep/goat assemblage, providing thirteen of the ninety-two fragments. Tibiae (sixteen) are even better represented, and the sheep/goat assemblage is biased towards more robust elements.

The horse assemblage (forty-one) includes two small associated bone groups both from ditch G32 (Table 6.5). These comprise a group of four thoracic vertebrae (ABG2) from an adult animal and a group of four tarsals and the proximal end of a third metatarsal (ABG3)

(locations shown on Fig. 4.2). The shaft of the metatarsal has been carefully severed by a heavy blade — an action that was perhaps associated with the selection of bone for working. Ditch G32 also produced a pair of pelves, which may have been associated with the proximal part of a femur. Complete horse bones include two third metacarpals, a radius and a tibia. Pig elements (sixteen) are poorly represented. They include a calcaneus from G32, which is large enough to have been from a wild boar, although gnawing damage prevents any metrical analysis. The ten elements identified as dog include three fairly complete mandibles, one of which was probably associated with a maxilla (all from ditch G32).

Two worked antler off-cuts of red deer were found in ditch G22 and a red deer mandible was found in ditch G32. Three bones of domestic fowl and two of rook/crow complete the list of identifications.

Only four animal bone fragments were recovered from eastern enclosure ditch G16 (L11), including a fragment of horse skull and a cattle first phalanx (Table 6.4).

ABG/SKL	Phase	Land-use area	Group	Sub-Group	Feature type	Species	NISP	Description
ABG1	3	5	6	23.2	Ditch	Cattle	7	Pelvis and vertebrae; adult male
SKL1	3	8	24	22.2	Ditch	Horse	1	Posterior of skull
SKL2	3	8	24	22.2	Ditch	Cattle	1	Posterior of skull and horn cores
ABG2	4	15	32	43.2	Ditch	Horse	4	Thoracic vertebrae; adult
ABG3	4	15	32	52.2	Ditch	Horse	5	Tarsals and severed metatarsal; adult
ABG4	4	19	44	143.2	Water-pit	Cat	9	Jaws, pelvis, forelimb, hind limb; adult
ABG5	4	22	74	194	Grave	Dog	35	Cranium, neck vertebrae, forelimbs; adult
SKL3	4	24	61	102	Quarry pit	Cattle	1	Complete apart from occipital condyles, premaxillae and left horn core; young adult
SKL4	4	26	75	196	Inhumation	Dog	1	Maxillae; adult
ABG6	4	26	75	197	Inhumation	Dog	108	All areas of body; adult female
SKL5	4	30	42	146.1	Quarry pit	Cattle	1	Central area plus maxilla; juvenile
ABG7	4	30	42	146.2	Quarry pit	Dog	16	Ribs, forelimbs; adult
ABG8	4	34	105	160.2	Quarry pit	Cattle	44	Vertebrae, ribs, upper hind limbs; subadult; axis chopped
ABG9	4	34	105	160.2	Quarry pit	Cattle	4	Right forelimb; subadult or young adult male
ABG10	4	34	105	160.2	Quarry pit	Horse	14	Ribs, vertebrae, pelvis; adult
ABG11	4	34	107	162.1	Gully	Cattle	4	Neck vertebrae; adult

Counts are of numbers of individual specimens (NISP).

Table 6.5: Animal bone groups (ABG) and substantial portions of skulls (SKL)

Cemetery L16

Cemetery L16 produced thirty-two animal bone fragments, of which sixteen were identified (Table 6.4). Only three were associated with inhumations (all from graves G69): SG175 contained part of a cattle astragalus and associated distal tibia fragment, while SG177 contained a sheep/goat tooth. The eroded and fragmentary nature of these elements suggests that they were redeposited within the grave fill rather than being deliberate depositions. The majority of the other bones within the cemetery were found in association with structure G78. These include a calcaneus and centroquartal of a very small adult cow and a group of three cattle phalanges.

Domestic/activity focus L18

A poorly preserved cattle mandible was the only element recovered.

Domestic/activity focus L19

In total, 174 animal bone fragments were recovered, of which ninety-eight were identified. Most of the elements (121) came from water-pit G44, with a further forty-four from quarry pits G85. Cattle (sixty-five) dominate the identified assemblage, their remains including complete specimens of four metapodials, a radius and tibia, and largely complete portions of a scapula, humerus, radius, femur and two tibiae. Generally, the cattle bones are less fragmented than in other assemblages within the settlement, reflecting better preservation conditions in the pits. The low incidence of specimens with gnawing damage also indicates better preservation. Only twelve sheep/goat fragments were identified, including part of a skull of a hornless sheep. Ten bones of horse were recovered, but no pig elements were identified. Nine bones from an adult cat (ABG4) were retrieved from water-pit G44 (location shown on Fig. 4.2). These include both sides of the mandibles and pelves along with the left radius, ulna, femur and tibia, and a lumbar vertebra. A tibia fragment from an upper fill of the same feature may also have belonged to this skeleton. The humerus of a domestic fowl was found in G85.

Domestic focus L20

Pits G59 and G60 produced twenty-four animal bone fragments, seventeen of which were identified to cattle, sheep/goat, horse and pig (Table 6.4).

Domestic focus L21

Eight animal bones were recovered, including two calf metapodials.

Inhumation cluster L22

Forty-four animal bone fragments were recovered (Table 6.4), thirty-five of which belonged to the skeleton of an adult dog (ABG5) buried in a discrete grave (SG194) (location shown on Fig. 4.13). The bones were articulated but had been damaged by erosion and modern fragmentation. They include the skull, mandibles, all seven cervical vertebrae, a rib and most of the bones of both forelimbs. Other vertebrae and the hind legs were not recovered.

Inhumation cluster L23

A sheep/goat tooth from SG199 was the only animal element recovered. This was probably an accidental incorporation within the grave fill.

Activity focus L24

Fifty-seven animal bone fragments were recovered, all but three from quarry pits G61. Twenty-three fragments were identified as cattle, sheep/goat, horse or domestic fowl (Table 6.4). A largely complete cattle skull SKL3 was recovered from an individual with short horns (location shown on Fig. 4.2).

Inhumation cluster L26

The skeleton of a very small dog (ABG6) was found in association with inhumation SG197 (location shown on Fig. 4.14). The dog was found in the base of the grave cut, at the feet of the human skeleton, with the head facing north-east. 108 bones were recorded, including several small bones recovered by sieving. All parts of the body are represented and, therefore, it seems likely that the complete dog was buried. The absence of a baculum suggests it was a female. All bones are fused, indicating that the dog was adult. Minor exostoses were found on the shafts of two metacarpals.

Inhumation SG196 produced substantial parts of the maxillae of another small dog (SKL4) that had been placed, presumably deliberately, next to the mouth area of the human skull. Two loose sheep/goat teeth, a lamb tibia and eleven cattle fragments (including five loose teeth and two mandible fragments) were also recovered from the grave. Apart from the dog, the fragmentary nature of this assemblage suggests that these bones and teeth were redeposited amongst the grave fill. The same explanation would account for the presence of fragments of a cattle mandible and cervical vertebra in inhumation SG200.

Small oval enclosure L27

Seventy-two animal bone fragments were recovered, with many of the fifty-two unidentified mammal fragments retrieved from sieved environmental samples. Only sheep/goat and cattle were positively identified (Table 6.4). The sheep/goat assemblage includes a metatarsal of a foetal or newborn lamb. A split cattle metatarsal displays evidence of being worked.

Activity focus L28

Twenty-one animal bone fragments were recovered, all but one from a pit in G64. Nine fragments were identified as sheep/goat, cattle or pig (Table 6.4).

Peripheral enclosures L29

A total of 131 animal bone fragments were recovered, mainly from ditches, of which fifty-two were identified. Cattle elements (thirty-six) were the most commonly recorded and include five phalanges, two of which have evidence for minor pathology, and a fragment of a skull and its associated horn core. Sheep/goat (nine) is the only other species represented by more than two fragments. A calcaneus and a metatarsal of a large dog were found in association. Pig, horse, hare and domestic fowl are also represented (Table 6.4).

Quarrying L30

Quarry pits L30 produced a large assemblage of 532 fragments, most of which (433) derived from pit G42 and the remainder from G11. In total, 253 fragments were identified. In contrast to the assemblage from the ditches of enclosures L15, cattle elements are not predominant — sheep/goat fragments slightly outnumber those of cattle

(Table 6.4). However, the cattle assemblage is similar to the one found in L15, containing a mixture of high- and low-quality meat bones. Vertebrae (eleven), mandibles (eight), maxillae (seven), scapulae (seven) and pelvis (seven) are the best-represented elements. The majority of the cattle bones are fragmented, although most of a calf skull (SKL5) and largely complete specimens of four mandibles and two scapulae were discovered in pit G42. The sheep/goat assemblage is again dominated by robust elements such as the mandible (nineteen), metatarsal (fourteen) and tibia (twelve). The twenty dog bones include sixteen from a partial skeleton (ABG7) within pit G42 (location shown on Fig. 4.2). This comprises eleven ribs, two thoracic vertebrae, both ulnae and the left scapula. The skeleton belonged to an adult dog. A dog scapula from the same pit has been perforated from the medial aspect of the blade. Such perforations are normally associated with the hanging of the shoulder on a hook during meat preservation. If this were the cause of this damage, it would be an unusual discovery; however, perforations can also be caused by other taphonomic factors. Pig and horse are both poorly represented (Table 6.4). These assemblages include a humerus from a neonatal piglet and a complete horse third metacarpal. Compared with other Land-use areas, domestic fowl bones are well represented and tarsometatarsi from at least three different birds were recovered.

Final alterations L31 to enclosures

In total, 329 animal bones were recovered — 222 fragments from ditch G37, thirty-eight from ditch G4, fifty-six from ditch G25, and thirteen from ditch G36. Cattle (120) dominates the identified portion of 196 elements (Table 6.4). As in enclosure ditches L15 and L30, there is a fairly even representation of bones from different areas of the body, including mandibles (fifteen), humeri (eleven), scapulae (ten), metatarsals (nine), metacarpals (eight) and vertebrae (eight). Most of the bones are heavily fragmented, although two complete metatarsals were recovered. Sheep/goat elements are quite abundant but horse and particularly pig are poorly represented. Most of the horse bones are less fragmented than those of cattle and include a complete radius. A fairly complete but very fragmented adult cattle skull was found in ditch G4, with its horn cores still attached.

Small numbers of red deer, dog, cat and domestic fowl bones were also identified (Table 6.4). The red deer bones consist of a complete radius and ulna, and a charred and polished fragment of antler.

Activity focus L34

172 animal bones were recovered, with 140 deriving from quarry pits G105 (Table 6.5). The sixty-six cattle bones from these pits include thirty-seven vertebrae and ribs from the same animal (ABG8) (location shown on Fig. 4.2). A deep blade mark on the axis indicates that it was separated from the atlas and skull. The following bones probably also belonged to the same animal: the right pelvis; parts of both femora and tibiae; and the right astragalus and metatarsal. The epiphyses of the proximal femur and tibia and those of the ribs and vertebrae are unfused, whereas the distal epiphyses of the tibia and metatarsus had recently fused. The partial skeleton, therefore, belonged to a sub-adult or young adult aged between two and perhaps five years old. The morphology of the pelvis indicates that it was from an ox or a bull.

A right humerus, radius, ulna and metacarpal formed a second associated bone group (ABG9), which may also have belonged to the same animal represented by the vertebrae and ribs. The proximal humerus is unfused, the distal radius had recently fused, and the distal metacarpal had fully fused, suggesting that this group was also from a sub-adult animal. The stockiness of the metacarpal indicates that it belonged to a male.

Quarry pits G105 also produced twenty-one horse bones, including a partial skeleton (ABG10). This consists of fourteen bones: eight ribs, five vertebrae and the right pelvis. All the epiphyses have fused and this group, therefore, belonged to an adult animal. There is no evidence of butchery on any of these or the other horse bones. A humerus of a neonatal dog was also recovered, along with seven sheep/goat and five pig fragments.

In contrast, quarry pits G106 produced only three fragments, of which only one, a cattle metatarsal, was identified. This bone shows evidence of being worked, having a circular hole (12.6mm diameter) drilled through its proximal articular surface. Gully G107 produced twenty-four fragments, including cattle (eleven), sheep/goat and dog. Cattle includes an associated bone group of the axis and three other cervical vertebrae of an adult animal (ABG11). No evidence of butchery was observed. A complete femur, tibia and fibular tarsal may also have been associated, as they were also from an adult animal.

Postholes G102 produced just four fragments, including a mandible and a rib from a neonatal sheep/goat and a domestic fowl coracoid.

Discussion

The discussion considers the Roman assemblages from Phases 3 and 4 (mid-2nd to early 5th century).

Cattle

Cattle elements account for 58% of the identified mammal fragments (excluding bones in associated groups) in the overall assemblage (Table 6.2). Apart from L30 and L27 (Phase 4), they were the most commonly recorded in all assemblages containing more than ten identified elements (Table 6.4). This may imply that relatively more waste (containing more sheep/goat and pig bones) from cooking and consumption was deposited in the quarries on the eastern part of the site. However, other factors, such as better bone preservation, could also account for this variation. Overall, cattle provided 65% of the total cattle, sheep/goat and pig elements. Phase 3 deposits produced slightly higher percentages (69%) than those from Phase 4 (64%) but the former sample is quite small (Table 6.2) and there is no conclusive evidence for a decrease in the importance of cattle, particularly given the intra-site variation in Phase 4. Unfortunately, there was no quantification of elements provided in the published report of the small nearby excavations at Burton Wold Farm (Blockley 2008). Assemblages containing over 60% cattle have also been found on several Roman rural settlements in the Great Ouse Valley (Maltby 2016a) and it is clear that cattle played a very important role in the region's farming economy during this period.

Cattle mandibles and metapodials are common in some of the larger assemblages in both Phases 3 and 4, indicating the disposal of primary processing waste in some of the features. This implies that cattle were slaughtered at the site, but it should be noted that there were also bones of higher meat quality found in association,

Element	Phase			Unphased	NISP	%	Bones in ABG	% excluding ABGs	Sieved
	2	3	4						
Horn core	–	2	9	–	11	1.2	–	1.3	–
Maxilla	–	3	21	–	24	2.7	–	2.9	2
Skull	–	6	29	–	35	4.0	–	4.2	–
Mandible	–	14	81	1	96	10.9	–	11.7	1
Hyoid	–	–	1	–	1	0.1	–	0.1	–
Loose teeth	1	9	57	–	67	7.6	–	8.1	2
Scapula	1	11	49	–	61	6.9	–	7.4	–
Humerus	1	2	42	2	47	5.3	1	5.6	1
Radius	–	4	29	1	34	3.9	1	4.0	–
Ulna	1	3	25	–	29	3.3	1	3.4	–
Pelvis	–	3	43	–	46	5.2	3	5.2	–
Femur	–	6	39	1	46	5.2	2	5.3	–
Tibia	–	6	47	–	53	6.0	2	6.2	1
Carpals	–	–	6	–	6	0.7	–	0.7	–
Astragalus	–	1	10	1	12	1.4	1	1.3	–
Calcaneus	–	1	14	–	15	1.7	–	1.8	–
Centroquartal	–	1	6	–	7	0.8	–	0.8	–
Other tarsals	–	–	2	–	2	0.2	–	0.2	–
Metacarpal	–	10	43	–	53	6.0	1	6.3	–
Metatarsal	1	4	44	–	49	5.5	1	5.8	–
Metapodial	–	–	8	–	8	0.9	–	1.0	–
Phalanx 1	–	4	22	–	26	2.9	–	3.2	1
Phalanx 2	–	1	6	–	7	0.8	–	0.8	–
Phalanx 3	–	–	7	–	7	0.8	–	0.8	–
Atlas (VC1)	–	1	11	–	12	1.4	1	1.3	–
Axis (VC2)	–	–	6	–	6	0.7	2	0.5	–
Cervical V	1	2	23	–	26	2.9	8	2.2	–
Thoracic V	–	6	21	–	27	3.1	9	2.2	–
Lumbar V	–	5	17	–	22	2.5	9	1.6	–
Sacral V	–	1	6	–	7	0.8	1	0.7	–
Caudal V	–	2	2	–	4	0.5	1	0.4	2
Ribs	–	8	29	–	37	4.2	15	2.7	1
Total	6	116	755	6	883		59		11

NISP = number of individual specimens. Total counts include elements in ABGs and sieved samples.

Table 6.6: Cattle element counts (NISP)

suggesting that the enclosure ditches and other features involved were depositories for waste associated with the later stages of processing meat and marrow. Excluding bones in associated groups, mandible fragments account for 12% of the total cattle assemblage and metapodials 13% (Table 6.6). At least forty-four different mandibles and thirty-three metacarpals are represented (Table 6.7).

Element	Phase			Unphased	MNE total	WBE total	WBE/NISP
	2	3	4				
Horn core	–	2	7	–	9	5.45	0.5
Maxilla	–	2	15	–	17	–	–
Skull	–	3	10	–	13	–	–
Mandible	–	5	38	1	44	26.95	0.28
Scapula	1	6	31	–	38	19.45	0.32
Humerus	1	2	23	2	28	13.65	0.29
Radius	–	2	20	1	23	14.85	0.44
Ulna	1	3	13	–	17	9.40	0.32
Pelvis	–	3	22	–	25	9.05	0.20
Femur	–	4	19	1	24	13.40	0.29
Tibia	–	3	20	–	23	13.35	0.25
Carpals	–	–	1	–	1	–	–
Astragalus	–	1	10	1	12	12.00	0.88
Calcaneus	–	1	13	–	14	10.00	0.67
Centroquartal	–	1	6	–	7	5.25	0.75
Metacarpal	–	7	26	–	33	22.65	0.43
Metatarsal	1	3	28	–	32	23.75	0.48
Phalanx 1	–	1	5.5	–	6.5	24.10	0.93
Phalanx 2	–	0.25	1.5	–	1.75	7.00	1.00
Phalanx 3	–	–	1.75	–	1.75	6.25	0.89
Highest MNE	1	7	38	2	44	–	–

MNE = minimum number of elements represented; WBE = whole bone equivalent. Counts based on the best-represented zone. Raw counts of phalanges divided by 4; raw counts of carpals divided by 6.

Table 6.7: Cattle element counts (MNE and WBE)

Scapula fragments were also commonly recovered, with at least thirty-eight represented (Tables 6.6–6.7). Upper limb bones are generally slightly less common but, along with vertebrae, still form a significant component of the cattle assemblage. Small bones such as the carpals, tarsals and phalanges are under-represented, but loose teeth are quite common, again indicating that cranial elements are well represented (Table 6.6).

Although most of the bones are fragmented, particularly the upper limbs (Table 6.7), the cattle assemblage is less fragmented than many of those that have been recovered from contemporary sites in the nearby Great Ouse Valley (Maltby 2016a). It includes twenty-one complete metapodials and five intact mandibles. Three substantially complete skulls were also recovered, implying that cattle bones were not heavily exploited for marrow. Indeed, a substantial amount of fragmentation was caused by dogs. Over a quarter of the cattle elements (excluding loose teeth) have been damaged by gnawing.

Butchery marks were observed on seventy-two cattle bones, a few of which bear more than one type of mark. Although processing of cattle carcasses took place at the site, there is little evidence for specialist butchery techniques, which occur in abundance on Roman military sites and major nucleated settlements (Maltby 2007; 2010). Heavy blade marks associated with the filleting that removes slivers of the shafts of upper limb bones were noted on only two specimens (Table 6.8), comprising less than 1% of the total humerus, radius, femur and tibia fragments. Similar calculations on urban assemblages have consistently produced figures of over 15% (Maltby 2010, 284).

Element	Phase		Unphased	Total
	3	4		
Maxilla	–	k	–	k
Skull frag	–	k	–	k
Mandible	–	k3 c9 b	–	k3 c9 b
Scapula	–	k3 6b	–	k3 6b
Humerus	–	k3 b	k	k3 b
Radius	c	k2 c	–	k2 c
Ulna	–	c2	–	c2
Pelvis	–	c7	–	c7
Femur	–	k b	–	k b
Tibia	–	k s	–	k s
Astragalus	–	c2	–	c2
Calcaneus	–	k	–	k
Metacarpal	a	k4 c2 a3	–	k4 c2 a4
Metatarsal	–	k c5 a2	–	k c5 a2
Metapodial	–	k c a	–	k c a
Phalanx 1	–	k3 c	–	k3 c
Axis	–	c	–	c
Cervical V	–	k t	–	k t
Lumbar V	–	a	–	a
Sacrum	–	c	–	c
Total	c a	k26 c32 b9 a7 t s	k	k27 c33 b9 a8 t s

k = fine incision (knife); c = heavy blade or chop mark; b = heavy blade skim; a = axially split; t = transversely split; s = sawn. Totals include specimens with more than one type of butchery mark.

Table 6.8: Types of butchery marks observed on cattle bones

Similarly, axially split upper limb bones were not observed in the Higham Road assemblage, whereas they sometimes occur in large numbers on urban sites. More unusually, at least seven of the metapodials have been axially split open to access marrow, a technique found more commonly in Saxon assemblages: most metapodials from Roman sites have been broken transversely. Most of the split metapodials in the Northern Suburbs in Winchester were associated with bone-working (Maltby 2010, 138–40) and three of the split specimens from Higham Road also appear to be bone-working waste. Another metatarsal has a hole drilled through its proximal surface. Saw marks on the shaft of a tibia are probably also indicative of bone-working, as saws were not used in normal butchery.

Heavy blade marks associated with dismemberment from the humerus and the curing of shoulder meat were found on the neck or blade of six scapulae. Unlike upper limb bones, such scapulae have a wider distribution, although many may have been processed by specialist butchers. Although these could have been butchered at Higham Road, it is possible that some of the scapulae were from imported shoulder joints. Fine incisions were found on a variety of cattle elements (Table 6.8) and knives were used in skinning, dismemberment and filleting. Knives were more commonly used in Iron Age butchery practices, although they were still employed in the Roman period, particularly on rural sites (Maltby 2007). In other cases, a cleaver or heavier blade was used to dismember the carcass.

Thirty-one cattle mandibles, mainly from Phase 4, provide tooth ageing evidence (Table 6.9). The majority (61%) possess fully erupted cheek tooth rows and belonged to cattle over four years of age, and probably much older in some cases. Many of these animals could have been involved in breeding, working and/or dairy production before slaughter. One mandible belonged to a perinatal mortality, indicating that some cattle were calving at the settlement. Six others (19%) belonged to

Cattle	Phase			Total	%	Cumulative %
	2	3	4			
Stage 1	–	–	1	1	3.2	3.2
Stage 2	–	1	5	6	19.4	22.6
Stage 3	–	–	1	1	3.2	25.8
Stage 4	–	–	3	3	9.7	35.5
Stage 5	–	–	1	1	3.2	38.7
Stage 6	–	5	8	13	41.9	80.6
Stage 6–7	–	–	5	5	16.1	96.7
Stage 7	–	–	1	1	3.2	100
Total	0	6	25	31		

Sheep/goat	Phase			Total	%	Cumulative %
	2	3	4			
Stage 1	–	–	1	1	2.0	2.0
Stage 2	–	–	–	0	0.0	2.0
Stage 3	1	2	10	13	26.5	28.5
Stage 3–4	–	–	2	2	4.1	32.7
Stage 4	–	3	9	12	24.5	57.1
Stage 5	–	5	9	14	28.6	85.7
Stage 6	–	–	3	3	6.1	91.8
Stage 6–7	–	–	2	2	4.1	95.9
Stage 7	–	1	1	2	4.1	100
Total	1	11	37	49		

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 (sheep/goat)
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 (sheep/goat)
Stage 7 = M3 at Grant wear stages k–m (cattle)
Stage 7 = M1 and M2 at Grant wear stages h–m (sheep/goat)

Table 6.9: Cattle and sheep/goat mandibular tooth ageing data

calves that died under six months of age. These could have been slaughtered for veal, which may have been a by-product of dairy production. Again, their presence suggests that herds of cattle were raised locally. The main peak of slaughter is typical of most Romano-British assemblages, but the peak tends to be higher on urban and military sites than on rural ones (Grant 2004; Maltby 2010), and the Higham Road assemblage fits this rural pattern.

Calf bones are not as well represented amongst the bones that provide epiphyseal fusion evidence (Table 6.10), perhaps because of differential preservation in an assemblage heavily predated by dogs. However, fifty-eight (7%) of the cattle elements (excluding loose teeth) are recorded as porous, which is probably a better reflection of the abundance of calves in the assemblage. Three-quarters of the distal metapodials and tibiae are fused, indicating that the majority of the cattle represented by these elements were over two years of age. Half of the latest-fusing epiphyses are fully fused, belonging to animals probably over four years of age, which is similar to the results gained from the mandible ageing data.

Metrical data from cattle bones are relatively abundant in this assemblage and details of the most common measurements are given in Table 6.11. Twenty-seven complete limb bones (mainly metapodials) provide withers height estimates derived from their greatest length measurements. These range between 107cm and 132cm, with an average of 120.5cm — quite large by Roman standards. The average height calculated from Roman sites in Leicester was only 111.5cm, for example

Cattle	Phase										Total
	2		3		4		Unphased		Total		
Early fusing	U	F	U	F	U	F	U	F	U	F	%F
Radius P	–	–	–	2	–	21	–	1	–	24	100
Scapula D	–	–	–	2	–	24	–	–	–	26	100
Acetabulum	–	–	–	2	4	16	–	–	4	18	81.8
Humerus D	–	–	–	1	–	17	–	–	–	18	100
1st Phalanx P	–	–	–	3	–	22	–	–	–	25	100
2nd Phalanx P	–	–	–	1	–	6	–	–	–	7	
Total	0	0	0	11	4	106	0	1	4	118	96.7
Later fusing											
Tibia D	–	–	–	3	3	10	–	–	3	13	81.3
Metacarpal D	–	–	–	3	2	14	–	–	2	17	89.5
Metatarsal D	–	1	1	1	7	12	–	–	8	14	63.6
Metapodial D	–	–	1	–	2	3	–	–	3	3	
Total	0	1	2	7	14	39	0	0	16	47	74.6
Latest fusing											
Ulna P	1	–	2	–	1	2	–	–	4	2	
Femur D	–	–	1	1	5	6	–	–	6	7	53.8
Radius D	–	–	–	2	5	8	–	–	5	10	66.7
Humerus P	–	–	–	–	8	3	–	–	8	3	27.3
Femur P	–	–	1	2	7	4	–	–	8	6	42.9
Calcaneus P	–	–	–	1	1	5	–	–	1	6	85.7
Tibia P	–	–	1	2	9	6	–	–	10	8	44.4
Total	1	0	5	8	36	34	0	0	42	42	50.0
Vertebrae Cn	1	–	5	5	24	10	–	–	53	19	26.4
Vertebrae Cd	1	–	6	10	29	7	–	–	59	17	22.4
Rib	–	–	2	3	3	2	–	–	20	5	20.0

Sheep/goat	Phase										Total
	2		3		4		Unphased		Total		
Early fusing	U	F	U	F	U	F	U	F	U	F	%F
Radius P	–	–	–	1	1	1	–	1	1	3	–
Scapula D	–	–	–	–	–	2	–	–	–	2	–
Acetabulum	–	–	–	–	1	1	–	–	1	1	–
Humerus D	–	–	–	–	2	5	–	–	2	5	–
1st Phalanx P	–	–	–	–	2	1	–	–	2	1	–
2nd Phalanx P	–	–	–	–	–	1	–	–	–	1	–
Total	0	0	0	1	6	11	0	1	6	13	68.4
Later fusing	U	F	U	F	U	F	U	F	U	F	%F
Tibia D	–	1	–	1	1	8	–	–	1	10	–
Metacarpal D	–	–	1	–	2	1	–	–	3	1	–
Metatarsal D	–	–	–	–	1	2	–	–	1	2	–
Metapodial D	–	–	–	1	1	–	–	–	1	1	–
Total	0	1	1	2	5	11	0	0	6	14	70.0
Latest fusing	U	F	U	F	U	F	U	F	U	F	%F
Ulna P	–	–	–	1	–	2	–	–	–	3	–
Femur D	–	–	–	–	–	–	–	–	–	–	–
Radius D	–	–	–	–	3	2	–	–	3	2	–
Humerus P	–	–	1	–	4	–	–	–	5	–	–
Femur P	–	–	–	–	1	–	–	–	1	–	–
Calcaneus P	–	–	–	–	1	1	–	–	1	1	–
Tibia P	–	–	–	–	1	1	–	–	1	1	–
Total	0	0	1	1	10	6	0	0	11	7	38.9
Vertebrae Cn	–	–	2	1	1	3	–	–	3	4	–
Vertebrae Cd	–	–	2	2	4	1	–	–	6	3	–
Rib	–	–	–	–	7	1	–	–	7	1	–

P = proximal; D = distal; Cn = cranial; Cd = caudal; U = unfused; F = fused. Unfused includes specimens that are just fusing (>50% of fusion line visible).

Table 6.10: Epiphyseal fusion data

(Maltby 2010, 292). Relatively more large cattle have been found on contemporary sites in the Great Ouse Valley. Average sizes from sites near Bedford range from 117cm (Newnham estate centre: Maltby 2016b) to 122cm (Marston Park: Maltby forthcoming). It is likely that these sites include some improved cattle, perhaps originally descended from imported stock (Albarella *et al.* 2008). They may also include some large oxen, whose

limb bones tend to grow longer because of delayed epiphyseal fusion after castration. Metrical data from thirty-one cattle metacarpals (Table 6.12) suggest that about 65% of the fused specimens are sufficiently slender to have probably belonged to females, although some of the results are borderline. These results may also have been compromised by the presence of cattle of different stature. The relatively high coefficients of variation for many measurements (Table 6.11) suggest that the cattle were not from a single population.

Observations of pathology were recorded on several cattle bones. Evidence for eburnation on the joints and associated exostoses was recorded on both pelves of ABG5 in L5 and on two cattle centroquartals (ankle) and a metacarpal. This condition suggests the onset of arthritis. Minor lipping on the joint surfaces was observed on six scapulae, six phalanges, six metatarsals and a metacarpal. It has been suggested that high incidences of these are related to the use of cattle for ploughing, although other factors can also cause these conditions.

Sheep/goat

It was possible to distinguish between sheep and goat in sixty cases on the basis of morphology. With the exception of one goat scapula, these all belonged to sheep, which therefore are likely to form the vast majority of the unassigned sheep/goat elements.

No associated bone groups were recorded. As discussed above, with the exceptions of L27, L28 and L30, sheep/goat elements usually rank second behind cattle in assemblages (Tables 6.3–6.4). Overall, sheep/goat provide 31% of the total cattle, sheep/goat and pig elements (Table 6.2), rising from 27% of these species in Phase 3 to 31% in Phase 4, the increase being almost entirely accounted for by their greater abundance in L30 (Table 6.4). Sheep/goat elements are relatively better represented in minimum number estimates. At least forty-one sheep/goat mandibles are represented, compared with forty-four cattle and only five pig (Tables 6.7, 6.14 and 6.16). Based on these figures, sheep/goat provides 46% of these species. The discrepancy reflects the poorer recovery and survival of sheep/goat elements and the greater fragmentation of cattle skeletons. The differential recovery and survival of sheep/goat elements is clearly shown in Table 6.13. The assemblage is dominated by the larger and more robust elements such as the mandible, tibia and metapodials. Despite their small size, loose teeth are also relatively better represented than those of cattle, indicating poorer preservation of sheep/goat elements. Vertebrae and small elements such as the carpals, tarsals and phalanges are poorly represented.

Butchery marks were observed on twenty sheep/goat elements. Fine incisions were recorded on twelve bones (humerus, radius, pelvis, femur, three tibiae, calcaneus, metatarsal, atlas and three ribs). The cut on the humerus was found on the medial side of a distal humerus, which was subsequently severed from the radius with a heavier implement. The shafts of two tibiae and a rib have also been severed. Superficial chop or heavy blade marks were observed on the diastemae of two mandibles, an ilium and a radius shaft. A distal metatarsal from L30 (G42) has been carefully severed through the shaft, perhaps indicating that the upper part of the bone was required for working.

