
Proceedings of the Cambridge Antiquarian Society

(incorporating the Cambs and Hunts Archaeological Society)

**Volume C
for 2011**



Recent Publications of the Cambridge Antiquarian Society

Proceedings XCVII, 2008

- Christopher Evans and Mark Knight: *Further Investigations at Arbury Camp, Cambridge: The Eastern Entrance—A Monumental Architecture*
David Ingham: *Iron Age settlement by the Dam Brook at Scotland Farm, Dry Drayton*
Daniel Stansbie: *Excavation of a Middle Iron Age enclosure at Bushmead Road, Eaton Socon, Cambridgeshire*
Steven Willis, Alice Lyons, Elizabeth Shepherd Popescu and Judith Roberts: *Late Iron Age/Early Roman Pottery Kilns at Blackhorse Lane, Swavesey, 1998–99*
Tom Phillips: *Iron Age Ditches and an Anglo-Saxon Building near the Mile Ditches, Bassingbourn, TL 3294 4335*
Nina Crummy and Tom Phillips: *A Zoomorphic Roman Handle from New Street, Godmanchester, TL 5246 2704*
Tom Lane, Elaine L Morris and Mark Peachey: *Excavations on a Roman Saltmaking Site at Cedar Close, March, Cambridgeshire*
Aileen Connor: *A Romano-Saxon Farmstead and possible 12th-century Dovecote or Windmill: Community excavations at Spring Close, Boxworth, TL 350 645*
Christopher Taylor: *New work on old sites: Somersham and Pampisford revisited*
Craig Cessford: *Excavation of the Civil War bastion ditch of Cambridge Castle*
Michael Chisholm: *The Old Plough: a neglected property of Ely Porta Manor*
Robert Liddiard: *Living on the Edge: Commons, Castles and Regional Settlement Patterns in Medieval East Anglia*
Philomena Guillebaud: *West Cambridge: the two World Wars and the inter-war lull*
Elizabeth Shepherd Popescu and Sarah Poppy: *Fieldwork in Cambridgeshire 2007*
Tim Malim and Sue Oosthuizen: *Reviews*
Chris Jakes: *Recent Accessions to the Cambridgeshire Collection*

Proceedings XCIX, 2009

- John Pickles, Peter Gathercole, and Alison Taylor: *Mary Desborough Cra'ster, 1928–2008*
Leo Webley and Jonathan Hiller: *A fen island in the Neolithic and Bronze Age: excavations at North Fen, Sutton, Cambridgeshire*
Aileen Connor: *A fen island burial: excavation of an Early Bronze Age round barrow at North Fen, Sutton*
Hella Eckardt with Amanda Clarke, Sophie Hay, Stephen Macaulay, Pat Ryan, David Thornley and Jane Timby: *The Bartlow Hills in context*
Stephen Yeates: *Senuna, goddess of the river Rhee or Henney*
Scott Kenney: *A reappraisal of the evidence for the ‘northern arm’ of the Fleam Dyke at Fen Ditton*
Laura Piper and Andrew Norton: *An excavation at Station Quarry, Steeple Morden, Cambridgeshire*
Duncan Mackay: *Excavations at Scotland Road/Union Lane, Chesterton*
Aileen Connor: *A curious object from Firs Farm, Caxton*
Christopher Taylor: *A morphological analysis of Ickleton, Cambridgeshire: an admission of defeat*
Ken Sneath: *Funerals, the final consumer choice?*
N James: *The ‘Age of the Windmill’ in the Haddenham Level*
K S G Hinde: *Upware and Bottisham sluices*
Philomena Guillebaud: *Changes in the landscape of west Cambridge, Part V: 1945 to 2000*
John Pickles: *The CAS Collection of Cambridgeshire ‘Sketches’*
Tom Lyons, Elizabeth Shepherd Popescu and Sarah Poppy: *Fieldwork in Cambridgeshire 2008*
Christopher Taylor, Christopher Brookes, Evelyn Lord and Sam Lucy: *Reviews*
Chris Jakes: *Recent Accessions to the Cambridgeshire Collection*

Proceedings XCIX, 2010

- Note on ‘Mary Desborough Cra’ster, 1928–2008’ published in PCAS XCVIII (2009)
Nicholas Gilmour, Natasha Dodwell and Elizabeth Popescu: *A Middle Bronze Age Cremation Cemetery on the Western Claylands at Papworth Everard*
David Ingham: *Further excavation of a late Iron Age settlement at Scotland Farm, Dry Drayton*
Christopher Evans and Letty Ten Harkel: *Excavations at Castle Street*
Adrian Burrow and Andrew Mudd: *Early Bronze Age, Iron Age and Roman pit deposits at Bluntisham, Cambridgeshire*
Rob Atkins: *Roman, Anglo-Saxon and medieval settlement at Stow Longa and Tilbrook (Huntingdonshire)*
Michael Fradley: *Earthwork Survey at Huntingdon Mill Common*
Thomas Woolhouse: *Saxon and Medieval activity at Scotts Close, Hilton*
Andrew A. S. Newton: *A medieval clunch-working site at Fordham Road, Isleham, Cambridgeshire*
Pip Stone for Archaeological Solutions: *Small sites in Cambridgeshire*
Andrew B. Powell: *Medieval enclosures and trackways at Coles Lane, Oakington, Cambridgeshire*
Michael Chisholm: *The medieval network of navigable Fenland waterways I: Crowland*
Susan Oosthuizen: *The Old Rectory Kingston: A Short Note on its Origins*
David A. Barrowclough: *Tea and Delicious Cakes: in conversation with Dr Pamela Jane Smith author of A ‘Splendid Idiosyncrasy’: Prehistory at Cambridge 1915–50*
John Pickles: *The CAS Collection of Cambridgeshire ‘Sketches’: Part 2*
Sally Thompson, Hazel White, and Elizabeth Shepherd Popescu: *Fieldwork in Cambridgeshire 2009*
Chris Jakes *Recent Accessions to the Cambridgeshire Collection*

Format of articles and submissions

Format of articles

All articles should begin with a Summary. The main text of the Article should be followed by (as appropriate): Appendices; Glossary; Acknowledgements; Bibliography; Acknowledgement of Grant.

Full stops after initials should be omitted.

References in the Bibliography should be cited following a guide obtainable from the Editor who can also provide a style guide.

Format of submissions

The *Proceedings* are produced digitally: authors must supply copies of their final text both on paper and as digital files. Text should be supplied as a Word document, ideally via email although a disk may be acceptable: contact the Editor for more information. Artwork supplied will be scanned, placed and printed.

Tables

These should be set out with no vertical rules and as few horizontal rules as possible. A paper copy should be supplied to allow accurate checking. Files supplied from a specialist database must be compatible with Microsoft Excel.

Figures and illustrations

A complete list of figures and their captions must accompany each article; note that greyscale photographs MUST be referred to as figures and included in the list of figures rather than separately as plates. Colour images may be included as plates at the discretion of the Editor. Each piece of artwork and/or digital file MUST be clearly identified with the correct figure number, and named in a way that identifies the article in which it is to appear ('Fig.1' alone is not sufficient). The desired location of each figure must be marked on the paper copy of the final text. If created digitally figures should be supplied in digital format, both to save time and cost, and to ensure that the final versions are of the best quality. Requirements for both digital files and camera-ready artwork are noted below; please contact the Editor for more specific information.

Note that the PCAS page is set in two columns: maximum column width is 73mm ; maximum full page width is 155mm; maximum full page height is 240mm.

Photographs

Note: photographs from digital cameras should be supplied as digital files, not as prints.

Prints: glossy prints to be submitted at the size at which authors would wish them to appear, with crops marked on an overlay.

Scans of photographs: image resolution should be 300dpi printed at the desired size. TIF and EPS are appropriate file formats.

Artwork

Camera-ready artwork must be supplied no larger than A4, in finished form, and with adequate keys and scales included in the image (**textual statements of scale must be avoided**). Illustrations may be reduced to fit the available space: extremely fine lines and small text must be avoided.

Line art scans should have a resolution between 900 and 1200dpi when printed at the desired size, and should be supplied as TIF or EPS. Greyscale and colour images containing crisp lines should have a resolution of 600–900dpi.

Graphic files should be produced using graphics packages such as Illustrator or Freehand, and be in a standard graphic format such as TIF or EPS. Please check files exported from GIS packages and CorelDraw to ensure all lines and placed images are true black or grey, not RGB, and that lines have been assigned a thickness appropriate to the final print size.

Other information

It may be possible to provide offprints ordered at proof stage. Contributors who know of possible sources of subventions towards the cost of printing their paper should inform the Editor of this when submitting the typescript; long articles will not normally be accepted without some financial support.

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Proceedings of the Cambridge Antiquarian Society

(incorporating the Cambs and Hunts Archaeological Society)

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for 2011**

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Richard Halliday

Associate Editor (Archaeology) Professor Stephen Upex

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Cambridge Antiquarian Society Report for the Year 2010

Membership: there are now 384 members, 57 Associates, 47 Affiliated Societies and 57 subscribing institutions.

Meetings: There were four Council meetings and nine Ordinary meetings. The following lectures were given:

- | | |
|------------------------------------|---|
| Ronald Hutton: | <i>The History of Prehistory: Megaliths and the Modern Imagination</i> |
| Catherine Hills: | <i>Skeletons in the Garden - Romans and Anglo Saxons at Newnham College</i> |
| Ben Robinson: | <i>Revealing Peterborough – New Explorations in an Ancient Cathedral City</i> |
| Stephen Alford: | <i>Finding Nicholas Berden: the career of an Elizabethan spy</i> |
| Simon Keynes: | <i>John Mitchell Kemble (1807 – 57): Apostle, Revolutionary, and Anglo-Saxonist</i> |
| Richard Mortimer & Alex Pickstone: | <i>Further Excavations at the War Ditches, Cherry Hinton, Cambridgeshire</i> |
| Carenza Lewis: | <i>Discovering lost village histories – the results of recent excavations in Cottenham and Willingham</i> |
| Carl Watkins: | <i>Ghost Beliefs and the English Landscape from the Middle Ages to the Modern Age</i> |
| John Baker: | <i>Place-names and the Anglo-Saxon Landscape of the Cambridgeshire Region</i> |

In addition the following two conferences were held:

17 April 2010: *Past Relations: different approaches to the dead over time* (Attendance 94)

20 November 2010: *Recent archaeological work in Cambridgeshire* (Attendance 82)

Excursions: The rising cost of coach hire suggests that local visits may well predominate in future. 18 members visited Chatham Historic Dockyard (15 May). Cherry Hinton Hall (26 June) was visited by 15 members with Ms Michelle Bullivant, who pointed out the clues of former land use. The most popular excursion (33 participants), was to the Spalding Gentlemen's Society (14 July). 25 members, led by Mrs Anne Holton-Krayenbuhl visited Ely (15 September). The year's final excursion (6 October) was a visit (23 members) to Moggerhanger Park, near Sandy.

Communication with members: The Society would like to use email in addition to the existing methods of communication. Members wishing to receive news and information from the Society should send their email address to the Registrar at registrar@camantsoc.org. The database holds only information necessary for the distribution of its publications and notices, together with occasional advertisements relating to archaeology, history, topography and architecture, which we regard as part of our brief and is used only for our business and has not been nor will it be disclosed to any third party. We are therefore exempt from the requirements of the Data Protection Act 1984.

Publications: Proceedings Volume 99 was published in October 2010. The production of Conduit was supported through purchase of copies for their members by the Cambridgeshire Association for Local History and the Huntingdonshire Local History Society. Copies were sent to members of the Cambridge Antiquarian Society and made available in libraries, record offices, archaeological units and continuing education institutions. The Society administers a journal exchange programme with just under 100 institutions, mainly from other archaeological societies and university departments from both Britain and abroad; journals are deposited in the Haddon Library.

Finance: The financial state of the Society continues to be sound, with a surplus of £284 from normal activities during the year. Investment increased by £6,158 to counter the low interest rate on deposits. Allowing for commitments, the reserves on 31 December 2010 were £10,177; within the permitted range set in 2005, and considered satisfactory.

Grant Scheme for Small Projects: A grant of £400 was awarded to the Fen Edge Archaeology Group (FEAG) for the purchase of extra tools to expand their field work with the help of volunteers. A grant of £100 was awarded to the Swavesey Local History Society towards the cost of producing information boards for the Swavesey Festival Local History Project. Both organisations have expressed their gratitude and reported to CAS on the use of the grants.

Representatives: Mrs Morris represented the Society on both the Cambridgeshire Advisory Group on Archives and Local Studies and the Cambridgeshire Association for Local History; Mr Goldsmith on the Cambridge University Museum of Archaeology and Anthropology Committee; Dr Oosthuizen on the Cambridge University Faculty Board of Archaeology and Anthropology; Dr Allen on the Cambridgeshire Records Society; Mr Pritchett on the Council for British Archaeology; Dr Pickles on the Haddon Library Committee and Ms Strudwick on The Cambridgeshire Curators' Panel.

Other: throughout the year the Society has continued to be represented at archaeological, local history and other events in the county and has continued to act as a source of information, not only on its own work, collections and publications, but also for enquiries relating to local heritage generally.

Governance: The conduct of the Society is governed by Laws dated 1988 (amended 2003, 2008 and 2009). Management is vested in an elected Council whose members' names are published annually on the membership card / lecture programme.

Gift Aid: Members are reminded that anyone contributing under the Gift Aid scheme and who no longer pays any tax should notify the Registrar.

Cambridge Antiquarian Society Accounts for the Year Ended 31/12/2010

Registered Charity 299211 • Founded 1840

PAYMENTS	
2009	2010
310.00	Lectures - Publishing Programme
401.07	- Expenses
7692.41	Proceedings Vol XCVIII Publication
1083.29	Proceedings Vol XCVIII Delivery
	Proceedings Vol XCIX Publication
	Proceedings Vol XCIX Delivery
1005.00	Conduit
898.35	Conference: March
300.00	: November
285.03	Excursions
156.56 (b)	Mailings: Delivery Charges
104.00	Subscriptions (CBA,Rescue,CRSoc)
100.00	Haddon Library: Conservation
347.75	Office Expenses, Web Site, Misc
250.00	Emolument: Registrar
532.65	Publicity
241.05	Insurance
1121.25 (g)	From capital: Web Site 2009, Grant 2010
<u>100.00</u>	Small Grants Scheme
14928.41	Sub-Total
	Purchase of Investments
14928.41	Total Payments
RECEIPTS	
2009	2010
6908.50	Subscriptions - Members & Societies
779.65	Tax Reclaimed
800.00	C.U. Archaeology Dept.
2090.00	Proceedings Vol XCVIII: Grants
	Proceedings Vol XCVIII: Grants
162.60	Conduit
1813.00	Conference: March
505.00	: November
312.00	Excursions
135.90	Sales of Publications
208.05	Royalties, Misc
1174.05	Investment Income (gross)
67.41	Interest: NSB (gross)
	Gifts - Atlas money
14956.16	Sub Total
	Redemption of Treasury Stock
14956.16	Total Receipts
<u>14928.41</u>	Less Payments (excluding investment of capital adjusted below)
27.75	Cash Surplus/Deficit (-)
	Fixed Interest Treasury Stock:
	Capital Investment
-571.32	Less excess cost on purchase/re-investment over maturity values
-543.57	Surplus/Deficit(-) Income over Expenditure
STATEMENT OF ASSETS	
2571.6	Cash Funds: Current Account
23332.44	: Deposit Account
17792.52	Treasury Stock & NS Certs at maturity values
43696.56	
	Accumulated Fund
44240.13	At beginning of year
-543.57	Surplus/Deficit Income over Expenditure for the Year
43696.56	At end of year
9840.00	Planned Future Expenditure

C. B. Pritchett, Hon Treasurer

B. Cloke, Independent Examiner

Notes

The presentation of the accounts conforms to guidance provided by the Charity Commission. Comment on some of the entries is given in the following notes:

- a. The cost of mailing details to members has been attributed to the event.
- b. A credit of £894.83 with Mailing Distributor arose in 2008 and was used in 2009. The 2010 figure is comparable to earlier years.
- c. This figure is influenced by exceptional transactions - the £500 grant for the purchase of the Fen Drainage papers (g), the gifts of £3000 (f) and transactions for the redemption (£3841.69) and purchase (£10,000) of investments; excluding these amounts the surplus from the normal activities of the Society in the year 2010 is £284.11.
- d. In 2005 the Council reviewed the policy for the reserves held by the Society and concluded that the cash funds less liabilities (e) should be maintained in the range £10,000 to £20,000: on 31 December 2010 the reserves were £10,177.
- e. Planned expenditure; PCAS Vol C £8000, Ladd's Bequest (f) £850, Atlas gift £3,000 (f) and Small Grants £500; total £12,350.
- f. Includes Ladd's bequest of £850 earmarked for events associated with Huntingdon and the Atlas gifts of £3,000 for providing loans to support publications.
- g. Exceptional expenditure on the design of a new Web site (2009) and a Grant for the purchase of the Fen Drainage Papers (2010).

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Cover: the north front of Northborough Manor.

An Inland Bronze Age: Excavations at Striplands Farm, West Longstanton

Christopher Evans and Ricky Patten, with Matt Brudenell and
Maisie Taylor

With contributions by Grahame Appleby, Steve Boreham, Vida Rajkovača and
Anne de Vareilles

The findings are outlined from the excavation of a later Bronze Age settlement located well ‘inland’ – respectively, 5 and 7km away from the Ouse and Cam River Valleys, and 6km back from the fen-edge – at Longstanton, where it straddled the flanks of a gravel ridge running across the Cambridgeshire clay plain. While given its rather piecemeal exposure, the site offers few major insights concerning the period’s settlement generally, it nevertheless reflects upon a number of crucial themes: the nature/chronology of ‘heavy land’ colonisation and when its pioneering occurred, the key role of water provisioning and, due to localised depositional survival, middening dynamics. As regards the latter, the site generated one of the region’s largest later Bronze Age ceramic assemblages and, through waterlogged preservation of its deep-cut pit-wells, yielded an important group of wooden artefacts and other finds.