A substantial sample of forty-nine mandibles provide tooth ageing evidence (Table 6.9). Only one jaw of a

Cattle	Measurements (mm)	Mean	s.d.	c.v.
Horn core Bp	38.5 41.0 41.5 53.6 60.9 63.7 83.7	54.7	16.26	29.7
Astragalus Bd	36.6 40.4 42.6 42.7 43.0 43.1 45.9 47.2 49.5	43.5	4.03	9.3
Astragalus GLl	60.1 64.9 66.5 66.7 69.0 70.2 74.4	67.4	4.48	6.6
Humerus BT	66.4 67.2 75.1 75.8 78.4 82.8	74.3	6.40	8.6
Metacarpal Bp	47.9 49.5 50.6 51.3 52.2 52.3 52.3 52.6 53.2 54.1 55.6 57.8 57.8 58.0 58.9 61.1 61.3 61.8 62.0 63.0 64.6 65.5 69.4 70.5 75.6	58.4	7.11	12.2
Metacarpal Bd	49.6 50.0 50.3 53.3 53.3 56.5 56.8 57.6 57.7 62.3 65.0 68.5	56.7	6.04	10.7
Metatarsal Bp	41.9 42.9 43.8 44.6 45.5 45.6 46.4 47.0 47.5 48.7 49.9 51.5 51.8 52.0 52.4 52.9 53.3 56.5	48.6	4.15	8.5
Metatarsal Bd	50.2 52.2 53.5 56.1 57.5 57.6 59.6 61.1 61.7 62.1	57.1	4.14	7.3
Radius BFp	67.2 67.8 70.6 72.3 75.3 76.6 78.4 78.9 80.0 80.9 80.9 81.2 83.4 84.6	77.0	5.60	7.3
Scapula SLC	46.7 48.5 50.1 51.1 53.1 53.7 57.3 59.4 62.4 62.5	54.5	5.66	10.4
Tibia Bd	56.2 57.6 62.0 63.8 64.2 65.3 66.0 66.1 69.9	63.5	4.30	6.8
Withers Ht (cm)	107.2 109.6 113.9 114.0 115.0 115.5 115.8 117.0 117.6 117.6 118.8 <i>119.4</i> 119.9 120.4 121.2 121.3 122.6 123.1 123.7 123.7 124.3 124.8 125.6 126.4 127.3 128.1 130.7 131.7	120.5	6.02	5.0
Sheep/goat				
Metatarsal Bp	17.0 18.6 18.9 19.1 19.2 19.6 21.3	19.1	1.28	6.7
Tibia Bd	24.5 24.6 24.9 25.3 26.1 26.3 26.9 27.1 28.6 29.3	26.4	1.65	6.3
Dog				
Scapula GLP	18.1 29.4 31.5 33.7 34.4 35.8	30.5	6.47	21.2

Italics = Phase 2; **Bold** = Phase 3; others = Phase 4

Bp = proximal breadth; BFp = breadth proximal articular surface; BT = breadth distal trochlea; Bd = distal breadth; GLl = greatest lateral length; LG = length glenoid cavity; SLC = minimum breadth of neck; GLP = length of glenoid process. Withers height estimated from length measurements of complete limb bones. s.d. = standard deviation; c.v. = coefficient of variation

Table 6.11: Common measurements (all phases except Phase 6)

Phase	Bp	Dp	Bd	Bfd	Dfd	SD	GL	Bp/GL	SD/GL	Bd/GL	Possible sex
3	69.4	42.3	—	—	—	—	205	0.34	—	—	M
	63.0	—	—	—	—	—	—	—	—	—	M
	75.6	45.7	—	—	—	42.8	215	0.35	0.20	—	M
	57.8	34.3	—	—	—	—	—	—	—	—	F?
	—	—	68.5	—	31.7	—	—	—	—	—	M
4	50.6	30.2	—	48.9	28.2	28.5	191	0.26	0.15	—	F
	61.1	37.6	—	—	—	—	—	—	—	—	M
	—	—	50.0	47.0	24.2	—	—	—	—	—	F
	—	31.9	—	—	—	—	—	—	—	—	F
	61.8	37.8	62.3	55.0	27.0	32.7	198	0.31	0.17	0.31	M
	64.6	40.3	—	—	—	—	—	—	—	—	M
	47.9	29.3	49.6	45.6	24.6	26.7	175	0.27	0.15	0.28	F
	54.1	33.2	—	—	—	—	—	—	—	—	F
	52.3	33.3	53.3	49.3	27.5	32.7	192	0.27	0.17	0.28	F
	52.3	31.2	—	—	—	—	—	—	—	—	F
	49.5	30.0	—	—	—	—	—	—	—	—	F
	65.5	41.9	—	—	—	—	—	—	—	—	M
	—	—	50.3	—	24.9	—	—	—	—	—	F
	70.5	40.3	—	—	—	—	—	—	—	—	M
	58.0	36.1	—	—	—	—	—	—	—	—	F?
	—	—	56.5	52.2	27.1	—	—	—	—	—	F?
	52.2	31.3	53.3	49.8	27.2	30.2	189	0.28	0.16	0.28	F
	52.6	33.7	—	—	—	—	—	—	—	—	F
	57.8	33.7	57.7	52.9	28.4	33.7	202	0.29	0.17	0.29	F?
	53.2	34.4	—	51.3	—	30.6	192	0.28	0.16	—	F
	62.0	37.6	—	—	—	—	—	—	—	—	M
	58.9	33.8	57.6	53.8	27.8	33.9	202	0.29	0.17	0.29	F?
	51.3	33.1	—	—	25.6	28.4	179	0.29	0.16	—	F
	55.6	35.7	—	—	—	—	—	—	—	—	F
	—	—	56.8	52.6	26.1	—	—	—	—	—	F
	61.3	39.0	65.0	58.4	29.9	35.8	198	0.31	0.18	0.33	M

All measurements in millimetres. Bp = 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 Howard (1963).

Table 6.12: Cattle metacarpal measurements (all phases except Phase 6)

neonatal sheep was recovered, but 27% of the mandibles have only the first molar in wear (Stage 3). These are aged between approximately three and twelve months old. Detailed examination of the wear patterns shows that this group includes roughly equal numbers of sheep above and below six months of age (Jones 2006); these were lambs killed for meat at various times from the

summer through to the next spring. The second main group consists of mandibles with two molars in wear (25%) and come from sheep killed mainly in their second year. A third group has all three molars in wear, but no heavy wear on any of them (Stage 5 – 29%). These cover a broad range that roughly encompasses animals that died between two and four years of age, and could

Element	Phase			Unphased	NISP total	%	Sieved
	2	3	4				
Horn core	—	—	4	—	4	1.0	—
Maxilla	—	1	1	—	2	0.5	—
Skull	—	—	7	—	7	1.8	—
Mandible	1	11	56	—	68	17.4	—
Hyoid	—	—	1	—	1	0.3	—
Loose teeth	—	6	38	—	44	11.3	1
Scapula	—	—	17	—	17	4.3	—
Humerus	—	3	15	—	18	4.6	1
Radius	—	1	25	1	27	6.9	2
Ulna	—	1	4	—	5	1.3	—
Pelvis	—	1	16	—	17	4.3	—
Femur	—	1	8	—	9	2.3	—
Patella	—	—	1	—	1	0.3	1
Tibia	2	4	54	1	61	15.6	—
Carpals	—	1	—	—	1	0.3	1
Astragalus	—	—	2	1	3	0.8	—
Calcaneus	—	—	4	—	4	1.0	1
Metacarpal	—	5	26	—	31	7.9	1
Metatarsal	—	2	28	—	30	7.7	1
Metapodial	—	—	2	—	2	0.5	—
Phalanx 1	—	—	5	—	5	1.3	—
Phalanx 2	—	—	2	—	2	0.5	2
Phalanx 3	—	1	—	—	1	0.3	1
Atlas (VC1)	—	—	2	—	2	0.5	—
Axis (VC2)	—	1	2	—	3	0.8	—
Cervical V	—	—	2	—	2	0.5	1
Thoracic V	—	2	—	—	2	0.5	—
Lumbar V	—	1	1	—	2	0.5	—
Sacral V	—	—	2	—	2	0.5	—
Sternebrae	—	—	1	—	1	0.3	—
Ribs	—	1	16	—	17	4.3	1
Total	3	43	342	3	391		14

NISP = number of individual specimens.

Total counts include elements in sieved samples.

Table 6.13: Sheep/goat element counts (NISP)

Element	Phase			Unphased	MNE total	WBE total	WBE/NISP
	2	3	4				
Horn core	—	—	2	—	2	2	0.5
Maxilla	—	1	1	—	2	—	—
Skull	—	—	5	—	5	—	—
Mandible	1	9	31	—	41	21.35	0.32
Scapula	—	1	9	—	10	4.55	0.27
Humerus	—	2	11	—	13	6.1	0.34
Radius	—	1	11	1	13	9.2	0.34
Ulna	—	1	3	—	4	2.1	0.42
Pelvis	—	1	9	—	10	1.85	0.11
Femur	—	1	4	—	5	1.35	0.15
Tibia	2	1	25	1	29	15.9	0.26
Carpals	—	0.17	—	—	0.17	—	—
Astragalus	—	—	2	1	3	2.25	0.75
Calcaneus	—	—	4	—	4	2.1	0.53
Metacarpal	—	2	11	—	13	11.25	0.36
Metatarsal	—	1	10	—	11	10.25	0.34
Phalanx 1	—	—	1.25	—	1.25	4.25	0.85
Phalanx 2	—	—	0.5	—	0.5	1.25	0.63
Phalanx 3	—	0.25	—	—	0.25	1	1
Highest MNE	2	9	31	1	41	—	—

MNE = minimum number of elements represented; WBE = whole bone equivalent. Counts based on the best-represented zone. Raw counts of phalanges divided by 4; raw counts of carpals divided by 6.

Table 6.14: Sheep/goat element counts (MNE and WBE)

include ewes that had produced some lambs before they were slaughtered. The relatively low numbers of elderly sheep suggests that meat rather than wool or milk production was the focus of sheep husbandry. The less reliable

epiphyseal-fusion data broadly supports the mandible ageing evidence (Table 6.10).

Metrical data are more limited. Only three withers heights were estimated: 61.9cm, 62.6cm and 63.1cm. Breadths of the distal tibia range between 24.5mm and 29.3mm, with a mean of 26.4mm (Table 6.11). The sheep, therefore, are large by Romano-British standards. Assemblages from the Midlands and south-east England have tended to include more large sheep than those from the west (Maltby 2010, 294–5). Some of the larger sheep may have been of a hornless type that appeared in Britain during the Roman period (Maltby 2010, 181–3). Sheep of similarly large average size have been found on Roman sites near Bedford (Maltby 2016a).

Two of the sheep/goat mandibles have evidence of quite severe periodontal disease. Several others have evidence of slight overcrowding of the cheek teeth. These conditions may reflect malnutrition, but generally there is little evidence of pathology on the sheep/goat bones.

Pig

Pig elements are poorly represented in this assemblage, providing only 5% of the total cattle, sheep/goat and pig elements (Table 6.2). The abundance of pigs is generally low in Romano-British assemblages from neighbouring Bedfordshire, often falling below 10% of the cattle, sheep/goat and pig elements, and they are frequently less well represented than horse (Maltby 2016a). They were not present at all in the small assemblage from Burton Wold Farm (Blockley 2008).

As is commonly the case in pig assemblages, cranial elements are well represented (Tables 6.15–6.16). Knife cuts on a calcaneus are indicative of the removal of the hind foot, and the distal end of a humerus was chopped off during separation from the radius and ulna. Only three mandibles provide tooth ageing evidence: two belonged to pigs probably slaughtered in their third year, while the third was a little younger and probably died in its second year. There is too little metrical data available to merit analysis.

Element	Phase			Unphased	NISP total	%	Sieved
	3	4	—				
Maxilla	2	6	—	—	8	12.7	1
Skull	3	7	—	—	10	15.9	—
Mandible	—	9	—	—	9	14.3	—
Loose teeth	—	8	—	—	8	12.7	1
Scapula	—	3	—	—	3	4.8	—
Humerus	—	2	—	—	2	3.2	—
Radius	—	3	—	—	3	4.8	—
Ulna	1	1	—	—	2	3.2	—
Pelvis	—	2	—	—	2	3.2	—
Femur	—	2	—	—	2	3.2	—
Tibia	—	1	—	—	1	1.6	—
Fibula	—	3	1	—	4	6.3	—
Carpals	—	1	—	—	1	1.6	1
Calcaneus	—	3	—	—	3	4.8	—
Metacarpal	—	1	—	—	1	1.6	—
Metatarsal	—	1	—	—	1	1.6	—
Axis (VC2)	—	—	1	—	1	1.6	—
Ribs	—	2	—	—	2	3.2	—
Total	6	55	2		63		3

NISP = number of individual specimens.

Total counts include elements in sieved samples.

Table 6.15: Pig element counts (NISP)

	Phase			MNE total	WBE total	WBE/NISP
	3	4	Unphased			
Maxilla	1	3	–	4	–	–
Skull	1	2	–	3	–	–
Mandible	–	5	–	5	1.7	0.19
Scapula	–	3	–	3	0.45	0.15
Humerus	–	2	–	2	0.75	0.38
Radius	–	3	–	3	0.75	0.25
Ulna	1	1	–	2	0.5	0.25
Pelvis	–	1	–	1	0.2	0.1
Femur	–	2	–	2	0.6	0.3
Tibia	–	1	–	1	0.25	0.25
Carpals	–	0.17	–	0.17	–	–
Calcaneus	–	3	–	3	1.5	0.75
Metacarpal	–	1	–	1	0.75	0.38
Metatarsal	–	1	–	1	0.75	0.38
Highest MNE	2	5	–	5	–	–

MNE = minimum number of elements represented; WBE = whole bone equivalent. Counts based on the best-represented zone. Raw counts of phalanges divided by 4; raw counts of carpals divided by 6.

Table 6.16: Pig element counts (MNE and WBE)

Horse

No systematic attempt was made to distinguish horse from mule but, in the absence of any positive evidence to the contrary, it is assumed that most, if not all, of the equid assemblage belongs to horse.

Horse provides 7% of the identified mammal fragments from the excavations (Table 6.2). Comparing cattle and horse elements only, horse accounts for 11% of the total fragments of these species. Horse bones tend to form higher proportions of assemblages from Romano-British rural settlements than in towns, although sometimes occur more frequently in suburban assemblages (Maltby 2010; Foster and Jacques 2012). Horse bones have, for example, provided over 10% of the cattle and horse assemblages from most non-villa rural sites recently excavated in the Great Ouse Valley (Maltby 2016a).

These percentages exclude the horse animal bone groups from G105 (L34) and G32 (L11/L15). One of these latter groups includes a metatarsal that may have been selected for bone-working.

Although cranial elements are fairly uncommon, loose teeth form a higher proportion of the horse assemblage than other species (Table 6.17), partly due to their large size. The pelvis is the most common bone recovered, and fragments of ten different pelves are represented (Tables 6.17–6.18).

Only three horse bones show evidence for processing marks. A tibia bears evidence of crude blade marks that removed flesh from the shaft, while an axial knife cut was observed on the posterior of a humerus shaft, which may also have been the result of filleting. Another tibia has fine incisions on the shaft that might have been made during the initial skinning process. The evidence suggests that at least some of the horse carcasses were processed for their skin and meat, although such exploitation was much less intensive than for cattle. This is also reflected by the presence of a number of complete or fairly complete limb bones, suggesting that these were not exploited for marrow or broken into segments for pot-boiling.

Five complete horse limb bones produce estimated withers heights of 122cm, 125cm, 136cm, 140cm and 147cm (mean 134cm), showing a range in size between 12.0 and 14.4 hands. Four tibiae have distal breadths of 72.4mm, 73.2mm, 73.5mm and 74.7mm. The stature of

Element	Phase			Unphased	NISP		Bones in ABG	% excl. ABGs
	2	3	4		total	%		
Maxilla	–	1	2	–	3	2.5	–	3.0
Skull	–	1	2	–	3	2.5	–	3.0
Mandible	–	–	2	–	2	1.6	–	2.0
Hyoid	–	–	1	–	1	0.8	–	1.0
Loose teeth	–	1	20	1	22	18.0	–	22.2
Scapula	–	1	5	–	6	4.9	–	6.1
Humerus	–	–	3	–	3	2.5	–	3.0
Radius	–	1	5	–	6	4.9	–	6.1
Ulna	–	–	3	–	3	2.5	–	3.0
Pelvis	–	2	8	–	10	8.2	1	9.1
Femur	–	2	5	1	8	6.6	–	8.1
Tibia	–	1	3	–	4	3.3	–	4.0
Astragalus	–	–	1	–	1	0.8	1	0.0
Calcaneus	–	1	4	–	5	4.1	1	4.0
Other tarsals	–	–	2	–	2	1.6	2	0.0
Metacarpal	–	–	5	–	5	4.1	–	5.1
Metatarsal	–	1	2	–	3	2.5	1	2.0
Metapodial	–	–	1	–	1	0.8	–	1.0
Phalanx 1	–	1	2	–	3	2.5	–	3.0
Phalanx 2	–	–	4	–	4	3.3	–	4.0
Atlas (VC1)	–	1	–	–	1	0.8	–	1.0
Cervical V	1	1	2	–	4	3.3	–	4.0
Thoracic V	–	–	5	–	5	4.1	5	0.0
Lumbar V	–	–	4	–	4	3.3	3	1.0
Sacrum	–	–	1	–	1	0.8	1	0.0
Ribs	–	–	12	–	12	9.8	8	4.0
Total	1	15	76	2	122		23	

NISP = number of individual specimens.

Total counts include elements in ABGs and sieved samples.

Table 6.17: Horse element counts (NISP)

Element	Phase			Unphased	MNE total	WBE total	WBE/NISP
	2	3	4				
Maxilla	–	1	1	–	2	–	–
Skull	–	1	2	–	3	–	–
Mandible	–	–	2	–	2	0.5	0.25
Scapula	–	1	5	–	6	3.35	0.56
Humerus	–	–	3	–	3	0.75	0.25
Radius	–	1	4	–	5	4.1	0.68
Ulna	–	–	3	–	3	2	0.67
Pelvis	–	2	8	–	10	2.65	0.27
Femur	–	1	2	1	4	2.25	0.28
Tibia	–	1	3	–	4	3	0.75
Astragalus	–	–	1	–	1	1	1
Calcaneus	–	1	4	–	5	3.75	0.75
Other tarsals	–	–	–	–	0	–	–
Metacarpal	–	–	5	–	5	4.25	0.85
Metatarsal	–	1	2	–	3	0.95	0.32
Phalanx 1	–	0.5	1	–	1.5	2.5	0.83
Phalanx 2	–	–	2	–	2	3.25	0.81
Highest MNE	–	2	8	1	10	–	–

MNE = minimum number of elements represented; WBE = whole bone equivalent. Counts based on the best-represented zone. Raw counts of phalanges divided by 2; raw counts of carpals divided by 6.

Table 6.18: Horse element counts (MNE and WBE)

these horses falls within the range of those found elsewhere in Roman Britain. Minor exostoses and/or lipping of the joint surface were observed on an acetabulum, the glenoid of a scapula, and the proximal end of a third metatarsal.

Dog and cat

Dog is the third most common species identified in terms of NISP (numbers of individual specimens) counts (Tables 6.19–6.20), but these numbers are inflated by the presence of three associated bone groups (Tables 6.2 and 6.5). An adult female dog (ABG6) was interred with inhumation SG197 (L26). Shoulder-height estimates based on Harcourt's (1974) conversion factors

Element	Phase		NISP total	%	Bones in ABG	Sieved
	3	4				
Maxilla	–	3	3	1.6	1	–
Skull	–	2	2	1.1	2	–
Mandible	–	8	8	4.3	4	–
Scapula	–	8	8	4.3	4	–
Humerus	–	7	7	3.8	4	–
Radius	–	4	4	2.2	4	–
Ulna	–	6	6	3.3	6	–
Pelvis	–	3	3	1.6	2	–
Femur	–	3	3	1.6	2	–
Tibia	–	2	2	1.1	2	–
Fibula	–	2	2	1.1	2	–
Carpals	–	7	7	3.8	7	3
Astragalus	–	1	1	0.5	1	1
Calcaneus	–	3	3	1.6	2	1
Other tarsals	–	1	1	0.5	1	1
Metacarpal	–	18	18	9.8	16	2
Metatarsal	–	8	8	4.3	5	–
Metapodial	–	1	1	0.5	–	–
Phalanx 1	–	19	19	10.3	19	3
Phalanx 2	–	6	6	3.3	6	–
Phalanx 3	–	3	3	1.6	3	–
Atlas (VC1)	–	2	2	1.1	2	–
Axis (VC2)	–	1	1	0.5	1	–
Cervical V	–	9	9	4.9	9	–
Thoracic V	–	12	12	6.5	12	–
Lumbar V	–	6	6	3.3	6	–
Sacral V	–	1	1	0.5	1	–
Caudal V	–	4	4	2.2	4	2
Sternebrae	–	1	1	0.5	1	–
Ribs	–	33	33	17.9	30	5
Total	0	184	184		159	18

NISP = number of individual specimens.

Total counts include elements in associated groups and sieved samples

Table 6.19: Dog element counts (NISP)

Element	Phase		MNE Total	WBE total	WBE/NISP
	3	4			
Maxilla	–	3	3	–	–
Skull	–	2	2	–	–
Mandible	–	7	7	5.35	0.67
Scapula	–	7	7	3	0.38
Humerus	–	7	7	5.75	0.82
Radius	–	4	4	3.25	0.81
Ulna	–	6	6	3.75	0.63
Pelvis	–	3	3	1.75	0.58
Femur	–	3	3	2.5	0.83
Tibia	–	2	2	2	1
Carpals	–	1.17	1.17	–	–
Astragalus	–	1	1	1	1
Calcaneus	–	3	3	3	1
Other tarsals	–	0.25	0.25	–	–
Metacarpal	–	2	2	15.5	0.97
Metatarsal	–	0.88	0.88	6.5	0.81
Phalanx 1	–	2.38	2.38	19	1
Phalanx 2	–	0.75	0.75	6	1
Phalanx 3	–	0.38	0.38	3	1
Highest MNE	–	7	7	–	–

MNE = minimum number of elements represented; WBE = whole bone equivalent. Counts based on the best-represented zone. Raw counts of phalanges divided by 8; raw counts of carpals divided by 6; raw counts of metapodials divided by 8.

Table 6.20: Dog element counts (MNE and WBE)

for the lengths of four limb bones of this skeleton range between 30.3cm (tibia) and 31.9cm (humerus). The dog was about the height of a modern Jack Russell but of more slender build. The length of the glenoid process of its scapula (18.1mm) is much smaller than those of five other dogs found on the site, and there was a wide range of variability in the sizes of dogs (Table 6.11). Small lapdogs became more common in the Roman period and

represent evidence of specialist breeding. This dog may have been a pet of the deceased. The partial adult dog skeleton (ABG6) buried in its own grave SG194 (L22) was a larger animal, having an estimated shoulder height of 54.1cm (radius) to 55.0cm (humerus) — similar in size to a large collie.

All five mandibles with surviving teeth belonged to adults, and heavy wear was noted on three specimens. Two mandibles show ante-mortem tooth loss: one has lost its second and third molars, the other its first and second premolars and the third molar. Resorption of the alveoli had occurred in both cases, indicating that the teeth had been lost for some time before death. Tooth loss is common in older dogs. All epiphyses of the bones in the skeletons and in isolated finds are fused, and only one porous bone of a neonatal puppy was recovered. Dogs, therefore, were allowed to fulfil their natural lifespan in their role as pets and working animals.

Only thirteen cat bones were recovered, nine of which were from the partial skeleton (ABG4) of an adult in water-pit G44 (L19). The lengths of the bones of this cat (radius 104.1mm; ulna 118.4mm; femur 115.5mm) reveal it to have been quite a large individual, but not beyond the size of domestic cats. A second femur has a length of only 95mm and belonged to a much smaller cat.

Wild mammals

Wild mammals are poorly represented, with little evidence from the faunal assemblage that they contributed more than occasionally to the diet. Red deer is the only species of deer to be identified; these include four fragments of antler, all of which show evidence of working. One specimen includes the coronet of a cast antler. All the pieces are discarded waste items and indicate that some antler-working was carried out at the site. The other red deer elements consist of a mandible, and a radius and its associated ulna. The radius is complete and has a greatest length of 293mm, a large specimen typical of the Roman period. The mandible and radius both belonged to adults. A metatarsal and a fragment of radius were the only bones of hare identified, the metatarsal belonging to an adult.

Birds and fish

Only thirty-three bird bones were recovered, twenty-seven of which were identified (Table 6.2). Domestic fowl accounts for twenty-three of these. Chickens were introduced into Britain during the Iron Age but did not become a common component of bone assemblages until the Roman period (Maltby 1997; Poole 2010). They tend to form a smaller component of assemblages from rural sites than those from military and urban ones (Maltby 1997). At Higham Road, domestic fowl provided only 6% of the total sheep/goat and domestic fowl bones. Although this percentage is higher than that encountered on many rural sites (Maltby 1997; 2016a), it does not appear that chickens were kept in large numbers. The types of bone represented (Table 6.21) are mainly the larger wing and limb bones, and differential recovery was probably a factor in this bias. At least four birds are represented by the humerus and tarsometatarsus. Two of the tarsometatarsi are spurred and probably belonged to males; a third has no spur and is from a hen; the fourth is from an immature bird. Altogether, at least fifteen bones belonged to adults, and three to immature birds, including one from a young chick. This suggests that

Element	Phase		NISP total	MNE total	Greatest length (mm)
	3	4			
Sternum	–	1	1	1	–
Coracoid	–	4	4	3	56.5
Scapula	–	1	1	1	–
Humerus	–	4	4	4	68.7
Radius	–	2	2	2	62.5
Ulna	–	1	1	1	73.0
Femur	–	2	2	2	66.6
Tibiotarsus	2	2	4	3	–
Tarsometatarsus	–	4	4	4	66.3 (no spur); 79.4 (spur)
Total	2	21	23		

Table 6.21: Domestic fowl element counts (NISP and MNE) and greatest length measurements

chickens were kept by the inhabitants, and the presence of medullary bone in a tibiotarsus indicates the presence of a hen in lay. No butchery marks were observed, but the lack of associated bone groups suggests that the chickens were eaten. Nine of the domestic fowl bones were found in quarry pits L30 (Phase 4), again implying that there was more domestic cooking waste deposited in this area. Greatest length measurements of adult bones show that the chickens were of small stature (Table 6.21).

A goose furcula was recovered from enclosures L14 (Phase 4). It is the size of a grey lag or domestic goose. Geese bones are rarely found on Romano-British sites, and its absence from Phase 3 deposits here was to be expected. A humerus and ulna of a corvid, probably a large crow, was found in enclosures L15 (Phase 4). A second ulna of a rook/crow was found in enclosure L5 (Phase 3). Serjeantson and Morris (2011) have reviewed finds of corvids from Iron Age and Roman Britain, noting that they have often been found as associated bone groups and were often buried at the bottom of pits or within shafts, and were sometimes ritual depositions. At Higham Road, the corvid bones were found in ditches alongside other bones, therefore giving no indication that they were ritual depositions.

Despite an extensive sieving programme, no evidence was found for the consumption of fish.

Summary

The Higham Road assemblage provides evidence that the meat diet was dominated by beef, supplemented by lamb and mutton and, to a lesser extent, pork, horse-meat and chicken. Venison, hare and goose were very rare additions to the diet, and there was no evidence for fish consumption. Cattle and perhaps sheep were probably also exploited for their milk, but not intensively. The presence of bones of several large oxen suggests that plough animals were also important, while horses were kept as beasts of burden and for riding. Most of the animals processed for meat and marrow appear to have been slaughtered and butchered at the settlement, although some shoulders of beef might have been imported. There is little evidence that specialist butchers were operating at this site. Wool production appears to have been less important than meat production in sheep husbandry. Small amounts of bone- and antler-working waste were recovered, indicating the small-scale manufacture of artefacts from these materials. Dogs and cats were also kept by the inhabitants of the settlement.

III. CHARRED PLANT REMAINS

John Giorgi

Introduction and methodology

Environmental soil samples were collected for the potential recovery of charred plant remains to provide information on economy (diet) and agricultural activities (crop-husbandry and processing) taking place across the settlement. In total, 109 samples were selected for processing and assessment, mainly from inhumations, pits/postholes and ditches, with a small number from cremation burials and one from a dog burial. The majority were from late Roman features (Phase 4, late 3rd to early 5th century), with sixteen from Phase 3 features (mid-2nd to late 3rd century) and only a few from pre-Roman (Phase 1) and early Roman features (Phase 2, late 1st to mid-2nd century). One undated tree-throw hole was also sampled.

The soil samples, 1–30 litres in size, were processed in a ‘Siraf’-style type flotation tank using mesh sizes of 0.25 mm and 0.5mm for the recovery of the flot and residue respectively. Assessment of the flots found seventy-one to contain identifiable charred plant assemblages that merited further study (Albion Archaeology 2012b; 2012c).

The selected flots (ranging in size from <1ml to 88ml) were divided into different fractions using a stack of sieves (down to 0.25mm), for ease of sorting. All potentially identifiable charred plant remains were extracted with the exception of indeterminate cereal fragments (generally <2mm), *Avena* (oat) awn fragments, Poaceae/Cereal stem fragments, charcoal, and indeterminate items. The botanical material was identified using a binocular microscope (with a magnification of up to ×40) together with modern and charred reference material and reference manuals (Cappers *et al.* 2006; Jacomet 2006). Counts were made of the sorted and complete items, while approximate estimates were made of the fragmentary and unquantifiable material using the following rating system: + = <5; ++ = 5–25; +++ = 26–100; ++++ = 101–300; +++++ = >300 items.

Results

The charred botanical remains are shown by Phase in Tables 6.22–6.27. Taxonomic order for wild plants in these tables follows Stace (2005). The seventy-eight productive samples, mainly from inhumation, pit and ditch fills, collectively produced 4,637 quantified items, cereal grains accounting for almost a half (47%) of this total, with an almost equal amount of chaff fragments (41%). Seeds of weeds / wild species make up the other 12%.

The majority of the charred plant remains are from the Phase 4 settlement (fifty-three samples), with fewer in the Phase 3 settlement (fifteen samples). Charred botanical material was negligible in the Phase 1 and Phase 2 samples. The size of the individual charred plant assemblages, however, is generally small, with only seven samples, all from Phases 3 and 4, producing assemblages with over 100 items — two contained several thousand items, from ditch G7 (L5, Phase 3) and from pit G64 (L28, Phase 4). The remaining productive flots contained fewer than 100 items, forty-three producing fewer than ten seeds; seed density was also very low,

with forty-seven samples containing less than one seed per litre of processed soil.

There follows a discussion of the different categories of plant material and then a breakdown of the botanical remains by Phase and Land-use area, to establish any possible changes between the different phases of Roman activity (particularly Phases 3 and 4) and the nature and spatial distribution of human activity across the settlement.

Cereals

Cereal remains (grain and chaff) account for 88% of the quantified material and were present in sixty-two samples (grain in all, and chaff in thirty-five).

The cereal grains are poorly preserved and almost 60% could not be identified, while there were variable amounts of uncounted grain fragments in forty-one samples. 38% of the remaining grains in thirty-six flots were identified as *Triticum* (wheat), with hulled wheat, *T. dicoccum/spelta* (emmer/spelt) being the best-represented species. A small number of these grains in six samples were identified as spelt, but only one grain was definitely identified as emmer. The cereal chaff, virtually all of which belonged to hulled wheat, suggests that spelt was the main hulled wheat: a large amount of spelt chaff (glume bases, spikelet forks, rachis fragments) was identified in twenty-one samples, along with just one possible emmer glume base. A smaller number of *T. aestivum* type (free-threshing wheat) grains were recovered from eighteen samples, with one of several free-threshing wheat rachis fragments, showing the definite presence of *T. aestivum* (hexaploid bread wheat).

There are significantly smaller amounts of other cereals, with just twenty-one *Hordeum vulgare* (barley) grains in twelve samples, including occasional twisted hulled grains, showing the presence of six-row hulled barley. A similarly small number of *Avena* sp. (oat) grains were identified in eight samples; a few oat awn fragments were also found in one context. The absence of floret bases, however, means that it was not possible to establish whether the oats were from wild and/or cultivated species, although wild oats were more common than cultivated oats in Roman Britain (Robinson 2009, 308). Other cereal debris includes a small number of loose cereal coleoptiles in one sample, and occasional Poaceae/Cerealina (grass/cereal) node fragments in two samples.

The range of cereals at Higham Road is typical for the Roman period. Present evidence for southern Britain suggests that spelt was the main hulled wheat grain during this period, together with hulled barley, and smaller amounts of emmer and free-threshing wheat (Greig 1991, 309). There were similar results to Higham Road at the Roman roadside settlement at Higham Ferrers, c. 8km to the south, where spelt wheat was the main grain with possibly a little emmer and a small amount of six-row hulled barley (Robinson 2009). On the basis of the larger cereal assemblages, there is no evidence to suggest any change in the predominance of spelt at Higham Road throughout the Roman period.

Cereals during the Roman period may have been used for bread, porridge and gruel, with spelt and free-threshing wheat having excellent baking and milling properties (Jones 1981, 107; Cool 2006, 70). Spelt wheat and barley were also used to make a gruel called *puls* or *pulmentus*, similar to modern Italian *polenta* (Renfrew 1985, 22). Spelt and sometimes barley were used for

brewing, although there were no sprouted grains to suggest such a use at this site; the few loose coleoptiles indicative of sprouted grains in one sample may be attributed simply to natural germination in damp conditions. Barley was also used for horse fodder.

Wild plants / weed seeds

Other charred seeds make up only 12% of the quantified remains in fifty samples, appearing mainly in very small numbers in individual assemblages. They represent a moderate species range of wild plants / weeds, mainly from species that grow in disturbed ground and waste places but probably predominantly from arable weeds, given their presence together with the cereal grains.

The majority of the weed seeds, however, could not be reduced to species, which limits ecological data and information on crop husbandry. Nevertheless, a small range of weeds represented by occasional seeds suggest the use of (calcareous) loams and clay soils for cultivation, for example, *Lithospermum arvense* (field gromwell), *Anthemis cotula* (stinking chamomile) and *Galium aparine* (cleaver); *Sherardia arvensis* (field madder) is usually found on lighter calcareous loams. Several other weeds may point to the use of sandy (loam) soils, for example *Fallopia convolvulus* (black bindweed), *Polygonum aviculare* (knotgrass), *Rumex acetosella* (sheep's sorrel) and *Tripleurospermum inodorum* (scentless mayweed), the latter also found in clay soils. Other potential arable weeds that are relatively well-represented include *Rumex* (docks), *Atriplex/Chenopodium* (oraches/goosefoots etc.) and *Bromus* (bromes).

There is very tentative evidence for the presence of grassland habitats, with several flots producing a small number of seeds of *Plantago lanceolata* (ribwort plantain), a plant of meadows and pastures. There are also relatively large numbers of *Medicago/Trifolium* (medick/trefoil) and mainly indeterminate Poaceae (grass) seeds, the latter accounting for just over 50% of all weed seeds in forty-one samples. The grasses include several *Danthonia decumbens* (heath-grass) seeds, today a plant of wetter acid heaths, but in the past also an arable weed until the replacement of the ard by mould-board ploughing (Hillman 1981, 146). Other potential grassland species are represented by seeds of *Ranunculus acris/repens/bulbosus* (buttercups) and *Carex* (sedges), although these plants may also have grown as cereal weeds.

Several of the arable weeds provide tentative information on other aspects of crop husbandry; for example, *Stellaria media* (common chickweed) and *Fallopia convolvulus* are usually found in spring-sown cereals, while *Galium aparine* may indicate winter-sowing of cereals. The presence of low-growing weeds, for instance *Sherardia arvensis* and *Medicago/Trifolium*, may point to the harvesting of cereals by reaping low on the straw, while the binding weed *Galium aparine* could indicate harvesting by uprooting. *Arrhenatherum elatius* (onion couch), represented by a few charred tuber fragments, may also be evidence of the harvesting of crops by uprooting, although it may also indicate the presence of relatively ungrazed grasslands (Robinson 1988).

The dominance of cereal debris (grains and chaff) in the samples shows that the majority of the charred remains derive from the final stages of crop cleaning and food preparation; the cereal chaff (from the de-husking of spelt wheat) may have been incidentally burnt during

this process and/or later as fuel or for waste disposal. The hulled wheat grains, along with the other cereals, may have been accidentally burnt also during de-husking and/or while being hardened before milling; grains may also have been burnt during cooking accidents. The larger weed seeds (for example *Bromus* and *Galium aparine*) would have required hand-sorting from the grain because they are difficult to separate by sieving, being of a similar size to the grains. There is a little potential evidence for crop residues from the earlier stages of the processing sequence: most of the weed seeds smaller than the grains would have been separated at an earlier stage with the use of the 'wheat' sieve (Hillman 1984, 5–6). As noted above, however, some of the wild plant / weed seeds may represent grassland vegetation, from burnt hay and/or possibly bringing grassland into cultivation.