Lying between 6.5–8.5m OD and located at the interface between Ampthill Clay and Third Terrace gravels (TL 53033/26790), the c. 4ha site was first discovered in 2004 during evaluation fieldwork relating to the Northstowe New Town/West Longstanton development (Fig. 1; Evans & Mackay 2004 and Evans *et al.* 2008, 174–81).¹ It was then excavated between April and August of the following year (Patten & Evans 2005). Due variously to protected hedge-lines and the location of power-cables, the site was fractured into five main areas (A–E; Figs. 2 & 3), with the subdivided central block (B–D) – where the bulk of its prehistoric settlement lay – being the main exposure. At that time further trenching was undertaken, largely to determine the extent of its Bronze Age settlement, and this revealed still another large pit-well north of the cables that divided Areas D and E. Consequently, this area was targeted for geophysical survey (by Oxford Archaeotechnics), and in 2006 this resulted in the excavation of a c. 225sqm area focussed upon that feature (Area 1; Mackay & Knight 2007). In addition, a new trench was cut to target another possible anomaly, wherein a few associated minor settlement features were exposed (Area 2).²

Relating to the sale of the land, July 2009 saw the final stage of excavation along its southern road-side end (Area A; Fig. 2). Though primarily directed towards the completion of the dense Saxo-Norman/

Early Medieval settlement features within that area, this also revealed the western side of a small Middle/later Iron Age enclosure (Hutton 2009). One of a number of such sites in the greater Longstanton area (Evans *et al.* 2008, 179, fig. 3.23), as its limited excavation only produced 38 sherds of that date (and its faunal assemblage only amounting to c. 50 bones) it need not further feature herein.

Directly associated with Area A’s Saxo-Norman/Medieval settlement, both linearly arranged quarry pits and paddock/field boundaries extended throughout the four other areas; whereas a system of Romano-British ditches were confined to only the two northernmost exposures (Areas D & E). As this publication is not concerned with the Village’s long-term development, the evidence of these periods need not detain us. This being said, one of its later-phase features is of interest. Located at the junction of what was evidently ‘in’ and out-field dividing ditches (Fig. 3), F.362 was a Saxo-Norman (Thetford Ware-associated) well. This waterlogged feature, aside from yielding a group of important wooden artefacts – a wheel felloe, cartside rail-top and a yoke – had very good pollen and, as will be shown below, by ‘village analogy’ this helps situate or inform our picture of the earlier, Bronze Age settlement.

Settlement Architecture and Organisation

Before considering the character of the later Bronze Age settlement-phase, it warrants mention that the site’s flint assemblage attests to both Mesolithic/Early Neolithic and later Neolithic/Early Bronze Age background activity, albeit at a low/‘incidental’ density (see below); in addition, a single sherd of Beaker and four of Deverel Rimbury pottery were also recovered.

The basic components of the Bronze Age settlement were those now known to be common to the ‘grammar’ of the period’s settlements. In the main, its extent would be marked by the distribution of its pit-wells over some 1.7ha (they clearly did not continue across the southern two-thirds of Area B and, beyond that, into Area A; Figs. 2 & 3). Lying, however, west beyond this, in Area E, were a four-poster granary (Structure



Figure 1. Striplands Farm, West Longstanton, location maps with Northstowe/Longstanton evaluation sites indicated on detail right.

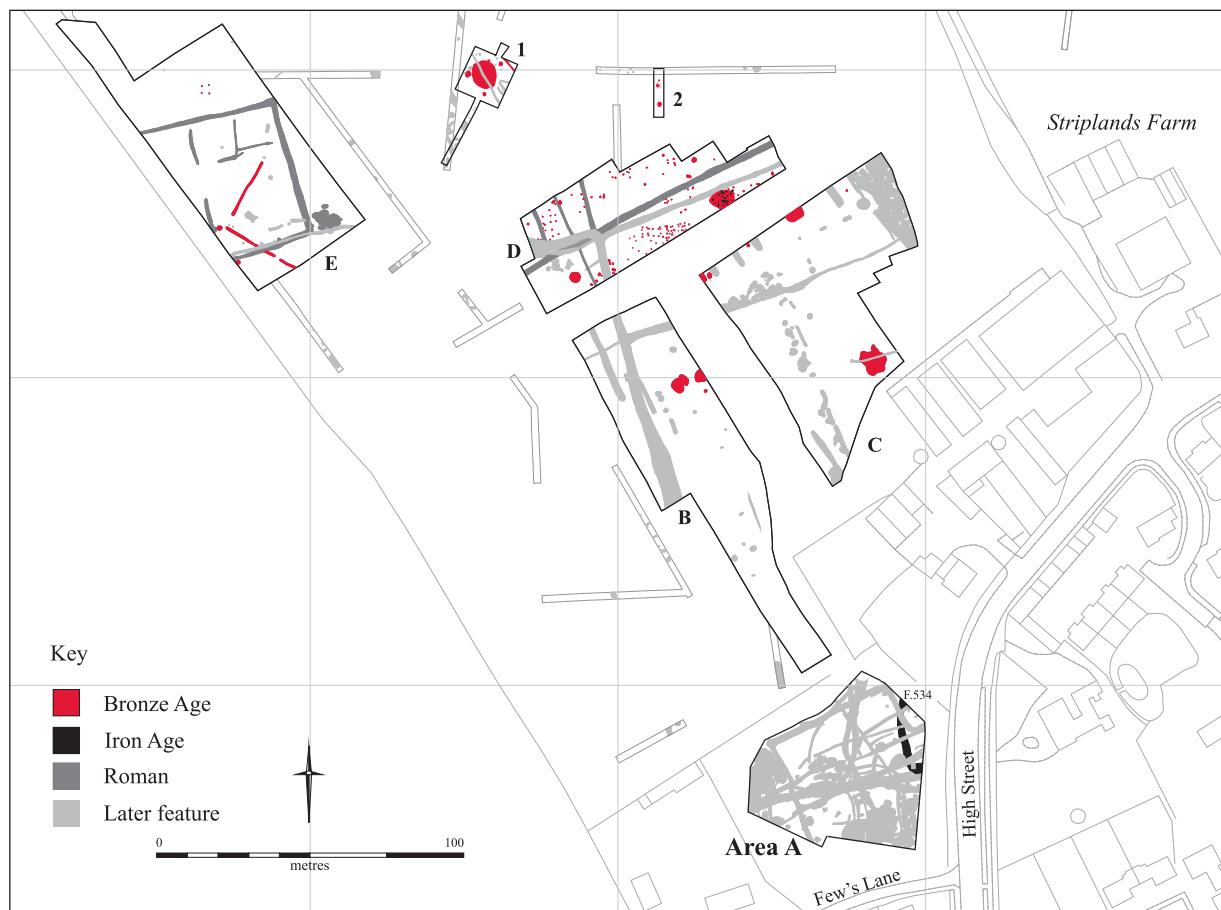


Figure 2. Site Base-plan.

I; 2.4 x 2.6m) and, also, the axes of an 'L'-shaped ditch paddock, with another possible ditch length (F.506) – only tentatively assigned as 'early' based on alignment (and not positive dating evidence) – exposed in Area 1. Given this, the settlement would then have extended over, at least, 2.7ha; it only being its southern limits that, at this time, we can be relatively assured of.

As marked by its array of posthole settings and small pits, the settlement's core clearly fell within Area D (Fig. 4), though it surely extended north of this point and beyond the line of the power cables. Amid the spread of such minor features within it, a series of structural configurations were distinguished. Least obvious, despite their designation as Structure III, was the posthole cluster around and within the upper profile of the large pit-well, F.210. Also apparent there was a possible ('-only') longhouse, Structure IV. Extending over 3.9 x 7.8m, this could be compared to similar settings found at both Barleycroft Farm and Tanholt Farm, Eyebury (see Evans *et al.* 2009, 51, 53–5, fig. 2.17). Also distinguished was a porched, 6m-diameter roundhouse (Structure II). This lay on the western side of a dense posthole spread, which clearly included a west/northwest-east/southeast oriented fence-line, and probably had other four-posters along its northern side. It is possible to identify other short 'fence-type' alignments and, on the whole, other

less well-defined posthole settings surely occurred within that area.

In order to provide a sense of comparable context for the site's pits/wells, the same size-categories that were employed in the recent analyses of Fengate's Bronze Age settlements have been used (A–D; Evans *et al.* 2009, 70–2, 152, fig. 3.5 and table 4.9). As plotted in Fig. 5, they were generally quite large, with two-thirds of the site's 51 such features being greater than 1.4m across and more than 0.5m deep (Fig. 5). Of the total, 11 were more than 1.0m deep and, for our immediate purposes here, these have – if rather arbitrarily – been categorised as wells. As is apparent in Table 1, these features yielded the majority of the settlement's finds.

	Pits	Wells	Other Features	Total
Pottery	425 (5426g)	3867 (35280g)	25 (85g)	4317 (40791g)
Bone	1101 (4350g)	6363 (48060g)	116 (549g)	7580 (52959g)
Flint	13 (140g)	528 (4873g)	6 (6g)	547 (5019g)

Table 1. Artefact frequency by feature-type

Of the site's wells, having depths in excess of 1.3m,

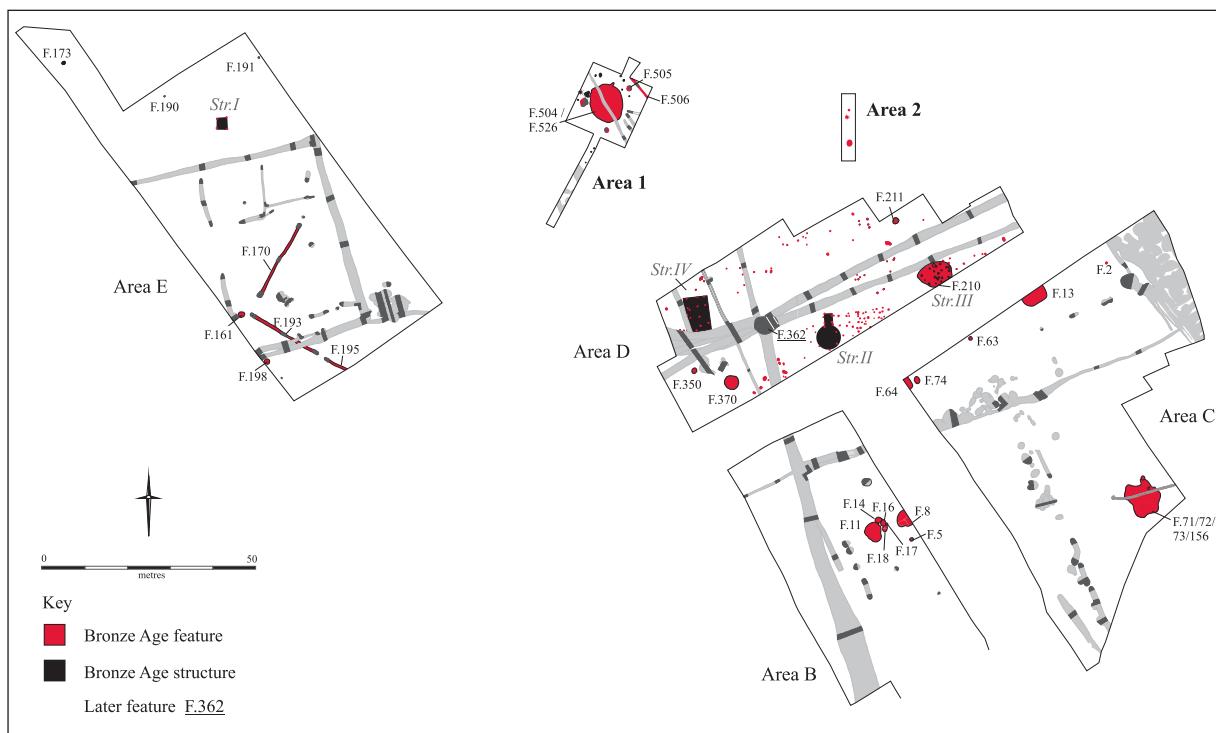


Figure 3. Base-plan (detail), Bronze Age Settlement Features.

five were extensively waterlogged. These also yielded the majority of its non-organic finds, with the vast bulk deriving from the midden deposits within the upper profiles of F.210 and F.504/526 (Table 2).

It is appropriate that the salient characteristics of the highlighted features be presented in some detail: F.13 (Figs. 3 & 6): Some 6.0m wide, while this could not be completely exposed it was excavated to its full depth of 1.35m. It had steep sides with a gradual break of slope to a concave base on the eastern side, with sharp, almost right-angled breaks of slope on the southern and western sides. A distinct step and flattened area was also present in the northeast base of the feature at 0.7m depth. Into this had been set a horizontal log, retained in position by a series of vertical stakes, probably creating an access-staging point into the well. Of the feature's seven fills, the uppermost consisted primarily of dark grey clayey sand, with the mid and lower deposits composed of light grey sandy clays grading to waterlogged blue or black

sandy silts. Though the wooden items were recovered from the basal fills, pottery was only retrieved from the upper two deposits; a large occipital and left parietal human skull fragments also occurred within the lower of these fills.

F.71-73/F.156 (Figs. 3, 6 & 22): This initially appeared as an irregular-shaped feature, c. 9.25m long and 7.0m wide. Excavation identified four distinct features/re-cuts. The earliest, F.156, was severely truncated and survived to a depth of 0.65m; having steep sides (the southeastern undercut) and a uniformly flat base, it contained a grey-green silt. This was succeeded by F.72, c. 1.9m in diameter and 1.0m deep. Also severely truncated, F.72 had a near-vertical northern side, steep sides on the southern edge and a flat base. Its fills consisted of sandy redeposited natural 'slump', blue-grey silty clay and a dark brown organic-rich deposit; the latter two contained waterlogged wood, including a log ladder. Truncating both these features was F.71, c. 5.2m in diameter and 1.3m deep, which had steep sides and an uneven/flat base.

F. No.	Width (m)	Length (m)	Depth (m)	Pottery	Bone	Flint	Burnt Flint	Wooden Artefacts
13	6.05	-	1.35	40 (26g)	147 (1459g)	7 (89g)	-	Bark box
71-3/156	7.0	9.25	1.53	30 (293g)	1004 (15644g)	20 (258g)	1 (42g)	2 Axe hafts Withy 1 LL
210 Midden	5.2	7.25	2.6	1102 (12325g) 1088 (12234g)	1684 (13194g) 1543 (11353g)	25 (181g) 23 (174g)	49 (824g) 49 (824g)	3 LL (+ forked 'lift'/ladder)
370	3.25	3.5	2.15	40 (372g)	83 (237g)	1 (9g)	-	1 Axe haft 1 LL
504/526 Midden	7.25	8.5	3.00	2499 (21000g) 2483 (20882g)	3284 (17935g) 2340 (7611g)	458 (4319g) 403 (3436g)	890 (11722g) 855 (10468g)	Trough 5 LL
Total				3711	6202	511	940	

Table 2. Waterlogged pit-well assemblages ('LL' indicates log ladder).

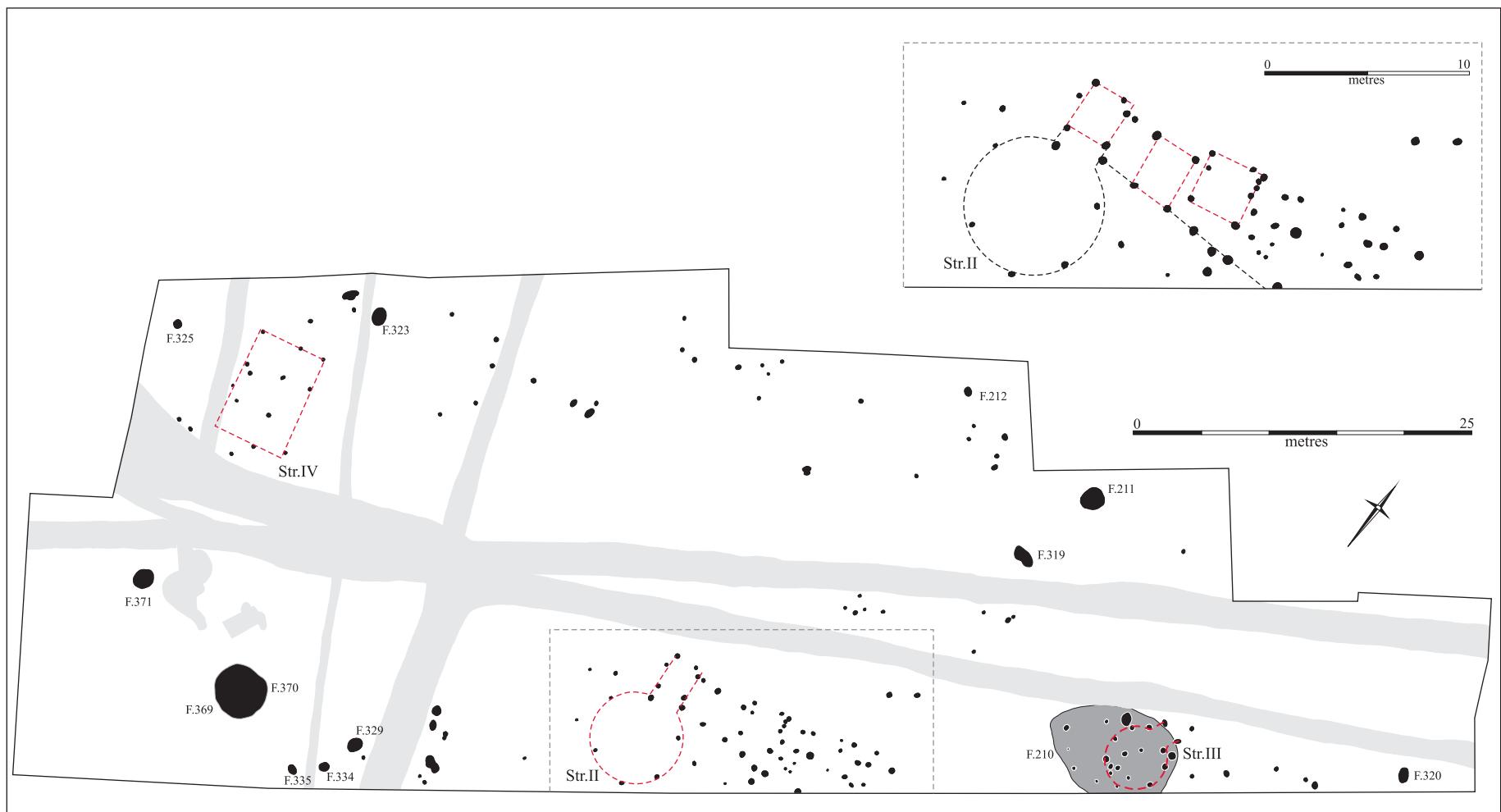


Figure 4. Base-plan, Area A, with possible four-poster settings indicated on inset.