The following sections examine the composition of the charred botanical assemblages by period, to establish the possible nature of activities producing the remains and any changes between and within each period.

Phase 1 (pre-Roman)

The only productive sample from this phase from a pit fill in cluster G3 (L1) produced just one charred emmer/spelt wheat grain (Table 6.22).

Phase 2 (late 1st to mid-2nd century)

Two samples from this phase produced a small amount of cereal debris from the advanced stages of crop-processing (Table 6.22). These were from a ditch within enclosures G2 (L2) and pit G57 (L3). The debris consists of indeterminate grains, a little hulled chaff (which includes evidence for spelt wheat) and a *Bromus* weed seed in one sample.

Phase 3 (mid-2nd to late 3rd century)

Fifteen samples from this phase contained identifiable charred plant remains from ditches, pits and cremation deposits across the settlement. However, the vast majority (93%) of the quantified items were recovered from a segment of ditch G7 (L5), adjacent to domestic focus L7, while the other assemblages contained only occasional or small amounts of identifiable remains.

'Ladder' enclosure system L5

The sample from ditch G7 produced a large charred plant assemblage of c. 1,500 quantified items, consisting predominantly of cereal grains (56%) and hulled wheat chaff (33%); weed seeds account for only 11% of the quantified remains (Table 6.23). Most of the cereal debris probably belonged to hulled wheat and specifically spelt, on the basis of the chaff fragments, although there is one possible emmer glume base. There are also a small number of grains of free-threshing wheat and six-row hulled barley. A very small number of loose cereal coleoptiles in this sample may reflect damp grain storage conditions.

The bulk of this material derives from the advanced stages of crop-processing, the de-husking and cleaning of spelt wheat. There are only occasional large weed seeds typical of the final stages of crop-cleaning, although there are a relatively greater number of small weed seeds that would have been removed at an earlier stage of the processing sequence. Some of the weed seeds in this sample, for example *Medicago/Trifolium*, *Plantago lanceolata*, *Carex* and small Poaceae, may represent the residues of grassland vegetation.

Other samples

The other thirteen samples from this phase contained only occasional remains or small, broadly similar assemblages (between two and twenty items). They largely comprise cereal debris: occasional wheat grains and hulled wheat chaff (including spelt); traces of possibly free-threshing wheat and barley; and a small range of weed seeds (Tables 6.23–6.24). This background cereal debris is mainly from the final stages of crop-cleaning (de-husking) and food preparation; it may have incidentally found its way into the sampled features. There were insufficient amounts of cereal debris from the cremation deposits to suggest that these had been deliberately selected for the pyre.

Phase 4 (mid-3rd to early 5th century)

Earliest enclosures L14

Two samples, from enclosure ditch G31 and gully G94, produced modest charred plant assemblages consisting

	Phase Land-use area Group Sub-Group Feature type Sample number	1	2	3
		1 3.3 132.3 Pit 2139	2 2.5 6.5 Ditch 2102	57.5 113.5 Pit 2105
Cereal grains				
<i>Triticum dicoccum/spelta</i>	emmer/spelt wheat	1	–	–
<i>Avena</i> sp.	oat	–	–	1
Cereal	indet. cereal	–	4	5
Cereal	indet. cereal fragments <2mm	–	++	+
Cereal chaff				
<i>Triticum spelta</i> L.	spelt rachis fragments	–	1	–
<i>Triticum</i> sp(p).	wheat glume bases	–	3	1
Other plant/weed seeds				
cf. <i>Bromus</i> sp.	?brome	–	1	–
Total		1	9	7
	Vol. sample (l)	10	10	20
	Vol. flot (ml)	6	1	13
	Items/litre	0.1	0.9	0.4

Item frequency: + = <5; ++ = 5–25; +++ = 26–100; ++++ = 101–300; +++++ = 300+ items
Indet. = indeterminate

Table 6.22: Charred plant remains (Phases 1–2)

	Phase Land-use area Group Sub-Group Feature type Sample number	3						
		5		7		7		
		7.2	7.3	47	48	48	50.5	51.5
		40.2	47.3	126.5	127.5	127.5	123.5	124.5
		Ditch	Ditch	CB	CB	CB	Pit	Pit
		2069	2098	2087	2074	2073	2131	2077
Cereal grains								
<i>Triticum spelta</i> L.	spelt wheat	5	—	—	—	—	—	—
<i>T. dicoccum/spelta</i>	emmer/spelt wheat	27	—	—	—	—	—	—
<i>T. cf. dicoccum/spelta</i>	?emmer/spelt wheat	7	—	—	—	—	—	—
<i>T. aestivum/spelta</i> type	free-threshing/spelt wheat	4	—	—	—	—	—	—
<i>T. aestivum</i> type	free-threshing wheat	5	—	—	—	—	—	—
<i>T. cf. aestivum</i> type	?free-threshing wheat	8	—	—	—	—	—	—
<i>Triticum</i> sp(p).	wheat	183	1	—	1	—	—	1
cf. <i>Triticum</i> sp(p).	?wheat	116	—	—	—	—	1	—
<i>Hordeum vulgare</i> L.	barley, hulled, twisted	2	—	—	—	—	—	—
<i>H. vulgare</i> L.	barley, hulled, indet.	3	—	—	—	—	—	—
<i>H. vulgare</i> L.	barley, indet.	2	—	—	—	—	—	—
cf. <i>H. vulgare</i>	?barley	—	—	1	—	1	—	—
<i>Avena</i> sp.	oat	1	—	—	—	—	—	—
cf. <i>Avena</i> spp.	?oat	2	—	—	—	—	—	—
Cerealia	indet. cereal	447	—	1	1	3	9	10
Cerealia	indet. cereal fragments <2mm	++++	+	—	+	++	+	+
Cerealia	indet. cereal coleoptiles	15	—	—	—	—	—	—
Cereal chaff								
<i>Triticum</i> cf. <i>dicoccum</i>	?emmer wheat glume base	1	—	—	—	—	—	—
<i>T. spelta</i> L.	spelt spikelet forks	11	—	—	—	—	—	—
<i>T. spelta</i> L.	spelt glume bases	261	—	—	—	—	—	1
<i>T. spelta</i> L.	spelt rachis fragments	17	—	—	—	—	—	—
<i>Triticum</i> sp(p).	wheat glume bases	139	1	1	—	3	1	2
<i>Triticum</i> spp.	wheat spikelet bases	10	—	—	—	—	—	—
<i>Triticum</i> spp.	wheat rachis fragments	34	—	—	—	—	—	—
<i>Avena</i> sp.	oat awn	+	—	—	—	—	—	—
Other plant/weed seeds								
<i>Ranunculus acris/repens/bulbosus</i>	buttercups	1	—	—	—	—	—	—
<i>Atriplex/Chenopodium</i> spp.	orache/goosefoots etc.	12	—	—	—	—	—	—
<i>Fallopia convulvulus</i> (L.) A Love	black bindweed	2	—	—	—	—	—	—
<i>Rumex acetosella</i>	sheep's sorrel	1	—	—	—	—	—	—
<i>Rumex</i> sp(p).	dock	19	—	—	—	—	1	1
Polygonaceae	knotweed family	—	—	—	—	1	—	—
<i>Vicia/Lathyrus</i> spp.	vetch/tare/vetchling	2	—	—	—	—	—	—
<i>Medicago/Trifolium</i> spp.	medicks/clovers	21	—	—	—	—	2	—
Fabaceae indet.	small indet. legumes	2	—	—	—	—	2	—
<i>Plantago lanceolata</i> L.	ribwort plantain	3	—	—	—	—	—	—
<i>Euphrasia/Odontites</i> spp.	eyebrights/bartsias	3	—	—	—	—	—	—
<i>Galium aparine</i> L.	cleavers	1	—	—	—	—	—	—
<i>Tripleurospermum inodorum</i> (L.) Sch. Bip.	scentless mayweed	4	—	—	—	—	—	—
<i>Eleocharis palustris/uniglumis</i>	spike-rush	2	—	—	—	—	—	—
<i>Carex</i> sp(p).	sedge	11	—	—	—	—	1	—
<i>Lolium</i> sp(p).	rye-grass	5	—	—	—	—	1	—
<i>Arrhenatherum elatius</i> (L.) P. Beauv. Ex J & C Presl	false oat-grass tuber fragment	—	—	—	—	—	—	1
<i>Bromus</i> spp.	brome	2	—	—	—	—	—	—
<i>Danthonia decumbens</i> (L.) DC	heath grass	2	—	—	—	—	—	—
Poaceae indet.	grasses (large seeds)	9	—	—	—	1	—	—
Poaceae indet.	grasses (small seeds)	51	—	2	1	—	2	—
Poaceae indet.	grass/cereal nodes	+	—	—	—	—	—	—
indet.	indet. seeds	+	—	—	+	+	—	—
Total		1,453	2	5	3	9	20	16
	Vol. sample (l)	18	9	20	10	10	20	13
	Vol. flot (ml)	45	1	3	2	6	2	50
	Items/litre	81	0.2	0.3	0.3	0.9	1	1.2

Item frequency: + = <5; ++ = 5–25; +++ = 26–100; ++++ = 101–300; +++++ = 300+ items

Feature type: CB = cremation burial. Indet. = indeterminate

Table 6.23: Charred plant remains (Phase 3)

largely of cereal debris (grain and chaff from both spelt and free-threshing wheat) from the advanced stages of crop-processing and food preparation, possibly from activities taking place close-by (Table 6.24). There is only a small range of weed seeds; grasses (particularly small-seeded species) and *Rumex* are well represented.

Main enclosure system L15 and eastern enclosures L11/L15

Eight samples from the ditches of these enclosures contained charred plant remains (Tables 6.24–6.25). Only the sample from ditch G22 produced a relatively large assemblage (almost 400 items), consisting almost entirely of cereal remains (96% of the quantified remains) — largely grains and mainly from spelt wheat. This material is from the final stages of crop-cleaning

	Phase													
	Land-use area		8		10		12		13		32		14	
	Group	Sub-Group	Pit	Ditch	Pit	Ditch	Pit	Ditch	Pit	Ditch	Pit	Ditch	Pit	Ditch
Sample number	2071	2072	2071	2072	2071	2072	2071	2072	2081	2081	2089	2089	2107	2110
Cereal grains														
<i>Triticum dicoccum/spelta</i>	—	—	—	—	—	—	—	—	—	—	—	—	—	—
<i>T. cf. dicoccum/spelta</i>	—	—	—	—	—	—	—	—	—	—	—	—	—	—
<i>T. aestivum/spelta</i> type	—	—	—	—	—	—	—	—	—	—	—	—	—	—
<i>T. aestivum</i> type	—	—	—	—	—	—	—	—	—	—	—	—	—	—
<i>T. cf. aestivum</i> type	—	—	—	—	—	—	—	—	—	—	—	—	—	—
<i>Triticum</i> sp(p).	—	—	—	—	—	—	—	—	—	—	—	—	—	—
<i>cf. Triticum</i> sp(p).	—	—	—	—	—	—	—	—	—	—	—	—	—	—
<i>Hordeum vulgare</i> L.	—	—	—	—	—	—	—	—	—	—	—	—	—	—
<i>Avena</i> sp.	—	—	—	—	—	—	—	—	—	—	—	—	—	—
<i>cf. Avena</i> sp.	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Cerealia	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Cerealia	+	—	—	—	—	—	—	—	+	—	—	—	—	—
Cereal chaff														
<i>Triticum spelta</i> L.	—	—	—	—	—	—	—	—	—	—	—	—	—	—
<i>T. spelta</i> L.	—	—	—	—	—	—	—	—	—	—	—	—	—	—
<i>Triticum</i> sp(p).	2	—	—	—	—	—	—	—	—	—	—	—	—	—
<i>Triticum</i> spp.	—	—	—	—	—	—	—	—	—	—	—	—	—	—
<i>Triticum</i> spp.	—	—	—	—	—	—	—	—	—	—	—	—	—	—
<i>T. aestivum/durum</i> type	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other plant/weed seeds														
<i>Chenopodium</i> sp.	—	—	—	—	—	—	—	—	—	—	—	—	—	—
<i>Atriplex/Chenopodium</i> sp.	—	—	—	—	—	—	—	—	—	—	—	—	—	—
<i>Polygonum aviculare</i> L.	—	—	—	—	—	—	—	—	—	—	—	—	—	—
<i>Fallopia convulvulus</i> (L.) A Love	—	—	—	—	—	—	—	—	—	—	—	—	—	—
<i>Rumex</i> sp(p).	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Polygonaceae	—	—	—	—	—	—	—	—	—	—	—	—	—	—
<i>Vicia/Lathyrus</i> spp.	—	—	—	—	—	—	—	—	—	—	—	—	—	—
<i>Medicago/Trifolium</i> sp(p).	1	1	—	—	—	—	—	—	—	—	—	—	—	—
Fabaceae indet.	—	—	—	—	—	—	—	—	—	—	—	—	—	—
<i>Euphrasia/Odonites</i> sp.	—	—	—	—	—	—	—	—	—	—	—	—	—	—
<i>Carex</i> spp.	—	—	—	—	—	—	—	—	—	—	—	—	—	—
<i>Lolium</i> spp.	—	—	—	—	—	—	—	—	—	—	—	—	—	—
<i>Arrhenatherum elatius</i> (L.) P. Beauv. Ex J & C Presl	—	—	—	—	—	—	—	—	—	—	—	—	—	—
<i>cf. Bromus</i> spp.	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Poaceae indet.	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Poaceae indet.	2	7	—	—	—	—	—	—	—	—	—	—	—	—
indet. seeds	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	5	9	8	4	2	4	7	113	43	4	394	1		
Vol. sample (l)	8	7	10	20	10	6	10	20	10	10	18	10		
Vol. flint (ml)	10	<1	2	88	1.5	1	3	17	3	1	18	<1		
Items/litre	0.6	1.3	0.2	0.8	0.2	0.6	0.7	5.7	4.3	0.4	21.9	0.1		

Item frequency: + = <5; ++ = 5–25; +++ = 26–100; ++++ = 101–300; +++++ = 300+ items

Feature type: CB = cremation burial. Indet. = indeterminate

Table 6.24: Charred plant remains (Phases 3 and 4)

Land-use area		11/15			15			16			17			18			19			20			21			22			23			24			25			26			27			28			29			30			31			32			33			34			35			36			37			38			39			40			41			42			43			44			45			46			47			48			49			50			51			52			53			54			55			56			57			58			59			60			61			62			63			64			65			66			67			68			69			70			71			72			73			74			75			76			77			78			79			80			81			82			83			84			85			86			87			88			89			90			91			92			93			94			95			96			97			98			99			100			101			102			103			104			105			106			107			108			109			110			111			112			113			114			115			116			117			118			119			120			121			122			123			124			125			126			127			128			129			130			131			132			133			134			135			136			137			138			139			140			141			142			143			144			145			146			147			148			149			150			151			152			153			154			155			156			157			158			159			160			161			162			163			164			165			166			167			168			169			170			171			172			173			174			175			176			177			178			179			180			181			182			183			184			185			186			187			188			189			190			191			192			193			194			195			196			197			198			199			200			201			202			203			204			205			206			207			208			209			210			211			212			213			214			215			216			217			218			219			220			221			222			223			224			225			226			227			228			229			230			231			232			233			234			235			236			237			238			239			240			241			242			243			244			245			246			247			248			249			250			251			252			253			254			255			256			257			258			259			260			261			262			263			264			265			266			267			268			269			270			271			272			273			274			275			276			277			278			279			280			281			282			283			284			285			286			287			288			289			290			291			292			293			294			295			296			297			298			299			300			301			302			303			304			305			306			307			308			309			310			311			312			313			314			315			316			317			318			319			320			321			322			323			324			325			326			327			328			329			330			331			332			333			334			335			336			337			338			339			340			341			342			343			344			345			346			347			348			349			350			351			352			353			354			355			356			357			358			359			360			361			362			363			364			365			366			367			368			369			370			371			372			373			374			375			376			377			378			379			380			381			382			383			384			385			386			387			388			389			390			391			392			393			394			395			396			397			398			399			400			401			402			403			404			405			406			407			408			409			410			411			412			413			414			415			416			417			418			419			420			421			422			423			424			425			426			427			428			429			430			431			432			433			434			435			436			437			438			439			440			441			442			443			444			445			446			447			448			449			450			451			452			453			454			455			456			457			458			459			460			461			462			463			464			465			466			467			468			469			470			471			472			473			474			475			476			477			478			479			480			481			482			483			484			485			486			487			488			489			490			491			492			493			494			495			496			497			498			499			500			501			502			503			504			505			506			507			508			509			510			511			512			513			514			515			516			517			518			519			520			521			522			523			524			525			526			527			528			529			530			531			532			533			534			535			536			537			538			539			540			541			542			543			544			545			546			547			548			549			550			551			552			553			554			555			556			557			558			559			560			561			562			563			564			565			566			567			568			569			570			571			572			573			574			575			576			577			578			579			580			581			582			583			584			585			586			587			588			589			590			591			592			593			594			595			596			597			598			599			600			601			602			603			604			605			606			607			608			609			610			611			612			613			614			615			616			617			618			619			620			621			622			623			624			625			626			627			628			629			630			631			632			633			634			635			636			637			638			639			640			641			642			643			644			645			646			647			648			649			650			651			652			653			654			655			656			657			658			659			660			661			662			663			664			665			666			667			668			669			670			671			672			673			674			675			676			677			678			679			680			681			682			683			684			685			686			687			688			689			690			691			692			693			694			695			696			697			698			699			700			701			702			703			704			705			706			707			708			709			710			711			712			713			714			715			716			717			718			719			720			721			722			723			724			725			726			727			728			729			730			731			732			733			734			735			736			737			738			739			740			741			742			743			744			745			746			747			748			749			750			751			752			753			754			755			756			757			758			759			760			761			762			763			764			765			766			767			768			769			770			771			772			773			774			775			776			777			778			779			780			781			782			783			784			785			786			787			788			789			790			791			792			793			794			795			796			797			798			799			800			801			802			803			804			805			806			807			808			809			810			811			812			813			814			815			816			817			818			819			820			821			822			823			824			825			826			827			828			829			830			831			832			833			834			835			836			837			838			839			840			841			842			843			844			845			846			847			848			849			850			851			852			853			854			855			856			857			858			859			860			861			862			863			864			865			866			867			868			869			870			871			872			873			874			875			876			877			878			879			880			881			882			883			884			885			886			887			888			889			890			891			892			893			894			895			896			897			898			899			900			901			902			903			904			905			906			907			908			909			910			911			912			913			914			915			916			917			918			919			920			921			922			923			924			925			926			927			928			929			930			931			932			933			934			935			936			937			938			939			940			941			942			943			944			945			946			947			948			949			950			951			952			953			954			955			956			957			958			959			960			961			962			963			964			965			966			967			968			969			970			971			972			973			974			975			976			977			978			979			980			981			982			983			984			985			986			987			988			989			990			991			992			993			994			995			996			997			998			999			1000			1001			1002			1003			1004			1005			1006			1007			1008			1009			1010			1011			1012			1013			1014			1015			1016			1017			1018			1019			1020			1021			1022			1023			1024			1025			1026			1027			1028			1029			1030			1031			1032			1033			1034			1035			1036			1037			1038			1039			1040			1041			1042			1043			1044			1045			1046			1047			1048			1049			1050			1051			1052			1053			1054			1055			1056			1057			1058			1059			1060			1061			1062			1063			1064			1065			1066			1067			1068			1069			1070			1071			1072			1073			1074			1075			1076			1077			1078			1079			1080			1081			1082			1083			1084			1085			1086			1087			1088			1089			1090			1091			1092			1093			1094			1095			1096			1097			1098			1099			1100			1101			1102			1103			1104			1105			1106			1107			1108			1109			1110			1111			1112			1113			1114			1115			1116			1117			1118			1119			1120			1121			1122			1123			1124			1125			1126			1127			1128			1129			1130			1131			1132			1133</		
---------------	--	-------	--	--	----	--	--	----	--	--	----	--	--	----	--	--	----	--	--	----	--	--	----	--	--	----	--	--	----	--	--	----	--	--	----	--	--	----	--	--	----	--	--	----	--	--	----	--	--	----	--	--	----	--	--	----	--	--	----	--	--	----	--	--	----	--	--	----	--	--	----	--	--	----	--	--	----	--	--	----	--	--	----	--	--	----	--	--	----	--	--	----	--	--	----	--	--	----	--	--	----	--	--	----	--	--	----	--	--	----	--	--	----	--	--	----	--	--	----	--	--	----	--	--	----	--	--	----	--	--	----	--	--	----	--	--	----	--	--	----	--	--	----	--	--	----	--	--	----	--	--	----	--	--	----	--	--	----	--	--	----	--	--	----	--	--	----	--	--	----	--	--	----	--	--	----	--	--	----	--	--	----	--	--	----	--	--	----	--	--	----	--	--	----	--	--	----	--	--	----	--	--	----	--	--	----	--	--	----	--	--	----	--	--	----	--	--	----	--	--	----	--	--	----	--	--	----	--	--	----	--	--	----	--	--	----	--	--	----	--	--	----	--	--	----	--	--	----	--	--	----	--	--	----	--	--	----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	-----	--	--	------	--	--	------	--	--	------	--	--	------	--	--	------	--	--	------	--	--	------	--	--	------	--	--	------	--	--	------	--	--	------	--	--	------	--	--	------	--	--	------	--	--	------	--	--	------	--	--	------	--	--	------	--	--	------	--	--	------	--	--	------	--	--	------	--	--	------	--	--	------	--	--	------	--	--	------	--	--	------	--	--	------	--	--	------	--	--	------	--	--	------	--	--	------	--	--	------	--	--	------	--	--	------	--	--	------	--	--	------	--	--	------	--	--	------	--	--	------	--	--	------	--	--	------	--	--	------	--	--	------	--	--	------	--	--	------	--	--	------	--	--	------	--	--	------	--	--	------	--	--	------	--	--	------	--	--	------	--	--	------	--	--	------	--	--	------	--	--	------	--	--	------	--	--	------	--	--	------	--	--	------	--	--	------	--	--	------	--	--	------	--	--	------	--	--	------	--	--	------	--	--	------	--	--	------	--	--	------	--	--	------	--	--	------	--	--	------	--	--	------	--	--	------	--	--	------	--	--	------	--	--	------	--	--	------	--	--	------	--	--	------	--	--	------	--	--	------	--	--	------	--	--	------	--	--	------	--	--	------	--	--	------	--	--	------	--	--	------	--	--	------	--	--	------	--	--	------	--	--	------	--	--	------	--	--	------	--	--	------	--	--	------	--	--	------	--	--	------	--	--	------	--	--	------	--	--	------	--	--	------	--	--	------	--	--	------	--	--	------	--	--	------	--	--	------	--	--	------	--	--	------	--	--	------	--	--	------	--	--	------	--	--	------	--	--	------	--	--	------	--	--	------	--	--	------	--	--	------	--	--	------	--	--	------	--	--	------	--	--	------	--	--	------	--	--	------	--	--	------	--	--	------	--	--	------	--	--	------	--	--	------	--	--	------	--	--	------	--	--	--------	--	--

(including de-husking) and food preparation. There were only traces of weed seeds in this sample. Several samples from boundary ditch G32 contained small amounts of charred plant remains of mainly (hulled) wheat grains, small numbers of hulled (spelt) chaff and weed seeds (mainly small-seeded grasses). Again, this debris is largely from the advanced stages of crop-cleaning.

Cemetery L16

Sixteen samples from inhumation cemetery L16 — fifteen from graves and one from structure G78 — produced only traces of charred plant remains, with very occasional grains in eight samples and weed seeds (mainly small grass seeds) in nine samples (Tables 6.25–6.26). This material represents background cereal debris blowing around the settlement from activities undertaken at some distance from the cemetery. It is interesting to note the presence of free-threshing grains in five samples (with the only definite evidence for hulled wheat being one spelt spikelet fork), together with the one *Anthemis cotula* seed from the site; this weed is closely associated with the cultivation of free-threshing wheat.

Inhumation cluster L17

Three samples from graves G70 produced only traces of grain, hulled (spelt) wheat chaff and a weed seed (Table 6.26). These, again, represent background cereal debris from activities taking place at some distance from the burial area.

Domestic/activity focus L19

One sample from burial SG187 (G71) produced just two hulled fragments of (spelt) wheat chaff (Table 6.26), from the de-husking of spelt wheat that was probably carried out at some distance from this area.

Inhumation cluster L22

One sample from dog burial SG194 (G74) contained a very small number of charred grains, including free-threshing wheat and possibly barley (Table 6.26). Grave SG195 (G88) produced one hulled wheat glume base.

Inhumation cluster L25

Four samples from the two adjacent graves G77 produced occasional grains, weed seeds and hulled wheat chaff. This material represents background cereal debris from activities probably taking place at some distance from the burial area.

Small oval enclosure L27

Two samples from ditch G39 produced modest charred plant assemblages, consisting mainly of wheat grains and a very little chaff (Table 6.27). Both hulled spelt wheat and free-threshing wheat are represented; one rachis fragment shows the presence of hexaploid bread wheat. Very few weeds are present. The material represents debris from the final stages of crop-processing, possibly from activities taking place fairly close-by.

Activity focus L28

Two pits within cluster G64 produced charred plant remains (Table 6.27). The primary fill of one produced a very large assemblage (c. 1400 items) of mainly spelt chaff (83% of the quantified remains). Grains, including hulled wheat and a little free-threshing wheat, make up just 15% of the remains, although this does not include

the large number of unquantified cereal fragments. Weed seeds account for just 2% of the quantified remains and include a few potential grassland species. The bulk of this material, the hulled wheat chaff, derives from the de-husking of spelt wheat during the final stages of cleaning the grain before use.

Peripheral enclosures L29 and activity focus L34

The three productive samples were from gully G101 and enclosure ditch G103 (both L29), and quarry pit G105 (L34) (Table 6.28). Cereal grains account for over half of the charred remains, while there are small amounts of unquantifiable grain fragments in two of the samples. Most of the grains could not be identified, although there are small numbers of *Triticum* (wheat) grains, including the hulled wheat *T. dicoccum/spelta* (emmer/spelt) in ditch G103 and pit G105. The presence of hulled wheat is confirmed by the recovery of single glume bases in the two samples from L29.

There are only a few charred wild plant / weed seeds in the three samples; they could not be identified to species and, therefore, cannot provide any useful data on crop husbandry. Most of the weed seeds are from indeterminate Poaceae (grasses), both small- and large-seeded, with one tentatively identified as *Bromus* sp. (brome), a weed seed commonly found with cereals because of the difficulty of separating it from the grain, given its similar size. There were also a few small leguminous seeds of *Medicago/Trifolium* (medicks/clovers) in two samples.

Quarrying L30

Nine samples from quarry pits G11 and G42 produced varying amounts of charred plant remains (Table 6.29). The botanical composition (range of cereals and weeds/wild plants) is similar in all the assemblages — mainly hulled wheat (including spelt on the basis of the chaff remains), a little free-threshing wheat, and traces of (hulled) barley. There is a limited range of weeds / wild plants. The cereal weeds include mineralised *Lithospermum arvense* seeds, which often survive burning because of a high silica content in the seed coats (Robinson 2009, 305). Grasses are relatively well represented, including large-seeded species (*Bromus*) and particularly small-seeded grasses. There are several other potential grassland plants in a number of the samples.

Cereal debris, mainly grains, together with generally smaller amounts of chaff dominate most of the larger assemblages. These account for 90% of the quantified remains in the richest assemblage (over 400 items) from one deposit in quarry pits G42. They also predominate in moderately rich assemblages (100–200 items) from another deposit in G42. There are almost equal amounts of grain and chaff in a deposit from quarry pits G11. These remains are largely from the advanced stages of crop-cleaning, including the de-husking of spelt wheat. Three other samples from pits G42 contained a modest charred plant assemblage; however, they differed in containing mainly weed / wild plant seeds (65% of the quantified remains) from earlier sieving of the crops and also possibly from the residues of grassland plants.

Final alterations L31 to enclosures

Two samples from ditches G25 and G4 produced just a few traces of charred plant remains (Table 6.29) — six indeterminate grains and six hulled wheat chaff fragments, upon which no further comment may be made.

Item frequency: + = <5; ++ = 5–25; +++ = 26–100; ++++ = 101–300; +++++ = 300+ items
Feature type: Inhm = inhumation. Indet. = indeterminate

	Land-use area	29	34	
	Group	101.1	103.1	105.2
	Sub-Group	150.1	155.1	160.2
	Feature type	Gully	Ditch	Ditch
	Sample number	4	6	5
Cereal grains				
<i>Triticum dicoccum/spelta</i>	emmer/spelt wheat	—	1	1
<i>T. cf. dicoccum/spelta</i>	?emmer/spelt wheat	—	1	—
<i>Triticum</i> spp.	wheat	—	4	—
cf. <i>Triticum</i> sp.	?wheat	—	1	1
Cerealia	indet. cereal	2	5	6
Cerealia	indet. cereal fragments <2mm	—	++	++
Cereal chaff				
<i>Triticum</i> sp.	wheat glume bases	1	1	—
Other plant/weed seeds				
<i>Medicago/Trifolium</i> spp.	medicks/clovers	2	—	2
cf. <i>Bromus</i> sp.	?brome	—	1	—
Poaceae indet.	grasses (large seeds)	—	1	1
Poaceae indet.	grasses (small seeds)	2	2	3
indet.	indet. seeds	+	+	+
Total		7	17	14
	Vol. sample (l)	10	10	10
	Vol. flot (ml)	1.5	2	3
	Items/litre	0.7	1.7	1.4

Table 6.28: Charred plant remains from L29 and L34 (Phase 4)

Land-use area Group Sub-Group Feature type Sample number	30										31	
	11.1	11.2	42.1	42.2	42.2	42.2	42.3	42.3	42.3	42.3	4.3	25.5
	144.1	145.2	147.1	147.2	147.2	146.2	146.3	146.3	147.3	147.3	8.3	28.5
	Pit	Pit	Pit	Pit	Pit	Pit	Pit	Pit	Pit	Pit	Ditch	Ditch
	2070	2124	2085	2084	2086	2101	2123	2100	2122	2103	2094	
Cereal grains												
<i>Triticum</i> cf. <i>dicoccum</i>	?	emmer wheat	—	—	—	—	—	1	—	—	—	—
<i>T. spelta</i> L.	3	spelt wheat	—	—	—	—	—	2	1	—	—	—
<i>T. dicoccum/spelta</i>	4	emmer/spelt wheat	—	—	—	—	—	18	5	—	—	—
<i>T. cf. dicoccum/spelta</i>	—	?emmer/spelt wheat	—	—	—	—	—	5	6	—	—	—
<i>T. aestivum/spelta</i> type	—	free-threshing/spelt wheat	—	—	—	—	—	1	—	—	—	—
<i>T. aestivum</i> type	—	free-threshing wheat	—	—	—	—	—	2	1	—	—	—
<i>T. cf. aestivum</i> type	—	?free-threshing wheat	—	—	—	—	2	8	—	—	—	—
<i>Triticum</i> spp.	5	wheat	—	—	—	—	4	55	4	—	—	—
cf. <i>Triticum</i> sp(p).	3	?wheat	1	—	—	—	2	18	12	1	—	—
<i>Hordeum vulgare</i> L.	—	barley, hulled, indet.	—	—	—	—	—	2	—	—	—	—
<i>Hordeum vulgare</i> L.	—	barley, indet.	—	—	—	—	1	—	—	—	—	—
cf. <i>H. vulgare</i>	—	?barley	—	—	—	—	—	—	3	—	1	—
<i>Avena</i> spp.	—	oat	—	—	—	—	—	11	—	—	—	—
cf. <i>Avena</i> spp.	—	?oat	—	—	—	—	—	—	3	—	—	—
Cerealia	22	indet. cereal	1	5	5	2	15	229	71	3	4	2
Cerealia	++	indet. cereal fragments <2mm	+	+	+	+	+++	++++	+++	+	++	+
Cereal chaff												
<i>Triticum spelta</i> L.	7	spelt glume bases	—	—	1	1	7	5	6	—	—	—
<i>T. spelta</i> L.	1	spelt rachis fragments	1	—	—	—	—	1	—	—	—	—
<i>Triticum</i> sp(p).	26	wheat glume bases	1	3	4	2	13	12	6	—	5	—
<i>Triticum</i> sp.	1	wheat spikelet bases	—	—	—	—	—	1	1	—	—	1
<i>Triticum</i> spp.	4	wheat rachis fragments	—	—	—	—	2	5	—	—	—	—
Other plant/weed seeds												
<i>Ranunculus acris/repens/bulbosus</i>	—	buttercups	—	—	—	—	—	1	1	—	—	—
<i>Atriplex/Chenopodium</i> spp.	2	orache/goosefoots etc.	—	—	—	—	—	—	—	—	—	—
<i>Stellaria media</i> (L.) Vill.	—	common chickweed	—	—	—	1	—	—	—	—	—	—
<i>Rumex acetosella</i>	1	sheep's sorrel	—	—	—	—	—	—	—	—	—	—
<i>Rumex</i> sp(p).	2	dock	—	—	3	—	1	14	1	—	1	—
Polygonaceae	—	knotweed family	—	—	—	—	—	1	—	—	—	—
<i>Potentilla</i> sp.	1	cinquefoils	—	—	—	—	—	—	—	—	—	—
<i>Vicia/Lathyrus</i> sp.	—	vetch/tare/vetchling	—	—	—	—	—	1	—	—	—	—
<i>Medicago/Trifolium</i> sp(p).	3	medicks/clovers	1	3	2	—	10	—	8	—	—	—
Fabaceae indet.	—	small indet. legumes	—	—	—	—	—	—	—	—	1	—
<i>Lithospermum arvense</i> L.	—	field gromwell	—	—	1*	—	—	8*	2*	—	—	—
<i>Plantago lanceolata</i> L.	—	ribwort plantain	—	—	4	—	—	—	—	—	—	—
<i>Euphrasia/Odontites</i> sp(p).	—	eyebrights/bartsias	1	—	1	—	—	3	—	—	—	—
<i>Sherardia arvensis</i> L.	—	field madder	—	—	1	—	—	—	—	—	—	—
Asteraceae indet.	—	—	—	—	1	—	—	—	—	—	—	—
<i>Carex</i> spp.	—	sedge	—	—	—	—	—	—	2	—	—	—
Cyperaceae indet.	—	—	1	—	—	—	—	—	—	—	—	—
<i>Lolium</i> spp.	—	rye-grass	—	—	2	—	—	—	—	—	—	—
<i>Bromus</i> sp.	—	brome	—	—	—	—	1	1	1	—	—	—
cf. <i>Bromus</i> sp(p).	4	?brome	—	—	—	—	1	5	4	—	—	—
<i>Danthonia decumbens</i> (L.) DC	—	heath grass	—	—	—	—	2	—	—	—	—	—
Poaceae indet.	—	grasses (large seeds)	—	—	—	—	—	5	—	—	—	—
Poaceae indet.	20	grasses (small seeds)	3	7	12	3	7	6	12	—	—	—
Poaceae indet.	—	grass/cereal nodes	—	—	—	—	—	+	—	—	—	—
indet.	+	indet. seeds	—	—	+	+	+	+	+	—	—	—
Total	109	9	20	36	9	68	421	150	4	12	3	
Vol. sample (l)	8	10	18	9	10	18	10	20	8	9	9	
Vol. flot (ml)	1	7	2	2	<1	10	10	12	3	1.5	<1	
Items/litre	13.6	0.9	1.1	4	0.9	3.8	42.1	7.5	0.5	1.3	0.3	

Item frequency: + = <5; ++ = 5–25; +++ = 26–100; ++++ = 101–300; +++++ = 300+ items

Indet. = indeterminate

* = mineralised

Table 6.29: Charred plant remains from L30 and L31 (Phase 4)

Summary

The charred plant remains suggest that spelt wheat was the main cereal used (and presumably cultivated) at the Romano-British settlement, particularly from the late 3rd century onward. Free-threshing wheat and hulled barley appear to have been less important crops. There was no significant change in the range of cereals between Phases 3 and 4, i.e. the mid-2nd to early 5th century. The weed seed evidence, albeit limited, suggests that a range of soils were used for cultivation, including (heavy) calcareous loams and sandy loams, with tentative evidence

for both spring- and winter-sown cereals and possibly the harvesting of the grain low on the straw and/or by uprooting.

Evidence for crop-processing activities is largely confined to the final stages of crop-cleaning and food preparation, reflected in the predominance of grain and chaff fragments in the samples. There is extensive evidence for the de-husking of spelt wheat, the chaff being burnt during this process and/or afterwards as fuel or for waste disposal. The hulled wheat grains may have been accidentally burnt during de-husking, and/or

burnt together with the other grains while being hardened before milling or as a result of accidents during cooking. The large weed seeds in the samples, of a similar size to the grains, are also indicative of the final stages of crop-cleaning, although the smaller weed seeds may point to by-products from the earlier sieving of the grain. Some of the weed seeds may tentatively point to the residues of grassland vegetation in a number of the samples, possibly the burnt remains of hay.

The distribution of charred plant remains from the Phase 4 settlement suggests that the zone between enclosures L15 and the Phase 3 trackway was the main focus for activities associated primarily with the final stages of crop-cleaning (including the de-husking of spelt wheat) and food preparation. Similar activity also took place near quarry pits G11 and G42 (L30). There is very little charred plant evidence to suggest that similar activities were undertaken elsewhere within the Phase 4 settlement. Just one rich sample was found within the Phase 3 settlement, from ditch G7 adjacent to domestic focus L7. The latter is only *c.* 15m from the Phase 4 quarry pits, which could suggest the continuation of similar processing activities in this area from the mid- through to the late Roman period.

IV. CHARCOAL

Dana Challinor

Introduction and methodology

The excavations produced a large number of soil samples with varying preservation of wood charcoal. Twenty-six samples with reasonable quantities of identifiable fragments were selected for examination. To investigate ritual fuel use, these included all of the samples from the unurned cremations in L7 and L13. Unsurprisingly, there was no preservation of charcoal in the inhumations beyond probable wind-blown, backfill material. The majority of the remaining samples came from Phase 3 and 4 deposits, associated with the main 'ladder' enclosure L15 and quarry pits L30.

Charcoal >2mm in transverse section was considered for identification. All of the flots were scanned at low magnification (up to x45) and a representative number of fragments, which varied according to the abundance and taxonomic diversity of the sample, were fractured and sorted into groups. Identifications were then confirmed

at high magnification using a Meiji incident-light microscope at up to x400 magnification, and with reference to appropriate keys (Schweingruber 1990; Hather 2000) and modern reference material. Observations on maturity or condition were made as appropriate. Classification and nomenclature follow Stace (1997).

Results

The majority of samples contained relatively small quantities of charcoal, with only five estimated as moderate (>40 fragments) to abundant (>100 fragments). This paucity of material may be partially accounted for by the small sizes of the soil samples, many of which were <14 litres in volume. However, 20 litres is considered adequate for the recovery of Roman-period assemblages and the paucity of material at Higham Road reveals that there were few large dumps of waste fuel into the features excavated. One other broad aspect of the assemblages should be considered: the fragments are generally small, and in some cases the <2mm fraction was significantly more abundant than the identifiable material. Nine taxa were positively identified, all of which are consistent with native taxa (Table 6.30) and there is no reason to presume the presence of any exotic species, although these cannot always be anatomically differentiated. The results from individual samples are presented by phase in Tables 6.31–6.33. In addition to the wood charcoal, six samples from G11, G32, G42 and G5 contained fragments of coal, mostly in low quantities, but two with significant amounts.

Phase 1 (pre-Roman)

Only two samples were analysed from L1, both from pits G3. Quantities of identifiable charcoal were low, with three taxa identified: *Quercus* sp. (oak), including heartwood; *Corylus avellana* (hazel); and Maloideae (hawthorn group). Moderate ring curvature indicates that some small round-wood was utilised.

Phase 2 (late 1st to mid-2nd century)

A sample from L3 (pit G57) produced charcoal of *Quercus* sp. (oak), including heartwood; *Corylus avellana* (hazel); *Prunus* sp. (cherry/blackthorn) and Maloideae (hawthorn group). This pit contained a small amount of debris from crop-processing (Chapter 6.III) and the charcoal is likely to represent fuelwood remains from the same activity.

Family	Genus/species	Notes
Fagaceae	<i>Quercus</i> spp. (oak)	Large tree, two native species, not distinguishable anatomically.
Betulaceae	<i>Corylus avellana</i> L. (hazel)	Shrub or small tree, sole native species. <i>Corylus</i> can be difficult to separate from <i>Alnus glutinosa</i> , but was confidently identified in most samples.
Salicaceae	<i>Salix</i> spp. (willow) <i>Populus</i> spp. (poplar)	Rarely possible to separate. Both are trees, although there is variation within the genera.
Rosaceae	<i>Prunus</i> spp.: <i>P. spinosa</i> L. (blackthorn) <i>P. avium</i> L. (wild cherry) <i>P. padus</i> L. (bird cherry)	Native species, which can sometimes be separated on the basis of ray width. Only <i>P. spinosa</i> was positively identified in one sample.
	Maloideae: <i>Pyrus cordata</i> Desv. (Plymouth pear) <i>Malus sylvestris</i> Mill. (crab apple) <i>Sorbus</i> spp. (rowan, service, whitebeam) <i>Crataegus</i> spp. (hawthorn)	Subfamily of various shrubs / small trees rarely distinguishable by anatomical characteristics.
Cornaceae	<i>Cornus sanguinea</i> L. (dogwood)	Shrub, sole native species.
Aceraceae	<i>Acer campestre</i> L. (field maple)	Tree, sole native species
Oleaceae	<i>Fraxinus excelsior</i> L. (ash)	Tree, sole native species.
	<i>Ligustrum vulgare</i> L. (wild privet)	Shrub, sole native species.

Table 6.30: Notes on charcoal taxa

Phase 3 (mid-2nd to mid-3rd century)

'Ladder' enclosure system L5

A rich sample from G7 produced a range of charcoal species (Table 6.31), including *Quercus* sp. (oak), *Prunus* sp. (cherry/blackthorn), *Acer campestre* (field maple), *Fraxinus excelsior* (ash) and *Ligustrum vulgare* (wild privet). A few fragments of oak heartwood were recorded, and most of the *Ligustrum* came from small branch-wood. The relatively rich quantity of charcoal in this sample suggests that it was a deliberate dump of domestic fuel waste, while the charred plant assemblage suggests crop-processing activities (Chapter 6.III).

Domestic focus L7

Two unurned cremation burials were contained within L7 (Table 6.31). G47 produced very little charcoal (eleven fragments), which was all from *Fraxinus excelsior* (ash), including three round-wood fragments. The small quantity of charcoal indicates that the bone was quite carefully picked from the pyre for burial, with little charcoal accidentally included. G48 contained more abundant charcoal, which was sampled in spits. There were no significant differences between the spits, which were all dominated by Maloideae (hawthorn group) charcoal (93%), with low quantities of *Fraxinus* (4%) and *Quercus* (3%). Most of the fragments exhibit little or no ring curvature, indicating that larger branch or trunk-wood is represented. The only other analysed feature from L7 (Pit G51) contained charcoal from *Quercus* sp. (oak), Maloideae (hawthorn group), cf. *Acer* (maple) and *Fraxinus*. Notably, this sample contained a moderate to large quantity of coal.

Domestic focus L8 and unenclosed activity L13

A pit from L8 (G65) produced low quantities of *Quercus* sp. (oak) and Maloideae (hawthorn group). Of greater interest is the unurned cremation burial SG117 (G54) from L13: this produced an abundant assemblage of charcoal, which was dominated by *Salix* sp. (willow) or *Populus* sp. (poplar). The charcoal is in a poor condition, heavily infused with sediment and very soft, which inhibited distinction between the genera.

Phase 4 (late 3rd to early 5th century)

Earliest enclosures L14, main enclosure system L15 and small oval enclosure L27

Charcoal from enclosure ditches G31, G22, G32 and G29 was identified as *Quercus* (oak), *Corylus avellana* (hazel), Maloideae (hawthorn group), *Populus/Salix* (poplar/willow), *Prunus* (cherry/blackthorn), *Acer campestre* (field maple) and *Fraxinus excelsior* (ash) (Table 6.32). Some round-wood is indicated by moderate or strong ring curvature. The charcoal probably derived from fires associated with later-stage crop-processing activities, which are indicated by the plant remains (Chapter 6.III). One of the ditch samples from G32 also produced a moderate quantity of coal.

Activity focus L28 and quarry pits L30

L28 included the pits with the most abundant charcoal assemblages (G64 and G64), with a range of taxa identified (Table 6.33): *Quercus* (oak); *Corylus avellana* (hazel); Maloideae (hawthorn group); *Populus/Salix* (poplar/willow); *Prunus* (cherry/blackthorn); *Cornus sanguinea* (dogwood); *Acer campestre* (field maple); and

Land-use area		5	7		8	13
Group		7	47	48	51	65
Sub-Group		40	126	127	124	96
Feature type		Enclosure ditch	Cremation burial	Cremation burial	Pit	Pit
Sample number		2069	2087	2073 2074 2075	2077	2071
<i>Quercus</i> sp.	oak	+++	++	+++ ++ ++	++	++
<i>Populus/Salix</i>	poplar/willow	—	—	x — —	x	x
<i>Prunus</i> sp.	cherry type	x	—	— — —	—	—
Maloideae	hawthorn group	—	—	Xr X X	xr	x
<i>Acer campestre</i> L.	field maple	x	—	— — —	—	—
cf. <i>Acer</i> sp.	maple	—	—	— — —	x	—
<i>Fraxinus excelsior</i> L.	ash	x	xr	x x x	x	—
<i>Ligustrum vulgare</i> L.	wild privet	xr	—	— — —	—	—

X = dominant; x = present; r = roundwood; h = heartwood. Estimated quantities: ++ = low; +++ = moderate; ++++ = abundant

Table 6.31: Charcoal from Phase 3

Land-use area		14	11/15		27
Group		31	22	32	32
Sub-Group		69	90	43	52
Sample number		2113	2138	2119	2125 2120 2121
<i>Quercus</i> sp.	oak	++	++	++	++ ++ ++
<i>Corylus avellana</i> L.	hazel	x	—	—	x x x
<i>Alnus/Corylus</i>	alder/hazel	xr	—	x	—
<i>Populus/Salix</i>	poplar/willow	—	—	—	xr — —
<i>Prunus</i> sp.	cherry type	—	xr	xr	— x —
Maloideae	hawthorn group	—	—	—	— — —
<i>Acer campestre</i> L.	field maple	xr	xr	—	— — —
<i>Fraxinus excelsior</i> L.	ash	x	—	—	— x —
		x	—	x	— x x

X = dominant; x = present; r = roundwood; h = heartwood. Estimated quantities: ++ = low; +++ = moderate; ++++ = abundant

Table 6.32: Charcoal from Phase 4 enclosure ditches

Land-use area		28				30		
Group		64	64	64	11	42	42	42
Sub-Group		111	109	110	145	146	147	146
Sample number		2093	2092	2091	2124	2101	2084	2100
<i>Quercus</i> sp.	oak	++++	++	+++	++	++	+	++
<i>Corylus avellana</i> L.	hazel	xr	x	Xr	xr	—	—	—
<i>Prunus spinosa</i> L.	blackthorn	—	—	—	—	x	—	—
<i>Prunus</i> sp.	cherry type	—	x	x	—	x	—	xr
Maloideae	hawthorn group	x	xr	—	—	xr	x	xr
<i>Cornus sanguinea</i> L.	dogwood	x	—	—	—	—	—	—
<i>Acer campestre</i> L.	field maple	—	x	—	—	—	—	—
<i>Fraxinus excelsior</i> L.	ash	x	—	—	x	x	—	—

X = dominant; x = present; r = roundwood; h = heartwood. Estimated quantities: ++ = low; +++ = moderate; ++++ = abundant

Table 6.33: Charcoal from Phase 4 pits and quarry pits

Fraxinus excelsior (ash). Oak dominates the charcoal from pit G64, which also produced a large assemblage of grain-cleaning debris. The charcoal from quarry pits L30 is less rich in quantity and diversity; it is notably dominated by round-wood, with a lot of Maloideae and *Prunus*.

Discussion

Domestic fuel use

The evidence from the charred plant remains (Chapter 6.III) indicates that many of the assemblages derived from crop-processing, usually the later stages. The charcoal, therefore, may be confidently ascribed to spent fuelwood from this activity. A relatively wide range of taxa was utilised, with a significant component of hedgerow and scrub-type species (including blackthorn, hawthorn group, dogwood and wild privet). Ash, oak and field maple are also commonly found on field edges. The picture does not differ significantly though the phases and suggests an open environment, appropriate for arable fields, in which wood fuel was easily and locally gathered. The consistent observations of moderate to strong ring curvature suggests that much of the charcoal derived from branch-wood, rather than trunk-wood, although a few fragments of oak heartwood shows that wood of some maturity was used on occasion.

Other Romano-British settlements in the region exhibit a similar range of taxa in the domestic-type charcoal assemblages; pits from the Great Barford Bypass near Bedford produced significant components of hedgerow and scrub taxa, also indicating open field conditions (Challinor 2007a, 385). There was more evidence for the use of oak at the Roman roadside settlement at Higham Ferrers, but there were some structural remains present in these samples (Challinor 2009a).

In addition to the wood charcoal, there is evidence that coal was also used as fuel. While small quantities in samples do not necessarily indicate that coal was deliberately collected and used as fuel, the evidence at Higham Road suggests that the quantity of fragments in G32 and G51 is more than incidental. Additionally, there is reliable evidence for the use of coal from a 2nd–4th-century quarry pit at Higham Ferrers (Dearne and Branigan 1995, 92). This coal was subsequently used in a study examining the provenance of Roman coals, which suggests that the material had been surface-collected from an outcrop of the Warwickshire Coalfield (Smith 1997, 318). It is probable that the coal from Higham Road derived from the same source.

Ritual fuel use

The charcoal assemblages of the three cremation burials (G47, G48 and G54) are all notably different in character. All were identified as the remains of single individuals, adult or adolescent to adult (Chapter 6.V). G47 contained only ash charcoal, but the small quantity suggests that it may not be representative of the pyre. G48 also contained some ash charcoal but the dominant taxon is Maloideae (hawthorn group). Typically, Romano-British cremations were fuelled by oak and/or ash (Challinor 2007a; Challinor 2007b) and, although Maloideae is frequently encountered, it is usually in smaller quantities and is assumed to represent kindling or brushwood infilling on the pyre (Gale 1997; Challinor 2007c).

A late Iron Age / early Roman burial from Latton Lands, Wiltshire was dominated by Maloideae but there was evidence for incomplete cremation of the human bones (Challinor 2009b). Most of the species of the Maloideae subfamily have reasonable burning properties, if used in enough quantity. It is interesting, therefore, that the bones from G48 showed evidence of variable colouration, indicating inconsistent levels of combustion (Chapter 6.V). This might represent inefficient cremation caused by low-calorific or insufficient fuel. Estimates of the quantity of wood required to cremate an adult range between 300kg and 500kg (McKinley 1994, 80), which would not be easily obtained from hedgerow clippings. Another factor to consider is that the amount of bone recovered from the burial is low, suggesting incomplete recovery post-cremation. That there is a similar recovery bias in the pyre fuel seems likely, given the relatively low quantities and the fact that the material was not burned *in situ*.

The choice of willow or poplar for fuel in cremation burial G54 is more unusual, since neither is considered a good fuelwood (Edlin 1949, 156). There is little evidence in the domestic assemblages to suggest that willow or poplar were commonly used for fuel, although the damp ground on the lower slopes of the site and by the river Ise would have provided an appropriate habitat. The human bone evidence, however, indicates efficient cremation (Chapter 6.V), so the wood must have been adequately seasoned. A *bustum* burial from Biddenham Loop, Bedford, included a spit dominated by willow/poplar (Challinor 2016, CD Section 2). In that case, there was evidence that some of the charcoal came from worked wood and was likely to have derived from an artefact or decoration. There was no such evidence at Higham Road, but it is plausible that the charcoal assemblage does not

represent the main fuelwood, but peripheral components of the pyre.

Summary

The charcoal assemblage is indicative of wood sourced from hedgerows and field boundaries, consistent with an open arable landscape. The evidence from the cremation burials, in contrast, is less consistent and it is unclear whether deliberate fuelwood selection is represented, as is commonly the case in ritual contexts. Certainly, the choice of willow or poplar as a primary fuelwood for cremation is unusual. Finally, there is some evidence for the additional use of coal as fuel from domestic or ?industrial activities.

V. HUMAN REMAINS

Corinne Duhig

Introduction and methodology

Forty-six inhumations (excluding two occurrences of human bone in non-funerary features that are likely to be derived from excavated inhumations) and four cremation burials were recovered from the investigations. The majority of the bone from the inhumations is in poor or fair condition; breakage is severe and approximately half of the skeletons are also eroded, so features from which sex and age are estimated are often missing or damaged. Although nearly all skeletons have been assigned to a broad age group (*e.g.* adult, adolescent) only thirty-six have been assigned to an age or age range. Of the forty adults, twenty-five have had sex determined. Similarly, measurement of long bones for stature estimation has been possible in only eleven cases. The cremated bone from four burials is discussed below, but in only one case is it of 'normal' weight and hence potentially informative in anthropological terms.

Recording methods used are primarily those of Cho *et al.* 1996, Iscan and Kennedy 1994, Steele and Bramblett 1988 and Stewart 1979 and Ubelaker 1989, with other methods referenced as appropriate.

A photographic catalogue of all inhumations is presented in Appendix V and detailed skeletal information is summarised in Appendix VI. The 'five sexes' classification (F, ?F, ?, ?M and M) has been used both in recording and in Table A7 (Appendix VI). However, for ease of presentation of the material, this is then reduced to 'female', 'male' and 'sex not determined' in all other tables and in Figure 6.1.

Subadult ages are: foetal/neonate, up to one month after birth (one identified); infant, one month to one year (none identified); child, one year to puberty at a notional 13 years (three identified); adolescent, puberty to skeletal adulthood at a notional 18 years when growth ceases due to fusion of long-bone epiphyses (five identified, including a 12–15 year old). Adults (thirty-six identified) are dealt with in two ways. Age ranges and their mean points are presented in Table A7. Again for convenience of presentation, these ages are collapsed into the four age bands used in Table 6.34 (which equates to the Brothwell (1981) system of 17–25 years, 25–35 years, 35–45 years and over 45 years), with individuals placed according to the mean point of their age range.

Statures were calculated from the regression formulae of Trotter and Gleser 1952, using combined femur and

	N/A	N/A %	F	F %	M	M %	N/D	N/D %
Neonate	1	2.2	—	—	—	—	—	—
Child	3	6.5	—	—	—	—	—	—
Adolescent/adult	4	8.7	0	0.0	1	2.2	3	6.5
Adult 1: 17–25	—	—	5	10.9	4	8.7	2	4.3
Adult 2: 25–35	—	—	1	2.2	8	17.4	4	8.7
Adult 3: 35–45	—	—	0	0.0	2	4.3	2	4.3
Adult 4: 45+	—	—	0	0.0	1	2.2	0	0.0
Adult age n/d	—	—	2	4.3	1	2.2	2	4.3
Total	8	17.4	8	17.4	17	37.0	13	28.2
All immature/adult	8	17.4	—	—	—	—	38	82.6

Each percentage is calculated separately to one decimal place; they therefore do not add up exactly to the totals.

Four individuals are either adolescent adult (adult size but lacking fused epiphyseal ends of bones from which to determine skeletal maturity). These have been treated as adult for demographic analysis, due to the total absence of fragments of loose epiphysis or surfaces showing attachment of growing cartilage.

Table 6.34: Sex/age data for the inhumed population

tibia measurements when possible, or single leg bones if femur or tibia were lacking.

Description and diagnosis of pathology is based mainly on Iscan and Kennedy 1994, Ortner and Putschar 1985 and Steinbock 1976. Congenital and developmental defects of the axial skeleton are as ordered by Barnes 1994 and Hauser and De Stefano 1989, although not graded by the latter's system. Each pathological or similar change is described in a table, for the reference of other researchers, and discussed in the main text.

Demography

As explained above, the human remains are generally in a poor or fair condition and this should be borne in mind when reading the discussion below.

Age and sex ratios

Immature individuals

It is expected that the mortality profile of an ancient society — where nutrition was adequate but perhaps not optimal, and medicine was inadequate but density-dependent infections were escaped in small, rural settlements — is most likely to resemble that of a modern developing country (*e.g.* Stockwell 1993; Waldron 1994). Deaths of newborns will be high, there will also be a peak at time of weaning (approximately 2–4 years), and then the number of deaths of older children and adolescents will drop prior to the hazards of adult life.

As Table 6.34 and Figure 6.1 show, there are few immature individuals in this population, but the percentage (17.4%) is comparable to the average of 19% based on the cemeteries examined by Klinge (2012, fig. 6.3). However, the percentages are highly variable, *e.g.* Bletsoe, Bedfordshire (8.9%); Milton East Waste, Cambridgeshire (13.6%); and *Durobrivae*, Cambridgeshire (21.0%) (Denston and Duhig 1994; Duhig 1995; Duhig 1999).

Adults

There are more than twice as many males as females (a ratio of 17:8). The peak of deaths is in the adult 1 and adult 2 bands, for which the hazards of childbirth and warfare are often invoked. Certainly, all the women that can have age determined are of childbearing age; there are, on the other hand, no specific indications of violence

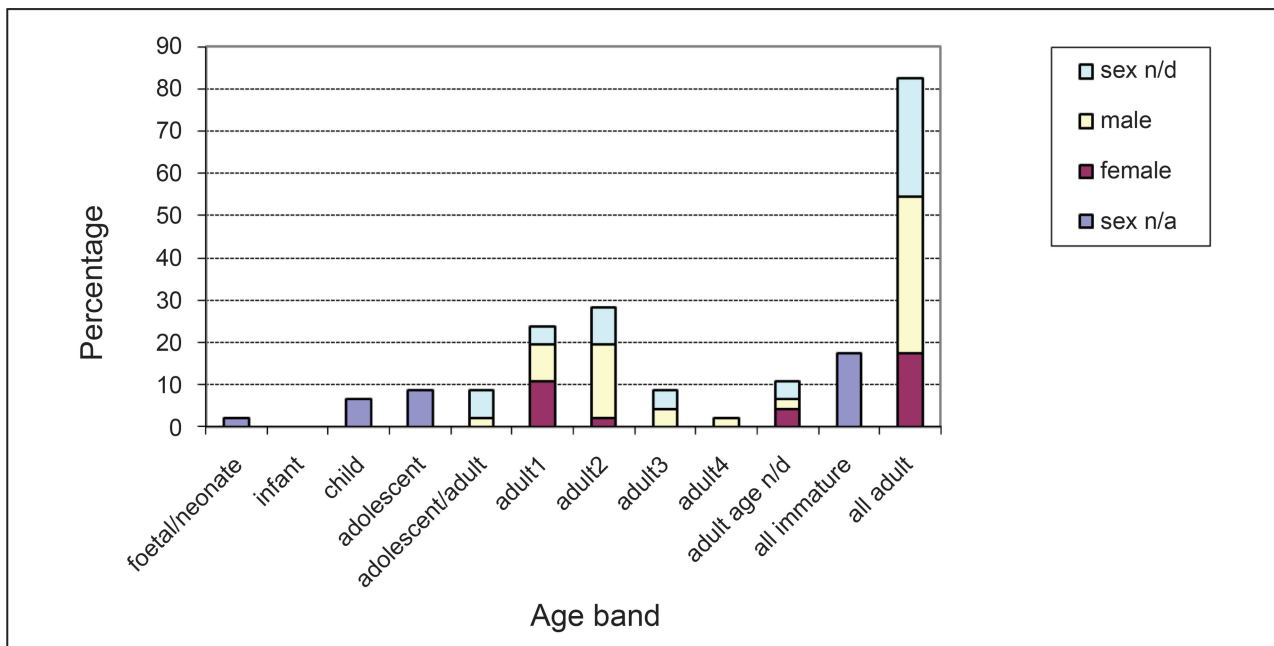


Figure 6.1: Sex/age data for the inhumed population (cumulative column graph)

in the skeletons of the males, and any trauma could be accidental. There are two males and no identifiable females in the adult 3 band (though two are 'sex not determinable') and just one male in the adult 4 band. Overall, these results suggest either that those in early adulthood experienced unusually great hazards to die before they reached more-advanced ages, or that the living community had an unbalanced age profile dominated by young adults. The latter, combined with the abnormal sex ratio, suggests that the population was not a normal one, but the numbers are too small to discuss possible reasons.

The Higham Road age profile contrasts strongly with Klinge's profile for Roman cemeteries: his results show a low number of 'adult 1', a peak in 'adult 2' and a slow drop through 'adult 3' and 'adult 4' (Klinge 2012, fig. 6.4), again suggesting that the Higham Road population is atypical.

If the cremated bone is included in the population, the only one of normal weight (*i.e.* the weight expected if a whole cremated body were deposited, with perhaps the loss of a few fragments during recovery) is an 'adolescent-adult'. The remaining three are very light in weight; they are one adult and two 'adolescent-adult', which (as with the inhumed bone) are probably adult.

Stature

Only eight males, two females and one 'not determined' have sufficient preservation of long bones to allow calculation of statures. The results from the 'not determined' give a reasonable height in the female range but an extremely low height in the male range (1.55m or 1.59m respectively), so it is more likely, though not certain, that this individual was female. Assuming this was so, the heights are:

- females 1.54–1.61m, mean 1.58m (5ft 3¼in–5ft 3½in, mean 5ft 2in)
- males 1.67–1.8m, mean 1.74m (5ft 6in–5ft 10¾in, mean 5ft 8¼in)
- Klinge's Roman populations had a female mean of 1.58m and male mean of 1.7m (Klinge 2012,

210) close to those of Higham Road, although the Higham Road males are taller, probably due to the distorting effect of the small sample size.

Ethnicity

The skull of skeleton SG199 (L23), a woman of 25–29 years of age, is badly fragmented but the grave photograph suggest that she had some signs of Negroid ancestry. The skull was, therefore, reconstructed and scored for ethnicity according to current forensic-anthropological practice (Cho *et al.* 1996), using twenty-one features. (This method divides the world's population based on skull shapes and variations: Caucasoid is Europe, western Asia, North Africa and South Asia; Negroid is Africa; Mongoloid is central Asia eastwards and native Americans; Australasian is Australian Aborigine and related peoples — and all populations have some diasporas which have led to mixed skull features.) Two features could not be scored but there are five clearly Negroid features, one Caucasoid and two Mongoloid; others are mixed type but with few Caucasoid admixtures. It is suggested that this woman's genetic heritage is African, or mixed but mainly from Africa.

Pathological conditions

Figure 6.2 shows the proportions of the pathological and related changes, as divided between the broad groups discussed below. To give this general picture of the pathologies, each instance of a change is noted individually (*e.g.* two fractures in one skeleton, unless they were clearly caused in the same event, are counted individually), except the dental diseases, which are divided by type. For example, a skeleton with two carious teeth, four abscess cavities and some ante-mortem tooth loss has three examples of dental disease.

From Figure 6.2 it can be seen that dental disease and the arthropathies (joint disorders) dominate. This is the common pattern in archaeological populations. The epigenetic traits can show relatedness between individuals, and this might be useful with the Higham Road burials because there are so many, both dental (more

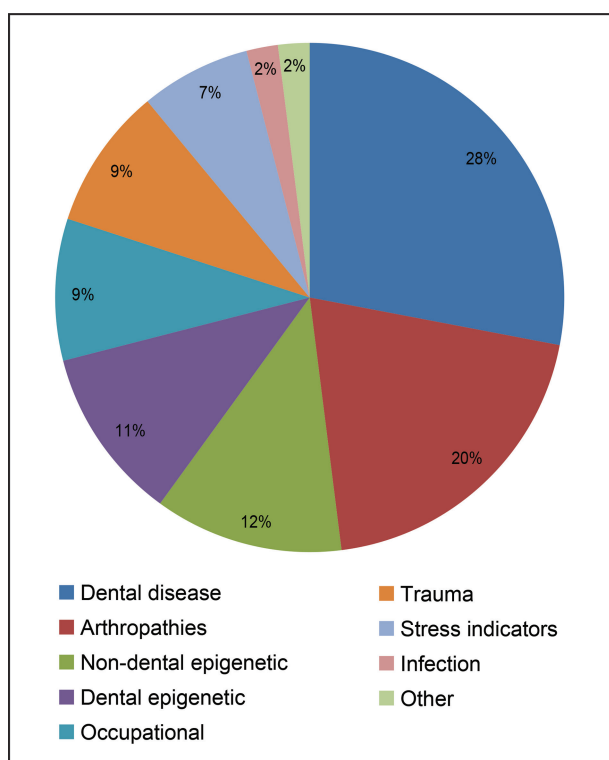


Figure 6.2: Proportions of pathological and related changes for the inhumed population

informative) and non-dental (mostly less informative) traits.

The proportion of each pathological change in the population, as given in the discussions below, is presented as (a) individuals affected/(b) number of individuals who possess the bone or part that could be affected (so not always forty-six)/percentage of (a) to (b).

Arthropathies

Rogers and colleagues (Rogers and Waldron 1995; Rogers *et al.* 1987) are followed in identification of the joint change of osteoarthritis: osteophytic (nodules of new-bone) lipping around joints or on surfaces; cysts (pitted joint surface showing where new cartilage was proliferating in response to damage); eburnation (bone-to-bone polish due to breakdown of cartilage); and ankylosis (fusion). They are not followed, however, in their diagnostic protocol, which combines these changes in specific ways for diagnosis; instead, any one of the changes given above is taken as indicative of the cartilage

Sub-Group	Group	Land-use area	Sex	Age	Description
165	68	16	M	25–30	temporo-mandibular joint disease (osteoarchaeology of jaw joint)
172	68	16	M	40–45	S1
182	69	16	N/D	25–35	L femoral head: fovea lipped
188	72	22	M	27–66	lower L and S
197	75	26	M	25–30	T6–L2, L4 (especially T8–11)
200	75	26	M	25–35	C6–7 and shoulder (presumed linked)
202	77	25	M	20–30	T8–11 L3–5, R shoulder

Table 6.35: Osteoarthritis

deterioration and associated responses of osteoarthritis, fewer types of change corresponding to less severe deterioration and the whole suite to the most severe.

Osteoarthritis is present in seven individuals (7/45/15.5%), all adult male or in the case of the ‘not determined’ skeleton within SG182, with the only two sex-determination features male and ?male (Table 6.35). This might be significant but might merely result from the preponderance of males.

Schmorl’s nodes

Schmorl’s nodes indicate weight-bearing damage to the intervertebral disc: the soft central material herniates through the fibrous outer covering, and the pressure of this material creates an indentation in the adjoining vertebral body.

Prevalence of Schmorl’s nodes is 9/46/19.5% (there is no spine in skeleton SG179, L16) (Table 6.36). This is approximately half that found by Klinge (2012, 291) but is reduced by the crushed and eroded state of many vertebrae at Higham Road compared with the mainly well-preserved specimens that come from his eight cemeteries. (Only one of his cemeteries had fair preservation, the others good to excellent.)

Sub-Group	Group	Land-use area	Sex	Age	Description
165	68	16	M	25–30	L x 1
186	70	17	M	30–35	T10–S1
187	71	19	M	30–35	T4–L5 (especially T9)
189	73	22	N/D	Adult	T12–L1
191	72	22	F	18–25	Ts–Ls
193	73	22	F	17	L1–5 (especially L1)
197	75	26	M	25–30	T5–L2, L4
200	75	26	M	25–35	Ts x 4
202	77	25	M	20–30	T6–12

Table 6.36: Schmorl’s nodes

Enthesopathies and changes due to activity (‘occupational changes’)

The over-development of muscle origins or insertions is called enthesopathy (Kennedy 1994), and these indicate considerable use of those muscles (Table 6.37). Lipped hand phalanges, as found on skeleton SG202 (L25), have been associated with activities requiring strong flexion in the fingers, such as rope making. The deep bicipital grooves of SG189 (L22) suggest heavy use of the biceps muscle, and the arm changes of SG200 (L26) use of the deltoid muscle. Without any other clues, no specific activities can be suggested in either case.

Skeleton SG188 (L22) has bony spurs on the proximal ends of both femora, which are probably due to the pronounced limp and altered stresses on the hips that the man would have had after his leg fracture (see below).