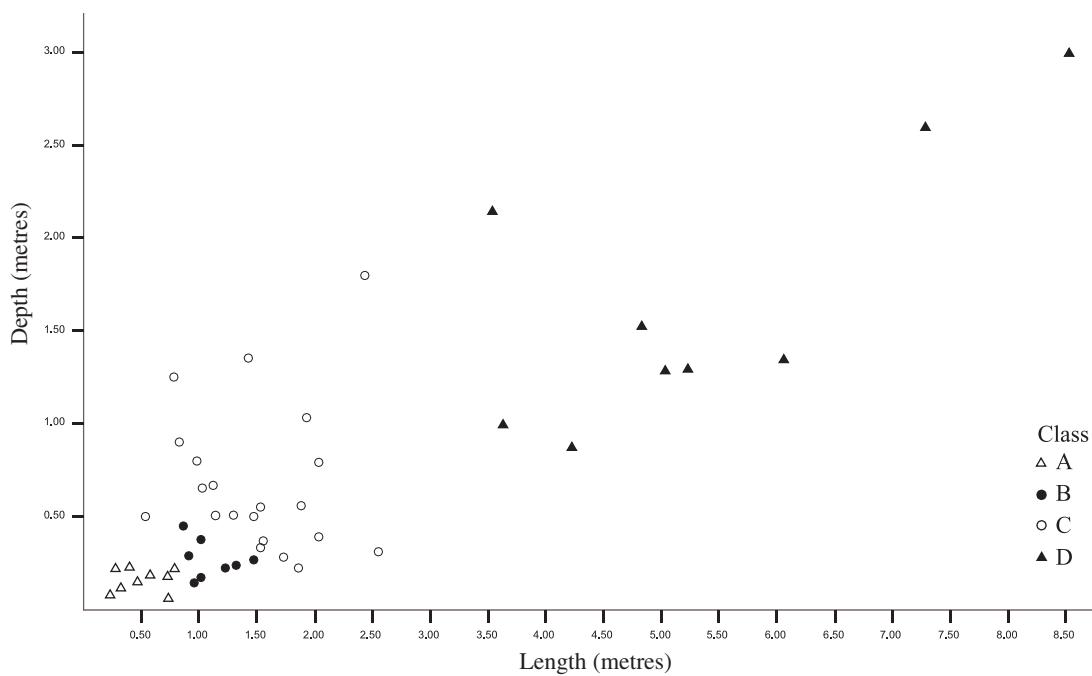


Figure 5. Bronze Age Pit Dimensions Plot.

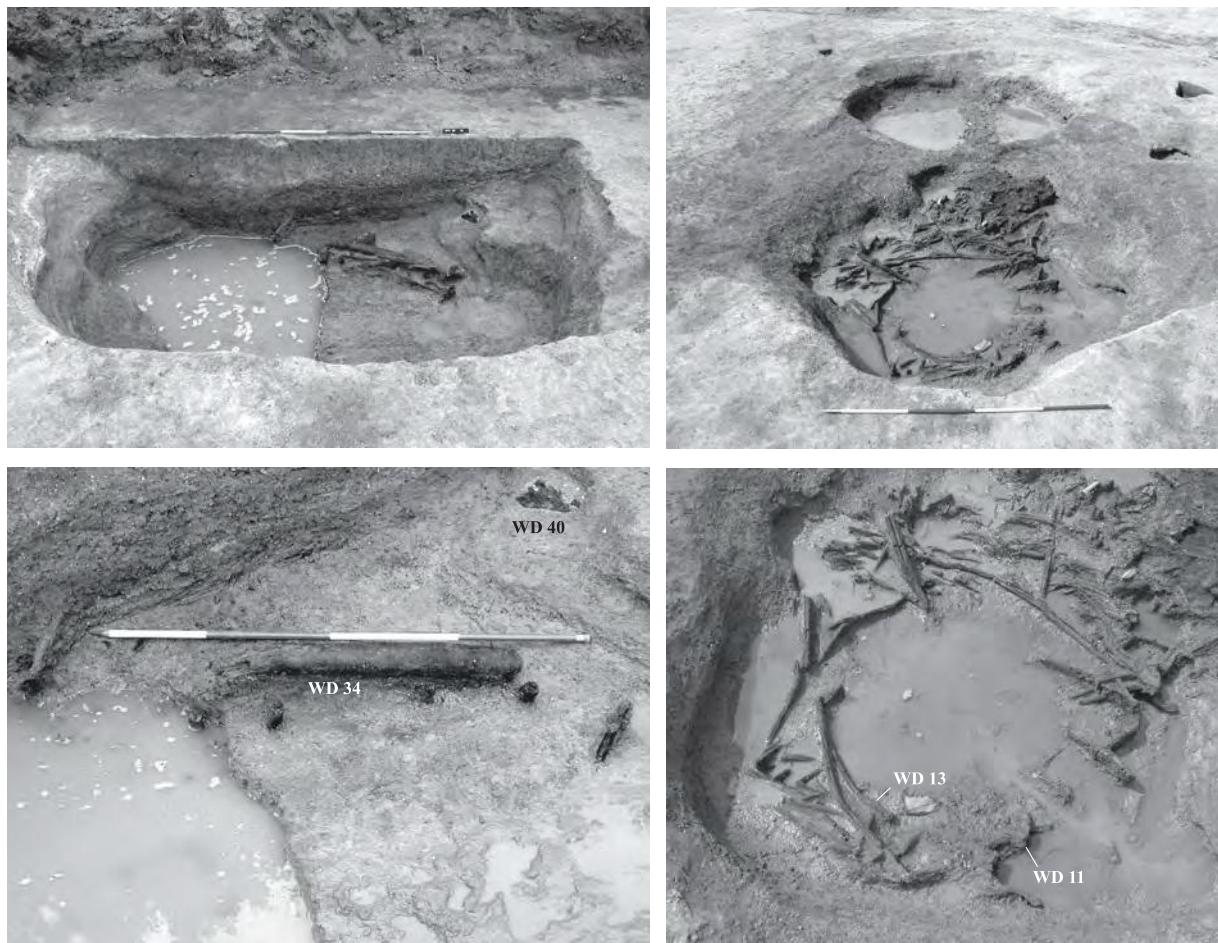


Figure 6. Pit-well Imagery (I): left, F.13, general shot (top) and, below, detail of revetment/staging, with the bark box/step (WD40) in situ in upper right corner (see Fig. 17); right, F.71-3/156, with detail of basal timbers below. See also Plate 1.

It contained eight fills, the majority of the pottery and bone was recovered from the upper two, with two cow skulls also found near the top, seemingly placed to 'face' outwards. In the main, its deposits were light to mid blue-grey clay silt, grey sandy silt with occasional gravel and light grey clay; secondary and basal fills were dark brown to grey silts, blue-grey silty sand and grey silt. Its secondary basal fill was of special note, containing a large quantity of worked wood cuttings (including axe hafts), the majority dumped on the northern side of the feature; five pierced freshwater mussels were also recovered (Fig. 20). Abutting the northern edge of F.71 was pit-well F.73, c. 4.2m in diameter and 0.89m deep, with steep sides and a flat base; the upper three fills were contiguous with those of F.71, with the remaining deposits consisting of light grey or blue silty sand with moderate gravel and slumped natural at the northern end, and from which no finds were recovered.

F.210 (Figs. 4, 7 & 8): This was 7.25m long and a minimum of

5.2m wide, and was excavated to a depth of 2.6m. Its sides sloped gradually from the top, and then broke sharply into near-vertical sides in the western and northern sectors to a flat base. A distinct sloping basal 'ledge' (c. 1.6m diam.) was present in the northeastern quadrant, which had traces of wattle revetting, consisting of horizontal rods woven around a series of vertical stakes (grouped in threes); a fragment of an earlier log ladder was found in slumped deposits behind the revetting. On abandonment, a fragment of tree-trunk and a further log ladder were discarded within this revetted-ledge area. Having 14 distinct fills and slumped horizons, these mainly consisted of light brown to grey-orange sandy clay near the top, to dark orange sandy and blue-grey silty clay towards the middle; in its lower profile/base were dark grey clays (some with a silt component) and sandy clays with organic material. Only a relatively minor quantity of finds were recovered from the lower horizons, the vast majority of its finds being retrieved from 0.5m thick dark

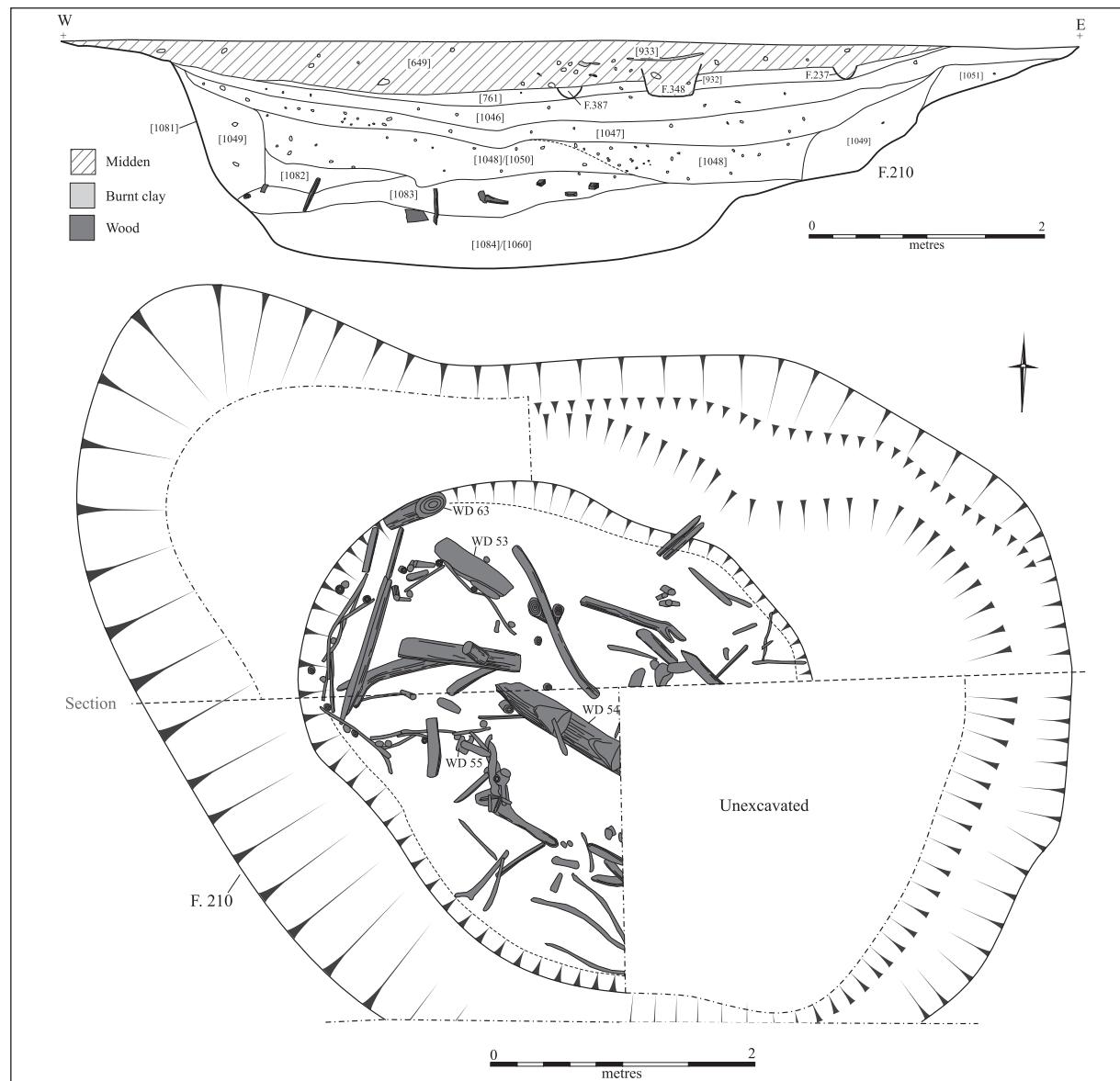


Figure 7. F.210, Plan and Section.

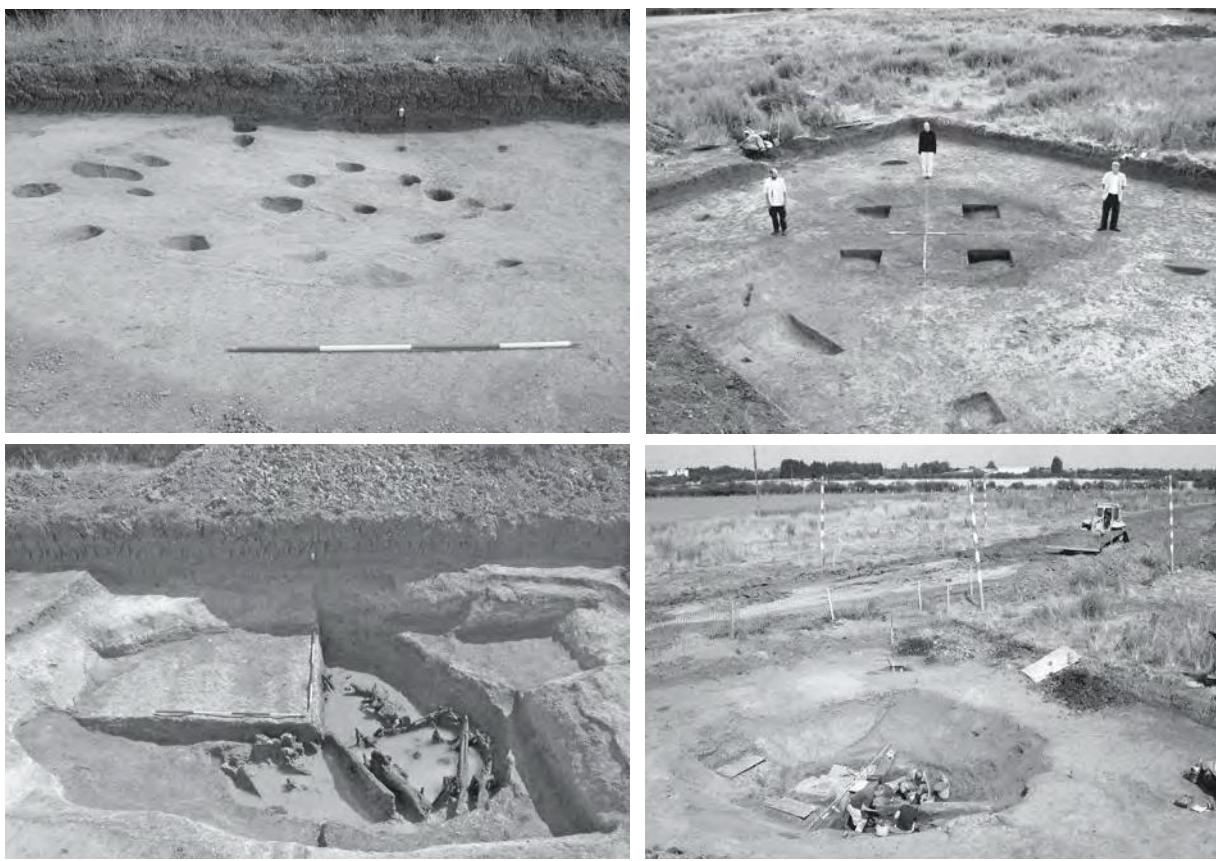


Figure 8. Pit-well Imagery (II): left, F.210, with Structure III postholes revealed in its top following excavation of midden horizon (top) and, below, timber in base; right, F.504/526, initial midden strata quadrant-sample grid (top) and, below, excavation in progress with the construction of Longstanton's B1050 bypass-road looming behind.

brown-grey silt midden layer that sealed the entire feature. It was upon the removal of this horizon that the postholes of Structure III were exposed, but as is apparent within its section (Fig. 7), these clearly had been inserted 'within' it.

F.370 (Fig. 4): This 2.15m deep sub-circular feature (3.50 x 3.25m) possessed initially shallow-sloping sides, with sharp breaks of slope down to uneven, very steep sides and an irregular base. It had grey or brown sandy silt fills with some organic material, and a rich black-brown basal deposit with much well-preserved organic material, including a log ladder and axe haft. Of the pottery and bone, the vast majority was recovered from the upper fills, although a small amount of pottery was also retrieved from the same deposit as the afore-mentioned wooden artefacts.