When two of the anterior top teeth of individual SG159 (L16) are placed together (all teeth are loose), the slight curvature visible is probably indicative of a ‘third hand’ activity that has worn the shape of the artefact into the biting edges of the teeth (Table 6.38). Clay pipes produce this type of wear in post-medieval specimens; various kinds of skin/textile-processing are known ethnographically and suggested archaeologically, although these tend to be female activities and this individual is more likely to be male. Again, the activity that has slightly hollowed the biting surfaces of the back molars in skeletons SG191 (L22) and SG200 (L26) is unknown, but these skeletons

Sub-Group	Group	Land-use area	Sex	Age	Description
188	72	22	M	27–66	bony spurs in neck and lesser trochanter of L femur and lesser trochanter of R femur
189	73	22	N/D	Adult	very deep bicipital grooves
191	72	22	F	18–25	bony spurs at superior tibio-fibular joint
200	75	26	M	25–35	R humerus: deltoid tuberosity and intertubercular groove very large and rugged
202	77	25	M	20–30	lipped shafts of hand phalanges

Table 6.37: Enthesopathies and changes due to activity ('occupational changes')

Sub-Group	Group	Land-use area	Sex	Age	Description
159	68	16	N/D	25–35	wear causing curved profile (viewed a-p) between L maxillary second incisor and canine
191	72	22	F	18–25	'scooped' wear on L third maxillary molar
200	75	26	M	25–35	'scooped' wear on R third maxillary molar

Table 6.38: Parafunctional tooth wear

are female and male respectively. It is suggested, therefore, that they are less likely to be parafunctional wear than another non-gender-based activity, possibly consumption of a particularly abrasive food.

Dental disease

Descriptions of the aetiologies of the dental diseases follow mainly Hillson (1979; 1990), although for reasons of time and cost only macroscopic methods have been used, contrary to his practice.

Caries

Dental caries is caused by an acid pH in the mouth, produced firstly by fermented sugars in carbohydrate food (especially refined carbohydrate), which demineralises the hard enamel and breaks through into the softer dentine and pulp, forming cavities in the crown. Secondly, plaque, hardening into calculus, causes irritation and recession of the gums, exposing the more vulnerable root to erosion. Individual variations in diet, saliva minerals, enamel formation, tooth placing — especially crowding — and cleaning habits are very important in caries aetiology. In modern times it is the former type that is most prevalent, but the latter type is more common in ancient material.

Prevalence of caries is calculated as the percentage of dentitions with at least one carious tooth, out of all dentitions with at least one tooth. Some researchers record prevalence as the number of carious teeth out of all teeth recovered. This method is not followed here because some severely carious teeth are shed, leading to their being 'buried' in the figures for ante-mortem tooth loss; even one carious tooth in a dentition indicates that the individual had the acid mouth conditions and/or inadequate removal of plaque that leads to decay of the enamel.

Prevalence at Higham Road is 11/39/28.2%. Brothwell (1981) surveyed caries frequencies through time and found that caries in Roman Britain was at about 12% prevalence. This was higher than all the other periods he surveyed apart from the rapid rise from the later medieval period onwards (when 21% was reached in modern times). Surprisingly, Klinge's work, by contrast, shows that 48.3% caries is normal for eastern-region Roman populations (Klinge 2012, table 8.3 and fig. 8.2).

Abscess cavities

Bacteria in the mouth can enter the tooth pulp through a severe carious lesion or through pulp exposure caused by loss of enamel on the biting surface (ancient populations

show a regular loss of the surface enamel as abrasive foods wear it, and the tooth cusps, through life). The result is often an abscess cavity at the root. The abscess will eventually break through the bone and soft tissue to discharge pus; these pus-drainage holes (fistulae) indicate the presence of the abscess cavity itself near a tooth root-tip. There is just one example at Higham Road.

Ante-mortem loss

Tooth loss can be caused by periodontal disease — inflammation in the supporting soft and hard tissues of the jaws — abscesses, irregular wear (which changes the stresses on the teeth during chewing) and combinations of these. If the tissues recede sufficiently and the sockets become enlarged, teeth can become loose and, ultimately, are shed. The prevalence at this site is 12/31/38.7%, much higher than Brothwell's 24% for Roman Britain, which he found was the highest for all British populations, but much lower than the 62.8% that Klinge found (2012, fig. 8.28). Given these contradictory comparators for both caries and ante-mortem tooth loss, it is not possible to suggest whether the Higham Road population is typical or not; the most that can be said is that it seems to fall within the very broad range.

Stress indicators

A small group of changes can demonstrate in the skeleton the effects of environmental stresses such as specific or general dietary deficiency. One of them, *cribra orbitalia*, is present in most ancient populations but aids comparison between populations by its variable prevalence, e.g. 0.6% in Bronze Age Greece, 11–12% in Cambridgeshire and Kent Anglo-Saxon cemeteries, 59% in ancient Egypt, and 84% in Bronze Age Sudan (Duhig 2000). The aetiology appears to be iron-deficiency, which causes the haemopoietic (red-blood-cell-producing) tissue to over-develop. Some is contained in the bone marrow and so the marrow space widens; in the skull vault and upper orbit, the central marrow-containing layer breaks through the dense outer layer of bone and is seen as a sieve-like or spongy appearance within or on top of the bone — this is called *cribra orbitalia* when in the orbit. It is seen more often in children, whose iron needs are greater than adults — some researchers believe it can only develop in children, because of their distribution of bone marrow — and remodels when the deficiency episode is over, leaving just a trace in a worm-like pattern over the affected area.

Contrary to expectations, iron-deficiency anaemia is not usually the result of inadequate diet but of two other causes: the protective 'anaemia of infection', in which

the body withholds iron from infectious organisms and is thus a valuable part of the body's response to infectious disease; and parasitic infection and the resultant loss of blood and nutrients. Both are exacerbated in crowded conditions, which favour the transmission of microscopic infectious organisms and parasites, and so are expected to be at a low level in small rural populations.

There is one instance of another stress indicator, dental enamel hypoplasia, a disruption in the enamel formation during childhood caused by periods of severe dietary deficiency or feverish illness. Research has shown a poor correlation between *cribra* and hypoplasia but they occur together in skeleton SG162 (L16) (Table 6.39).

Cribra is present in 13.9% of crania (5/36), an unsurprising average amount for an ancient population. Hypoplasia is present in one skeleton out of the thirty-nine with even one tooth present (2.6%), although this is probably an underestimate: some types of teeth show hypoplasia clearly and others poorly, and identification of hypoplasia depends on which have been recovered; and, further, water erosion has severely damaged the tooth enamel in some specimens.

Sub-Group	Group	Land-use area	Sex	Age	Description
162	68	16	?F	adult	cribra stage 2; dental enamel hypoplasia
172	68	16	M	40–45	cribra stage 3
187	71	19	M	30–35	healed cribra
198	76	23	Child	3–5	cribra stage 3, 4 or 5 (badly eroded)
200	75	26	M	25–35	healed cribra

Table 6.39: Stress-indicators

Trauma

Three women have the damage to the internal face of the pelvis called 'groove of pregnancy' (a form of the normal groove or sulcus that is often found in both sexes at the pre-auricular area, that is, the area colloquially called the 'sacro-iliac'). This indicates that each is likely to have had at least one pregnancy, although lack of the 'groove of pregnancy' does not necessarily indicate the opposite, so this is a minimum number: 3/9/33.3% of adult women (Table 6.40). This appears to be a very high percentage, although other populations might have had less visible changes.

The first limb fracture is that of SG175 (L16). The lower part of the right humerus is broken and has thickened where the ends of the bone have overlapped and healed together. The misaligned ends of the upper and lower parts can be seen protruding from the mass. The broken condition of the left humerus prevents assessment

of the original length, but the loss of length is at least 4cm. It has a covering of new bone (Pl. 6.1). The same skeleton also has a deformity of the right foot (see below).



Plate 6.1: Human bone: right humerus showing thickening caused by overlapping of the two sections of bone, and disorganised new bone on the surface (SG175)

Skeleton SG188 (L22) has a double fracture of the bones of the left lower leg, with loss of length of approximately 4cm and natural splinting by a mass of bone between tibia and fibula. This would have made a very stable limb, although the loss of length would have caused a severe limp (Pl. 6.2).



Plate 6.2: Human bone: left tibia and fibula showing loss of length and natural splinting (SG188)

Skeleton SG200 (L26), which has considerable arthritic and weight-bearing damage to the vertebrae and signs of strenuous activity in the arm and shoulder, also has two fused vertebrae in which a hole between them is a possible cloaca (hole for pus to escape from an infected area). This pathology could be classified with the infections, but it is likely that the fusion was caused by some collapse of these two vertebrae and it is, therefore, more appropriate to place it with the examples of trauma.

Sub-Group	Group	Land-use area	Sex	Age	Description
170	68	16	F	18	pre-auricular sulcus GP form
175	69	16	M	18–25	R humerus: distal 1/3 of shaft, thickened and flattened antero-posteriorly, contour at distal end suggests fracture (also infected, see Table 7.40), loss of length of >4cm
178	69	16	F	18	pre-auricular sulcus GP form (large)
188	72	22	M	27–66	L tibia: c. 26.5cm from proximal extremity, fracture with medial displacement of distal portion and loss of length of c. 4cm; L fibula: c. 7 cm from proximal extremity, fracture with angulation; midshaft of both bones, c. 2.5cm fusion by block of solid, well-remodelled new bone
190	72	22	N/D	16–17	R mt5: evulsed tubercle
199	76	23	F	25–29	L mc2: fracture
200	75	26	M	25–30	pre-auricular sulcus GP form two vertebrae fused (possible cloaca)

Table 6.40: Trauma

Infection/inflammation

Identifying infection in ancient remains is problematical — most infections, especially in low-density populations, are of the small-scale, localised, non-specific type. Skeleton SG190 (L22) has this type of change on one thumb, showing a bone-proliferating reaction to some localised infection (Table 6.41). The new bone on the fractured humerus of SG175 (L16) might have been produced by the ‘more-blood, more-bone’ reaction — free blood in the tissues, such as is produced in a fracture, prompts osteoblasts (bone-making cells) to lay down a large mass of disorganised new bone to act as a splint; this will, ultimately, be remodelled into mature new bone with the normal contour restored — or it might have been prompted by an infection in the injured soft tissue of the arm.

Epigenetic traits / congenital and developmental disorders

Epigenetic traits are minor skeletal variants of little or no clinical significance, which result from an interaction of genetic predisposition and the environment before and after birth. Their presence can assist determination of relatedness in a cemetery, but interpretation must also include the effects of common environment and life experiences in a community. Congenital and developmental disorders are only distinguished from epigenetic traits by the degree of clinical severity (*e.g.* cleft palate); there are none in this population.

Dental epigenetic traits are more reliable as familial markers than skeletal traits, because tooth development is less susceptible to environmental influences. There are three examples of teeth with extra cusps (SG170, SG175 and SG8.4); three with possible or probable congenital absence of third molars (wisdom teeth, the tendency of which to be congenitally absent is well-known: SG187, SG185 and SG193); and two with shovelling (the biting

edges of the upper incisors, instead of being straight, are curved on the inside to make a ‘shovel’ shape: SG175 and SG159) (Table 6.42).

‘Paraxial mesoderm field defects’ (PMFD) are errors in the formation of the elements that make up the centre line of the body, mainly the vertebral column, at an early stage of foetal development (Barnes 1994, 58–9 and 78–116). The term ‘cranio-caudal border shifting’ (CCBS) indicates vertebrae that have taken up the form of the vertebral type immediately above or below, such as the last thoracic vertebra being of lumbar form (*i.e.* without ribs and with curved instead of flat facet joints). There is some familial tendency to have CCBS or a related condition in which extra vertebrae are present, without specificity as to location or type of defect. A native American site with 27% CCBS is considered to be indicative of inbreeding (Bennett 1972), while 8–9% is usual for Anglo-Saxon populations in this author’s experience. The prevalence at Higham Road is 2/45/4.4% (SG191 and SG196) (Table 6.43), although this is likely to be severely underestimated due to the damaged nature of the vertebrae in all but a few skeletons.

Congenital fusion of vertebrae is a closely related PMFD; it can manifest in fusion of the first cervical (neck) vertebra to the skull base, as in skeleton SG199 (L23) (Table 6.43). It would have caused very significant limitation of head movement, because this joint allows the head to nod on the neck; the next joint down allows head rotation, which would not have been restricted.

‘Failure to coalesce’ traits include the retention of the metopic suture, which divides the frontal bone and usually fuses and disappears by the age of two years, but which occasionally remains open through life when the two sides do not meet at the appropriate age. This is seen in skeletons SG177, SG178, SG192 and SG197 (Table 6.44). Again, there are both heritable and environmental elements in its development and it is found worldwide,

Sub-Group	Group	Land-use area	Sex	Age	Description
175	69	16	M	18–25	R humerus: mass of disorganised new bone over surface and within shaft of fractured bone (see Table 7.39)
190	72	22	N/D	16–17	R dp1: coarse new bone over surface, especially distal

Table 6.41: Infection/inflammation

Sub-Group	Group	Land-use area	Sex	Age	Description
8.4	72	22	N/D	12–18	malformed L maxillary 7 with extra cusp; L maxillary 8 very small
159	68	16	N/D	25–35	R maxillary 2 shovelled into tube
170	68	16	F	18	supernumerary cusp on L mandibular 8
171	68	16	M	30–35	rotated R mandibular 7 (not in itself epigenetic but related to crowding)
175	69	16	M	18–25	shovelled maxillary incisors; malformed L maxillary 8 with ‘doubled’ crown and five roots fused into four
185	70	17	N/D	25–35	?congenital absence of L mandibular 8
187	71	19	M	30–35	retailed mandibular, possibly congenital absence of R maxillary 8
193	73	22	F	17	probable congenital absence of 8s
196	75	26	?M	25	supernumerary mandibular incisor

Table 6.42: Dental epigenetic traits

Sub-Group	Group	Land-use area	Sex	Age	Description
191	72	22	F	18–25	cranial-caudal border shifting: T12 transitional
196	75	26	?M	25	cranial-caudal border shifting: S1 partial lumbarisation
199	76	23	F	25–29	C1 vertebrae fused to skull base

Table 6.43: Non-dental epigenetic traits: paraxial mesoderm field defects

Sub-Group	Group	Land-use area	Sex	Age	Description
177	69	16	?M	Adolescent/ adult	metopism
178	69	16	F	18	metopism
190	72	22	N/D	16–17	?open sacral arch
192	73	22	M	18–25	metopism; Wormian bone: ossicle at lambda
197	75	26	M	25–30	metopism

Table 6.44: Non-dental epigenetic traits: ‘failure to coalesce’: metopism and bifid vertebral arch

although at very different percentages, 8–10% being an approximate average for Europeans.

Skeleton SG192 (L22) exhibits a related condition, a Wormian bone: small additional bones within the sutures of the skull. Like metopism, the delay in the growth of one skull bone towards another will prevent them from fusing, but in this case it triggered the development of a new growth centre to fill the gap, so producing a small separate bone. Wormian bones are present in variable percentages in all populations, some caused by individual metabolic disturbances or trauma (*e.g.* cultural deformation of the skull), but most by a heritable tendency (Barnes 1994, 138–42; Hauser and Stefano 1989, 84–94).

In the spine, failure of the two sides of the vertebral arch to fuse causes spina bifida, which can be severe and disabling due to exposure of the spinal cord, but in most cases is firmly encased in fibrous tissue and exhibits no symptoms (this is *spina bifida occulta*). An example of the latter form might be in skeleton SG190 (L22), which appears to have the arch of the second sacral vertebra somewhat open, but preservation is poor so this is uncertain (Table 6.44).

Spondylolysis demonstrates the relationship between genetic factors and trauma: a congenital thinning of the attachment of the vertebral arch to its body can be fractured by severe stress on the spine (*e.g.* Merbs 1983; Merbs 1994; Waldron 1991). The affected arch is normally held firmly in place by fibrous tissue and is consequently asymptomatic, as in the case of skeleton SG202 (L25) (Table 6.45), although if undue stress is put on the lower spine the loose arch can slip and cause significant pain.

Sub-Group	Group	Land-use area	Sex	Age	Description
202	77	25	M	20–30	L4, L5: spondylolysis

Table 6.45: Non-dental epigenetic traits: spondylolysis

Septal apertures in the distal humeri tend to be found in lightly built individuals or populations where the bone, naturally thin at this point, becomes so thin as to be perforated. They are, nevertheless, recorded as epigenetic traits given that there are familial tendencies to have the aperture. This is present in skeleton SG186 (L17) (Table 6.46).

Sub-Group	Group	Land-use area	Sex	Age	Description
168	70	17	N/D	Adolescent/ adult	L humerus: septal aperture

Table 6.46: Non-dental epigenetic traits: other traits

Other conditions

Unlike bony growth into muscle insertions, the spiculation on the kneecaps of SG202 (L25) is within a muscle, and the spurs at the top of the lower leg in SG175 (L16) are at a point where a relatively immovable joint is linked by fibrous tissue (Table 6.47). They are not, therefore, directly caused by muscle action. They can be found in conditions that cause ossification into connective tissue, such as diffuse idiopathic skeletal hyperostosis (DISH), a metabolic disorder linked to a diet rich in protein and fats. Diagnosis of this condition is not possible in these two skeletons, however, due to the absence of other areas where this spurring can be found.

A deformity of the right foot of SG191 (L22) affects the talus (Pls 6.3 and 6.4). Interpretation is handicapped by the absence of all other foot bones, but it appears that the head (rounded anterior part of the bone) is divided in two, either congenitally or because of trauma, with a smooth, false joint between the two parts. Because it is impossible to identify whether this is due to trauma or is congenital — although the lack of reactive bone that would result from trauma somewhat supports the latter diagnosis — but is almost certainly one or the other, it has not been included in the counts of pathologies.

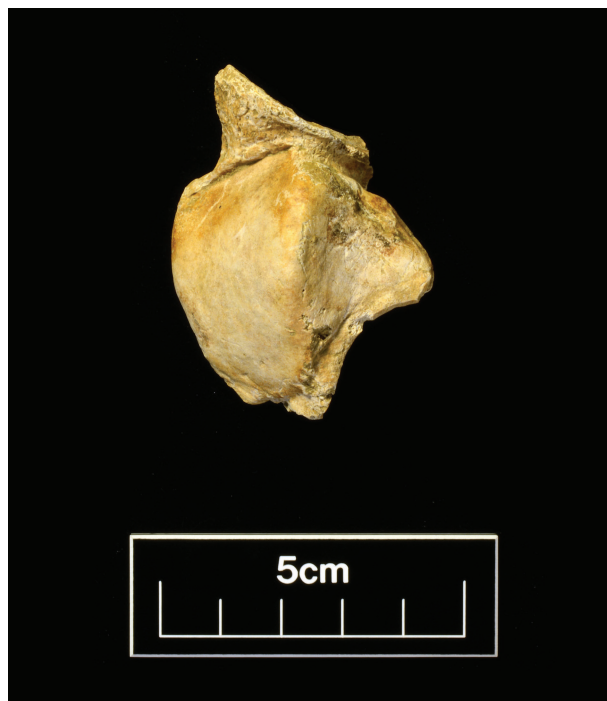


Plate 6.3: Human bone: right talus lacking head (SG191)



Plate 6.4: Human bone: fragment replaced, showing smooth articulation with fragment (SG191)

Cremated material

As mentioned above, the cremated bone has only one sample of a weight, 1,300g (SG133, L32), that falls close to the expected weight range for a whole body after burning: approximately 1,500–2,000g (McKinley 1989). It was an ‘adolescent-adult’, probably adult, with some representation of all the areas of the body, but no sex determination is possible or pathology identifiable (Table A8).

The remaining three samples weigh only 4g, 15g and 105g (SG127, SG126 and SG117 respectively). McKinley (1989) gives an expected range of 200–2,000g for the deposition of one individual, but even the heaviest here is half her lowest figure. Two (SG127 and SG126) are poorly burnt, having patchy colour that shows variable access to the necessities of good combustion (heat, air and time), black areas within the bone especially indicating unburnt organic material; it should be understood that the ‘ideal’ cremation produces completely white bone from which all organic material has been removed. The samples from SG117 and SG133 were better burnt, though less well than most ancient cremation samples. This suggests either that pyre technology was poor or that we are seeing the fragments that dropped out of the pyre while the main part of the body/skeleton continued to burn.

‘Deviant’ burials

It is normal to find a certain percentage of Roman-period burials in non-standard positions and conditions *e.g.* prone and decapitation. The term ‘deviant’ burial describes the burial practice, but does not imply that the individuals themselves were regarded as other than standard members of their society. In Anglo-Saxon cemeteries they were mostly, though not exclusively, older women who lacked the usual accoutrements of adult women (indicators of their management of a household) and who are assumed to have moved into a different social group, the ‘elders’ or ‘wise women’. By contrast, and frustratingly, Roman-period deviant burials appear to range the demographic spectrum. Although most writers speak of ‘disrespect’, or assume fear, as causes of such — to us — inexplicable treatment of the dead, there might instead have been special value placed on these unusual types of deposition, particularly when they involved reopening the grave and handling the head. Ethnographic parallels are suggested by, for example, the *famadihana* rituals of the Merida of Madagascar (Parker Pearson 1999).

Prone position is defined as the whole skeleton facing down into the grave. ‘Decapitation’ does not necessarily describe a peri-mortem injury and it is the author’s view that, unless there is clear evidence to the contrary, most decapitations were post-mortem, though that can be difficult to prove. The evidence for each case at Higham Road is presented in Table 6.48.

Decapitation can be of two kinds:

Peri-mortem: the cause of death, carried out immediately after death or during a short death-burial interval. There would have been a weapon or implement to remove the head, with consequent potential for cut marks, which tend to be on the upper vertebrae, angle of the jaw, mastoid process of the skull (directly behind the ear) or posterior skull base. When this was the cause of death, decapitation would usually have been carried out from behind and would have affected the vertebrae together with at least one of the other areas; damage to the angle of the jaw is particularly associated with that on the mastoid process.

Taphonomic decapitation: carried out after a long death-burial interval or after a period of burial. Decomposition would have allowed the head to be pulled off, with or without the jaw, although there might have been the need for a blade to cut through the attachments of the back of the head to the neck or, more likely due to its robusticity, the ligament of the sterno-cleido-mastoid muscle that attaches to the mastoid process.

In this population, the percentage of deviant burials is very high, even if the four individuals on their side are discounted and the maximum number of individuals present is used rather than the number of individuals where position could be determined: two decapitations

Sub-Group	Group	Land-use area	Sex	Age	Description
175	69	16	M	18–25	R talus: head absent, replaced by short, flat process with anteriorly concave facet; a flattened-pyramidal or lenticuloid fragment with posterior surface; a convex facet which fits the talus; no disorganised bone
191	72	22	F	18–25	bony spurs at superior tibio-fibular joint
202	77	25	M	20–30	bony speculation on anterior aspect of patellae

Table 6.47: Other conditions

Sub-Group	Group	Land-use area	Sex	Age	Body position	Head	Comment
160	68	16	N/D	25–35	Supine	Head beside R ankle; no cut marks found despite close examination but too eroded for firm conclusion	Decapitation (peri-mortem or taphonomic)
165	68	16	M	25–30	Prone	–	–
173	69	16	N/D	25–35	Supine	Head between lower legs; cut mark on right mastoid process	Decapitation (peri-mortem or taphonomic; probably the latter)
175	69	16	M	18–25	On right side	–	–
180	69	16	N/D	40–45	Flexed on left side	Upper body twisted to side; prone at pelvis	–
186	70	17	?M	30–35	Supine	Anterior cranium (frontal/ant parietals, maxilla frags with teeth) present and fresh breaks at posterior edge due to plough disturbance	Not ancient decapitation
187	71	19	M	30–35	On left side	Flexed legs	–
188	72	22	M	27–66	Supine	Skull and spine down to T11 missing due to truncation by later ditch	Not ancient decapitation
189	73	22	N/D	Adult	Prone	Five upper teeth and mandible present, although cranium absent due to truncation by later ditch	Not ancient decapitation
190	72	22	N/A	16–17	On left side	Upper spine disturbed, skull and C1–3 missing due to truncation by later ditch; one upper incisor present	Not ancient decapitation
191	72	19	F	18–25	Prone	Two upper teeth and part mandible present, although cranium absent; axis and ?atlas displaced due to truncation by later ditch	Not ancient decapitation
192	73	22	M	18–25	Prone	–	–
193	73	22	F	17	Prone	–	–
196	75	26	?M	25	Prone	–	–
197	75	26	M	25–30	Prone	–	–
200	75	26	M	25–35	Prone	–	–
202	77	25	M	20–30	Prone	Back of cranium missing due to plough/machining disturbance	Not ancient decapitation

Table 6.48: Deviant or possibly deviant burials

and nine prone burials (11/46/23.9%). This is similar to the 24/89/26.9% at Kempston Church End, Bedfordshire (Boylston and Roberts 2004), but otherwise more than double the usual percentages found (*e.g.* Cassington, Oxfordshire, <10% decapitation: Taylor 2001, 123; Milton East Waste, Cambridgeshire 3/23/13%: Duhig 1995; Higham Ferrers, Northamptonshire 5/38/13.2%,

Lawrence and Smith 2009). Taylor observes that deviant burials are more common in rural cemeteries, rather than managed urban cemeteries that are more Romanised (Taylor 2008, 100), but with no reasonable explanation yet presented for these practices, the significance of the percentages cannot be assessed.

Appendix I

Roman pottery type series

Jackie Wells

Fabrics are listed below (Table A1) in chronological order, using fabric codes and common names in accordance, where possible, with the National Roman Fabric

Reference Collection (Tomber and Dore 1998). Wares not occurring in this reference collection have been assigned an alphabetic code based on principal inclusion type and colour (*cf.* Timby 2009).

	Fabric	Description	No.	% No.	Wt (g)	% Wt
Local	SOB GT	Late Iron Age / early Roman grog tempered	3	0.1	48	0.1
	GT	Grog tempered	120	3.5	2,617	4.1
	GT GW	Grog tempered grey ware	4	0.1	45	0.1
	GT WW	White ware	39	1.2	1,024	1.6
	PNK GT	Pink grogged ware	7	0.2	307	0.5
	SH	Shell	961	28.5	23,686	37.2
	LVN CC	Lower Nene Valley colour-coated ware	560	16.6	7,918	12.4
	LVN PA	Lower Nene Valley parchment ware	1	0.1	10	0.1
	LVN RE	Lower Nene Valley grey ware	1,064	31.6	16,911	26.6
	LVN WH	Lower Nene Valley white ware	16	0.4	787	1.2
	BW SA	Black sandy ware	78	2.3	1,155	1.8
	BW MI	Black micaceous ware	2	0.1	4	0.1
	GW SA	Sandy grey ware	97	2.9	2,032	3.2
	GW BS	Black-slipped grey ware	19	0.5	607	1.0
	GW MI	Micaceous grey ware	107	3.2	1,371	2.1
	GW WS	White-slipped grey ware	28	0.8	297	0.5
	OX SA	Oxidised sandy ware	45	1.3	693	1.1
	OX WS	White-slipped oxidised sandy ware	1	0.1	6	0.1
	PNK SA	Pink sandy ware	3	0.1	29	0.1
	SA BB	Brown/buff sand-tempered ware	7	0.2	129	0.2
	SA LI SH	Sand, limestone and shell	38	1.2	504	0.7
Regional	DOR BB1	Dorset black-burnished ware	8	0.2	95	0.1
	HAD OX	Hadham oxidised ware	2	0.1	30	0.1
	HAD RE	Hadham reduced ware	3	0.1	80	0.1
	MAH WH	Mancetter/Hartshill mortaria	4	0.1	195	0.3
	OXF	Oxford oxidised ware	5	0.1	55	0.1
	OXF PA	Oxford parchment ware	1	0.1	11	0.1
	OXF RS	Oxford colour-coated ware	29	0.8	384	0.6
	OXF RSM	Oxford colour-coated mortaria	8	0.2	112	0.2
	OXF WHM	Oxford white ware mortaria	1	0.1	35	0.1
	VER WH	Verulamium region white ware	4	0.1	218	0.3
Import	CG SAM	Central Gaulish samian	44	1.3	602	0.9
	EG SAM	East Gaulish samian	1	0.1	30	0.1
	SAM	Samian (unknown)	1	0.1	67	0.1
	BAT AM	Baetican amphorae	2	0.1	244	0.3
Unknown	CC	Colour-coated ware	4	0.1	9	0.1
	MI	Mica-dusted ware	1	0.1	7	0.1
	MO	Mortaria	6	0.2	369	0.5
	OX MI	Micaceous oxidised sandy ware	34	1.0	637	1.0
	UNID	Non-specific Roman	4	0.1	17	0.1

Table A1: Roman pottery type series

Appendix II

Samian pottery

Jill Eyers

Methodology

The pottery was assessed by fabric and form using a ×20 hand lens and ×40 binocular microscope. Where a maker's mark or decoration was available, a full assessment was made using a variety of published, printed and online databases. The quantity and weight of the total assemblage is expressed numerically and as a percentage. The assemblage is too small to present as meaningful EVEs, although these were measured and appear in the archive.

The assemblage

The assemblage consists of forty-six sherds, weighing 635g, and comprises plates, cups and bowls. The site phases (Table A2) contained the following proportions of samian ware:

Phase	Sherds	%	Weight (g)	%
2	1	2.2	1	0.2
3	13	28.3	142	22.4
4	29	63.0	442	69.6
6	3	6.5	50	7.8
Total	46	100.0	635	100.0

Table A2: Samian quantification by phase

The assemblage is from Central Gaul, Lezoux, with one possible sherd from East Gaul. The majority of forms are plates (DR18R, DR18/31 and DR18/31R), as well as cup DR33 (Table A3). Only one decorated sherd is present, from a DR37 bowl.

Vessel category	Sherds	%	Weight (g)	%
Plates	20	47	432	69
Cups (Dr 33)	8	19	76	12
Bowl (Dr 31)	3	7	47	8
Bowl (Dr 37)	2	5	47	8
Indeterminate	13	22	33	3
Total	46	100	635	100

Table A3: Quantification of samian vessel types

The plate:bowl ratio is 4:1, which is a relatively high proportion of plates. A ratio of 2:1 is typical in rural sites and 4:3 in small urban sites (Willis 2004; Eyers 2011).

Catalogue

1. **Phase 4:** 'Ladder' enclosure system L15, ditch G32: decorated sherd. Lezoux fabric body sherd of a decorated bowl showing a vertical beaded line, a plain two-ringed medallion and a female figure (*cf.* Stanfield and Simpson 1958, pl. 157: 8). Cinnamus, AD150–80

Appendix III

Brick and tile fabric types

Jackie Wells

Three main fabric types are represented; they are listed below by prevalence. Minor variations occur within each type.

Sand: fine and hard-fired, orange throughout, turning to brick-red where overfired. Generally finely tempered, although some fragments are more coarsely made and contain angular quartz of up to 5.0mm in size. Contains frequent, well-sorted, sub-angular, multi-coloured quartz *c.* 0.2–0.5mm and dark red and black iron ore *c.* 0.1–0.3mm. Some hard-fired examples have a distinctive blue-grey core, although they do not occur in sufficient quantity to merit a separate fabric type.

Shell: hard-fired, fairly smooth fabric with buff-brown surfaces and sometimes a paler core. Contains abundant ill-sorted, sub-angular fossil shell, some ranging up to 10mm, visible throughout the fabric and on the surfaces. Also rare, poorly sorted limestone *c.* 0.2–0.5mm. Similar to material produced at the Harrold kilns in Bedfordshire (Brown 1994, 79).

Sand and shell: as for sandy examples, but characterised by the presence of frequent, ill-sorted, sub-angular shell, *c.* 0.5–1.5mm, often giving a ‘prickly’ feel to the material.

Appendix IV

Coin catalogues

Peter Guest

Date	RA	G	L	Phase	Denomination	Obverse	Reverse	Mint-mark	Mint	Reference	Remarks
late 1st C.	2019	16	69	4	Dupondius	Radiate (Flavian?) bust	illegible	—	—	—	Ø 28mm; 7.9g
mid-2nd C.	2206	91	39	6	AE1	FAUSTINA II?	uncertain	—	—	—	Ø 31mm; 22.9g
1st / 2nd C.	2014	69	16	4	AE1	illegible	illegible	—	—	—	Ø 31mm; 17.8g
1st / 2nd C.	2214	91	39	6	cut AE1	as Alexander Severus	uncertain type – S [C]	—	—	—	2.2g
231	2462	75	26	4	Denarius copy	as Alexander Severus	as Mars Ultor	—	Rome	as RIC: 246	plated forgery
268–70	2209	91	39	6	Radiate	CLAUDIUS II	Virtus?	—	—	—	—
268–70	2193	39	91	6	Radiate	VICTORINUS	Sol running left	—	—	—	—
270–4	2400	32	15	4	Radiate	TETRICUS I	Hilaritas?	—	—	—	—
273–4	2467	27	15	4	Radiate	TETRICUS I	LAETITIA AVGG	—	—	—	—
268–74	2424	39	27	4	Radiate	VICTORINUS / TETRICUS I	Pax / Salus	—	—	—	—
268–74	2410	91	39	6	Radiate	VICTORINUS / TETRICUS I	illegible	—	—	—	—
260–90	2123	61	24	4	Radiate	illegible	illegible	—	—	—	—
260–90	2072	85	19	4	Radiate	illegible	illegible	—	—	—	—
260–300	2021	44	19	4	Radiate?	illegible	illegible	—	—	—	—
260–90	2425	39	27	4	Radiate	illegible	illegible	—	—	—	—
286–93	2	84	37	6	Radiate	CARAVSIVS	PAX AVGGG	S/P//C	C mint	—	—
286–93	4	84	37	6	Radiate	CARAVSIVS	SALVS AVG	//C	C mint	—	—
286–93	5	84	37	6	Radiate	CARAVSIVS	PROVID AVG	S/P	C mint	—	—
286–93	2205	91	39	6	Radiate	CARAVSIVS	HILARITAS AVG	—	—	—	—
286–93	2210	91	39	6	Radiate	CARAVSIVS	Pax	—	—	—	—
293–6	2032	91	39	6	Radiate	ALLECTVS	LAETITIA AVG (galley)	—	—	—	—
260–300	2196	91	39	6	Barb Radiate	as Gallienus	illegible	—	—	—	—
268–300	2142	33	29	4	Barb Radiate	as Claudius II	as Salus?	—	—	—	—
268–300	2184	91	39	6	Barb Radiate	as Claudius II	illegible	—	—	—	—
268–300	2426	11	30	4	Barb Radiate	as Victorinus	as Fides	—	—	—	—
270–300	2133	15	10	3	Barb Radiate	as Tetricus I	as Pax	—	—	—	—
273–300	2117	61	24	4	Barb Radiate	as Tetricus I	as Sacrificial implements (Tetricus II)	—	—	—	—
273–300	2153	81	15	4	Barb Radiate	as Tetricus II	illegible	—	—	—	—
260–300	2098	19	15	4	Barb Radiate	illegible	illegible	—	—	—	—
260–300	2248	69	16	4	Barb Radiate	illegible	illegible	—	—	—	—
260–300	2145	42	30	4	Barb Radiate	illegible	illegible	—	—	—	—
260–300	2127	37	31	4	Barb Radiate	illegible	illegible	—	—	—	—
260–300	2110	91	39	6	Barb Radiate	illegible	illegible	—	—	—	—
260–300	2178	91	39	6	Barb Radiate	illegible	illegible	—	—	—	—
270–300	2095	91	39	6	Barb Radiate	illegible	illegible	—	—	—	—
310	2166	91	39	6	AE3	Constantine I	as Pax?	—	—	—	—
318–24	2185	91	39	6	AE3	Hse of Constantine	SOLI INVICTO COMITI BEATA TRANQVILLITAS	T/F//PLN //PLON	London London	RIC VI: 120	—

318–24	2132	32	15	4	AE3	Hse of Constantine	BEATA TRANQVILLITAS	//●PL[.]	–	–	–
318–24	2249	69	16	4	AE3	Hse of Constantine	VICTORIA LAETAE PRINC PERP	//[....]	–	–	–
324–5	2136	32	15	4	AE2	Constantine II Caesar	PROVIDENTIAE CAESS	//PLON	London	RIC VII: 296	–
324–5	2121	37	31	4	AE2	Constantine I	PROVIDENTIAE AUGG	//PLOS	London	RIC VII: 293	–
325–6	2128	91	39	6	AE2	Constantine I	PROVIDENTIAE AUGG	//SA U RL	Arles	RIC VII: 286	–
330–5	2116	91	39	6	AE3	VRBS ROMA	Wolf and twins	//TRP	Trier	HK: 51	–
330–5	2422	42	30	4	AE3	VRBS ROMA	Wolf and twins	//ASIS	Siscia	HK: 745	–
330–5	2411	90	39	6	AE3	VRBS ROMA	Wolf and twins	//[....]	–	–	–
330–5	2165	91	39	6	AE4	VRBS ROMA	Wolf and twins	//[....]	–	–	–
330–5	2201	91	39	6	AE3	VRBS ROMA	Wolf and twins	//[....]	–	–	–
330–5	2215	91	39	6	AE3 frag	VRBS ROMA	Wolf and twins	//[....]	–	–	–
330–5	2026	93	36	5	AE3	VRBS ROMA	Wolf and twins	//[....]	–	–	–
330–48	2155	90	39	6	AE4 copy	as Urbs Roma	as Wolf and twins	–	–	–	–
330–48	2194	91	39	6	AE4 copy	as Urbs Roma	as Wolf and twins	–	–	–	–
330–48	2097	93	36	5	AE4 copy	as Urbs Roma	as Wolf and twins	–	–	–	–
330–5	2176	91	39	6	AE3	CONSTANTINOPOLIS	Victory on prow	//[....]	–	–	–
330–5	2192	91	39	6	AE3	CONSTANTINOPOLIS	Victory on prow	//[....]	–	–	–
330–48	2107	32	15	4	AE3 copy	as Constantine I	as Victory on prow	–	–	–	–
330–48	2131	42	30	4	AE3 copy	as Constantine I	as Victory on prow	–	–	–	–
330–5	8	32	15	4	AE3	Constantine II Caesar	GLORIA EXERCITVS – 2 standards	//PLG	Lyon	H: 181	–
330–5	2140	32	15	4	AE3	Constantine II Caesar	GLORIA EXERCITVS – 2 standards	[.]/PCONST	Arles	–	–
330–5	2317	25	31	4	AE3	Constantius II Caesar	GLORIA EXERCITVS – 2 standards	//TRS●	Trier	HK: 56	–
330–5	2138	89	40	5	AE3	Constantius II Caesar	GLORIA EXERCITVS – 2 standards	wreath/TRS	Trier	HK: 148	–
330–5	2154	90	39	6	AE3	Constantius II Caesar	GLORIA EXERCITVS – 2 standards	//TRS●	Trier	HK: 64	–
330–5	2081	44	19	4	AE3	Hse of Constantine	GLORIA EXERCITVS – 2 standards	wreath/[....]	–	–	–
330–5	2198	91	39	6	AE3	Hse of Constantine	GLORIA EXERCITVS – 2 standards	wreath/[....]	–	–	–
330–5	2036	91	39	6	AE3	Hse of Constantine	GLORIA EXERCITVS – 2 standards	//PLG	as Lyon	–	–
335–48	2118	20	15	4	AE3 copy	as Constantine I	as Gloria Exercitus – 2 standards	–	–	–	–
335–48	2167	91	39	6	AE3 copy	as Hse of Constantine	as Gloria Exercitus – 2 standards	–	–	–	–
335–48	2412	91	39	6	AE4 copy	as Hse of Constantine	as Gloria Exercitus – 2 standards	//PLG	Lyon	HK: 222	–
335–7	2119	21	14	4	AE3	Constantine I	GLORIA EXERCITVS – 1 standard	//[....]	–	–	–
335–7	2104	32	15	4	AE3	Constantine I	GLORIA EXERCITVS – 1 standard	//●TRS●	Trier	HK: 93	–
335–7	2228	91	39	6	AE3	Constantius II Caesar	GLORIA EXERCITVS – 1 standard	//[....]	–	–	–
335–7	2066	91	39	6	AE3	Hse of Constantine (Caesar)	GLORIA EXERCITVS – 1 standard	//SMNS	Nicomedia	HK: 1139	–
337–40	2047	11	30	4	AE3	Constans	GLORIA EXERCITVS – 1 standard	//[....]	–	–	–
337–40	2302	32	15	4	AE3	Constantius II	GLORIA EXERCITVS – 1 standard	//[....]	–	–	–
335–40	2108	32	15	4	AE3	Hse of Constantine	GLORIA EXERCITVS – 1 standard	//[....]	–	–	–
335–40	2034	91	39	6	AE3	Hse of Constantine	GLORIA EXERCITVS – 1 standard	//[....]	–	–	–
335–40	2161	91	39	6	AE4	Hse of Constantine	GLORIA EXERCITVS – 1 standard	//[....]	–	–	–
335–40	2168	91	39	6	AE3	Hse of Constantine	GLORIA EXERCITVS – 1 standard	//[....]	–	–	–
335–40	2179	91	39	6	AE3	Hse of Constantine	GLORIA EXERCITVS – 1 standard	//[....]	–	–	–
335–40	2183	91	39	6	AE3	Hse of Constantine	GLORIA EXERCITVS – 1 standard	//[....]	–	–	–
335–40	2195	91	39	6	AE3	Hse of Constantine	GLORIA EXERCITVS – 1 standard	//[....]	–	–	–
335–40	2409	91	39	6	AE3	Hse of Constantine	GLORIA EXERCITVS – 1 standard	//[....]	–	–	–
335–40	2024	93	36	5	AE3 frag	Hse of Constantine	GLORIA EXERCITVS – 1 standard	//[....]	–	–	–
330–48	2073	32	15	4	AE3 copy	as Hse of Constantine	as Gloria Exercitus – 1 standard	–	–	–	–
337–40	2105	32	15	4	AE3	DIVO CONSTANTINO	Quadrige	//[....]	–	–	–
337–40	2106	32	15	4	AE3/4	Theodora	PIETAS ROMANA	//T[.]	Trier	–	–
337–40	2149	32	15	4	AE4	Theodora	PIETAS ROMANA	//TRP palm	Trier	HK: 129	–
347–8	2419	42	30	4	AE3	Constans	VICTORIAE DD AVGG QNN – 2 victories	HR//PLG	Lyon	HK: 270	–
347–8	2174	91	39	6	AE3	Constans	VICTORIAE DD AVGG QNN – 2 victories	leaf/TRS	Trier	HK: 140	–
347–8	2042	32	15	4	AE3	Constans	VICTORIAE DD AVGG QNN – 2 victories	D/TRP	Trier	HK: 148	–

Date	RA	G	L	Phase	Denomination	Obverse	Reverse	Mint-mark	Mint	Reference	Remarks
347-8	2180	91	39	6	AE3	Constans	VICTORIAE DD AVGG QNN – 2 victories	D//TRS	Trier	HK: 148	–
347-8	2082	23	15	4	AE3	Constans	VICTORIAE DD AVGG QNN – 2 victories	D//TRP	Trier	HK: 149	–
347-8	2103	32	15	4	AE3	Constans	VICTORIAE DD AVGG QNN – 2 victories	D//TRP	Trier	HK: 150	–
347-8	2197	91	39	6	AE3	Constans	VICTORIAE DD AVGG QNN – 2 victories	D//TRP	Trier	HK: 150	–
347-8	2060	91	39	6	AE3	Constans	VICTORIAE DD AVGG QNN – 2 victories	g//TRP	Trier	HK: 154	–
347-8	2146	42	30	4	AE3	Constans	VICTORIAE DD AVGG QNN – 2 victories	palm/[.....]	–	–	–
347-8	2063	91	39	6	AE3	Constans	VICTORIAE DD AVGG QNN – 2 victories	//[.....]	–	–	–
347-8	2421	42	30	4	AE3	Hse of Constantine	VICTORIAE DD AVGG QNN – 2 victories	palm/PLG	Lyon	–	–
347-8	2219	91	39	6	AE3	Hse of Constantine	VICTORIAE DD AVGG QNN – 2 victories	palm/TRS●	Trier	–	–
347-8	2058	27	15	4	AE3	Hse of Constantine	VICTORIAE DD AVGG QNN – 2 victories	//[.....]	–	–	–
347-8	1	96	38	6	AE3	Hse of Constantine	VICTORIAE DD AVGG QNN – 2 victories	//[.....]	–	–	–
347-8	2187	91	39	6	AE4	Hse of Constantine	VICTORIAE DD AVGG QNN – 2 victories	//[.....]	–	–	–
347-8	2211	91	39	6	AE3	Hse of Constantine	VICTORIAE DD AVGG QNN – 2 victories	//[.....]	–	–	–
347-8	2037	91	39	6	AE3	Hse of Constantine	VICTORIAE DD AVGG QNN – 2 victories	//[.....]	–	–	–
348-50	2420	42	30	4	AE3	Constantius II	FEL TEMP REPARATIO – phoenix on pyre	//TRP	Trier	CK: 40	–
348-50	2048	42	30	4	AE3	Hse of Constantine	FEL TEMP REPARATIO – phoenix on pyre	//[.....]	–	–	–
350-1	2055	42	30	4	AE2	Magnentius	FELICITAS REIPVBLICE	–/A//TRSU	Trier	CK: 51	–
350-64	2067	26	15	4	AE3 copy	as Magnentius / Decentius	as Victoria DD NN Aug et Caes	–	–	–	–
350-64	2143	32	15	4	AE3 copy	as Magnentius / Decentius	as Victoria DD NN Aug et Caes	–	–	–	–
350-64	2050	91	39	6	AE3 copy	as Magnentius / Decentius	as Victoria DD NN Aug et Caes	–	–	–	–
350-64	2122	20	15	4	AE4 minim	–	as Fel Temp Reparatio – falling horseman	–	–	–	–
350-64	2232	32	15	4	AE4 copy	–	as Fel Temp Reparatio – falling horseman	–	–	–	–
350-64	2282	32	15	4	AE4 minim	–	as Fel Temp Reparatio – falling horseman	–	–	–	–
350-64	2092	45	18	4	AE4 copy	–	as Fel Temp Reparatio – falling horseman	–	–	–	–
350-64	2283	33	29	4	AE4 copy	–	as Fel Temp Reparatio – falling horseman	–	–	–	–
350-64	2468	42	30	4	AE4 copy	–	as Fel Temp Reparatio – falling horseman	–	–	–	–
350-64	2144	42	30	4	AE4 minim	–	as Fel Temp Reparatio – falling horseman	–	–	–	–
350-64	2147	42	30	4	AE4 minim	–	as Fel Temp Reparatio – falling horseman	–	–	–	–
350-64	2090	25	31	4	AE4 minim	–	as Fel Temp Reparatio – falling horseman	–	–	–	–
350-64	2405	89	40	5	AE4 minim	–	as Fel Temp Reparatio – falling horseman	–	–	–	–
350-64	2027	84	37	6	AE3 copy	–	as Fel Temp Reparatio – falling horseman	–	–	–	–
350-64	2018	91	39	6	AE3 copy	–	as Fel Temp Reparatio – falling horseman	–	–	–	–
350-64	2038	91	39	6	AE3 copy	–	as Fel Temp Reparatio – falling horseman	–	–	–	–
350-64	2109	91	39	6	AE4 minim	–	as Fel Temp Reparatio – falling horseman	–	–	–	–
350-64	2129	91	39	6	AE3 copy	–	as Fel Temp Reparatio – falling horseman	–	–	–	–
350-64	2163	91	39	6	AE4 copy	–	as Fel Temp Reparatio – falling horseman	–	–	–	–
350-64	2169	91	39	6	AE4 copy	–	as Fel Temp Reparatio – falling horseman	–	–	–	–
350-64	2170	91	39	6	AE3 copy	–	as Fel Temp Reparatio – falling horseman	–	–	–	–
350-64	2175	91	39	6	AE4 minim	–	as Fel Temp Reparatio – falling horseman	–	–	–	–
350-64	2208	91	39	6	AE3 copy	–	as Fel Temp Reparatio – falling horseman	–	–	–	–
350-64	2216	91	39	6	AE4 minim	–	as Fel Temp Reparatio – falling horseman	–	–	–	–
350-64	2020	93	36	5	AE3 copy	–	as Fel Temp Reparatio – falling horseman	–	–	–	–
350-64	2094	93	36	5	AE4 copy	–	as Fel Temp Reparatio – falling horseman	–	–	–	–
367-75	2044	11	30	4	AE3	Valens	SECVRITAS REIPVBLICAE	OF/III//CON*	Arles	CK: 523	–
367-75	2033	91	39	6	AE3	Valens	SECVRITAS REIPVBLICAE	OF/II//CON*	Arles	CK: 523	–
364-78	2204	91	39	6	AE3	Valens	SECVRITAS REIPVBLICAE	//[.....]	–	–	–
364-78	2229	91	39	6	AE3	Valens	SECVRITAS REIPVBLICAE	//[.....]	–	–	–
364-75	2173	91	39	6	AE3	Valentinian I	SECVRITAS REIPVBLICAE	//[.....]	–	–	–
375-8	2284	32	15	4	AE3	Valentinian II	SECVRITAS REIPVBLICAE	//[.....]	–	–	–
364-78	2188	91	39	6	AE3	Hse of Valentinian	SECVRITAS REIPVBLICAE	OF/II//[LVG]	Lyon	–	–
364-78	2220	91	39	6	AE3	Hse of Valentinian	SECVRITAS REIPVBLICAE	//PC[.]	Arles	–	–

364-78	2114	37	31	4	AE3	Hse of Valentinian	SECVRITAS REIPVBLICAE	OF/II//[.....]	-	-	-
364-78	2059	49	7	3	AE3	Hse of Valentinian	SECVRITAS REIPVBLICAE	//[.....]	-	-	-
364-78	2085	90	39	6	AE3	Hse of Valentinian	SECVRITAS REIPVBLICAE	//[.....]	-	-	-
364-78	2162	91	39	6	AE3	Hse of Valentinian	SECVRITAS REIPVBLICAE	//[.....]	-	-	-
364-78	2172	91	39	6	AE3	Hse of Valentinian	SECVRITAS REIPVBLICAE	//[.....]	-	-	-
364-78	2191	91	39	6	AE3	Hse of Valentinian	SECVRITAS REIPVBLICAE	//[.....]	-	-	-
364-78	2203	91	39	6	AE3	Hse of Valentinian	SECVRITAS REIPVBLICAE	//[.....]	-	-	-
364-78	2086	26	15	4	AE3 frag	Hse of Valentinian	GLORIA ROMANORVM	[..]//TCON	Arles	-	-
364-78	2031	45	18	4	AE3	Hse of Valentinian	GLORIA ROMANORVM	wreath//[.....]	-	-	-
364-78	2052	44	19	4	AE3	Hse of Valentinian	GLORIA ROMANORVM	wreath//[.....]	-	-	-
364-78	2227	90	39	6	AE3	Hse of Valentinian	GLORIA ROMANORVM	//[.....]	-	-	-
364-78	2177	91	39	6	AE3	Hse of Valentinian	GLORIA ROMANORVM	//[.....]	-	-	-
364-78	2181	91	39	6	AE3	Hse of Valentinian	GLORIA ROMANORVM	//[.....]	-	-	-
364-78	2189	91	39	6	AE3	Hse of Valentinian	GLORIA ROMANORVM	//[.....]	-	-	-
364-78	2202	91	39	6	AE3	Hse of Valentinian	GLORIA ROMANORVM	//[.....]	-	-	-
364-78	2207	91	39	6	AE3	Hse of Valentinian	GLORIA ROMANORVM	//[.....]	-	-	-
364-78	2212	91	39	6	AE3	Hse of Valentinian	GLORIA ROMANORVM	//[.....]	-	-	-
388-402	2115	37	31	4	AE4	Arcadius	VICTORIA AVGGG	//TCON	Arles	-	-
388-402	2065	91	39	6	AE4	Hse of Theodosius	VICTORIA AVGGG	//[.....]	-	-	-
388-402	2404	91	39	6	AE4	Hse of Theodosius	VICTORIA AVGGG	//[.....]	-	-	-
388-402	2226	90	39	6	AE4	Hse of Theodosius	SALVS REIPVBLICAE	//[.....]	-	-	-
395-402	2435	72	22	4	AE4	Honorius	SALVS REIPVBLICAE	//RP	Rome	-	-
388-92	2182	91	39	6	AE4	Valentinian II	Victory advancing left	//[.....]	-	-	-
388-92	2221	91	39	6	AE4	Theodosius I	Victory advancing left	//[.....]	-	-	-
late 3rd-4th C.	2265	69	16	4	AE3	illegible	illegible	-	-	-	-
late 3rd-4th C.	2051	44	19	4	AE3	illegible	illegible	-	-	-	-
late 3rd-4th C.	2315	39	27	4	AE4	illegible	illegible	-	-	-	-
late 3rd-4th C.	2137	89	40	5	AE4	illegible	illegible	-	-	-	-
late 3rd-4th C.	2016	91	39	6	AE3	illegible	illegible	-	-	-	-
late 3rd-4th C.	2035	91	39	6	AE4	illegible	illegible	-	-	-	-
late 3rd-4th C.	2062	91	39	6	AE4	illegible	illegible	-	-	-	-
late 3rd-4th C.	2083	91	39	6	AE3	illegible	illegible	-	-	-	-
late 3rd-4th C.	2089	91	39	6	AE3 frag	illegible	illegible	-	-	-	-
late 3rd-4th C.	2111	91	39	6	AE4	illegible	illegible	-	-	-	-
late 3rd-4th C.	2164	91	39	6	AE4	illegible	illegible	-	-	-	-
late 3rd-4th C.	2171	91	39	6	AE4	illegible	illegible	-	-	-	-
late 3rd-4th C.	2186	91	39	6	AE3	illegible	illegible	-	-	-	-
late 3rd-4th C.	2190	91	39	6	AE4	illegible	illegible	-	-	-	-
late 3rd-4th C.	2200	91	39	6	AE4	illegible	illegible	-	-	-	-
late 3rd-4th C.	2213	91	39	6	AE3	illegible	illegible	-	-	-	-
late 3rd-4th C.	2217	91	39	6	AE4	illegible	illegible	-	-	-	-
late 3rd-4th C.	2218	91	39	6	AE3	illegible	illegible	-	-	-	-
late 3rd-4th C.	2222	91	39	6	AE4	illegible	illegible	-	-	-	-
late 3rd-4th C.	2225	91	39	6	AE4	illegible	illegible	-	-	-	-
late 3rd-4th C.	2010	93	36	5	AE4	illegible	illegible	-	-	-	-
late 3rd-4th C.	2023	93	36	5	AE3	illegible	illegible	-	-	-	-
late 3rd-4th C.	2025	93	36	5	AE4	illegible	illegible	-	-	-	-
mid-late 4th C.	2102	89	40	5	AE4	illegible	illegible	-	-	-	-
mid-late 4th C.	2011	91	39	6	AE3	illegible	illegible	-	-	-	-
mid-late 4th C.	2199	91	39	6	AE3	illegible	illegible	-	-	-	-
16th C.	2004	90	39	6	Jetton	Rose / Orb jetton	Rose / Orb jetton	-	-	-	-

Table A4: Catalogue of coins by production date

RA	G	L	Phase	Date	Denomination	Obverse	Reverse
1	96	38	6	347–8	AE3	Hse of Constantine	VICTORIAE DD AVGG QNN – 2 victories
2	84	37	6	286–93	Radiate	CARAUSIUS	PAX AVGGG
4	84	37	6	286–93	Radiate	CARAUSIUS	SALVS AVG
5	84	37	6	286–93	Radiate	CARAUSIUS	PROVID AVG
8	32	15	4	330–5	AE3	Constantine II Caesar	GLORIA EXERCITVS – 2 standards
2004	90	39	6	16th c.	Jetton	–	Rose / Orb jetton
2010	93	36	5	late 3rd–4th C.	AE4	illegible	illegible
2011	91	39	6	mid–late 4th C.	AE3	illegible	illegible
2014	69	16	4	1st / 2nd C.	AE1	illegible	illegible
2016	91	39	6	late 3rd–4th C.	AE3	illegible	illegible
2018	91	39	6	350–64	AE3 copy	–	as Fel Temp Reparatio – falling horseman
2019	16	69	4	late 1st c.	Dupondius	Radiate (Flavian?) bust	illegible
2020	93	36	5	350–64	AE3 copy	–	as Fel Temp Reparatio – falling horseman
2021	44	19	4	260–300	Radiate?	illegible	illegible
2023	93	36	5	late 3rd–4th C.	AE3	illegible	illegible
2024	93	36	5	335–40	AE3 frag	Hse of Constantine	GLORIA EXERCITVS – 1 standard
2025	93	36	5	late 3rd–4th C.	AE4	illegible	illegible
2026	93	36	5	330–5	AE3	VRBS ROMA	Wolf and twins
2027	84	37	6	350–64	AE3 copy	–	as Fel Temp Reparatio – falling horseman
2031	45	18	4	364–78	AE3	Hse of Valentinian	GLORIA ROMANORVM
2032	91	39	6	293–6	Radiate	ALLECTUS	LAETITIA AVG (galley)
2033	91	39	6	367–75	AE3	Valens	SECVRITAS REIPVBLICAE
2034	91	39	6	335–40	AE3	Hse of Constantine	GLORIA EXERCITVS – 1 standard
2035	91	39	6	late 3rd–4th C.	AE4	illegible	illegible
2036	91	39	6	330–5	AE3	Hse of Constantine	GLORIA EXERCITVS – 2 standards
2037	91	39	6	347–8	AE3	Hse of Constantine	VICTORIAE DD AVGG QNN – 2 victories
2038	91	39	6	350–64	AE3 copy	–	as Fel Temp Reparatio – falling horseman
2042	32	15	4	347–8	AE3	Constans	VICTORIAE DD AVGG QNN – 2 victories
2044	11	30	4	367–75	AE3	Valens	SECVRITAS REIPVBLICAE
2047	11	30	4	337–40	AE3	Constans	GLORIA EXERCITVS – 1 standard
2048	42	30	4	348–50	AE3	Hse of Constantine	FEL TEMP REPARATIO – phoenix on pyre
2050	91	39	6	350–64	AE3 copy	as Magnentius / Decentius	as Victoria DD NN Aug et Caes
2051	44	19	4	late 3rd–4th C.	AE3	illegible	illegible
2052	44	19	4	364–78	AE3	Hse of Valentinian	GLORIA ROMANORVM
2055	42	30	4	350–1	AE2	Magnentius	FELICITAS REIPVBLICE
2058	27	15	4	347–8	AE3	Hse of Constantine	VICTORIAE DD AVGG QNN – 2 victories
2059	49	7	3	364–78	AE3	Hse of Valentinian	SECVRITAS REIPVBLICAE
2060	91	39	6	347–8	AE3	Constans	VICTORIAE DD AVGG QNN – 2 victories
2062	91	39	6	late 3rd–4th C.	AE4	illegible	illegible
2063	91	39	6	347–8	AE3	Constans	VICTORIAE DD AVGG QNN – 2 victories
2065	91	39	6	388–402	AE4	Hse of Theodosius	VICTORIA AVGGG
2066	91	39	6	335–7	AE3	Hse of Constantine (Caesar)	GLORIA EXERCITVS – 1 standard
2067	26	15	4	350–64	AE3 copy	as Magnentius / Decentius	as Victoria DD NN Aug et Caes
2072	85	19	4	260–90	Radiate	illegible	illegible
2073	32	15	4	330–48	AE3 copy	as Hse of Constantine	as Gloria Exercitus – 1 standard
2081	44	19	4	330–5	AE3	Hse of Constantine	GLORIA EXERCITVS – 2 standards
2082	23	15	4	347–8	AE3	Constans	VICTORIAE DD AVGG QNN – 2 victories
2083	91	39	6	late 3rd–4th C.	AE3	illegible	illegible
2085	90	39	6	364–78	AE3	Hse of Valentinian	SECVRITAS REIPVBLICAE
2086	26	15	4	364–78	AE3 frag	Hse of Valentinian	GLORIA ROMANORVM
2089	91	39	6	late 3rd–4th C.	AE3 frag	illegible	illegible
2090	25	31	4	350–64	AE4 minim	–	as Fel Temp Reparatio – falling horseman
2092	45	18	4	350–64	AE4 copy	–	as Fel Temp Reparatio – falling horseman
2094	93	36	5	350–64	AE4 copy	–	as Fel Temp Reparatio – falling horseman
2095	91	39	6	270–300	Barb Radiate	illegible	as Pax?
2097	93	36	5	330–48	AE4 copy	as Urbs Roma	as Wolf and twins
2098	19	15	4	260–300	Barb Radiate	illegible	illegible
2102	89	40	5	mid–late 4th C.	AE4	illegible	illegible
2103	32	15	4	347–8	AE3	Constans	VICTORIAE DD AVGG QNN – 2 victories
2104	32	15	4	335–7	AE3	Constantine I	GLORIA EXERCITVS – 1 standard
2105	32	15	4	337–40	AE3	DIVO CONSTANTINO	Quadriga
2106	32	15	4	337–40	AE3/4	Theodora	PIETAS ROMANA
2107	32	15	4	330–48	AE3 copy	as Constantine I	as Victory on prow
2108	32	15	4	335–40	AE3	Hse of Constantine	GLORIA EXERCITVS – 1 standard
2109	91	39	6	350–64	AE4 minim	–	as Fel Temp Reparatio – falling horseman
2110	91	39	6	260–300	Barb Radiate	illegible	illegible
2111	91	39	6	late 3rd–4th C.	AE4	illegible	illegible
2114	37	31	4	364–78	AE3	Hse of Valentinian	SECVRITAS REIPVBLICAE
2115	37	31	4	388–402	AE4	Arcadius	VICTORIA AVGGG
2116	91	39	6	330–5	AE3	VRBS ROMA	Wolf and twins
2117	61	24	4	273–300	Barb Radiate	as Tetricus I	as Sacrificial implements (Tetricus II)
2118	20	15	4	335–48	AE3 copy	as Constantine I	as Gloria Exercitus – 2 standards
2119	21	14	4	335–7	AE3	Constantine I	GLORIA EXERCITVS – 1 standard
2121	37	31	4	324–5	AE2	Constantine I	PROVIDENTIAE AUGG
2122	20	15	4	350–64	AE4 minim	–	as Fel Temp Reparatio – falling horseman
2123	61	24	4	260–290	Radiate	illegible	illegible
2127	37	31	4	260–300	Barb Radiate	illegible	illegible
2128	91	39	6	325–6	AE2	Constantine I	PROVIDENTIAE AUGG

RA	G	L	Phase	Date	Denomination	Obverse	Reverse
2129	91	39	6	350–64	AE3 copy	–	as Fel Temp Reparatio – falling horseman
2131	42	30	4	330–48	AE3 copy	as Constantine I	as Victory on prow
2132	32	15	4	318–24	AE3	Hse of Constantine	BEATA TRANQVILLITAS
2133	15	10	3	270–300	Barb Radiate	as Tetricus I	as Pax
2136	32	15	4	324–5	AE2	Constantine II Caesar	PROVIDENTIAE CAESS
2137	89	40	5	late 3rd–4th C.	AE4	illegible	illegible
2138	89	40	5	330–5	AE3	Constantius II Caesar	GLORIA EXERCITVS – 2 standards
2140	32	15	4	330–5	AE3	Constantine II Caesar	GLORIA EXERCITVS – 2 standards
2142	33	29	4	268–300	Barb Radiate	as Claudius II	as Salus?
2143	32	15	4	350–64	AE3 copy	as Magnentius / Decentius	as Victoria DD NN Aug et Caes
2144	42	30	4	350–64	AE4 minim	–	as Fel Temp Reparatio – falling horseman
2145	42	30	4	260–300	Barb Radiate	illegible	illegible
2146	42	30	4	347–8	AE3	Constans	VICTORIAE DD AVGG QNN – 2 victories
2147	42	30	4	350–64	AE4 minim	–	as Fel Temp Reparatio – falling horseman
2149	32	15	4	337–40	AE4	Theodora	PIETAS ROMANA
2153	81	15	4	273–300	Barb Radiate	as Tetricus II	illegible
2154	90	39	6	330–5	AE3	Constantius II Caesar	GLORIA EXERCITVS – 2 standards
2155	90	39	6	330–48	AE4 copy	as Urbs Roma	as Wolf and twins
2161	91	39	6	335–40	AE4	Hse of Constantine	GLORIA EXERCITVS – 1 standard
2162	91	39	6	364–78	AE3	Hse of Valentinian	SECVRITAS REIPVBLICAE
2163	91	39	6	350–64	AE4 copy	–	as Fel Temp Reparatio – falling horseman
2164	91	39	6	late 3rd–4th C.	AE4	illegible	illegible
2165	91	39	6	330–5	AE4	VRBS ROMA	Wolf and twins
2166	91	39	6	310	AE3	Constantine I	SOLI INVICTO COMITI
2167	91	39	6	335–48	AE3 copy	as Hse of Constantine	as Gloria Exercitus – 2 standards
2168	91	39	6	335–40	AE3	Hse of Constantine	GLORIA EXERCITVS – 1 standard
2169	91	39	6	350–64	AE4 copy	–	as Fel Temp Reparatio – falling horseman
2170	91	39	6	350–64	AE3 copy	–	as Fel Temp Reparatio – falling horseman
2171	91	39	6	late 3rd–4th C.	AE4	illegible	illegible
2172	91	39	6	364–78	AE3	Hse of Valentinian	SECVRITAS REIPVBLICAE
2173	91	39	6	364–75	AE3	Valentinian I	SECVRITAS REIPVBLICAE
2174	91	39	6	347–8	AE3	Constans	VICTORIAE DD AVGG QNN – 2 victories
2175	91	39	6	350–64	AE4 minim	–	as Fel Temp Reparatio – falling horseman
2176	91	39	6	330–5	AE3	CONSTANTINOPOLIS	Victory on Prow
2177	91	39	6	364–78	AE3	Hse of Valentinian	GLORIA ROMANORVM
2178	91	39	6	260–300	Barb Radiate	illegible	illegible
2179	91	39	6	335–40	AE3	Hse of Constantine	GLORIA EXERCITVS – 1 standard
2180	91	39	6	347–8	AE3	Constans	VICTORIAE DD AVGG QNN – 2 victories
2181	91	39	6	364–78	AE3	Hse of Valentinian	GLORIA ROMANORVM
2182	91	39	6	388–92	AE4	Valentinian II	Victory advancing left
2183	91	39	6	335–40	AE3	Hse of Constantine	GLORIA EXERCITVS – 1 standard
2184	91	39	6	268–300	Barb Radiate	as Claudius II	illegible
2185	91	39	6	318–24	AE3	Hse of Constantine	BEATA TRANQVILLITAS
2186	91	39	6	late 3rd–4th C.	AE3	illegible	illegible
2187	91	39	6	347–8	AE4	Hse of Constantine	VICTORIAE DD AVGG QNN – 2 victories
2188	91	39	6	364–78	AE3	Hse of Valentinian	SECVRITAS REIPVBLICAE
2189	91	39	6	364–78	AE3	Hse of Valentinian	GLORIA ROMANORVM
2190	91	39	6	late 3rd–4th C.	AE4	illegible	illegible
2191	91	39	6	364–78	AE3	Hse of Valentinian	SECVRITAS REIPVBLICAE
2192	91	39	6	330–5	AE3	CONSTANTINOPOLIS	Victory on Prow
2193	39	91	6	268–70	Radiate	VICTORINUS	Sol running left
2194	91	39	6	330–48	AE4 copy	as Urbs Roma	as Wolf and twins
2195	91	39	6	335–40	AE3	Hse of Constantine	GLORIA EXERCITVS – 1 standard
2196	91	39	6	260–300	Barb Radiate	as Gallienus	illegible
2197	91	39	6	347–8	AE3	Constans	VICTORIAE DD AVGG QNN – 2 victories
2198	91	39	6	330–5	AE3	Hse of Constantine	GLORIA EXERCITVS – 2 standards
2199	91	39	6	mid–late 4th C.	AE3	illegible	illegible
2200	91	39	6	late 3rd–4th C.	AE4	illegible	illegible
2201	91	39	6	330–5	AE3	VRBS ROMA	Wolf and twins
2202	91	39	6	364–78	AE3	Hse of Valentinian	GLORIA ROMANORVM
2203	91	39	6	364–78	AE3	Hse of Valentinian	SECVRITAS REIPVBLICAE
2204	91	39	6	364–78	AE3	Valens	SECVRITAS REIPVBLICAE
2205	91	39	6	286–93	Radiate	CARAUSIUS	HILARITAS AVG
2206	91	39	6	mid–2nd C.	AE1	FAUSTINA II?	uncertain
2207	91	39	6	364–78	AE3	Hse of Valentinian	GLORIA ROMANORVM
2208	91	39	6	350–64	AE3 copy	–	as Fel Temp Reparatio – falling horseman
2209	91	39	6	268–70	Radiate	CLAUDIUS II	Virtus?
2210	91	39	6	286–93	Radiate	CARAUSIUS	Pax
2211	91	39	6	347–8	AE3	Hse of Constantine	VICTORIAE DD AVGG QNN – 2 victories
2212	91	39	6	364–78	AE3	Hse of Valentinian	GLORIA ROMANORVM
2213	91	39	6	late 3rd–4th C.	AE3	illegible	illegible
2214	91	39	6	1st / 2nd C.	cut AE1	illegible	uncertain type – S [C]
2215	91	39	6	330–5	AE3 frag	VRBS ROMA	Wolf and twins
2216	91	39	6	350–64	AE4 minim	–	as Fel Temp Reparatio – falling horseman
2217	91	39	6	late 3rd–4th C.	AE4	illegible	illegible
2218	91	39	6	late 3rd–4th C.	AE3	illegible	illegible
2219	91	39	6	347–8	AE3	Hse of Constantine	VICTORIAE DD AVGG QNN – 2 victories
2220	91	39	6	364–78	AE3	Hse of Valentinian	SECVRITAS REIPVBLICAE