F.504/526 (Figs. 3, 8–10): This large oval-shaped watering-hole was 7.25m wide, 8.5m long and up to 3m deep. Initially a c. 2m wide pit or well (F.530; only the lowermost 0.4m survived), this was sub-rectangular in shape and had steep to near-vertical sides and a flat base. Its dark and mid grey sandy clay fill contained the remains of a collapsed wooden tripod structure constructed from three worked logs, two with mortises. Truncated in the southeast quadrant by F.526, this 2.4 x 1.9m and 1.75m deep feature penetrated below the water-table. It had steep to near-vertical irregular sides on the southeastern side, with a shallow slope and sharp break of slope down

to a near-vertical edge in the northwest and a flat base. Shaft-like in appearance, the lower fills were difficult to excavate due to flooding; the fills consisting of pale grey to silver sandy silts interrupted by lenses of dark black-brown organic silts. Within the fills were clumps of preserved leaf matter, three log ladders and a small quantity of animal bone. Located immediately to the northwest of F.526 was F.525. One metre in diameter and surviving to a depth of c. 0.5m, this had a rounded base, steep sides and also contained a log ladder, positioned centrally to give access from the northwestern aspect, whilst the northeastern edge was pierced by a small wooden stake; it was filled with a dark grey-brown gritty clay silt. Situated on the northern side of the main feature was a severely truncated circular pit F.531, 0.5m in diameter and 0.5m deep, and from which no finds were forthcoming. A single, 'boggy' spread ([1265]) sealed these earlier re-cuts and consisted of preserved fragments of small branches and twigs; found within its matrix were both a crudely worked wooden trough and the articulated front legs of a wild boar. This was covered by a 0.35m thick horizon of iron-panned orange clay ([1275]), sealing the lower waterlogged deposits. Feature 517, some 0.8m in diameter and 0.9m deep with vertical sides and rounded base, cut into the waterlogged deposit, exposing the stake in F.525. This, in turn, was sealed by a capping deposit ([1208]). Composed of homogenous dark grey and black clay silt with an ashy texture, this also

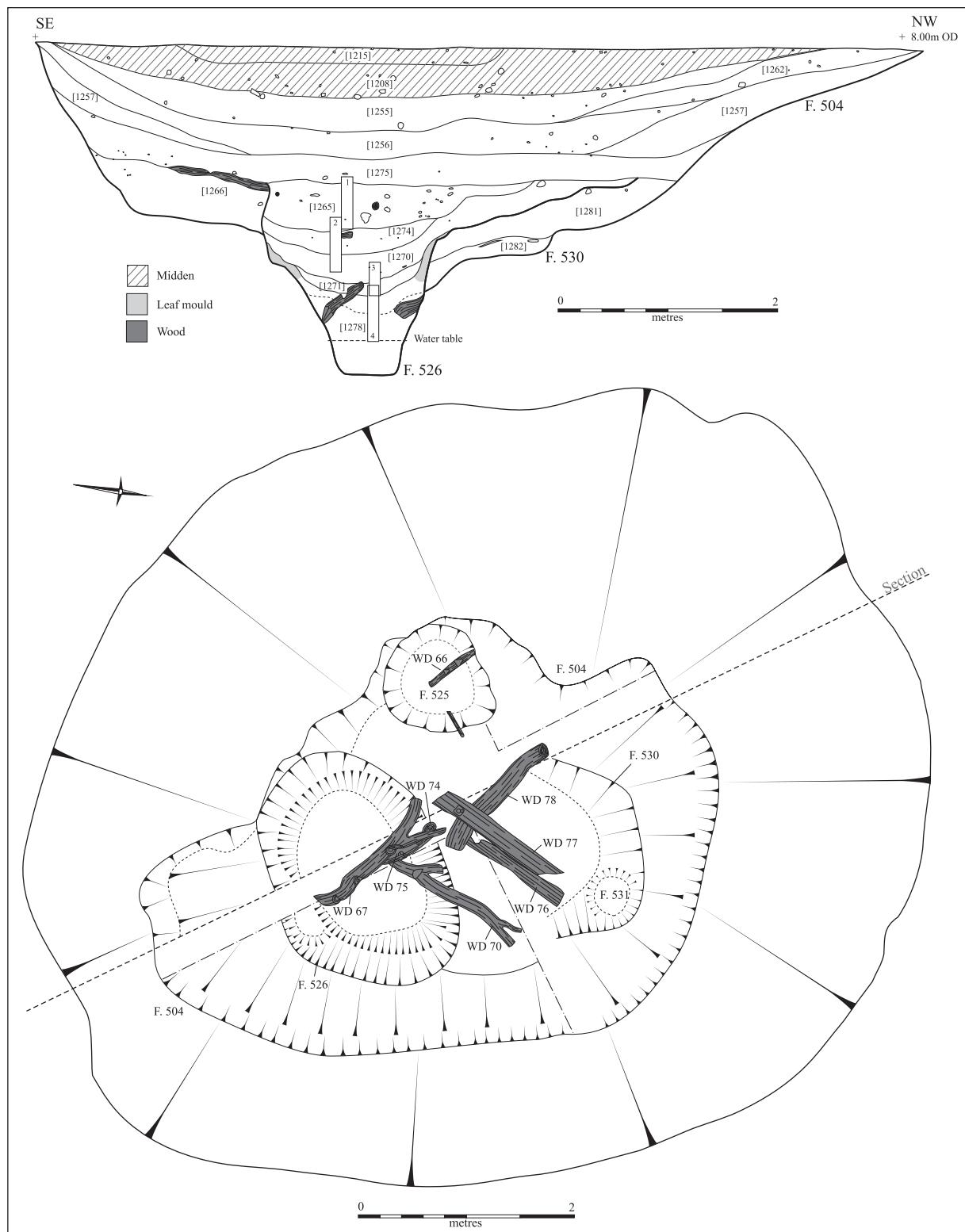


Figure 9. F.504/526, Plan and Section.

covered lower fills of mid yellow grey-brown clay-silts (containing a fragment of saddle quern and a possible rubbing stone) and from it was recovered great quantities of the pottery, animal bone, flint and burnt flint, fired clay and stone.

Only two other features otherwise warrant notice. Located along the northern edge of Area C (southwest of F.13; Fig. 3), F.63 was a circular pit, c. 0.85m across and 0.45m deep, with vertical sides and a flat base. It had two dark sandy clay-matrix fills, the upper



Figure 10. F.504/526 Wood in situ.

including a 0.12m thick lens of charcoal and much burnt stone. A distinct collection of finds appeared deposited within it: a collapsed, largely complete pottery vessel (see Brudenell, below), a large loomweight and a saddle quern fragment. The other feature of note, a cremation (F.2), also occurred within the same area (Fig. 3). Set in a c. 0.45m diameter pit (0.23m deep), this had 225g of white-burnt/-calcined human bone fragments. As reported upon by Dodwell, their

small size (most 10–20mm) precluded identification beyond 'sub-adult/adult'. Interestingly, food remains offerings may have been part of its rite and, possibly resonating with pit-well F.71's mussel shell necklace, fragments of shell were also recovered from this feature (the only other context in which such shells occurred; see de Vareilles below).

Of the settlement's broader depositional patterning, virtually no finds were forthcoming from the

post-built structures within Area D (apart from those of Structure III associated with F.210's midden) and only very little Bronze Age material was present in residual status from the later-phase features there. This was in some contrast to Area E, where a higher density of prehistoric material occurred: 70 fragments of bone within the ditches of the 'L'-shaped paddock and some 50 sherds of pottery in its Romano-British and Saxon-Norman features. This, on the one hand, might attest to another, more westerly settlement focus, but which lacked accompanying post-built houses. On the other hand, its somewhat higher general-area finds density could actually reflect settlement-marginal activity, which evidently was not subject to formal middening; whereas most of the material relating to Area D's occupation went directly into organised middens (and subsequently redeposited within F.210; see e.g. McOmish 1996, Needham & Spence 1997, Brudenell & Cooper 2008 and Sharples 2010, 52–3 concerning the period's middening dynamics generally).

As shown in Fig. 11, the two pit-wells' middens

were both hand-excavated in metre-squares; however, in the case of F.504, only the southern half was entirely dug in this manner, the northern only being tested by single metre-units in the centre of each quadrant on that side (and, otherwise, hand-dug *en masse*). The so-recovered densities were high: more than 100 bone fragments and sherds per metre in the case of F.210 and, for F.504, the highest values were in excess of 250 per metre.

Another point should be raised concerning the pit-wells' artefact assemblages and that is the disproportionate representation of both worked and burnt flint within F.504 in the north. This must essentially relate to the recovery of earlier ceramics from that area of the site alone, which included a probable Beaker sherd from F.504 itself and four small Deverel Rimbury sherds from pit F.505 within the same trench. This would suggest that the traces of earlier/Middle Bronze Age occupation had been scraped up from the ground surface, mixed with later Bronze Age ceramics and redeposited within that feature.

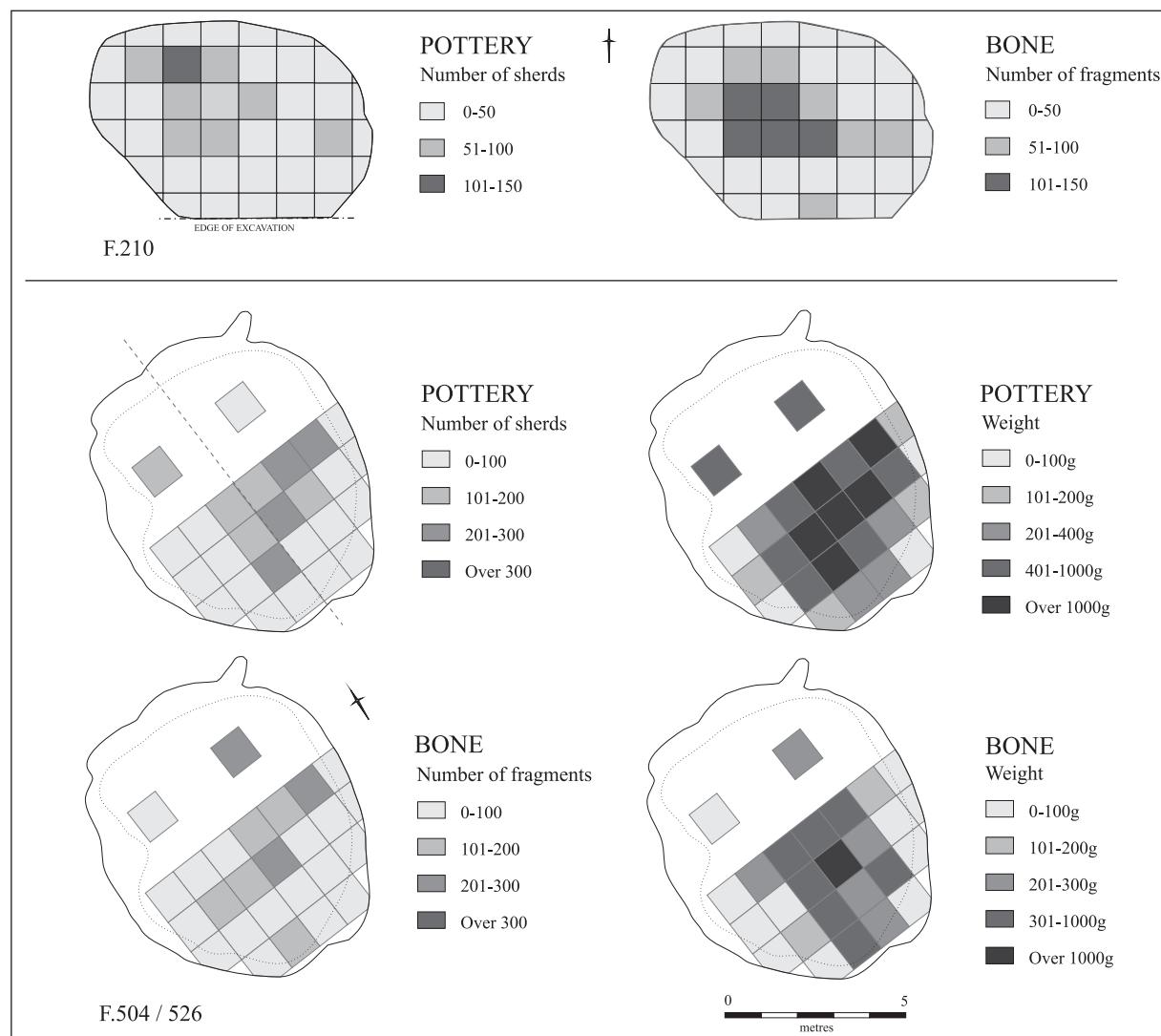


Figure 11. Midden Deposit Densities (F.210 & F.504/526).

Before proceeding, some general remarks concerning the role and operation of such pit-wells are necessary. Though some comparable features are known in later Neolithic/earlier Bronze Age contexts (e.g. Webley & Hiller 2009), large pit-wells/watering-holes seem essentially a Middle/later Bronze Age phenomenon.³ Found on almost every 'fieldsystem-landscape' within the region (see Yates 2007, 82–100 and Evans *et al.* 2009, 42–66 for overview), they deserve to be counted amongst the great 'inventions' of later prehistory as they facilitated permanent settlement in diverse locales. Without them, as is still the case in, for example, much of sub-Saharan Africa today, daily water would still have been achieved through routine tasking – fetching water from natural springs, brooks, ponds or rivers – or, otherwise, settlements would have had have been sited immediately beside these sources (i.e. tolerating low damp-ground conditions). This is as true for animals as humans, for without such watering-hole wells stock would daily have been driven to water.

Although dependent upon their proximity to contemporary settlement, on their abandonment these usually large features can be backfilled with a rich array of often waterlogged materials arising from their immediate usage/function, and the domestic matrix of their associated households. In fact, given that Bronze Age house-evidence is often slight – amounting to only a scattering of postholes – in terms of 'closed' material culture assemblages, Middle/ later Bronze Age pit-wells can be considered as near-equivalent substantive 'period packages' as eavesgully-surrounded Middle Iron Age roundhouses.

As to the operation of such pit-wells, unsurprisingly, the site's features display variety. On the one hand, there is F.210's wattling and F.13's single stake-set log. Against this, on the other hand, F.504/526 showed no real evidence of any revetting *per se*, but as further outlined by Taylor below, its wooden artefacts – variously, large trimmed forked branches and mortised timbers – could suggest a 'mechanical' means to take water (Fig. 10). This may have been due to the much greater depth and steep-sided form of F.526, which extended for more than a metre below the base of the originally broad, F.504 version. In fact, by its profile it is the F.526 well-form that is unusual and actually seems almost akin to later types, such as the much deeper, often box frame-revetted constructions of Romano-British times, and which clearly required mechanical means to lift water out. In contrast, most later Bronze Age wells were obviously 'broad' (i.e. not steep-sided) and, frequently recut, this usually resulted in irregularly stepped profiles.

In this capacity, the arrangement of F.13 seems to have been the most commonplace. Essentially amounting to little more than a horizontally pegged timber (Fig. 6), while such settings would have surely held back accumulated basal 'muck', at the same time they would have provided a staging against/on which an individual could have supported themselves while obtaining water; in that case, the 'staging level' was achieved by the distinct bark-lined step on its east-

ern side (which appears to have been a reused 'box'; WD40, see below). Instances of pegged 'staging' well-settings have recently been found associated with both Langtoft and Thorney's fieldsystems (Hutton 2008a & b; Mudd & Pears 2008, 33–47); particularly, a 'door-step' access-entry arrangement in one of the latter's features (Daniel 2009, 50, fig. 3.43). The crucial point is that it appears that you would have actually clambered into the pit-wells to get water, either negotiating passage directly down their sides or gained them *via* log ladders (alternatively, of course, a roped bucket could have always been tossed in from above and two such buckets were recovered from Thorney's features; Mudd & Pears 2008, 52, fig. 32; Daniel 2009, 114–7, fig. 5.1). As opposed to 'waterhole pits', 'ponds' have also been distinguished within Thorney's Bronze Age landscape; presumed to respectively relate to human and stock-watering sources, the latter are generally larger and held to have had direct ramp-access down the broader slopes of one of their sides (Daniel 2009, 46–51, figs. 3.40–44; Mudd & Pears 2008, 39 & 46, figs. 27 & 34).⁴

Dating Evidence

The settlement's dating presented something of a dilemma. On the one hand, the depth of accumulated infill within pit-wells F.504/526 and F.210 prior to the deposition of their respective midden-cappings suggested considerable time-depth. Yet, on the other hand, aside from the site's few Beaker and Deverel Rimbury sherds, only Late Bronze Age wares were recovered from them and which – albeit in low numbers – also occurred at depth within the pit-wells' profiles. It was in an effort to resolve this that a robust series of radiocarbon samples were submitted, with the following dates achieved:

- 1) Beta-280343 (SFW05-[136]/F.13) – 2850±40BP/1120–910 cal. BC
- 2) Beta-280344 (SFW05-[468]/F.71) – 3600±40BP/2110–2100 and 2040–1880 cal. BC
- 3) Beta-280345 (SFW05-[649]/F.210) – 2680±40BP/910–790 cal. BC
- 4) Beta-280346 (SFW05-[1062]/F.210) – 2800±40BP/1040–840 cal. BC
- 5) Beta-280347 (SFW05-[1009]/F.370) – 2800±40BP/1040–840 cal. BC
- 6) Beta-280349 (SFW06-[1282]/F.530) – 2990±40BP/1380–1330 and 1330–1120 cal. BC
- 7) Beta-286572 (SFW06-[1208]/F.504) – 2870±40BP/1190–1140 and 1140–920 cal. BC.

In addition, one other sample, from F.504 ([1208]; Beta-280348), was submitted; unfortunately, its animal bone failed to yield sufficient collagen for a result. Otherwise, all of the dates are considered 'acceptable', apart from the second, Beta-280344, from F.71. Unlike the others, which derived from either charred cereal remains or wood (with Beta-286572 from food residues on a sherd), that was the only other animal bone sample and clearly it has produced an assay some

600–500 years too young. That said, while not coming from where the Beaker/Deverel Rimbury sherds were recovered, it is certainly possible that this bone was ‘old’ and of residual status within the later pit-well (i.e. relates to the landscape’s Early Bronze Age background). Therefore, excluding it as an ‘outlier’ and starting with the F.530 sample (from the primary basal-form of F.504/526), they suggest that the site’s ‘well-related’ occupation began in 13/12th centuries BC and continued until, at least, the 9th century, with the brunt of its usage probably spanning the later 11th through to the 9th centuries BC; the majority of the pottery probably deriving from the end of this span (see Brudenell, below).

Material Culture

Due to restrictions of space, only the most relevant artefact assemblages – pottery and wood – are reported in detail, with the remainder of the settlement’s Bronze Age finds only being summarised.

Late Bronze Age Pottery

Matt Brudenell

A substantial quantity of Late Bronze Age pottery was recovered, totalling 4153 sherds (41079g), with a mean sherd weight of 9.9g. To date this is the largest group of Late Bronze Age Plainware PDR (Post-Deverel Rimbury) pottery published from Cambridgeshire, and represents a regionally important assemblage in direct association with a series of high precision Accelerator Mass Spectrometry (AMS) radiocarbon dates. For regional ceramic studies, the two most important groups are unquestionably those deriving from the artefact-rich ‘midden’ dumps capping fills of pit-wells F.210 and F.504. Accounting for some 79% of the total assemblage (by weight), these deposits are deservedly the focus of this report, with the rest of the feature-groups receiving only summary treatment. All the pottery has, however, been fully recorded following the recommendations laid out by the Prehistoric Ceramic Research Group (PCRG 1997), and is further detailed in the author’s doctoral thesis (in prep.).

Assemblage Characteristics

The comparatively wide range of Late Bronze Age fabrics identified reflects the site’s location within a locally diverse geological landscape, in which potters could have had access to a variety of potential clay sources and tempering inclusions. As is however characteristic of PDR ceramic tradition in this part of Cambridgeshire and much of Eastern England, crushed burnt flint was the favoured ingredient in fabric recipes; the grade and density varying along the spectrum of coarse to fine and common to sparse, linked largely to the quality of the ware and vessel size. By weight, 75% of the pottery had burnt flint inclusions (F1–F6); dominant amongst which was coarseware Fabric F1 (Table 3). Shelly wares, probably deriving from the local Ampthill or Kimmeridge Clay sources, accounted for 12% of the pottery (9% shell; 2% shell and sand; 1% shell and burnt flint). The remaining 13% was shared amongst the ‘minor fabric’

groups with grog (<1%), quartz sand (2%), quartz/quartzite (2%), or a combination of grog and flint (3%), flint and chalk (<1%), and flint, quartz/quartzite and grog (5%).

Burnt Flint Fabrics

- F1: Moderate–common medium and coarse burnt flint (mainly 2–4mm in size). The clay matrix can also contain rare, sparse or moderate sand, and some sherds possibly contain glauconitic inclusions
- F2: Sparse medium and coarse burnt flint (mainly 2–4mm size); clay matrix as in F1
- F3: Moderate–common medium burnt flint (mainly 1–2mm in size); clay matrix as in F1
- F4: Sparse medium burnt flint (mainly 1–2mm size); clay matrix as in F1
- F5: Moderate–common fine burnt flint (<1.5mm); clay matrix as in F1
- F6: Rare–sparse fine burnt flint (<1.5mm); clay matrix as in F1
- F: Generic category for sherds with burnt flint inclusions too small to assign to a numbered fabric group

Burnt Flint and Chalk Fabrics

- FCH1: Sparse–moderate medium flint (mainly 1–2mm) and sparse medium and coarse chalk (1–3mm)

Burnt Flint, Quartz/Quartzite and Grog Fabrics

- FQIG1: Sparse–moderate fine burnt flint, quartz/quartzite and grog (<1.5mm) in a slightly sandy clay matrix

Grog Fabrics

- G1: Sparse–common medium to coarse grog (1–3mm) in a slightly sandy clay matrix

Grog and Burnt Flint Fabrics

- GF1: Sparse–moderate medium to coarse grog (1–3mm) and sparse to moderate medium and/or coarse flint (1–4mm) in a slightly sandy clay matrix
- GF2: Moderate–common fine grog (<1.5mm) and sparse to moderate medium flint (1–2mm) in a slightly sandy clay matrix

Quartz Sand Fabrics

- Q1: Sparse quartz sand
- Q2: Moderate–common quartz sand; some quite abrasive. The clay matrix may contain rare mica
- Q3: Moderate quartz sand and sparse linear voids from burnt out vegetable matter

Quartz/Quartzite Fabrics

- QI1: Moderate–common medium and coarse quartz/quartzite (mainly 2–4mm in size). The clay matrix can also contain sparse or moderate sand, and sparse mica flecking
- QI2: Moderate–common medium quartz/quartzite (mainly 1–2mm in size); clay matrix as in QI1
- QI3: Sparse–moderate medium and coarse quartz/quartzite (mainly 2–4mm in size); clay matrix as in QI1

Shell Fabrics

- S1: Moderate–common medium to coarse shell (mainly 2–4mm)
- S2: Sparse–common medium shell (mainly 1–2mm)
- S3: Sparse–common fine shell (<1.5mm)
- S: Generic category for sherds with shell inclusions too small to assign to a numbered fabric group

Shell and Quartz Sand Fabrics

SQ1: Moderate–common medium and coarse shell (mainly 2–4mm) in a fine sandy clay matrix
 SQ2: Sparse–common fine and medium shell (<2mm) in a fine sandy clay matrix

Shell and Burnt Flint Fabrics

SF1: Sparse–common medium to coarse shell (mainly 2–4mm) and sparse medium to coarse flint (mainly 2–4mm)
 SF2: Moderate–common fine shell (<1.5mm) and sparse medium to coarse flint (mainly 2–4mm)
 SF3: Sparse–moderate fine shell (<1.5mm) and sparse medium flint (mainly 1–2mm)

Based on the total number of different rims and bases identified, the assemblage represents a minimum of 327 vessels, with an Estimated Vessel Equivalent (EVE) of 22.8 (222 different rims, 102 different bases and three complete vessel profiles). As regards vessel forms, the assemblage was composed of a range of jars, bowls and cups types typical of Late Bronze Age ceramic groups from across southern Britain (Barrett 1980). In total, 68 vessels were sufficiently intact to allow ascription to form (Table 4). This included 268 sherds (6274g), representing 6% of the assemblage by sherd count, or 15% by weight. Un-burnished coarseware jars (Fig. 12, Class I) dominated, notably weakly shouldered vessels (Form G), and ellipsoid or barrel-shaped jars with everted, upright, slightly in-turned or ‘hooked’ rims (Forms B & C). These were accompanied by a variety of jars with

high rounded shoulders and short upright rims (Form F); jars with marked shoulders and hollowed necks (Form H), and a handful of vessels with bipartite and tub-shaped profiles (Forms D & E). The jars occurred in three sizes: small vessels with rims diameters of 12–17cm; medium vessels measuring 18–27cm, and large to very large vessels measuring 30–37cm (Fig. 13). Carbonised residues were only identified on small and medium-sized jars, suggests these vessels primarily served as cooking pots (residues were recorded on a total of 206 sherds; 4143g). The two burnished fineware jars (Class II, Forms A & G) in the assemblage were possibly serving vessels, and also fell into the small- and medium-size range category.

Although only 12 bowls were identified, the three most common types were simple open bowls with a broadly hemispherical profile (Form J); round-bodied bowls with upright or everted rims (Form K), and shouldered bowls with hollowed or concave necks (Form L). There were also two examples of tripartite bowls with short everted, tapered rims (Form N). The bowl rim diameters all measured between 12–17cm: the un-burnished coarseware varieties (Class III, Forms K, J, L) ranging between 12–15cm; the burnished finewares (Class IV, Forms J–N) between 14–17cm. The seven identified cups in the assemblage ranged from simple open vessels with straight flared walls, through to cups with bulbous bodies and everted rims; all were from 7–10cm in diameter.

The scarcity of form-assigned fineware from Striplands reflects the general paucity of burnished sherds amongst the assemblage overall. In total, just 221 sherds retained traces

Fabric	No./wt. (g) sherds	% of fabric	No./wt. (g) burnished	% fabric burnished (by wt.)	MNV	MNV burnished
F	239/363	0.9	1/6	1.7	11	1
F1	2225/25751	62.7	9/69	0.3	157	2
F2	169/1704	4.1	-/-	-	18	-
F3	163/1140	2.8	49/480	42.1	27	12
F4	107/700	1.7	13/81	11.6	10	1
F5	123/635	1.5	82/413	65.0	15	9
F6	79/483	1.2	27/101	20.9	15	7
FCH1	8/301	0.7	-/-	-	1	-
FQIG1	148/2060	5.0	-/-	-	2	-
G1	29/160	0.4	-/-	-	4	-
GF1	53/785	1.9	-/-	-	10	-
GF2	63/598	1.5	2/21	3.5	1	-
Q1	57/191	0.5	9/23	12.0	7	2
Q2	51/383	0.9	17/141	36.8	4	1
Q3	15/152	0.4	2/14	9.2	5	-
QI1	77/869	2.1	1/5	0.6	6	1
QI2	16/122	0.3	-/-	-	1	-
S	47/67	0.2	-/-	-	-	-
S1	287/2714	6.6	1/20	0.7	9	-
S2	93/599	1.5	½	0.3	12	-
S3	11/105	0.3	4/25	23.8	1	1
SF1	14/166	0.4	-/-	-	1	-
SF2	14/168	0.4	-/-	-	1	-
SF3	16/256	0.6	-/-	-	2	-
SQ1	31/278	0.7	-/-	-	2	-
SQ2	18/329	0.8	3/193	58.6	5	2
Total	4153/41079	100.1	221/1594	3.9	327	39

Table 3. Fabric frequency and the relationship to burnishing and vessel counts (MNV = minimum number of vessels, calculated as the total number of different rims and bases).

Form	Brief description	No. Vessel	No. Burnished	Rim diam. (cm)
A	Jar, round shoulder, constricted neck	1	1	16
B	Jar, ellipsoid, upright or in-turned/hooked rim	11	-	17-20
C	Jar, ovoid or barrel-shaped, upright or everted rim	3	-	20-34
D	Jar, tub-shaped, weakly defined neck	2	-	?
E	Jar, bipartite	2	-	25
F	Jar, high rounded shoulder	7	-	12-32
G	Jar, weakly shouldered, upright or hollowed neck	18	1	12-30
H	Jar, marked shoulder, hollowed or concave neck	5	-	18-36
J	Bowl, open, broadly hemispherical	4	2	14-17
K	Bowl, round-bodied	3	2	12-16
L	Bowl, shouldered, hollowed or concave neck	3	2	14
N	Bowl, tripartite, angular shoulder, short everted rim	2	2	14
Q	Cup, flared walls	1	-	10
R	Cup, hemispherical	1	1	?
S	Cup, ellipsoid	2	-	7-10
T	Cup, round or bulbous body, everted or upright m	2	1	7
X	Cup, tripartite	1	-	10
Total	-	68	12	-

Table 4. Quantification of vessel forms.

of the burnishing, representing 5.3% of the assemblage by sherd count or 3.9% by weight. Whilst these figures were initially thought to be unusual, patterns now emerging from Cambridgeshire and other parts of East Anglia suggest that coarseware dominated assemblages are the norm in this region (Brudenell 2008, 38). The burnished finewares are, therefore, likely to constitute a specialised tableware, used, broken and discarded much more infrequently than their coarseware counterparts. Given the time and skill needed to produce these thin-walled finewares, it is even tenable that some acquired a status beyond that of mere serving/eating receptacles, and were perhaps used and deposited in a more restricted range of social contexts. Certainly, the fineware bowl seems the most likely candidate as a 'status' ceramic in the Late Bronze Age, becoming increasingly standardised in form and decoration in the period after 800 BC, leading to the emergence of regionalised ceramic styles-zones (Cunliffe 1974).

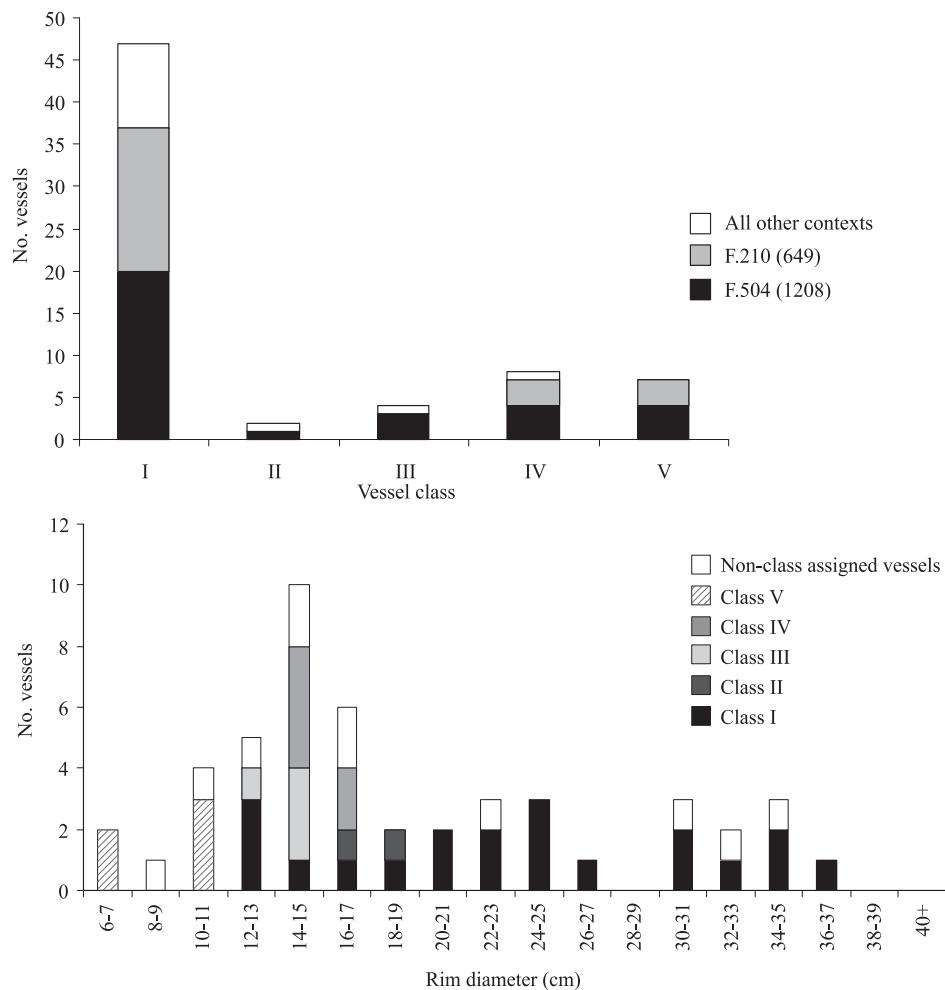
Decoration was present on 75 sherds (822g), representing a maximum of 41 vessels. Leaving aside an elaborately ornamented cup, decorated with geometric tooling on the exterior, and two incised horizontal lines on the interior rim-edge (Fig. 15.20), applications to the un-burnished coarseware were primarily confined to a single row of fingertip or tool marks made along the rim-top, neck, or more rarely, the shoulder. Overall, 20 of the 196 different coarseware rims in the assemblage displayed some form of ornamentation, representing 10%. Such low frequencies are characteristic of PDR Plainware assemblages, and are matched by figures from other contemporary groups in Cambridgeshire (Brudenell 2008, 38). Three plain and decorated cordons were also recovered from the excavations, all applied to vessel shoulders (Fig. 14.12). The only pots to display multiple rows of decoration were two jars: one with a tooled rim-exterior and linear stab-marks on the neck (Fig. 14.4); the other with a tooled rim-top and fingertip impressed neck surrounded by crudely incised lines, seemingly executed with a stick (Fig.

15.19). Intriguingly, both also had pre-firing perforations along this zone; only some of which penetrated right the way through the vessel wall. It is debateable whether this constitutes decoration; the holes could, otherwise, serve as a means of hanging the vessels, or attaching fabric or leather lids. Similar pre-firing perforations were also identified on two other vessel necks (Figs. 14.25 & 15.21), and a combined total of 13 sherds (172g, not included in the decoration total above). Only three burnished fineware sherds were ornamented (14g). Two refitted and retained traces of two lightly incised horizontal lines (Fig. 14.21). The other sherd belonged to a rim of a cup or bowl, and was ornamented with shallow furrowing on the neck (Fig. 15.26) – a treatment similar to that present on the published vessel from Maidscroft, Suffolk (Needham 1995).

Deposition and Midden Contexts

Pottery was recovered from 125 contexts relating to 93 features (Table 5), including pits, postholes, wells and 21 later ditches and hollows (85 residual sherds; 388g). The small and medium-sized feature assemblages contained between 1–36 sherds each (median, two sherds), with MSWs ranging from 0.5–27g (5.3g median). Most of these assemblages contained small and relatively abraded sherds; the majority, perhaps, being unintentionally caught in dumps of soil during feature infilling. In this instance, the only assemblages worthy of more detailed comment are the six large-sized feature deposits from pits F.63 and F.161, and pit-wells F.11, F.13, F.210 and F.504.