RA	G	L	Phase	Date	Denomination	Obverse	Reverse
2221	91	39	6	388–92	AE4	Theodosius I	Victory advancing left
2222	91	39	6	late 3rd–4th C.	AE4	illegible	illegible
2225	91	39	6	late 3rd–4th C.	AE4	illegible	illegible
2226	90	39	6	388–402	AE4	Hse of Theodosius	SALVS REIPVBLICAE
2227	90	39	6	364–78	AE3	Hse of Valentinian	GLORIA ROMANORVM
2228	91	39	6	335–7	AE3	Constantius II Caesar	GLORIA EXERCITVS – 1 standard
2229	91	39	6	364–78	AE3	Valens	SECVRITAS REIPVBLICAE
2232	32	15	4	350–64	AE4 copy	–	as Fel Temp Reparatio – falling horseman
2248	69	16	4	260–300	Barb Radiate	illegible	illegible
2249	69	16	4	318–24	AE3	Hse of Constantine	VICTORIA LAETAE PRINC PERP
2265	69	16	4	late 3rd–4th C.	AE3	illegible	illegible
2282	32	15	4	350–64	AE4 minim	–	as Fel Temp Reparatio – falling horseman
2283	33	29	4	350–64	AE4 copy	–	as Fel Temp Reparatio – falling horseman
2284	32	15	4	375–8	AE3	Valentinian II	SECVRITAS REIPVBLICAE
2302	32	15	4	337–40	AE3	Constantius II	GLORIA EXERCITVS – 1 standard
2315	39	27	4	late 3rd–4th C.	AE4	illegible	illegible
2317	25	31	4	330–5	AE3	Constantius II Caesar	GLORIA EXERCITVS – 2 standards
2400	32	15	4	270–4	Radiate	TETRICUS I	Hilaritas?
2404	91	39	6	388–402	AE4	Hse of Theodosius	VICTORIA AVGGG
2405	89	40	5	350–64	AE4 minim	–	as Fel Temp Reparatio – falling horseman
2409	91	39	6	335–40	AE3	Hse of Constantine	GLORIA EXERCITVS – 1 standard
2410	91	39	6	268–74	Radiate	VICTORINUS / TETRICUS I	illegible
2411	90	39	6	330–5	AE3	VRBS ROMA	Wolf and twins
2412	91	39	6	335–48	AE4 copy	as Hse of Constantine	as Gloria Exercitus – 2 standards
2419	42	30	4	347–8	AE3	Constans	VICTORIAE DD AVGG QNN – 2 victories
2420	42	30	4	348–50	AE3	Constantius II	FEL TEMP REPARATIO – phoenix on pyre
2421	42	30	4	347–8	AE3	Hse of Constantine	VICTORIAE DD AVGG QNN – 2 victories
2422	42	30	4	330–5	AE3	VRBS ROMA	Wolf and twins
2424	39	27	4	268–74	Radiate	VICTORINUS / TETRICUS I	Pax / Salus
2425	39	27	4	260–90	Radiate	illegible	illegible
2426	11	30	4	268–300	Barb Radiate	as Victorinus	as Fides
2435	72	22	4	395–402	AE4	Honorius	SALVS REIPVBLICAE
2462	75	26	4	231	Denarius copy	as Alexander Severus	as Mars Ultor
2467	27	15	4	273–4	Radiate	TETRICUS I	LAETITIA AVGG
2468	42	30	4	350–64	AE4 copy	–	as Fel Temp Reparatio – falling horseman

Table A5: Catalogue of coins by Registered Artefact (RA) number

Phase	L	G	Feature type	Denomination	Date	RA
3	7	49.5	Layer	AE3	364–78	2059
	10	15.3	Ditches	Barb Radiate	270–300	2133
4	14	21.5		AE3	335–7	2119
	15	19.5	Barb Radiate	260–300	2098	
		20.5	AE3 copy	335–48	2118	
			AE4 minim	350–64	2122	
		23.5	AE3	347–8	2082	
		26.5	AE3 copy	350–64	2067	
			AE3 frag	364–78	2086	
		27.5	AE3	347–8	2058	
			Radiate	273–4	2467	
		32.1	Radiate	270–4	2400	
		32.2	AE3	330–5	8	
			AE4 copy	350–64	2232	
			AE4 minim	350–64	2282	
			AE3	347–8	2103	
			AE3	335–7	2104	
			AE3	337–40	2105	
			AE3/4	337–40	2106	
			AE3 copy	330–48	2107	
			AE3	335–40	2108	
		AE3	337–40	2302		
		AE3	347–8	2042		
		AE4	337–40	2149		
		AE3	318–24	2132		
		AE3 copy	330–48	2073		
		32.5	AE2	324–5	2136	
	AE3		330–5	2140		
	AE3 copy		350–64	2143		
	AE3		375–8	2284		
	81.2		Barb Radiate	273–300	2153	
16	69	Grave SG184	AE1	1st / 2nd c.	2014	
		Grave SG179	Dupondius	late 1st c.	2019	
		Grave SG178	Barb Radiate	260–300	2248	
			AE3	318–24	2249	
			AE3	late 3rd–4th c.	2265	
18	45.5	Pits	AE3	364–78	2031	
			AE4 copy	350–64	2092	
19	44.1	Pit	Radiate?	260–300	2021	
			AE3	330–5	2081	
	44.4	Pit	AE3	late 3rd–4th c.	2051	
			AE3	364–78	2052	
	85	Pit	Radiate	260–290	2072	
	22	72	Grave SG190	AE4	395–402	2435
24	61.5	Pits	Barb Radiate	273–300	2117	
			Radiate	260–290	2123	
26	75	Grave SG200	Denarius copy	231	2462	
27	39.2	Ditches	AE4	late 3rd–4th c.	2315	
	39.5		Radiate	268–74	2424	
			Radiate	260–90	2425	
4	29	33.5	Ditches	Barb Radiate	268–300	2142

Phase	L	G	Feature type	Denomination	Date	RA			
	30	11.2	Pits	AE4 copy	350–64	2283			
				Barb Radiate	268–300	2426			
				AE3	367–75	2044			
				AE3	337–40	2047			
		42.2	Quarry pits	AE3	347–8	2146			
				AE4 copy	350–64	2468			
				42.3	AE4 minim	350–64	2144		
					Barb Radiate	260–300	2145		
		AE3	348–50		2048				
		AE2	350–1		2055				
				AE3 copy	330–48	2131			
				AE4 minim	350–64	2147			
				AE3	347–8	2419			
				AE3	348–50	2420			
				AE3	347–8	2421			
				AE3	330–35	2422			
	31			25.5	Ditches	AE3	330–5	2317	
						AE4 minim	350–64	2090	
		37.3	Barb Radiate	260–300		2127			
			AE3	364–78		2114			
			AE4	388–402		2115			
			AE2	324–5		2121			
	5	36	93	Furrows	AE4	late 3rd–4th c.	2010		
					AE3 copy	350–64	2020		
					AE3	late 3rd–4th c.	2023		
					AE3 frag	335–40	2024		
AE4					late 3rd–4th c.	2025			
AE3					330–35	2026			
AE4 copy					350–64	2094			
AE4 copy					330–48	2097			
40					89.5	AE4	mid–late 4th c.	2102	
						AE4	late 3rd–4th c.	2137	
						AE3	330–5	2138	
						AE4 minim	350–64	2405	
		6	37	84.5		Modern silage pit	Radiate	286–93	2
							Radiate	286–93	4
Radiate					286–93		5		
AE3 copy					350–64		2027		
38			96.5	Modern ditch	AE3	347–8	1		
39			90	Topsoil	Jetton	16th c.	2004		
	AE3				364–78	2085			
	AE3				330–5	2154			
	AE4 copy	330–48			2155				
	AE4	388–402			2226				
	AE3	364–78			2227				
	AE3	330–35			2411				
	91	Subsoil			AE3	mid–late 4th c.	2011		
					AE3	late 3rd–4th c.	2016		
					AE3 copy	350–64	2018		
					Radiate	293–6	2032		
					AE3	367–75	2033		

Phase	L	G	Feature type	Denomination	Date	RA
				AE3	335–40	2034
				AE4	late 3rd–4th c.	2035
				AE3	330–5	2036
				AE3	347–8	2037
				AE3 copy	350–64	2038
				AE3 copy	350–64	2050
				AE3	347–8	2060
				AE4	late 3rd–4th c.	2062
				AE3	347–8	2063
				AE4	388–402	2065
				AE3	335–7	2066
				AE3	late 3rd–4th c.	2083
				AE3 frag	late 3rd–4th c.	2089
				Barb Radiate	270–300	2095
				AE4 minim	350–64	2109
				Barb Radiate	260–300	2110
				AE4	late 3rd–4th c.	2111
				AE3	330–35	2116
				AE2	325–6	2128
				AE3 copy	350–64	2129
				AE4	335–40	2161
				AE3	364–78	2162
				AE4 copy	350–64	2163
				AE4	late 3rd–4th c.	2164
				AE4	330–35	2165
				AE3	310	2166
				AE3 copy	335–48	2167
				AE3	335–40	2168
				AE4 copy	350–64	2169
				AE3 copy	350–64	2170
				AE4	late 3rd–4th c.	2171
				AE3	364–78	2172
				AE3	364–75	2173
				AE3	347–8	2174
				AE4 minim	350–64	2175
				AE3	330–35	2176
				AE3	364–78	2177
				Barb Radiate	260–300	2178
				AE3	335–40	2179
				AE3	347–8	2180
				AE3	364–78	2181
				AE4	388–92	2182
				AE3	335–40	2183
				Barb Radiate	268–300	2184
				AE3	318–24	2185
				AE3	late 3rd–4th c.	2186
				AE4	347–8	2187
				AE3	364–78	2188
				AE3	364–78	2189
				AE4	late 3rd–4th c.	2190
				AE3	364–78	2191

Phase	L	G	Feature type	Denomination	Date	RA
				AE3	330–35	2192
				Radiate	268–70	2193
				AE4 copy	330–48	2194
				AE3	335–40	2195
				Barb Radiate	260–300	2196
				AE3	347–8	2197
				AE3	330–5	2198
				AE3	mid–late 4th c.	2199
				AE4	late 3rd–4th c.	2200
				AE3	330–35	2201
				AE3	364–78	2202
				AE3	364–78	2203
				AE3	364–78	2204
				Radiate	286–93	2205
				AE1	mid 2nd c.	2206
				AE3	364–78	2207
				AE3 copy	350–64	2208
				Radiate	268–70	2209
				Radiate	286–93	2210
				AE3	347–8	2211
				AE3	364–78	2212
				AE3	late 3rd–4th c.	2213
				cut AE1	1st / 2nd c.	2214
				AE3 frag	330–35	2215
				AE4 minim	350–64	2216
				AE4	late 3rd–4th c.	2217
				AE3	late 3rd–4th c.	2218
				AE3	347–8	2219
				AE3	364–78	2220
				AE4	388–92	2221
				AE4	late 3rd–4th c.	2222
				AE4	late 3rd–4th c.	2225
				AE3	335–7	2228
				AE3	364–78	2229
				AE4	388–402	2404
				AE3	335–40	2409
				Radiate	268–74	2410
				AE4 copy	335–48	2412

Table A6: Catalogue of coins by Phase, Land-use area and Group

Appendix V

Photographic catalogue of inhumations

Compiled by Iain Leslie



SG157



SG158



SG159



SG160



SG161



SG162



SG163



SG164



SG165



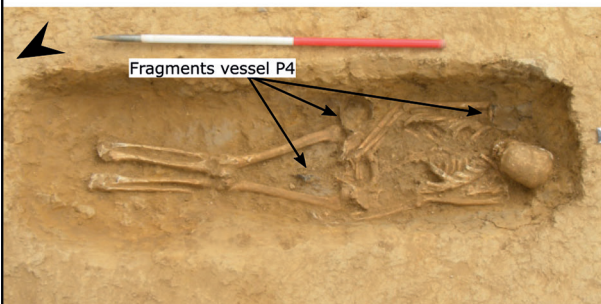
SG166

Empty Grave

SG167



SG169



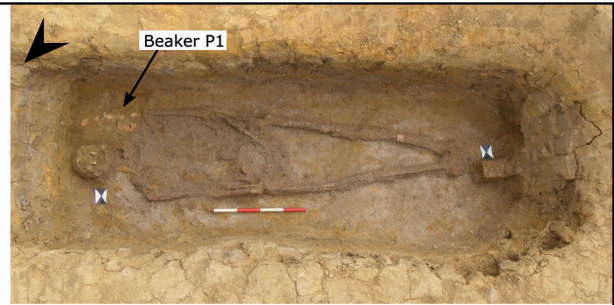
SG171



SG173



SG175



SG168



SG170



SG172



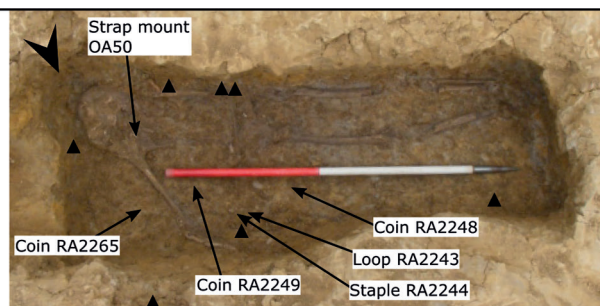
SG174



SG176



SG177



SG178



SG179



SG180



SG181



SG182



SG183



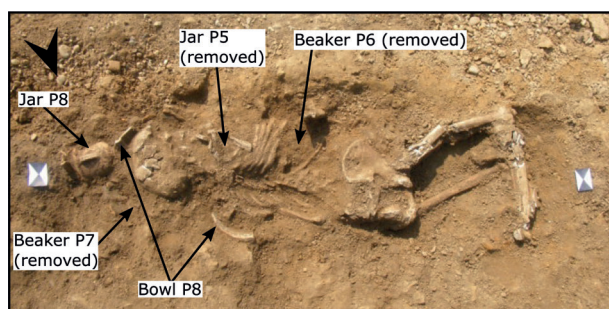
SG184



SG185



SG186



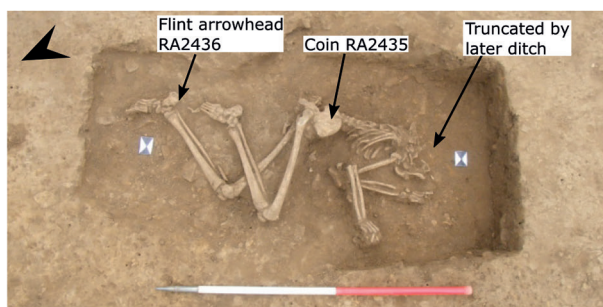
SG187



SG188



SG189



SG190



SG191



SG192



SG193



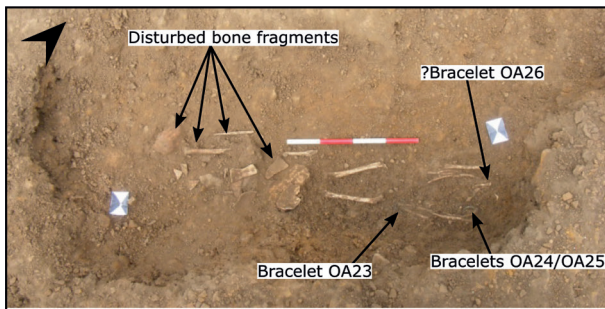
SG195



SG196



SG197



SG198



SG199



SG200



SG201



SG202



SG217



SG218

Appendix VI

Human remains catalogue

Corinne Dubig

SG	G	L	Feature type	Preservation	Sex by skeleton	Age range	Mean age	Stature	Pathologies	Comments
8.4	72	22	Ditch	P partial skull juvenile	N/A	12–18	15	N/A	Malformed L max 7 with extra cusp, 8 is very small	Possibly associated with nearby inhumation SG190
48.2	34.2	15	Ditch	VP one proximal hand phalanx only	N/D	adult	adult	N/D	–	Probably associated with inhumation SG186, which was dug into this ditch
157	68	16	Grave	P partial skeleton	N/D	18–25	21.5	N/D	Dental caries	–
158	68	16	Grave	P partial skeleton	N/A	12–15 (child–adol)	13.5	N/D	–	?burnt or Fe staining (red and some black on surface)
159	68	16	Grave	P partial skeleton	N/D	25–35	30	N/D	?parafunctional wear	?burnt or Fe staining (red and some black on surface)
160	68	16	Grave	P partial skeleton	N/D	25–35	30	N/D	–	–
161	68	16	Grave	P partial skeleton; abraded	?F	18–20	19	N/D	a/m tooth loss of L mand 6; dental caries; hypoplastic lines on teeth; cribra stage 2	–
162	68	16	Grave	P partial skeleton	?F	adult	adult	N/D	–	–
163	68	16	Grave	P partial skeleton	?M	18–25	21.5	N/D	–	–
164	68	16	Grave	P partial skeleton	N/D	35–45	40	N/D	–	–
165	68	16	Grave	F partial skeleton	M	25–30	27.5	N/D	Schmorl's node on L; TMJ disease	Badly eroded and stained
			Fill	fragments and two teeth	–	–	–	–	Two teeth compatible with SG165	–
166	68	16	Grave	VP mainly limb and skull frags; 23 teeth	N/A	5–9	7.5	N/A	–	–
168	68	16	Grave	P partial skeleton	N/D	adol–adult	adol–adult	N/D	–	–
169	68	16	Grave	F partial skeleton	?F	18–25	21.5	N/D	–	–
			Fill	fragments	–	–	–	–	–	–
170	68	16	Grave	F partial skeleton	F	18	18	N/D	a/m tooth loss of L mand 4–6; dental caries; supernumerary cusp on L mand 8; PAS GP form (pregnancy)	–
			Fill	–	–	–	–	–	–	T arch compatible with SG170
171	68	16	Grave	F partial skeleton	M	30–35	32.5	N/D	Rotation of R mand 7; a/m tooth loss of L mand 6 and R mand 6 and 8; dental caries	–
172	68	16	Grave	F partial skeleton	M	40–45	42.5	174.7 cm ± 3.27 cm (5' 8 3/4" ± 1 1/4")	a/m tooth loss of at least 5 mandibular teeth; dental caries; cribra stage 3; S1 osteoarthritis (verts too eroded to estimate)	–
173	69	16	Grave	P partial skeleton	N/D	25–35	30	N/D	dental caries	–
174	69	16	Grave	VP partial bones	N/D	N/D	N/D	N/D	–	–

175	69	16	Grave	F partial skeleton	M	18–25	21.5	N/D	a/m tooth loss of L max 3–5; shovelled upper incisors; malformed L max 8 with 'doubled' crown and 5 roots fused into 4; # and infected humerus; deformed R talus and navicular/cuboid > ?congenital or trauma	–
176	69	16	Grave	P partial skeleton	N/D	probably adult	probably adult	N/D	–	–
177	69	16	Grave	VP partial skeleton	?M	adol–adult	adol–adult	N/D	Metopism	–
178	69	16	Grave Fill	F partial skeleton many fragments including R temporal	F	18	18	N/D	Metopism; large PAS GP form (pregnancy)	–
179	69	16	Grave	soil sample; long-bone and skull fragments including both petrous bones; no duplication; one molar	?M	40+	40+	N/D	R temporal compatible with SG178	–
180	69	16	Grave	P partial skeleton	N/D	40–45	42.5	N/D	?a/m tooth loss; severe calculus	–
181	69	16	Grave	P partial skeleton	?F	adult	adult	N/D	a/m tooth loss of 3–4 mandibular anterior teeth	–
182	69	16	Grave	P partial skeleton	N/D	25–35	30	N/D	L fem fovea lipped >?o/a	–
183	69	16	Grave	VP partial leg and arms; abraded	N/D	adol–adult	adol–adult	N/D	Dental caries	–
184	69	16	Grave	VP partial skeleton	N/D	18–25	21.5	N/D	?congenital absence of L mand 8	–
185	70	17	Grave	P partial skeleton	N/D	25–35	30	N/D	–	–
185	70	17	Fill	fragments and three teeth	–	–	–	–	Three teeth compatible with SG185	–
186	70	17	Grave	F partial skeleton	?M	30–35	32.5	–	a/m tooth loss of L mand 6 and R mand 6–7; dental caries, abscesses; septal aperture L hum; Schmorl's nodes on T10–S1	–
187	71	19	Grave	G partial skeleton	M	30–35	32.5	169.9 cm $\pm$ 3.27 cm (5' 7" $\pm$ 1 1/4")	Dental caries; ?congenital absence of R max 8 and retained mand es; healed cribra; Schmorl's nodes T4–L5 esp severe T9	–
188	72	22	Grave	F partial skeleton, headless	M	27–66	46.5	N/D	L fem spur on neck and less trochanter; R fem spur on less trochanter; L tib and fib # with loss of length c. 4 cm (but clean healing), fusion of shafts in 'natural splinting'; lowest L and sacrum lipping and cysts > o/a; L6 present	Supine; head end of grave disturbed
189	73	22	Grave	F partial skeleton no cranium	N/D	adult	adult	IF M 158.7 cm $\pm$ 2.52 cm (5' 2 1/2" $\pm$ 1/2") IF F 154.6 cm $\pm$ 3.66 cm (5' 1" $\pm$ 1.5")	a/m tooth loss of R mand 7; caries R mand 8; humeri, bicipital grooves very deep > heavy muscle use; T12–L1 Schmorl's nodes	Five upper teeth present although cranium absent; buried complete and cranium removed later; prone
190	72	22	Grave	P partial skeleton, headless	N/A	16–17	16.5	N/A	?bifid sacral arch; evulsed tubercle of R mt5; infection R dpl	Semi-flexed on L, upper spine disturbed and C1–3 missing with skull
191	72	22	Grave	G partial skeleton including part mandible but no cranium	F	18–25	21.5	161.2 cm $\pm$ 3.55 cm (5' 3 1/2" $\pm$ 1 1/2")	Schmorl's nodes in Ts and Ls; transitional T12; spurs at superior tibio-fibular joint; scooped wear on molar	Age from pubic symphysis 26–70 but no other signs of advanced age in skeleton; two upper teeth present although cranium absent; buried complete and cranium removed later; prone
192	73	22	Grave	VG partial skeleton	M	18–25	21.5	170.5 cm $\pm$ 2.99 cm (5' 7" $\pm$ 1 1/5")	Metopic; ossicle at lambda	–
193	73	22	Grave	F partial skeleton	F	17	17	N/D	a/m tooth loss of L max 1; absence of 8s > prob congenital; Schmorl's nodes in Ls esp L1	–
195	88	22	Grave	P partial skeleton	N/A	neonate	neonate	N/A	–	–

SG	G	L	Feature type	Preservation	Sex by skeleton	Age range	Mean age	Stature	Pathologies	Comments
196	75	26	Grave	VG partial skeleton	?M	25	25	173.0 cm $\pm$ 2.99 cm (5' 8" $\pm$ 1 1/5")	a/m tooth loss of R max 6; dental caries; supernumerary mandibular incisor; S1 partial lumbarisation	–
197	75	26	Grave	VG partial skeleton	M	25–30	27.5	173.4 cm $\pm$ 2.99 cm (5' 8 1/4" $\pm$ 1 1/5")	Metopism; S1 lumbarised on R; lipping on T6–L2, L4 (esp T8–11); Schmorl's nodes T5–L2, L4	–
198	76	23	Grave	P partial skeleton; Ca staining on R radius/ulna and some ribs	N/A	3–5	4	N/A	?cribra	–
199	76	23	Grave	VG partial skeleton	F	25–29	27	154.4 cm $\pm$ 3.55 cm (5' 3/4" $\pm$ 1.5")	#Lmc2; PAS GP form (pregnancy)	?ethnicity: prognathism and overjet, slight dullness of inferior nasal border
200	75	26	Grave	F partial skeleton	M	25–35	30	167.3 cm $\pm$ 3.27 cm (5' 6" $\pm$ 1 1/4")	a/m tooth loss of L max 3; osteoarthritis in spine and shoulder joint; Schmorl's nodes in Ts; two fused vertebrae (?cause); healed cribra	Very robust, signs of heavy muscle use on arms and legs
201	77	25	Grave	F partial skeleton	M	adult	adult	179.8 cm $\pm$ 2.99 cm (5' 10 3/4" $\pm$ 1 1/5")	–	–
202	77	25	Grave	VG partial skeleton	M	20–30	25	174.9 cm $\pm$ 2.99 cm (5' 9" $\pm$ 1 1/5")	T8–11, L3–5 lipping; T6–12 Schmorl's nodes; L4 and 5 spondylolysis; R shoulder o/s; hand phalanges lipped > activity; patellae spiculated	–
217	69	16	Grave	P fragments and 10 teeth	N/A	1y 4m–2y 8m	2	N/A	–	–
218	69	16	Grave	VP limb bone fragments	N/D	adol–adult	adol–adult	N/D	–	–

Preservation: VG = very good, G = good, F = fair, P = poor, VP = very poor
Sex: F = female, ?F = possible female, M = male, ?M = possible male
Age: adol = adolescent

Table A7: Skeletal information — inhumations (Phase 4)

SG	G	L	Weight (g)	Sex	Age range	Comments
127	48	7	4	N/D	adolescent–adult	Mixed colours of bone, and black within trabecular bone, indicate variable access to combustion requirements (heat, air and time), collapse of pyre, elements dropping out of pyre, deliberate movement of body or stirring of pyre
117	54	13	105	N/D	adolescent–adult	–
126	47	7	15	N/D	adult	–
133	83	32	1,300	N/D	adolescent–adult	–

Table A8: Skeletal information — cremated bone (Phase 3)

Appendix VII

Community engagement

Mike Luke

Introduction

When construction work is underway, opportunities for communities to engage with archaeological investigations are often difficult to arrange. Although not a requirement of the Higham Road Project Design, we were fortunate that our client (David Wilson Homes (South Midlands)) and their archaeological consultant, Simon Mortimer of CgMs Heritage (part of RPS), were supportive of the idea. It was also opportune that there was a gap between completion of the archaeological fieldwork and the commencement of construction works — thus making the site safe for the general public to visit.

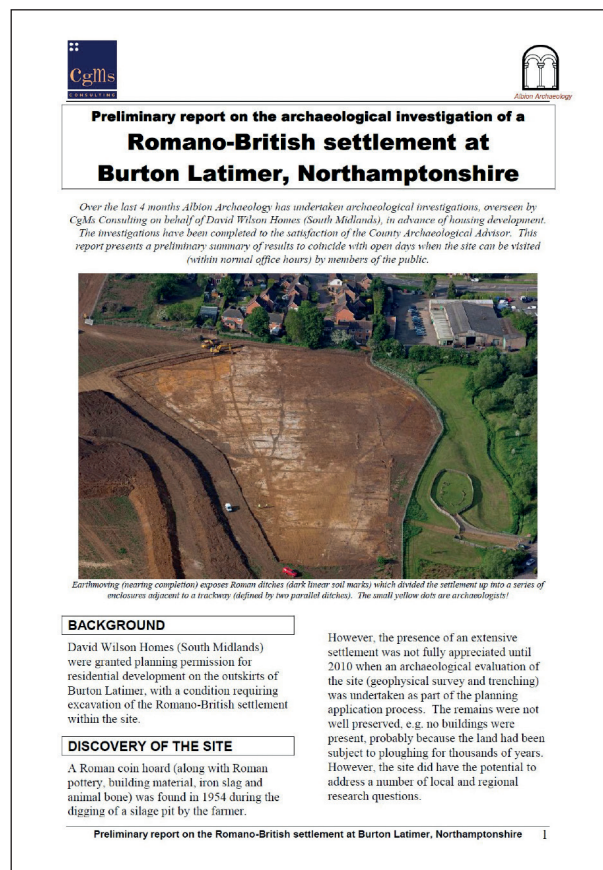
As community engagement is still not the ‘norm’ for developer-funded archaeological investigations, it seems appropriate to briefly record what happened at Higham Road. There were four main strands, all of which took place in what effectively became the final week of fieldwork: circulation of a preliminary report; visits to two local schools by Albion Archaeology staff; visits to the site by local schoolchildren; and public site tours. Risk assessments and considerable liaison with the participants were necessary in advance of the site visits and tours.

The success of the community engagement strategy is evidenced by the constructive feedback from visitors and school teachers, along with the positive comments in the visitor book. In addition, the Burton Latimer Heritage Society requested and received follow-up talks, open for all to attend, on the results of the investigations.

Preliminary report

This report was produced to coincide with the community engagement week. It was circulated by e-mail to all known interested parties, including the Burton Latimer Heritage

Society (for wider distribution from their Heritage Museum), local schools and the Archaeological Officer at Northamptonshire County Council. In addition, it was also delivered by hand to the residents living in nearby streets with an invitation to take part in the site tours.



Archaeologists visited local schools



Albion Archaeology staff visited the town's two primary schools — St Mary's CE Primary Academy and Meadowside Primary School — to talk about archaeology in general and the discoveries at Higham Road. The pupils were also briefed on their upcoming visits to the site. Classroom sessions provided an opportunity for the pupils to handle some of the finds.

Schoolchildren visited the site

Around 360 pupils from the two schools visited the site over a two-day period. They had a tour of the site and talked to archaeologists doing their work; some also got to wear yellow hi-vis vests and hard hats.

The children's responses were very positive, and comments from those at Meadowside Primary School included:



‘It was great; we got to see graves, dead Roman skeletons and Roman coins.’

‘It was very exciting, some of the artefacts I couldn’t believe they had found, it was an amazing adventure, I want to go again!’



‘My favourite part was looking in the graves.’
The staff were equally enthusiastic:



‘It was the most incredible and exciting trip ever; especially as we have been learning about the Romans. History came alive today!’; and

‘It was really interesting to talk to archaeologists’
(Letter of thanks, dated 03.08.2011)



Site tours

For three days (within working hours) the site was open for members of the public to visit. They were given a tour of the site by professional archaeologists, who explained how and why the investigations had taken place, and what had been found. There was also a display of finds and photographs.

There were over 300 visitors — a considerable number, given that the visits had only been advertised within Burton Latimer and were only on weekdays. Due to the visitor numbers, multiple tours were undertaken concurrently.



A bespoke tour was given for local Councillors and members of the town’s Heritage Society.

Appendix VIII

Non-ceramic artefacts from the Bungalow excavation

Holly Duncan

Forty-two items were recovered from the Bungalow excavation, of which eight derived from medieval plough furrows and modern topsoil (three nails, two hobnails, a modern milk bottle, a lead offcut and a flint flake). This appendix briefly discusses the thirty-four items which were found in Romano-British deposits, all assigned to Phase 4 (late 3rd to late 4th century). Three Land-use areas produced 'other artefacts': ladder enclosure system L15, enclosure L29 and quarrying to the south-west of L34.

The 'other artefacts' from L15 were recovered from the enclosure ditch to the east. The modest assemblage comprises three hobnails, lengths of circular-sectioned (1.2mm diameter) iron wire (which, given their good condition, may be modern and hence intrusive) and two small fragments of *opus signinum* weighing 2g. The assemblage from quarrying in activity focus L34 is equally modest — two flat-headed nails, equating with Manning's type 1b general purpose nail (Manning 1985, 134–7), and part of a perforated iron strip with squared end, perhaps part of a hinge or binding.

The assemblage from enclosure L29 derived from enclosure ditches G103 and G101, a gully which may have served as a drain around building G119.

Group	Material	Find type	Quantity
101	Mortar	Plaster/mortar	7.6g
	Iron	Nail	2
	Iron	Hobnail	2
	Iron	Fragment	1
	Copper alloy	Coin	2
103	Iron	Nail	3
	Iron	Staple	1
	Copper alloy	Vessel repair patch	1
	Glass	Flask	1
	Lead alloy	Waste/run-off	5.3g
	Copper alloy	Coin	3
	Copper alloy	Harness mount	1
	Glass/carnelian?	Finger ring setting	1
	Copper alloy	Strip fragment	1
	Lead alloy	Perforated strip fragment	1

Table A9: 'Other artefacts' from L29 in the Bungalow excavation

Gully G101 contained two radiate coins, in addition to meagre quantities of plaster/mortar, nails, hobnails and a possible knife/shears blade fragment. Only one of the coins is legible; it appears to be a coin of Victorinus (AD 268–70).

Enclosure ditches G103 did yield a larger assemblage and one that contains commonalities with the assemblage from the main area of investigation. Two of the coins from G103 appear to be radiates, one of Tetricus I (270–3), while the third is illegible. Domestic activity is

suggested by the presence of a copper-alloy sheet vessel repair patch and a glass flask. The blue/green rim and neck fragment of the glass flask conforms to Isings Form 103, a spherical flask with cracked-off rim (Pl. A1). This form came into use about the middle of the 3rd century and continued in use into the 4th (Cool and Price 1995, 154). In common with other examples of this flask form, the Bungalow example has wheel-cut horizontal bands of decoration on the neck. The length of neck and the rim diameter suggest a small flask, comparable with examples known from Colchester (Cool and Price 1995, 153–5). Although this form of vessel is fairly common in the Rhineland and north Gaul, it is not common in Britain (Cool and Price 1995, 153–4; Price and Cottam 1998, 181–2). This flask indicates, along with the coinage, a degree of disposable wealth and access to traded goods.

Only one item of personal ornament was found within L29 — an oval bezel, the plain red glass setting oval in shape with a curved or convex upper surface. No evidence of the ring hoop survives, making attribution to finger-ring types problematic. It is possible that this setting derived from a Guiraud Type 4 ring. Dating of this ring type is varied but the basic type is known to have been in circulation in the mid-2nd century (Johns 1996, 47). The red glass setting appears to have been fixed with iron solder, a trait seen on a finger-ring from a 4th-century burial at Butt Road, Colchester (Crummey 1981, 49 no. 1791 and fig. 52).

In common with the main area of investigation (see discussion of OA49 in L30), hints of a military association were also encountered at the Bungalow excavations. A small strap or harness mount was found in G103; it has a pelta-like base with integral rivet, and a central stem with a small, raised, circular-headed rivet through the centre of the stem. Parallels suggest a 3rd-century date and possible auxiliary-cavalry associations (e.g. Bishop and Coulston 1993, fig. 112 no. 9; Draper 1985, fig. 14 no. 98). As mentioned in the main text, such military fittings could represent the presence of a soldier billeted or policing the area, or perhaps residents who were retired veterans.