The assemblages from pits F.63 (117 sherds; 2290g) and F.161 (43 sherds; 537g) owe their size to the inclusion of substantial fragments of two broken, but near-complete, jars. With the exception of five sherds, all the pottery from pit F.161 belonged to a decorated, medium-sized coarseware jar (Form C), which had been partially burnt post-breakage (Fig. 14.5). A collapsed, but near-complete, medium-sized jar had

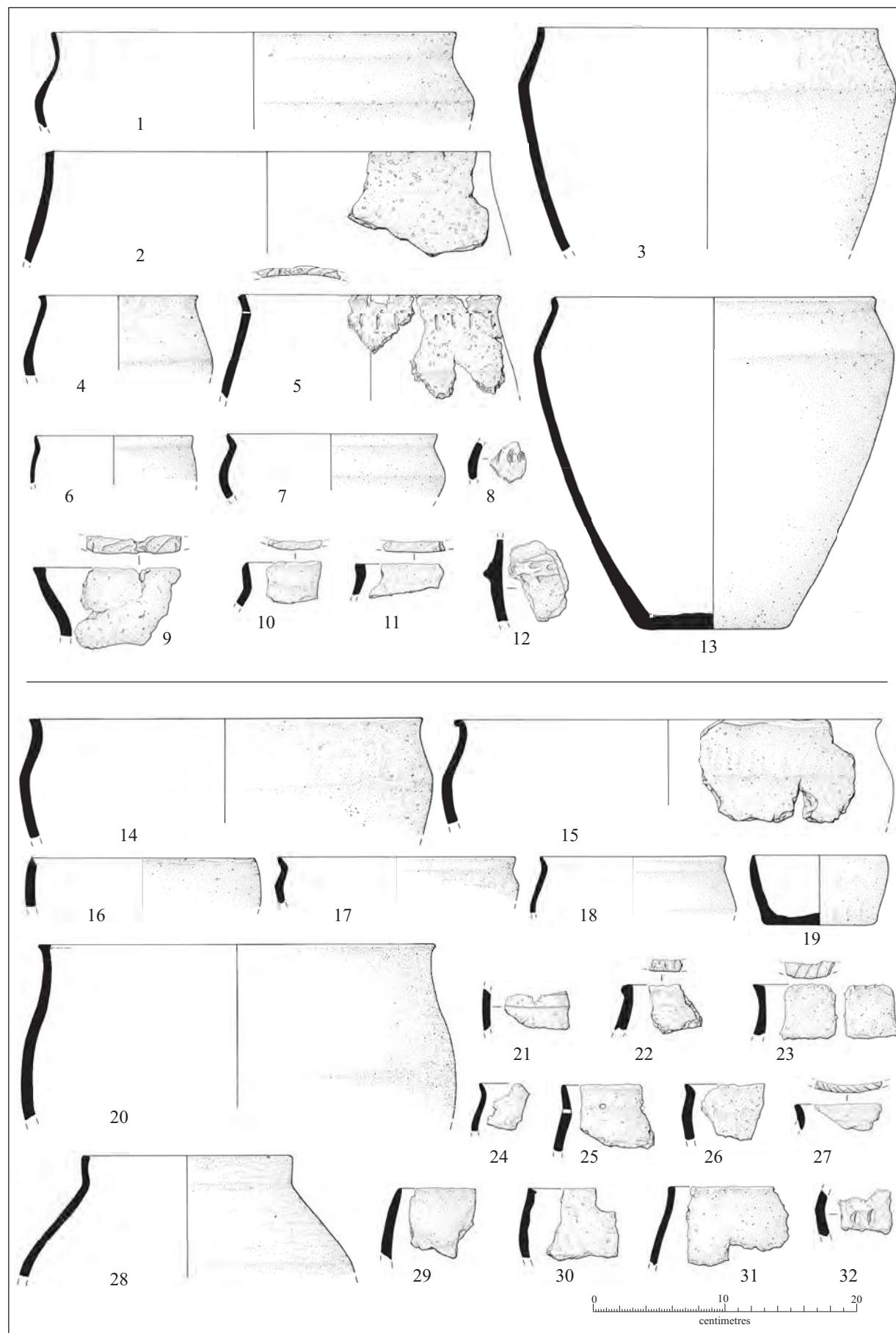


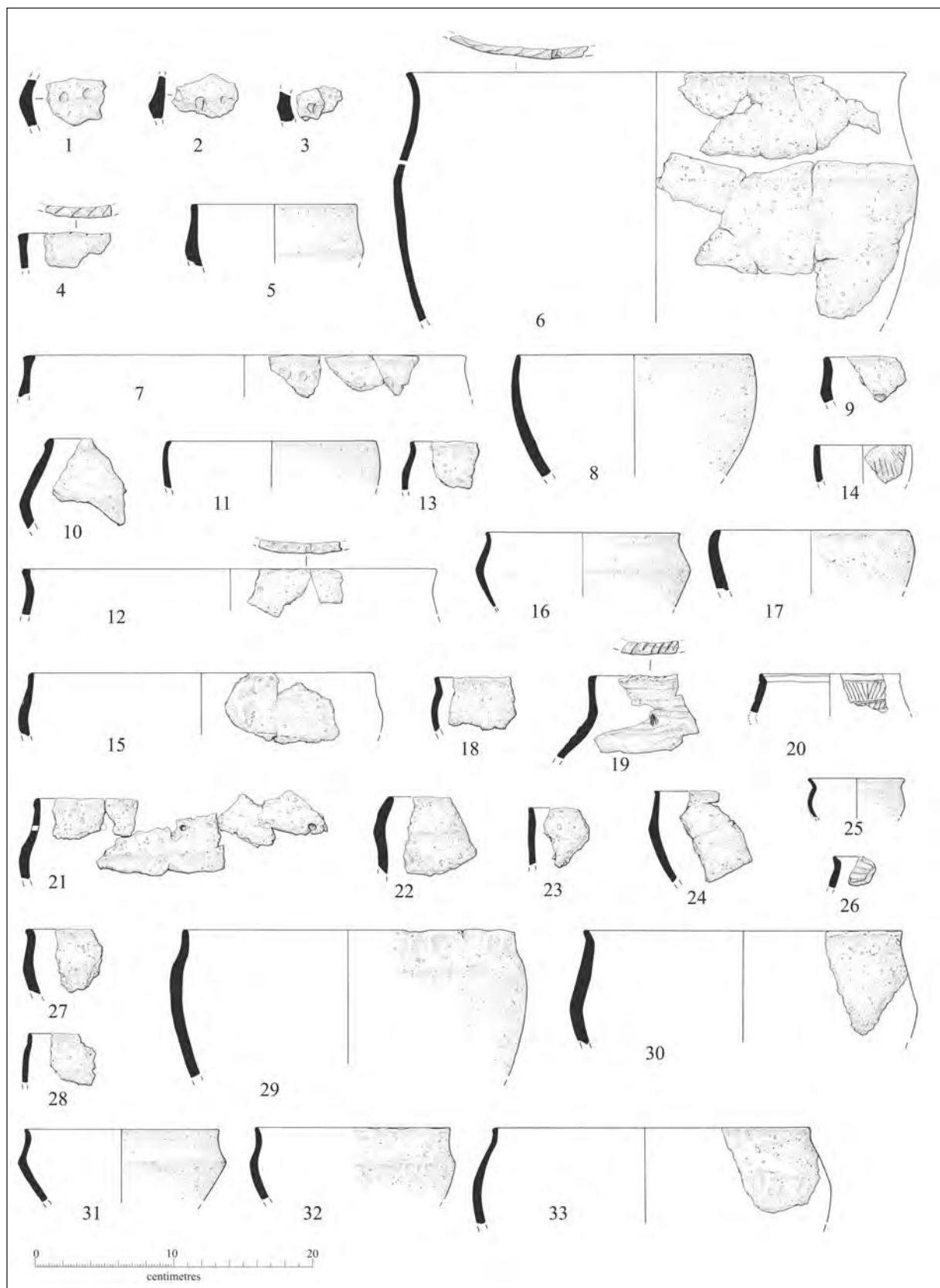
Top, Figure 12. Vessel Classes (after Barrett 1980): I) coarseware jars; II) burnished fineware jars; III) coarseware bowls; IV) burnished fineware bowls; V) cups.

Below, Figure 13. Diameter of all measurable vessel rims (48 by vessel count).

Right, Figure 14. Late Bronze Age Pottery (I): Miscellaneous Features (1–13) and F.210 ([649]; 14–32).

- 1) F.5 ([19]), Form F, Class I, Fabric F1, burnt;
- 2) F.11 ([32]) Form C, Class I, Fabric F1, burnt;
- 3) F.63 ([191]), Form F, Class I, Fabric F1;
- 4) F.211 ([650]), Form F, Class I, Fabric F1;
- 5) F.161 ([488]), Form C, Class I, Fabric F1, burnt, tooled rim-exterior, tool stabbed neck, and pre-firing neck perforations; 6) F.13 ([35]), Form K, Class III (surface lost ?), Fabric F3;
- 7) F.211 (surface) Form K, Class IV, Fabric F3;
- 8) F.299 ([689]), Fabric F1, tool impressed shoulder;
- 9) F.507 ([1215]), Fabric SQ1, finger-tipped rim-top;
- 10) F.210 ([890]), Fabric F1, weakly cabled rim-top;
- 11) F.211 (surface), Fabric F1, weakly cabled rim-top;
- 12) F.517 ([1253]), Fabric F1, cabled shoulder cordon;
- 13) F.63 ([191]), Form F, Class I, Fabric F1;
- 14) Form H, Class I, Fabric F1;
- 15) Form H, Class I, Fabric F1;
- 16) Form B, Class I, Fabric F2;
- 17) Form H, Class I, Fabric F1;
- 18) Form N, Class IV, Fabric Q2;
- 19) Form Q, Class V, Fabric S1;
- 20) Form G, Class I, Fabric FQIG1;
- 21) Fabric F3, burnished, two incised horizontal lines;
- 22) Fabric F1, finger-tipped rim-top;
- 23) Fabric F1, tool impressed rim-top;
- 24) Form L, Class IV, Fabric F5;
- 25) Fabric F1, pre-firing neck perforations;
- 26) Form G, Class I, Fabric F1;
- 27) Fabric S1, fingernail impressions on rim-top;
- 28) Form A, Class II, Fabric SQ2;
- 29) Form B, Class I, Fabric S1;
- 30) Form B, Class I, Fabric F1;
- 31) Form B, Class I, Fabric F1;
- 32) Fabric F1, finger-tipped shoulder.





also been placed in the upper fill of pit F.63 ([191]), alongside a loomweight and saddle quern fragment (Fig. 14.13). The coarseware jar had a round shoulder and short upright rim (Form F), and was accompanied by fragments of a second near-identical vessel (Fig. 14.3), mixed amongst smaller sherds from a least of five other pots. Compared to these 'structured' deposits, the large pottery groups from pit-wells F.11 and F.13 were more variable in character, and contained ceramic compositions that are arguably more typical of the Late Bronze Age (Brudenell & Cooper 2008). The pottery from F.13 was all recovered from the capping fills, and included fragments of at least seven different vessels; one the partial profile of a round-bodied bowl with everted rim (Form K; Fig. 14.6). This material was stratified at least 0.50m above the context yielding a radiocarbon determination of 1120–910 cal. BC (2850 ± 40 BP; Beta-280343). The pottery from F.13 was also recovered from the upper profile of the well, and was in broadly the same condition at that of F.11. The assemblage included fragments of at least 13 different vessels, and had a rim sherd belonging to a burnt coarseware jar deposited in pit F.5 (Fig. 14.1).

Deposit size	Weight range	No. of features	% of features
Small	0-100g	79	85
Medium	101-250g	7	8
	251-500g	1	1
Large	501-1000g	2	2
	1000g+	4	4
Total	-	93	100

Table 5. Pottery deposit size and frequency.

Without question, the two most important assemblages derived from pit-wells F.210 (1050 sherds; 11888g) and F.504 (2042 sherds; 20999g). Before considering the substantial ceramic dumps in the top of these features, it is worth stressing just how little pottery was recovered from the rest of their fills: three sherds (197g) from F.210 ([1061] & [1063]); 13 sherds (113g) from F.504 ([1255], [1256] & [1265]). The largest of the midden-heap assemblages derived from [1208] in F.504, and had 2389 sherds (20886g) with a MSW of 8.7g (Fig. 16). Based on the total number of different rims and bases

identified in this deposit, the assemblage is estimated to include a minimum of 175 vessels (EVE: 11.0). By comparison, the excavation of midden-heap deposit [649] in F.210 yielded 1047 sherds (11691g), with a slightly higher MSW of 11.2g (Figs. 14.12–32). This contained fragments of 87 different vessels (EVE: 4.7). A programme of refitting suggested vessel fragments could be widely dispersed across the deposits (107 refits in [649]; 249 in [1208]). In most instances joining and non-adjoining sherds from the same vessel were either identified within individual excavated 1m squares, or between adjacent squares. On occasion, however, larger distances were recorded, suggesting that ceramic material was mixed within the deposit, and that vessels were not simply broken, gathered up, and then dumped in a particular location in the hollow. In other words, vessel fragments probably had complex post-breakage histories, with varying periods of delay between breakage and final discard.

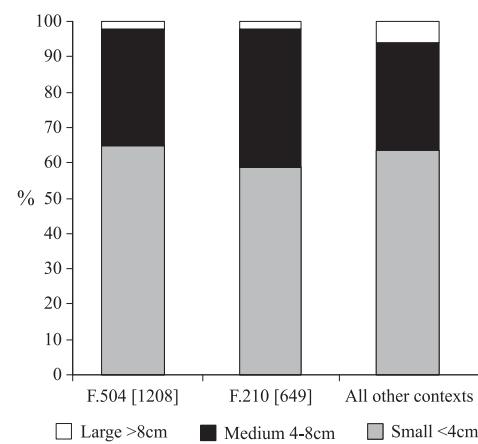


Figure 16. Sherd-size percentages from midden and non-midden contexts.

On the whole, the character, condition, and composition of the two midden assemblages were remarkably similar, particular in regards vessel-class representation (Fig. 12), decoration and frequency of burnishing. Sherd-size analysis also demonstrated that the degree of fragmentation was

Left, Figure 15. Late Bronze Age Pottery (II): F.504 ([1208])

- 1) Fabric SQ1, finger-tipped shoulder;
- 2) Fabric SQ1, finger-tipped shoulder;
- 3) Fabric SQ1, finger-tipped shoulder;
- 4) Fabric S1, tool impressed rim-top;
- 5) Form G, Class I, Fabric F1;
- 6) Form H, Class I, Fabric F1, weakly cabled rim-top;
- 7) Fabric SQ2, finger-tipped neck;
- 8) Form J, Class IV, Fabric F5;
- 9) Form G, Class I, Fabric F1, finger-tipped shoulder;
- 10) Form E, Class I, Fabric F4;
- 11) Form J, Class III, Fabric Q2;
- 12) Fabric F1, finger-tipped rim-top;
- 13) Form G, Class I, Fabric F1;
- 14) Form S, Class V, Fabric F4;
- 15) Form E, Class I, Fabric F1;
- 16) Form N, Class IV, Fabric F5;
- 17) Form J, Class III, Fabric F1;
- 18) Form G, Class II, Fabric F4;
- 19) Fabric F1, tool impressed rim-top, finger-tipped neck with crudely incised lines and pre-firing neck perforations;
- 20) Form X, Class V, Fabric F6, two incised horizontal line on rim-interior, and incised geometric decoration on exterior body;
- 21) Fabric F1, (form uncertain), pre-firing neck perforations;
- 22) Form B, Class I, Fabric F1;
- 23) Form S, Class V, Fabric F1;
- 24) Form H, Class I, Fabric F6;
- 25) Form T, Class V, Fabric F5;
- 26) Fabric F6, burnished, furrowed neck;
- 27) Form H, Class I, Fabric F1;
- 28) Form G, Class I, Fabric F3;
- 29) Form G, Class I, Fabric 1;
- 30) Form F, Class I, Fabric F1;
- 31) Form L, Class IV, Fabric F3;
- 32) Form L, Class III, Fabric GF1;
- 33) Form F, Class I, Fabric GF1.

comparable (Fig. 16), even though [649] did have a slightly higher frequency of medium sized-sherds (which probably accounts for the greater MSW). More importantly, the overall composition of these two groups mirrors that from the non-midden contexts, suggesting that the character of the midden assemblage is only exceptional because of its size, not its content. Put another way, we might claim that the character of pit and posthole pottery groups are broadly representative of the composition of surface deposits not normally encountered on plough-truncated settlement sites. Thus, no matter what the gross 'loss' of ceramic material from surface deposits is, we can be reasonably confident that pottery surviving in cut features is a representative sample; albeit a minor one.

The date of the midden-heap pottery is confirmed by two radiocarbon determinations: one from a charred seed from [649] (910–790 cal. BC/2680±40 BP; Beta-280345); the other from food residue adhering to a coarseware sherd from [1208] (1190–1140 and 1140–920 cal. BC/2870±40 BP; Beta-286572). This accords well with our current understanding of the typological development of PDR Plainwares in Cambridgeshire. Given the range of vessel forms identified at Striplands Farm, coupled with the presence of one or two angular bowls, and the limited occurrence of incised fineware decoration, a date in the 9th century BC would seem most appropriate for this group; the earlier, Beta-286572 assay being, for whatever reason, a shade too early.

When the Late Bronze Age pottery from Stonea was published in the mid 1990s (Needham 1996), few other significant PDR Plainware groups had been recovered from Cambridgeshire. With a spate of large-scale excavations conducted in the intervening years, the county now boasts an impressive catalogue of well-recorded and fully quantified Late Bronze Age assemblages, each contributing to a much more refined understanding of the *regional* character of this ceramic tradition. Whilst some questions of chronology remain to be resolved at a broader scale, the substantial and well-dated group from Striplands now provides a much-needed benchmark with which to compare other contemporary assemblages. The two key groups are those deriving from the midden deposits of F.210 and F.504, whose radiocarbon dates place the pottery towards the end of the Late Bronze Age.

Issues of chronology aside, it is also appropriate to address what the quantities of pottery at Striplands might indicate. Whilst the overall size of the assemblage is undoubtedly a direct result of localised 'midden-heap' survivals in pit-wells F.210 and F.504, we are still faced with an interpretative challenge when it comes to deciding what the presence of 327 different vessels means in regards to the scale and duration of occupation. To put this figure into some perspective, 'pristine' and potentially single-phase settlement sites such as Toll House, Broom, Beds. (Cooper & Edmonds 2007, 106–14), and the Lofts Farm, Essex (Brown 1988) yielded fragments of just 52 and 63 different vessels respectively. Though these figures seem remarkably low when set against the Striplands totals, it is, perhaps, more telling that the site's non-midden vessel count was 69; a figure directly comparable to the aforementioned settlements, as well at

totals gleaned from three of Cambridgeshire's other major Late Bronze Age assemblages (Addenbrooke's Hutchison Site, 58 vessels; the Fordham Bypass Site, 20 vessels; Stonea, 117 vessels [Brudenell 2008, 37 and in prep.]). Thus, whilst it is tempting to postulate that Striplands attracted a scale of occupation beyond the presence of one or two households, the non-midden totals are wholly typical of figures from the region's other plough-truncated open settlements.

Before, however, discounting the broader relevance of these deposits and their unusually high vessel count totals, we need to appreciate that the two midden assemblages were not simply composed of the material otherwise 'missing' from other contexts on the site. Indeed, despite an intensive programme of rim refitting, only one cross-feature link was identified with a midden context. Moreover, it was not even possible to establish any direct material connection between the two midden deposits themselves, suggesting the accumulations were either generated from different contemporary households, or were otherwise formed at slightly different times (certainly there is no indication that they both derived from a 'greater' common source). Whilst several scenarios can be undoubtedly be modelled with the available data, our difficulties in identifying material connections with deposits *outside* of these dumps, perhaps suggests that the practices responsible for the midden accumulation operated in ways that were subtly different to those generating other ceramic deposits around the settlement.

The Wood Assemblage

Maisie Taylor

The pit-wells produced an important and diverse preserved wood assemblage, which included 17 distinct 'artefacts' as such.

F.13: Aside from the possible bark box described below (and additional bark fragments), this had 16 pieces of wood, 14 of which are roundwood, varying in diameter from to 23–50mm, plus one larger piece (140mm diam.; WD34). All of them have one or more characteristics of coppice: long straight stems, the curve at the bottom of the stem towards the heel or at the heel itself. All are trimmed and there are toolmarks on one piece (30:6; see below).⁵ There were two stakes in the same feature that were set vertically, securing a horizontal. Both are trimmed roundwood of a similar type to the rest, but at the thicker end of the range; one has a toolmark (35:6).

WD40 (Figs. 6 & 17): Bark, one piece with a curved edge and a second piece with a straight edge. The two edges have very small holes and slight corrugations. It is possible that this is evidence for sewing and that the pieces were originally part of a bark box. Unfortunately, the bark is so frail that it is impossible to be sure. The curved piece is 220 x 150mm.

F.71–3: Feature 71 had a wide range of material, with 22 recorded pieces, plus various twigs and possible roots. There are two partial socketed axe hafts, and two pieces of debris. One of the latter is probably the tip of a radially split stake, whilst the other is detritus from working an ash pole (22mm

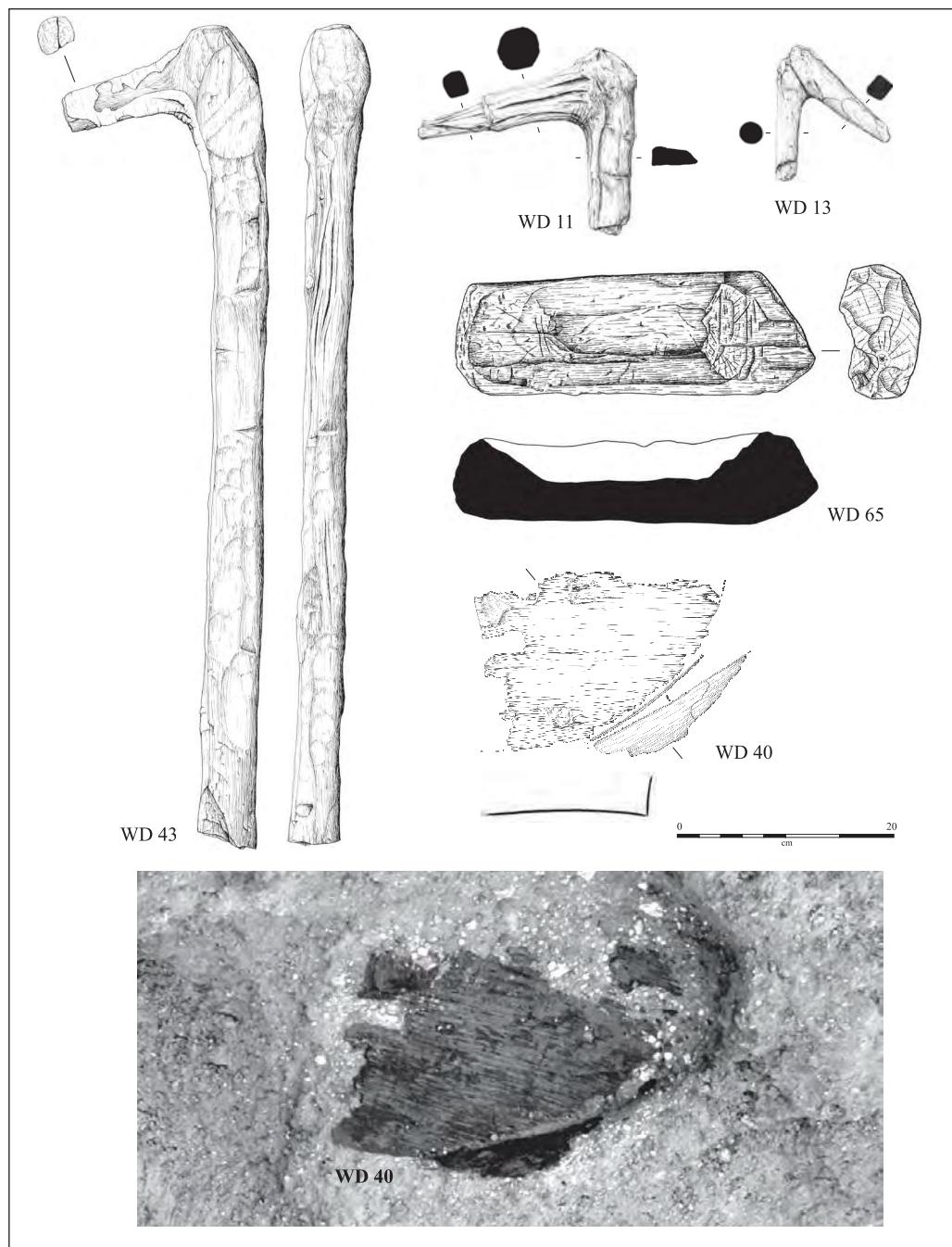


Figure 17. Worked Wood and Bark Artefacts/Implements.

diam.). The remaining pieces, which vary in diameter from 20–45mm, are roundwood; almost all are trimmed and nearly all appear to come from coppices, except one piece that looks more like it may have derived from a hedge. There are two toolmarks, both on trimmed roundwood: 30:4 and 34:3.

The F.72 recut yielded some small roundwood and debris, with two worked pieces: a miniature log ladder and a natural oak fork that has been trimmed on the prongs leaving a toolmark (38:4). Finally, F.73 produced a fragmentary withy and one piece of roundwood, which is trimmed at one end from all directions; a toolmark on this end measures 27:2.

WD11; F.71 (Fig. 17): Part of a one-piece axe haft, shaped

from a half-split log that was originally 85–90mm diameter. The foreshaft is a natural side branch. The surface of the foreshaft is slightly fluted from the shaping and is rebated to receive the axe. The surviving length of the haft is 127mm and that of the foreshaft, 200mm.

WD13; F.71 (Fig. 17): Possibly part of an unfinished socketed axe haft, formed from the junction of two branches. The diameter of the haft is 20mm and the foreshaft is 24mm. It is neatly shaped and rounded on the 'elbow', but the roundwood of the haft and foreshaft is unmodified. It is unfinished, with the end of the foreshaft trimmed squarish from four directions. Very small, slightly flimsy, and shaped from unmodified roundwood, there is some

doubt about whether or not it really is an axe haft. The overall surviving length is 120mm, and the length of the foreshaft is 115mm.

WD31; F.72 (Figs. 18 & 19): Small roundwood log ladder with one step that has surviving toolmarks: 34:3; one end is trimmed from two directions. The surviving length is 800mm and the log is 100mm diameter.

WD2; F.73: Fragmentary piece of a twisted single stem. Heavily twisting a plant stem, especially of willow, will result in a flexible 'withy' – a primitive form of readily available rope.

F.210: This largely produced roundwood, including the three log ladders and a forked 'lift'. Of the remainder, one piece is split roundwood that has been modified square with a mortice at one end. The original diameter was 150+mm. with a mortice. The remainder is roundwood and almost all is coppiced (one piece is pollarded) and trimmed. There is a fork (with a toolmark, 36:3), and a large quantity of coppiced and trimmed roundwood (25–100mm diam.) with a variety of toolmarks: 36:3, 35:7, 28:3 and 45:4.

WD53 (Fig. 19): Log ladder, roundwood, with one step. Toolmarks on the step measure 32:6; the top, which is forked, is very worn and the bottom end is trimmed from one direction. It is 630mm long, and its irregular diameter measures 150/110mm.

WD54 (Figs. 18 & 19): Log ladder, roundwood, with three steps. The bottom end of the log is trimmed from two directions in the classic 'felled tree' shape. The middle step has toolmarks measuring 35:4, but the tree itself was felled with an axe measuring 32:4. The ladder is 1560mm long and 160mm diameter.

WD56 (Fig. 19): Forked 'lift' and/or possible log ladder, made from forked roundwood. The fork had been shaped by removing wood from one side to make the base of the fork square, almost like an open-faced mortice. While this may have functioned as a raised 'step' (i.e. ladder), it could equally have housed a horizontal element and possibly even acted as a pivot. The bottom end of the timber is trimmed from three directions; in its entirety, the piece is 1355mm long and 85mm diameter.

WD63 (Fig. 19): Log ladder, made from roundwood with side branches trimmed off. One step survives and the bottom end had been trimmed from three directions with an axe measuring 40:4. The surviving length is 760mm and the diameter 135mm.

F.370: In addition to an unfinished socketed axe haft and a log ladder, this yielded debris from working roundwood and three pieces of trimmed roundwood. The debris includes a fragment of a half-split pole (50mm diam.) with a toolmark (37:4), plus a radially split and trimmed 'off-cut' of very slow grown ash. Although slow-grown, the tree was not ancient and probably had a diameter of only around 200mm when it was felled. The remaining material consists of three pieces of trimmed roundwood, one of which is ash and another had a toolmark (40:4).

WD43 (Fig. 17): Part of unfinished socketed axe haft made of oak. The haft is formed from a half-split log which was originally 80–90mm diameter; the foreshaft is an unmodified side-branch, approximately 40mm diameter. As a whole the piece is well finished, with no toolmarks. The haft length is 420mm and the foreshaft, 120mm.

WD50 (Figs. 18 & 19): Log ladder, made from round-

wood with one step (possibly broken on second step.) The bottom end of the log is trimmed from three directions with toolmarks measuring 32:4. The log shows the slight curve of a coppice stem and the trimming is done in such a way as to compensate for the curve. The length is 1140mm and, the diameter, 170mm.

F 504/526: Feature 504 itself had only one artefact, the rough-out for a small trough. There is slightly more debris here than in most of the other features, with a radially split piece of timber debris derived from a stem 140mm diameter, another piece, this time of ash derived from an even smaller tree, plus a couple of 'hacked lumps'. This leaves the roundwood (five pieces, plus some badly crushed fragments), which is all derived from coppice (25–c. 60mm diam.); most are trimmed and one piece is another natural fork with trimmed prongs.

In addition to a log ladder and a small woodchip, F.525 had some fragments of reasonably thick bark (15mm) and three pieces of roundwood (55–70mm diam.). One of the latter, is coppiced oak and, of the others, one is coppiced and trimmed and the other is probably coppiced.

The main F.526 recut included four log ladders, some chunky fragments of bark, roundwood and a tangential woodchip; whereas F.530 produced some very thin bark and several pieces of fairly large, trimmed roundwood, two with rough mortices (WD77 & WD78; Figs. 10 & 18). Other than a smaller piece in bad condition, the roundwood from the latter ranges in size from 95–190mm.

WD65; F.504 (Fig. 17): This rough-out of small trough is shaped from the central part of a small roundwood log that originally had a diameter of a little over 44mm. It is covered with toolmarks, many of them partial: 23:2.5, 15:2, 27:3, 31:6 and it is also partially charred on the inside. Because so many of the toolmarks are partial, it is not possible to be sure that they were all made by different axes. Dimensions: 300 x 90 x 50mm.

WD66; F.525 (Figs. 18 & 19): A miniature log ladder, made from roundwood with two steps and a flat base. The back of the log has also been slightly flattened, presumably to aid stability. It appears to have broken on a third step. Well finished, there are few toolmarks, only one on a step: 35:3. Dimensions: L.1030mm; D.45mm.

WD67; F.526 (Figs. 18 & 19): A roundwood log ladder with a fork at the top and three steps, with many toolmarks. The bottom end is trimmed from two directions against a strong natural curve. The fork at the top may have stabilised the ladder when in use. Dimensions: L.1620mm; D.115/120mm.

WD68; F.526: A fragment of a log ladder, made from roundwood, broken on the first step. Although it is badly crushed and broken, it is clear that the original log was derived from coppice as it is markedly curved. Dimensions: L.270mm; D.65/76mm.

WD74; F.526 (Figs. 18 & 19): A log ladder, made from a small felled tree, with one step. There are toolmarks on the felled end: 48:8. The end of the trunk is cut from two directions in the classic shape of a felled tree, but there are a large number of knots near the base that suggests the trunk may have been derived from a multi-stemmed tree, most likely an overgrown coppice. The single step is 670mm from the base, which is higher than any of the site's other ladder. Dimensions: L.1110mm; D.120/160mm.

WD75; F.526 (Figs. 18 & 19): An apparently complete, possible miniature roundwood log ladder with two

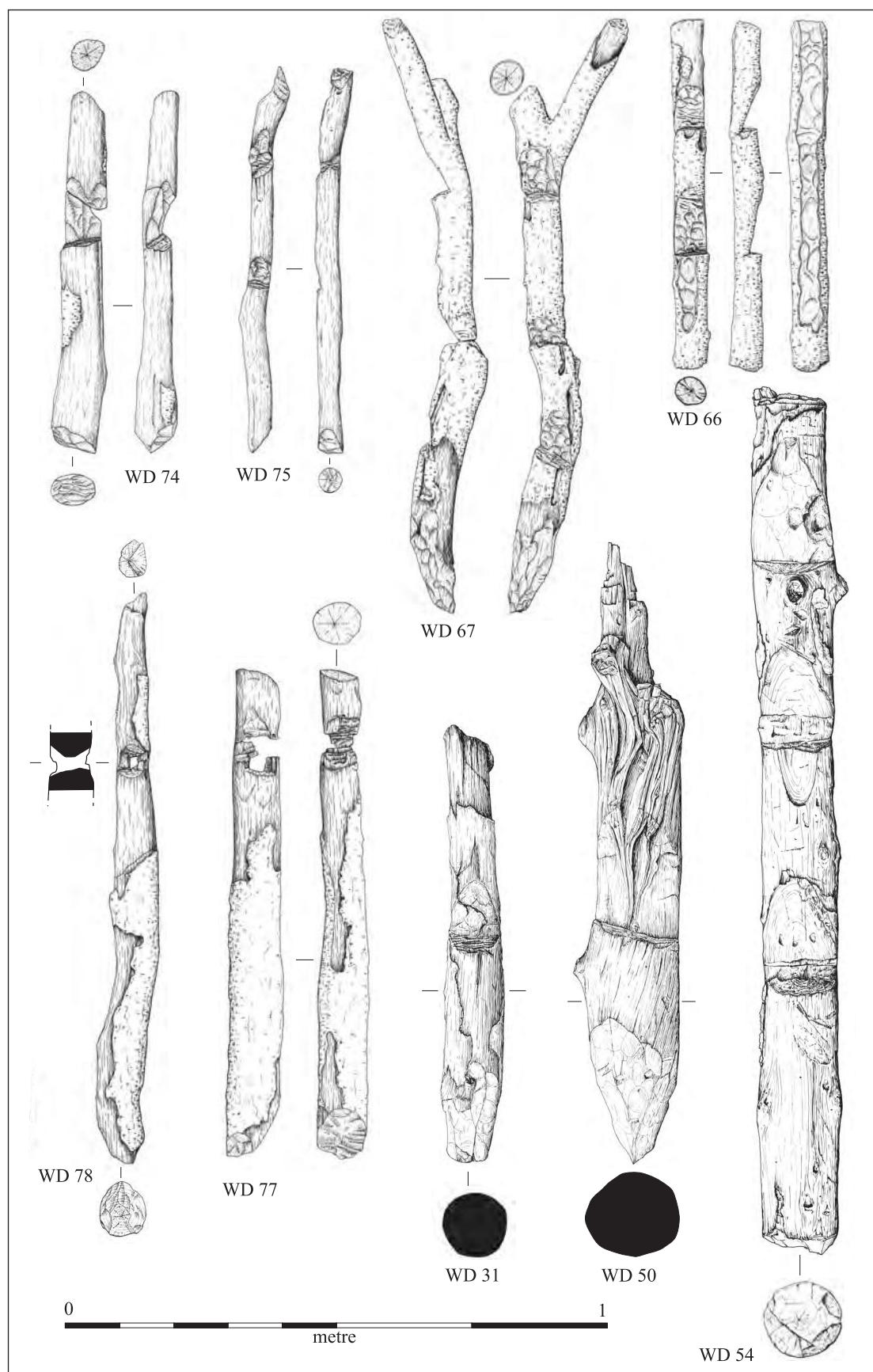


Figure 18. Worked Wood: Detailed log ladder and mortised timber drawings.