Catalogue

Flask. Clear, slightly blue/green bubbly glass. Rim, neck and start of body from spherical flask with cylindrical neck. Three wheel-cut horizontal bands on neck, one group round rim, second group c. 11mm below first band and third group c. 9mm below middle band. Neck constricted at junction with body, cracked-off rim. Rim diameter 16.5mm; neck length 33.5mm. Length of neck and rim diameter suggest small flask. Phase 4, L29, G103; RA19. Pl. A1.

Finger-ring. Red glass. Oval 'gem stone' setting from finger-ring. 'Gem' is slightly oval, flat back and convex face, edges obscured by iron solder. Length 12.5mm; width 12.3mm; height 5.5mm. Phase 4, L29, G103; RA1. Pl. A1.

Harness mount. Copper alloy. Military, 3rd-century equine harness fitting, pelta-shaped base with integral rivet, central upright stem has a domed circular rivet before break. Length 17.3mm; width 18.5mm; thickness 5.3mm. Phase 4, L29, G103; RA12. Pl. A1.

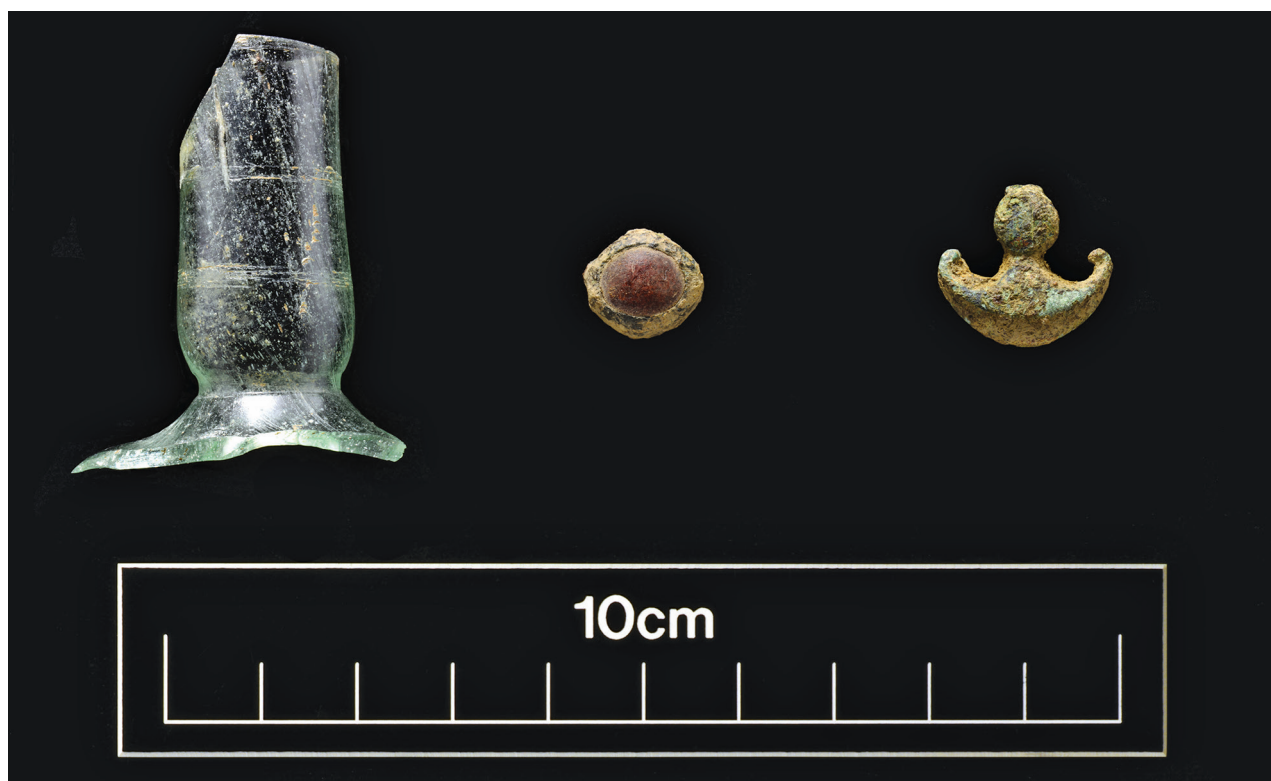


Plate A1: Glass flask rim and neck fragment (left: RA19), oval 'gem stone' setting from finger-ring (centre: RA1), and equine harness fitting (right: RA12)

Bibliography

ABBREVIATIONS

BAR: British Archaeological Reports
CBA: Council for British Archaeology
EAA: East Anglian Archaeology
JSAC: John Samuels Archaeological Consultants
ULAS: University of Leicester Archaeological Services

- Albarella, U., Johnstone, C. and Vickers, K. 2008: 'The development of animal husbandry from the Late Iron Age to the end of the Roman period: a case study from South-East Britain', *Journal of Archaeological Science* 35, 1828–1848
- Albion Archaeology 2011a: *Land off Higham Road, Burton Latimer, Northamptonshire: Archaeological Field Evaluation* (unpublished report 2011/06)
- Albion Archaeology 2011b: *The Bungalow, Higham Road, Burton Latimer, Northamptonshire: Archaeological Field Evaluation* (unpublished report 2011/18)
- Albion Archaeology 2012a: *The Bungalow, Higham Road, Burton Latimer, Northamptonshire: Written Scheme of Investigation for Archaeological Excavation* (unpublished report 2012/20)
- Albion Archaeology 2012b: *The Bungalow, Higham Road, Burton Latimer, Northamptonshire: Summary Report and Updated Project Design* (unpublished report 2012/108)
- Albion Archaeology 2012c: *Land off Higham Road, Burton Latimer, Northamptonshire: Assessment of Potential and Updated Project Design* (unpublished report 2012/161)
- ArchaeoPhysica 2010: *Burton Latimer, Northamptonshire: Geophysical Survey Report* (unpublished report BLN101)
- Barber, B. and Bowsher, D. 2000: *The Eastern Cemetery of Roman London: Excavations 1983-1990*, Museum of London Archaeology Service Monograph 4 (London)
- Barnes, E. 1994: *Developmental Defects of the Axial Skeleton in Paleopathology* (Niwt, Colorado)
- Bennett, K.A. 1972: 'Lumbo-sacral malformations and spina bifida occulta in a group of proto-historic Modoc Indians', *American Journal of Physical Anthropology* 36, 435–40
- Bishop, M.C. 1991: 'Soldiers and military equipment in the towns of Roman Britain', in V.A. Maxfield and J.J. Dobson (eds), *Roman Frontier Studies 1989* (Exeter), 21–27
- Bishop, M.C. 1998: 'Military equipment', in Cool and Philo 1998, 61–81
- Bishop, M.C. and Coulston, J.C.N. 1993: *Roman Military Equipment* (London)
- Blockley, K. 2008: 'The animal bone', M., Edgeworth, 'Excavations of a Romano-British Enclosure Complex at Burton Wold Farm, Burton Latimer, Northamptonshire', *Northamptonshire Archaeology* 35, 40
- Booth, P. and Green, S. 1989: 'The nature and distribution of certain pink, grog-tempered vessels', *Journal of Roman Pottery Studies* 2, 77–84
- Booth, P., Simmonds, A., Boyle, A., Clough, S., Cool, H.E.M. and Poore, D. 2010: *The late Roman Cemetery at Lankhills, Winchester. Excavations 2000-2005*, Oxford Archaeology Monograph 10 (Oxford)
- Boylston, A. and Roberts, C. 2004: 'The human remains from Kempston Church End', in Dawson 2004, 322–70
- Boylston, A., Knusel, C.J. and Roberts, C. 2000: 'Investigation of a Romano-British rural ritual in Bedford, England', *Journal of Archaeological Science* 27, 241–54
- Brodribb, G. 1987: *Roman Brick and Tile* (Gloucester)
- Brothwell, D.R. 1981: *Digging up bones*, 3rd edition (Oxford)
- Brown, A.E. 1994: 'A Romano-British shell-gritted pottery and tile manufacturing site at Harrold, Bedfordshire', *Bedfordshire Archaeology* 21, 19–107
- Cappers, R.T.J., Bekker, R.M. and Jans, J.E.A. 2006: *Digitale Zadenatlas Van Nederland* (Groningen)
- Casey, P.J. 1994: *Carausius and Allectus: The British Usurpers* (London)
- CgMs 2010a: *Supporting Heritage Statement in Respect of Land off Higham Road, Burton Latimer* (unpublished report SM/12235)
- CgMs 2010b: *Archaeological Project Design including Written Scheme of Investigation for Trial Trenching: Land off Higham Road, Burton Latimer* (unpublished report 10-37)
- Challinor, D. 2007a: 'Wood Charcoal', in Timby *et al.* 2007, 382–8
- Challinor, D. 2007b: 'Charcoal', in J. Timby, R. Brown, E. Biddulph, A. Hardy and A. Powell, *A Slice of Rural Essex. Recent Archaeology along the A120 between Stansted and Braintree*, Oxford Wessex Archaeology Monograph 1 (Oxford), CD Section 7
- Challinor, D. 2007c: 'Wood Charcoal', in P. Booth and D. Stansbie, *A Roman Rural Landscape at Kempsford Quarry, Gloucestershire*, Oxford Archaeology Occasional Paper 15 (Oxford), 43–45
- Challinor, D. 2009a: 'The Wood Charcoal', in Lawrence and Smith 2009, 309–11
- Challinor, D. 2009b: 'The Wood Charcoal', in K. Powell, G. Laws and L. Brown, 'A Late Neolithic/Early Bronze Age enclosure and Iron Age and Romano-British settlement at Latton Lands, Wiltshire', *Wiltshire Archaeological and Natural History Magazine* 102, 22–113
- Challinor, D. 2016: 'Charcoal', in Luke 2016, CD Section 2
- Chapman, A. 2006: 'The querns', in P. Mason, 'A Romano-British settlement at West Haddon, Northamptonshire', *Northamptonshire Archaeology* 34, 55
- Cho, H., Falsetti, A.B., McIlwaine, J., Roberts, C., Sledzik, P.S. and Willcox, A.W. (eds) 1996: *Handbook*

- of the Forensic Anthropology Course of the Department of Archaeological Sciences* (Washington, D.C.)
- Clarke, G. 1979: *The Roman Cemetery at Larkhills* (Oxford)
- Cool, H.E.M. 1998a: 'Personal ornament other than brooches', in Cool and Philo 1998, 57–61
- Cool, H.E.M. 1998b: *Roman Period Artefacts from Along the Route of the Bedford Southern Bypass* (unpublished report, Albion Archaeology)
- Cool, H.E.M. 2006: *Eating and Drinking in Roman Britain* (Cambridge)
- Cool, H.E.M. 2009: 'The Roman glass', in Lawrence and Smith 2009, 250–1
- Cool, H.E.M. and Philo, C. 1998: *Roman Castleford Excavations 1974-85. Volume 1: The Small Finds* (Wakefield)
- Cool, H.E.M. and Price, J. 1995: *Roman vessel glass from excavations in Colchester, 1971-85*, Colchester Archaeological Report 8 (Colchester)
- Crummy, N. 1983: *The Roman Small Finds from Excavations in Colchester 1971-9*, Colchester Archaeological Report 2 (Colchester)
- Dawson, M. 1994: *A Late Roman Cemetery at Bletsoe, Bedfordshire*, Bedfordshire Archaeology Monograph 1 (Bedford)
- Dawson, M. 2004: *Archaeology in the Bedford Region*, BAR British Series 373 (Oxford)
- Dearne, M.J. and Branigan, K. 1995: 'The use of coal in Roman Britain', *Antiquaries Journal* 75, 71–105
- Deighton, K. 2005: 'Animal bone', in Maull and Masters 2005, 64–66
- Denston, C.B. and Duhig, C. 1994: 'The human remains', in Dawson 1994, 30–2
- Duhig, C. 1995: 'Assessment of human skeletal remains', in T. Reynolds, *Milton East Waste Site (MILEW95) Assessment Report* (unpublished report, Cambridgeshire County Council Archaeology Field Unit)
- Duhig, C. 1999: 'The human remains', in R. Casa-Hatton and W. Wall, *A Late Roman Cemetery beside the A1 near Durobrivae (Water Newton): archaeological recording* (unpublished report, Cambridgeshire County Council Archaeology Field Unit)
- Duhig, C. 2000: *They are Eating People Here! Skeletal indicators of stress in the Egyptian First Intermediate Period* (PhD dissertation, University of Cambridge)
- Eckardt, H. 2014: *Objects and Identities: Roman Britain and the North-Western Provinces* (Oxford)
- Edgeworth M. 2008: 'Excavation of a Romano-British enclosure complex at Burton Wold Farm, Burton Latimer, Northamptonshire', *Northamptonshire Archaeology*, 35, 27–43
- Edlin, H.L. 1949: *Woodland Crafts in Britain: an account of the traditional uses of trees and timbers in the British countryside* (London)
- Evison, V.I. 2009: 'Glass vessels', in S. Hirst and D. Clark, *Excavations at Mucking Volume 3: The Anglo-Saxon Cemeteries* (London), 551–4
- Foster, A. and Jacques, D. 2012: *6 Driffild Terrace, York: Vertebrate remains analysis*, York Archaeological Trust (York)
- Gale, R. 1997: 'Charcoal', in A.P. Fitzpatrick, *Archaeological Excavations on the Route of the A27 Westhampnett Bypass, West Sussex, 1992*, Wessex Archaeology Report 12 (Salisbury), 253
- Grant, A. 1982: 'The use of toothwear as a guide to the age of domestic ungulates', in R. Wilson, C. Grigson and S. Payne (eds), *Ageing and Sexing Animal Bones from Archaeological Sites*, BAR British Series 109 (Oxford), 91–108
- Grant, A. 2004: 'Domestic animals and their uses', in M. Todd (ed.), *A Companion to Roman Britain* (Oxford), 371–92
- Greig, J. 1991: 'The British Isles', in W. van Zeist, K. Wasylukowa and K.-E. Behre, *Progress in Old World Palaeoethnobotany* (Rotterdam), 229–334
- GSB Prospection 2000: *Burton Latimer, Northamptonshire: Geophysical Survey* (unpublished report 2000/116)
- Guest, P. 2004: 'Coinage', in Dawson 2004, 392–413
- Guest, P. 2008: 'The Roman Coins', in 'Excavation of the Roman villa and mosaic at Rowler Manor, Croughton, Northamptonshire', *Northamptonshire Archaeology* 35, 59–65
- Guest, P. 2011: 'Coins', in Luke and Preece 2011, 117–8
- Guest, P. 2016: 'Coins', in Luke 2016, CD Section 2
- Guido, M. 1978: *The Glass Beads of the Prehistoric and Roman Periods in Britain and Ireland*, Report of the Research Committee Society of Antiquaries London 35 (London)
- Harcourt, R. 1974: 'The dog in prehistoric and early historic Britain', *Journal of Archaeological Science* 1, 151–76
- Hather, J.G. 2000: *The Identification of Northern European Woods: A Guide for Archaeologists and Conservators* (London)
- Hatton, G. 2009: 'Metalworking debris', in Lawrence and Smith 2009, 251–2
- Hauser, G. and Stefano, G.F.D. 1989: *Epigenetic Variants of the Human Skull* (Stuttgart)
- Henderson, J. 1992: 'Industrial specialization in late Iron Age Britain and Europe', *Archaeological Journal* 148, 101–48
- Henig, M. 1978: *A Corpus of Roman Engraved Gemstones from British Sites*, BAR British Series 8 (Oxford)
- Hill, J.D. 1995: 'The pre-Roman Iron Age in Britain and Ireland (ca. 800BC to AD100): an overview', *Journal of World Prehistory* 9 (1), 47–98
- Hillman G. 1981: 'Reconstructing crop husbandry practices from charred remains of crops', in R. Mercer (ed.), *Farming Practice in British Prehistory* (Edinburgh), 123–62
- Hillman, G. 1984: 'Interpretation of archaeological plant remains: the application of ethnographic models from Turkey', in W. van Zeist and W.A. Casparie (eds), *Plants and Ancient Man. Studies in Palaeoethnobotany* (Rotterdam), 1–41
- Hillson, S. 1979: 'Diet and dental disease', *World Archaeology* 11, 147–62
- Hillson, S. 1990: *Teeth, Cambridge Manuals in Archaeology* (Cambridge)
- Hingley, R. 1989: *Rural Settlement in Roman Britain* (London)
- Hingley, R. 1997: 'Iron, ironworking and regeneration: a study of the symbolic meaning of metalworking in Iron Age Britain', in A. Gwilt and C. Haselgrove *Reconstructing Iron Age Societies* (Oxford), 9–18
- Hinman, M. 2003: *A Late Iron Age Farmstead and Romano-British Site at Haddon, Peterborough*, BAR British Series 358 (Oxford)

- Hylton, T., Mackreth, D. and Meadows, I. 2005: 'The Roman finds', in Maull and Masters 2005, 63–64
- Iscan, M.Y. and Kennedy, K.A.R. (eds) 1994: *Reconstruction of Life from the Skeleton*, 2nd edition (New York)
- Jacomet, S. 2006: *Identification of Cereal Remains from Archaeological Sites*, 2nd edition (Basel)
- Johns, C. 1996: *The Jewellery of Roman Britain* (London)
- Jones, G. 2006: 'Tooth eruption and wear observed in live sheep from Butser Hill, the Cotswold Farm Park and five farms in the Pentland Hills, UK', in D. Ruscillo (ed.), *Recent Advances in Ageing and Sexing Animal Bones* (Oxford), 155–78
- Jones, M. 1981: 'The Development of Crop Husbandry', in M. Jones and G. Dimbleby (eds), *The Environment of Man: the Iron Age to the Anglo-Saxon Period*, BAR British Series 87, 95–127
- Jones, R. 1975: 'A Romano-British farmstead and its cemetery at Lynch Farm near Peterborough', *Northamptonshire Archaeology* 10, 94–137
- JSAC 2000: *An Archaeological Desk-Based Assessment and Geophysical Survey of Land North of Higham Road, Burton Latimer, Northamptonshire* (unpublished report 752/00/001)
- Kennedy, K.A.R. 1994: 'Skeletal markers of occupational stress', in Iscan and Kennedy 1994, 129–60
- King, A. 1999: 'Diet in the Roman world: a regional inter-site comparison of the animal bones', *Journal of Roman Studies* 12, 168–202
- King, C. 2009: 'Coins', in Lawrence and Smith 2009, 184–99
- Klinge, D. 2012: *The Use of Skeletal Evidence to Understand the Transition from Roman to Anglo-Saxon Cambridgeshire and Bedfordshire*, BAR British Series 569 (Oxford)
- Knight, D. 1984: *Late Bronze Age and Iron Age Settlement in the Nene and Great Ouse Basins*, BAR British Series 130 (Oxford)
- Lawrence, S. and Smith, A. 2009: *Between Villa and Town: Excavations of the Roman roadside settlement and shrine at Higham Ferrers, Northamptonshire*, Oxford Archaeology Monograph 7 (Oxford)
- Locker, A. 1990: 'The mammal, bird remains and fish bones', in Neal *et al.* 1990, 205–12
- Luke, M. 2008: *Life in the Loop: Investigation of a prehistoric and Romano-British landscape at Biddenham Loop, Bedfordshire*, EAA 125 (Bedford)
- Luke, M. 2016: *Close to the Loop: 6000 years of landscape and settlement evolution within and near the Biddenham Loop, Great Denham, west of Bedford*, EAA 156 (Bedford)
- Luke, M. and Preece, T. 2011: *Farm and Forge: Late Iron Age/Romano-British farmsteads at Marsh Leys, Kempston, Bedfordshire*, EAA 138 (Bedford)
- Luke, M. and Preece, T. 2017: 'Salvage investigations within a Romano-British settlement and cemetery at Kempston Box End, Bedfordshire', *Bedfordshire Archaeology* 27, 153–201
- Luke, M., Barker, B. and Barker, J. 2015: *A Romano-British Farmstead at Stretton Road, Great Glen, Leicestershire*, Albion Archaeology Monograph 2 (Bedford)
- Mackreth, D.F. 1996: *Orton Hall Farm: A Roman and Early Anglo-Saxon Farmstead*, EAA 76 (Manchester)
- Maltby, M. 1997: 'Domestic fowl on Romano-British sites: inter-site comparisons of abundance', *International Journal of Osteoarchaeology* 7, 402–14
- Maltby, M. 2007: 'Chop and change: specialist cattle carcass processing in Roman Britain', in B. Croxford, N. Ray, R. Roth and N. White (eds), *TRAC 2006: Proceedings of the Sixteenth Annual Theoretical Roman Archaeology Conference, Cambridge 2006* (Oxford), 59–76
- Maltby, M. 2010: *Feeding a Roman Town: Environmental Evidence from Excavations in Winchester 1972–1985* (Winchester)
- Maltby, M. 2016a: 'Animal Bone', in Luke 2016, CD Section 2
- Maltby, M. 2016b: 'Animal Bones', in Ingham, D., Oetgen, J., and Slowikowski, A., *Newnham: a Roman bath house and estate centre east of Bedford*, CD Chapter 19, EAA 158 (Bedford)
- Maltby M. forthcoming: 'Animal Bone', in M. Luke and J. Barker, *Beside The Brook: Iron Age, Roman, and Early Saxon Settlement at Marston Park, Marston Moretaine, Bedfordshire*, Albion Archaeology Monograph (Bedford)
- Manning, W.H. 1974: 'Objects of Iron', in Neal 1974, 157–87
- Manning, W.H. 1985: *Catalogue of the Romano-British Iron Tools, Fittings and Weapons in the British Museum* (London)
- Marney, P.T. 1989: *Roman and Belgic Pottery from Excavations in Milton Keynes, 1972–82*, Buckinghamshire Archaeological Society Monograph Series 2 (Aylesbury)
- Mason, P. 2006: 'A Romano-British settlement at West Haddon, Northamptonshire', *Northamptonshire Archaeology* 34, 33–62
- Maull, A. and Masters, P. 2005: 'A Roman farmstead and Anglo-Saxon cemetery at Glapthorn Road, Oundle', *Northamptonshire Archaeology* 33, 47–78
- McKinley, J.I. 1989: 'Cremations: expectations, methodologies and realities', in C.A. Roberts, F. Lee and J. Bintliff (eds), *Burial Archaeology. Current research, methods and developments*, BAR British Series 211 (Oxford), 65–76
- McKinley, J.I. 1994: *The Anglo-Saxon Cemetery at Spong Hill, North Elmham, Part VII: The Cremations*, EAA 69 (Norwich)
- McWhirr, A.D. 1973: 'Cirencester, 1969–1972: Ninth Interim Report', *Antiquaries Journal* 53, 191–218
- Meade, J. 2010: *The Middle and Upper Ouse Valley in the Late Iron Age and Romano-British Periods: Divergent Identities*, BAR British Series 512 (Oxford)
- Merbs, C. 1983: *Patterns of Activity Induced Pathology in a Canadian Inuit Population* (Ottawa)
- Merbs, C. F. 1994: 'Trauma', in Iscan and Kennedy 1994, 161–89
- Mould, Q. 2002: 'Iron objects from Catterick Bypass (Site 433)', in P.R. Wilson, *Cataractonium: Roman Catterick and its Hinterland. Excavations and research, 1958–1997 Part II*, CBA Research Report 129 (York), 82–106
- Neal, D.S. 1974: *The Excavation of the Roman Villa in Gadebridge Park, Hemel Hempstead 1963–8*, Reports of the Research Committee of the Society of Antiquaries of London 21 (London)
- Neal, D.S. and Butcher, S.A. 1974: 'Miscellaneous objects of bronze', in Neal 1974, 128–50

- Neal, D.S., Wardle, A. and Hunn, J. 1990: *Excavations of the Iron Age, Roman and Medieval Settlement at Gorhambury, St Albans* (London)
- Northamptonshire Archaeology 2008: *A Romano-British 'Ladder' Enclosure at Milton Ham, Northampton: Assessment Report and Updated Project Design* (unpublished report 08/118)
- Northamptonshire Archaeology 2012: *Excavation at Stanion Roman Villa, Brigstock Road, Northamptonshire, April to July 2010* (unpublished report 12/50)
- Olivier, A. 1988: 'Brooches', in T.W. Potter and S.D. Trow, 'Puckeridge-Braughing, Hertfordshire: The Ermine Street excavations 1971-72', *Hertfordshire Archaeology* 20, 35-53
- Olusoga, D. 2016: *Black and British: a forgotten history* (Macmillan)
- Ortner, D. J. and Putschar, W.G.J. 1985: *Identification of Pathological Conditions in Human Skeletal Remains* (Washington, D.C.)
- Parker Pearson, M. 1999: 'Fearing and celebrating the dead in southern Madagascar', in J. Downes and T. Pollard (eds), *The Loved Body's Corruption. Archaeological contributions to the study of human mortality* (Glasgow), 9-18
- Parry, S. J. 2006: *Raunds Area Survey: An archaeological study of the landscape of Raunds, Northamptonshire 1985-94* (Oxford)
- Perrin, R. 1999: 'Roman Pottery from excavations at and near the small town of Durobrivae, Water Newton, Cambridgeshire, 1956-58', *Journal of Roman Pottery Studies* 8
- Philpott, R. 1991: *Burial Practices in Roman Britain: A survey of grave treatment and furnishing AD 43-410*, BAR British Series 219 (Oxford)
- Poole, C. 2007: 'Chapter 4: The Romano-British Sites: Archaeological Descriptions', in Timby *et al.* 2007, 67-144
- Poole, K. 2010: 'Bird introductions', in T. O'Connor and N. Sykes (eds), *Extinctions and Invasions: A Social History of British Fauna* (Oxford), 156-65
- Price, J. 2000: 'Glass vessels, objects and window glass', in E. Price, *Frocester: A Romano-British Settlement, its Antecedents and Successor* (Stonehouse), 103-22
- Price, J. and Cool, H.E.M. 1983: 'Glass from the excavations of 1974-76', in A.E. Brown and C. Woodfield, 'Excavation at Towcester, Northamptonshire: The Alchester Road Suburb', *Northamptonshire Archaeology* 18, 43-140
- Price, J. and Cottam, S. 1998: *Romano-British Glass Vessels: a Handbook*, CBA Practical Handbook in Archaeology 14 (York)
- Reece, R. 1995: 'Site-finds in Roman Britain', *Britannia* 26, 179-206
- Renfrew, J. 1985: *Food and Cooking in Roman Britain. History and Recipes* (London)
- Robinson, M. 1988: 'The significance of the tubers of *Arrhenatherum elatius* (L.) Beauv.', in G. Lambrick, *The Rollright Stones: Megaliths, Monuments and Settlements in the Prehistoric Landscape* (London), 102
- Robinson, M. 2009: 'Macroscopic plant remains (excluding charcoal) and insects', in Lawrence and Smith 2009, 300-09
- Rogers, J. and Waldron, T. 1995: *A Field Guide to Joint Disease in Archaeology* (New York)
- Rogers, J., Waldron, T., Dieppe, P. and Watt, I. 1987: 'Arthropathies in palaeopathology: the basis of classification according to most probable cause', *Journal of Archaeological Science* 14, 179-93
- Schweingruber, F.H. 1990: *Microscopic Wood Anatomy*, 3rd Edition (Birmensdorf)
- Scott, I.R. 1998: 'The Iron Artefacts', in Cool and Philo 1998, 128-39
- Scott, I.R. 2009: 'Small Finds', in Lawrence and Smith 2009, 198-250
- Serjeantson, D. and Morris, J. 2011: 'Ravens and crows in Iron Age and Roman Britain', *Oxford Journal of Archaeology* 30 (1), 85-107
- Shaffrey, R. 2009: 'Rotary querns', in Lawrence and Smith 2009, 252-5
- Simpson, C.J. 1976: 'Belt-buckles and strap-ends of the later Roman Empire: a preliminary survey of several new groups', *Britannia* 7, 192-223
- Smith, A.H.V. 1997: 'Provenance of coals from Roman sites in England and Wales', *Britannia* 28, 297-324
- Stace, C. 1997: *New Flora of The British Isles* (Cambridge)
- Stace, C. 2005: *New Flora of the British Isles*, 2nd Edition (Cambridge)
- Stanfield, J.A. and Simpson, G. 1958: *Central Gaulish Potters* (Oxford)
- Steele, D.G. and Bramblett, C.A. 1988: *The Anatomy and Biology of the Human Skeleton* (College Station, Texas)
- Steinbock, R.T. 1976: *Paleopathological Diagnosis and Identification* (Springfield, Illinois)
- Stewart, T.D. 1979: *Essentials of Forensic Anthropology* (Springfield, Illinois)
- Stockwell, E.G. 1993: 'Infant mortality,' in F. Kiple (ed.), *The Cambridge World History of Human Disease* (Cambridge), 224-30
- Strid, L. 2009: 'Animal bone', in Lawrence and Smith 2009, 287-300
- Taylor, A. 2001: *Burial Practice in Early England* (Stroud)
- Taylor, A. 2008: 'Aspects of deviant burial in Roman Britain', in E.M. Murphy (ed.), *Deviant Burial in the Archaeological Record*. Oxbow, Oxford, 91-114
- Taylor, J. 2001: 'Rural society in Roman Britain', in S. James and M. Millet (eds), *Britons and Romans: advancing an archaeological agenda*, CBA Research Report 125 (York), 46-59
- Taylor, J. 2002: *Northamptonshire Extensive Urban Survey: Kettering Roman settlement* (unpublished report, Northamptonshire County Council)
- Taylor, J. 2006: 'The Roman Period', in N. Cooper, *The Archaeology of the East Midlands: An Archaeological Resource Assessment and Research Agenda*, Leicester Archaeology Monograph 13 (Leicester), 137-59
- Taylor, J. and Flitcroft, M. 2004: 'The Roman period', in M. Tingle (ed.) *The Archaeology of Northamptonshire* (Northampton), 63-77
- Timby, J. 2005: 'The Roman Pottery', in Maull and Masters 2005, 59-63
- Timby, J. 2009: 'The Roman Pottery', in Lawrence and Smith 2009, 147-84
- Timby, J., Brown, R., Hardy, A., Leech, S., Poole, C. and Webley, L. 2007: *Settlement on the Bedfordshire Claylands: Archaeology along the A421 Great Barford Bypass*, Bedfordshire Archaeology Monograph 8 (Oxford)

- Tingle, M. 2008: 'Archaeological recording of a Roman villa at Brigstock Road, Stanion, Northamptonshire, April-May 2002', *Northamptonshire Archaeology* 35, 95–136
- Tomber, R. and Dore, J. 1998: *The National Roman Reference Collection: A Handbook* (London)
- Trotter, M. and Gleser, G. 1952: 'Estimation of stature from the long bones of American whites and negroes', *American Journal of Physical Anthropology* 10(4), 463–514
- Turner, R. 1999: *Excavations of an Iron Age Settlement and Roman Religious Complex at Ivy Chimneys, Witham, Essex 1978-83*, EAA 88 (Chelmsford)
- Ubelaker, D. H. 1989: *Human Skeletal Remains: excavation, analysis, interpretation* (Washington, D.C.)
- ULAS 2012: *Archaeological Excavations within Housing Area 6C/D, Mawsley New Village, Great Cransley, Kettering, Northamptonshire* (unpublished report 2012-083)
- Vanpeene, N. 1993: *Verrerie de la Nécropole d'Épiais-Rhus (Val d'Oise)*, Centre de Recherches Archéologiques du Vexin Français Cahier Archéologique 8 (Guiry-en-Vexin)
- van Driel-Murray, C. 2001: 'Footwear in the north-western provinces of the Roman Empire', in O. Goubitz, C. van Driel-Murray and W. Groenmann-van Waateringe, *Stepping through Time* (Zwolle), 337–76
- von den Driesch, A. 1976: *A Guide to the Measurement of Animal Bones from Archaeological Site*, Peabody Museum Monograph 1 (Cambridge, Massachusetts)
- Waldron, T. 1991: 'Variations in the rates of spondylolysis in early populations', *International Journal of Osteoarchaeology* 1, 63–5
- Waldron, T. 1994: *Counting the Dead. The epidemiology of skeletal populations* (Chichester)
- Walker, C. and Maull, A. 2010: 'Iron Age and Roman settlement at Upton, Northampton', *Northamptonshire Archaeology* 36, 9–52
- Wardle, A. 1990: 'The artefacts other than coins, pottery and glass vessels', in Neal *et al.* 1990, 113–69
- Webster, P. 2008: 'The Pottery', in Edgeworth 2008, 37–39
- West, S. 1985: *West Stow, the Anglo-Saxon Village*, EAA 24 (Ipswich)
- Williams, R. 1976: 'The Pottery', in R. Williams, 'Excavations on a Roman site at Overstone near Northampton', *Northamptonshire Archaeology* 11, 115–23
- Williams, R.J. and Zeepvat, R.J. 1994: *Bancroft: A late Bronze Age/Iron Age settlement, Roman villa and temple-mausoleum*, Buckinghamshire Archaeological Society Monograph 7 (Aylesbury)
- Williams, R.J., Hart, P.J. and Williams, A.T.L. 1996: *Wavendon Gate: A Late Iron Age and Roman settlement in Milton Keynes*, Buckinghamshire Archaeological Society Monograph 10 (Aylesbury)
- Willis, S. 2004: 'Samian Pottery, a Resource for the Study of Roman Britain and Beyond: the results of the English Heritage funded Samian Project. An e-monograph', *Internet Archaeology* 17, <http://dx.doi.org/10.11141/ia.17.1>
- Witkin, A. 2009: 'The Human Skeletal Remains', in Lawrence and Smith 2009, 275–87

This is a report on Albion Archaeology's investigations into a Romano-British settlement at the site of a new housing development in Burton Latimer, Northamptonshire, by David Wilson Homes (South Midlands). As well as revealing the remains of an extensive rural settlement, the excavation also identified forty-seven graves from the same period — an unusually large number for a rural community. Thirty of the graves were contained within a cemetery, with two separate clusters accounting for most of the remainder. Two of the people had been decapitated, while nine were buried face-down. One of the burials was a woman of possible African heritage.

The settlement was founded in the late 1st century AD and continued throughout the Roman period, with up to eight buildings tentatively identified. The plant remains and animal bones point towards a mixed farming regime, with evidence for craft activities as well. The small number of personal items may suggest a lack of 'wealth' or high 'status', but the presence of late Roman glassware and part of a copper-alloy figurine counterbalances this. More than 300 coins were found as well, including a hoard of at least 100 that were found historically, while a small number of finds with military associations offer further indications of links beyond the immediate community.

With support from the developer, the Albion Archaeology team was able to offer site tours to local residents and schoolchildren, and visit the town's two primary schools. This component of the project is described in an appendix to this report.