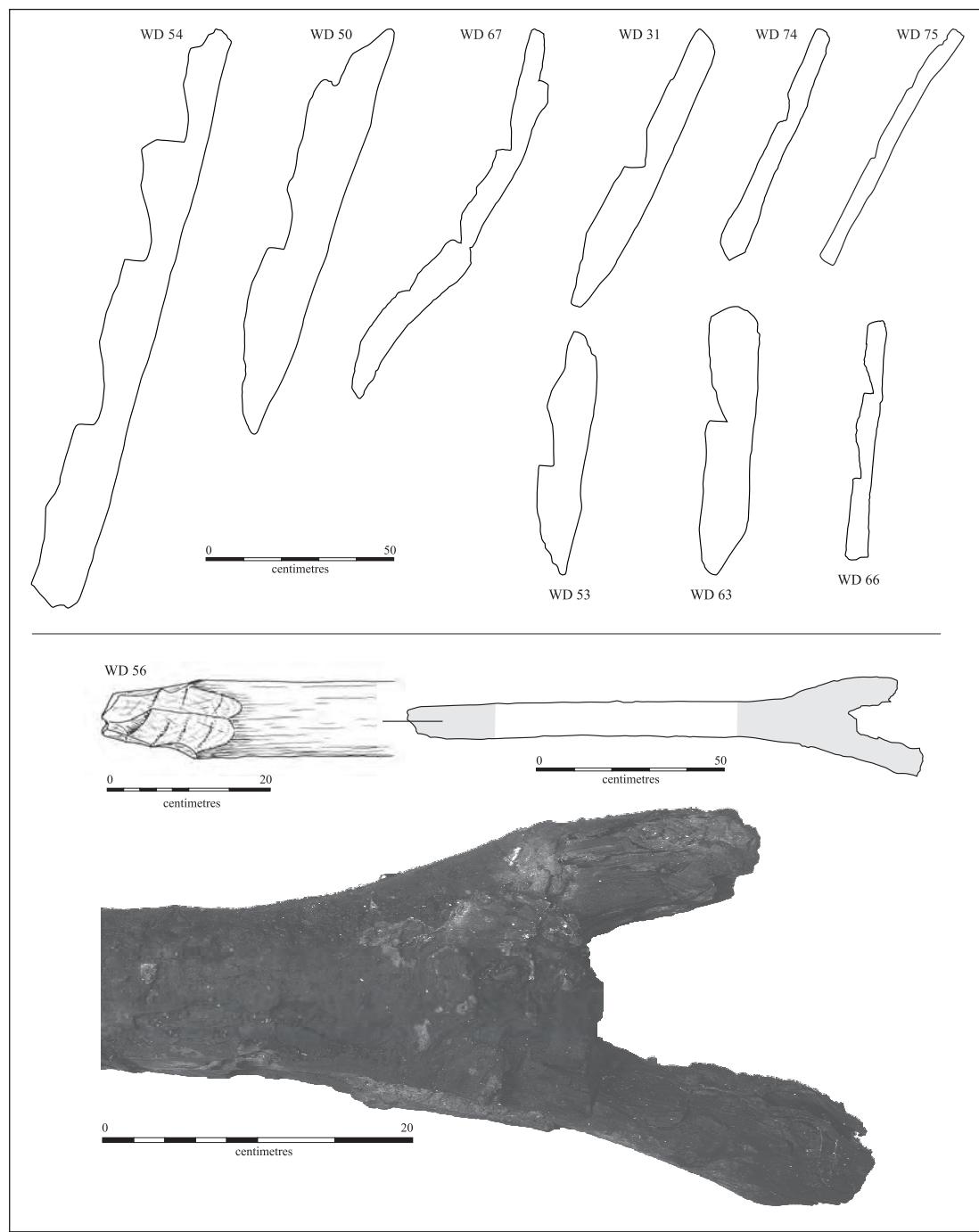


Figure 19. Worked Wood: top, log ladder profiles angled with their steps set to horizontal; below, the F.210 forked 'lift' (WD56).

'mini-steps', and both ends trimmed from one direction. There is a slight curve to the trunk, suggesting that it may have been derived from a multi-stemmed tree or overgrown coppice. Dimensions: L.1210mm; D.69/71mm.

Woodland Management/Coppicing

Wood derived from coppicing trees and shrubs often exhibits distinctive characteristics. These include long, straight stems, a slight curve where the stem joins the stool and the actual heel where the stem was detached. Almost all the material from this site possesses one or more of these characteristics.

Only one piece was recorded specifically as not being coppiced, WD17 (F.71), a piece of roundwood with side branches. The range of the assemblage's diameters also suggests systematic coppicing. Modern 'traditional' hurdles are made using coppice rods with diameters between 15 and 50mm (Forestry Commission 1956), which is the same range as most of the material here, although there are some larger pieces. Most of the artefacts, including the trough, axe hafts and the majority of the log ladders, are derived from material greater than 76mm diameter. Even the 'timber' from the site (of which there is very little) was taken from trees with

a maximum diameter of only 240mm. The only evidence for larger trees is from F.526: five pieces of corky bark, 15mm thick, which must have been derived from mature specimens.

The coppiced species include oak and ash, as well as the 'usual' species of hazel, alder and willow. As well as the discarded stems (most of which are the right size for wattle), coppice wood was also used for the artefacts – axe hafts and log ladders. Some of the coppice material is relatively short and curved, and obviously represents trimmings, but there are also some quite long pieces that may have been selected as raw material and then discarded. The coppice may be trimmed in various ways depending on size of the stem.

Woodworking and Toolmarks

All the woodworking is very simple technology, but is in keeping with the light-weight material, derived from pollarding, coppicing, roughing out artefacts and ad hoc manufacture of log ladders. There is some simple split wood, mostly half- and quarter-split roundwood with diameters in the region of 150–200mm, but splitting of the kind associated with large timber is absent here. There is some light hewing on a piece of ash wood from F.504 and, again, on a small log ladder from F.525 (WD66); however, here are no woodchips in the assemblage which might have been derived from this kind of activity.

The only evidence for joinery is three rough mortices, two on pieces from F.530 and another from F.210 [1062]; both are half-split ash trunks less than 200mm diameter.

There is a high concentration, and an unusual range, of artefacts from the site, but all are manufactured from coppice products. The one-piece axe hafts here are all unfinished or broken and made from a single piece of a small tree. One from F.71, which is less convincing than the others, is formed from the junction of two branches, so that both the haft and the foreshaft are roundwood. This means that the haft would be very springy to use as well as being very small. The haft from Flag Fen, which is also made with roundwood for the haft and the foreshaft, is much heavier duty (Taylor 2001, 220–22 and fig. 7.57); its handle diameter is 30–36mm as opposed to 20mm here.

The other two axe hafts are more convincing, larger and made in a more functional way. The second haft from F.71, WD11, is complete, but unfinished, and the one from F.370, WD43 is finished and was probably broken in use. They are both made from a half-split log with a side branch. The haft from F.370 is made from a log of oak with a diameter of 80mm, whilst the fragment from F.71 is from a slightly larger log (85–90mm diam.). The surviving length of the haft is 127mm and it appears to have broken in use by splitting along the grain just below the head. The fragment of an axe haft from Flag Fen (Taylor 2010, 88, fig. 4.27), which is virtually identical to the one from F.370, has broken along the grain in the same way as that from F.71. There are not many complete hafts with which to compare, but the palstave haft from Langtoft is constructed in an identical manner (Webley 2004, fig. 3). The haft from F.370 was probably abandoned because a split began to develop in the foreshaft, which is unmodified roundwood.

The similarity of a socketed axe haft to a palstave haft may indicate that it is an early form, but a series of experiments with replica axe hafts in 2004/5 suggested that different hafts may have fulfilled different functions. Different hafts would have made the axes much more versatile. Some

modern tools have a universal haft or handle with different heads that snap on and off; the Bronze Age equivalent was a universal head (the socketed axe) with a variety of hafts for different functions.

The bark from F.13 (WD40; Fig. 17) consists of one piece with a curved edge and a second with a straight edge. The two edges have very small holes and slight corrugations. It is possible that this is evidence for sewing and that the pieces were originally part of a bark box. Unfortunately, the bark is so frail that it is impossible to be sure. Boxes made of bark or thin bent wood have been found from the Neolithic onwards and earlier on the Continent. These earliest boxes seem to have been sewn, usually with bast fibres or sometimes very thin split wood. There is an unpublished example from Yarnton, Oxfordshire, a Bronze Age one from Runnymede and Neolithic ones from Lower Horton, especially Vessel 2 (Earwood 1993, 42). The Lower Horton vessels were finer, with thinner bark, and were made of birch (*Betula* sp.) with lime bast (*Tilia* sp.) stitching.

The rough-out of small trough from F.504 (WD65; Fig. 17), was shaped out of the central part of a small roundwood log, which originally had a diameter of a little over 44mm. It was made by chopping across the grain at the ends and, then, prising or gouging out the wood between. It is also partially charred on the inside, which may have been part of a manufacturing process, such as has already been recognised elsewhere (Taylor 1998, 154–55). The trough appears to be of a type that has occurred at Yarnton (unpublished), although this one is considerably smaller.

The log ladders are all basically made in similar ways, with extremely simple woodworking skills. Their round-wood trunks had notches cut as steps, the angle of the steps varying depending on the angle at which the ladder is to be used (Fig. 19). These steps are a good source of toolmarks as the risers are not subject to much wear. Log ladders have become a relatively common find, especially in wells on gravel sites and were obviously the normal way to gain access in these sometimes deep pits. There is, however, no standard design and they come in many shapes and forms. They are obviously made *ad hoc* from available materials; miniature log ladders are not entirely unknown (Nicholson *et al.* forthcoming).

Withies are most frequently found as stiches of sewn boats, and seem to have been made from a variety of species, probably depending on what was available locally (see, e.g. Wright 1990, 64, fig. 4.7). Although rarely found in domestic contexts, withies were almost certainly ubiquitous.

Of the toolmarks recorded, almost all were on round-wood of one form or another. 14 were recorded on simple chopped ends: 27:2, 28:3 (x 2), 30:4, 30:6, 32:2, 34:3, 35:6, 35:7, 37:4, 38:4, 40:4, 45:4 and 48:2. There was also one (55:3) from a felled tree, another from a pollarded tree (35:7) and a third from the trimmed prongs of a natural fork (36:3). A total of nine toolmarks were recorded from the log ladders. All were on the steps, except two (40:4 & 32:4) which were on the ends; in both cases, the ends were also the felled ends from the original felling of the tree to make the ladders. The six toolmarks measured on the ladders steps are: 32:4, 32:6, 34:3, 35:3, 35:6 and 48:8. The remaining four toolmarks (15:2, 23:2.5, 27:3 & 31:6) are all on the rough-out for a small trough (F.504, [1265]). The range of documented axe widths – 15–55mm – is well within the range for socketed axes recorded at Flag Fen (Taylor 2001, table 7.28).

Thirty toolmarks were measured (Table 6), but some are the same or closely similar (within 1mm). When this is taken

Axe No.	Toolmark	Axe No.	Toolmark	Axe No.	Toolmark	Axe No.	Toolmark
1	15:2	2	23:2.5	3	27:2; 27:3	4	28:3
5	30:4	6	30:6; 31:6	7	32:2	8	32:4
9	32:6	10	34:3	11	35:3; 35:4	12	35:6; 35:7
13	36:3	14	37:4	15	38:4	16	40:4
17	45:4	18	48:2	19	48:8	20	55:3

Table 6. Axe toolmark measurements in mm (width:depth).

into account, the more likely number of axes actually in use is 20 or less (there are also several closely similar measurements for Axes 8–13).

Examined by feature, there does not appear to be any pattern in the distribution of toolmarks and, almost without exception, several axes are represented in the assemblage from any one pit-well. Considering the toolmarks by function is, however, somewhat more informative:

Roundwood

Trimmed ends: Axes 3, 4 (x 2), 5, 6, 7, 10, 12 (x 2), 13, 14, 15, 16, 17 & 18

Felled ends: Axe 8, 16 & 20

Pollarded Tree: Axe 12

Log Ladders: Axes 8, 9, 10, 11 (x 2), 12 & 19

Trough: Axes 1, 2, 3 & 6.

The axes are ordered by blade-width, which means the higher the number of the axe, the wider the blade. Axe 1, therefore is 15mm wide and Axe 20 is 55mm wide. Not surprisingly, given its small size, the trough has been roughed out using relatively small axes. It is surprising, however, that four different tools appear to have been used. It is possible that the smaller marks are incomplete and represent part of a blade that is larger. Trimming roundwood, which generally means coppicing, has seen almost the full range of axe sizes, whereas there is a tendency to use larger tools to cut the steps of the log ladders. There is no strong pattern, however, and some axes appear in more than one activity; for example, Axe 12 appears in the roundwood trimming, pollarding a tree and for cutting steps on a log ladder.

Log ladders were not only associated with waterholes, as they would have made good general-purpose ladders for many situations. Maintenance of roundhouse roofs at Flag Fen, for example, has been done using log ladders for many years, and they are widely used in other cultures (Pryor 2001, pl. 16). They were obviously ubiquitous and made on an *ad hoc* basis, thus explaining the great variety of ‘designs’.

The number and variety of artefacts is most unusual, but this suggests that they were being made on the site because the right raw material was available. It is also possible that the ones found here were rejects, which would also explain why some of them are unusual: some of the log ladders are very small, very shallow steps, steps very high, etc. (Fig. 19). Equally, the axe hafts are either broken or unfinished, and the trough is unfinished. None of these artefacts are particularly sophisticated and their manufacture depends more on the quality of the raw material than complex woodworking skills.

Other Finds

Grahame Appleby

Studied by Andrew McLaren, in total 1657 flints were recovered. Of these, 547 were unburnt (and worked; 17 both worked and burnt), with the remainder being burnt alone. While including both a later Mesolithic/earlier Neolithic and later Neolithic/Early Bronze Age component (e.g. a leaf-shaped arrowhead from F.71 and a core rejuvenation flake from F.353), the vast majority of the pieces are of Bronze Age attribution. Due to a paucity of diagnostic types, the problem the assemblage poses is how late within that period was its date. While, for example, that the majority of the cores were multi-platform (with many having been worked in a ‘haphazard’ fashion) could, in theory, suggest a Late Bronze Age attribution (see e.g. Ford *et al.* 1984; Herne 1992), this is undermined by the material’s distribution. The bulk of the worked flint (84%; 458 pieces) derived from the F.504/526 well complex, and from the same area that the earlier, Beaker and Deverel Rimbury pottery occurred; rather than being any kind of pristine ‘Late’ assemblage, this suggests much of it was probably earlier-Middle Bronze Age.

The excavations also resulted in the recovery of 479 fragments of fired clay (6828g) from 16 pits and wells, with a further six fragments (30g) from other features. A near-complete rectangular loomweight was retrieved from pit F.63, in addition to a second perforated fragment (also probably a loomweight); a third possible loomweight fragment was forthcoming from pit-well F.13. F.504/526 yielded 398 pieces (3860g), with seven pieces identified as deriving from loomweights. The precise shape of the latter is unclear, but similarity in fabric and width suggests they were comparable with that recovered from F.63. All but one of the loomweight fragments was recovered from F.504/526’s midden spread, mainly from towards the centre of the feature; the remaining 80 fragments had flat surfaces, possibly indicating use as daub. Forty pieces of fired clay were also recovered from the midden spread sealing F.210, including a spindle-whorl, a crucible fragment (with copper alloy droplets adhering) and a possible metalworking mould piece. A second spindle-whorl was also recovered from pit F.66, although this may be of later date.

Also noteworthy is that a saddle-quern and a possible rubbing stone formed part of pit-well F.504/526’s assemblage. Equally, five freshwater mussel shells (*Unio* spp.) were recovered together from F.71 during the evaluation-phase (Fig. 20). These had all been

pierced with a single perforation at their posterior ends towards the ventral margin and are almost certainly from a necklace. The holes are 2.5–3mm in diameter and have either been drilled or pecked, as indicated by the spalling of the shell around the holes. Inhabiting running, freshwater habitats, such shellfish could have been exploited for their nutritional value, but the recovery of this discrete clutch (no other mussel shells were found) some distance away from a known suitable source suggests that they were brought into the area from elsewhere.

Environmental and Economic Data

Given the crucial importance of the settlement's 'inland' location as concerns issues of subsistence adaptation and setting, both its environmental and economic studies warrant detailed presentation.

Faunal Remains

Vida Rajkovača

Following assessment of the site's full faunal assemblages (see Swaysland in Patten & Evans 2005 and Mackay & Knight 2007) the decision was made to target only those feature having more than 100 animal bones for further study: F.71–73/F.156, F.210 and F.504. Together, these yielded a total of 1106 assessable specimens, of which 578 (c. 52%) were identified to species level.⁶

F.71–73/F.156: Of the 140 bone specimens recorded, 89 (c. 64%) could be assigned to species level. Cattle were the prevalent species, followed by pig and horse (Table 7). Ovicaprids were under-represented with three bone specimens only. Wild species were represented with two native deer species: red deer and roe deer as well as wild boar. A human skull fragment was also found in [217].

Taxon	NISP	NISP%	MNI
Cow	52	58	3
Pig	14	16	2
Horse	13	15	1
Ovicaprid	3	3	1
Red deer	4	5	1
Roe deer	1	1	1
Wild boar	2	2	1
Cattle-sized	46	-	-
Sheep-sized	5	-	-
Total	140	100	-

Table 7. F.71: Number of Identified Specimens (NISP; % based on only total number of identified species: 89) and Minimum Number of Individuals (MNI).

Three instances of butchery were noted, two being suggestive of skinning. Four fine knife marks were recorded on a red deer calcaneum and two fine cut marks were observed on the dorsal surface of a cow astragalus; the third example was a chop mark on a cow scapula. Only three bone specimens (c. 2%) showed signs of gnawing, suggesting quick deposition of the material.

Comparable to Legge's type 7A (1992, 63, fig. 25), a worked bone point fashioned from an ovicaprid metatarsal



Figure 20. Perforated Mussel Shells (F.71).

was recovered from [218]. This is c. 82mm long, although the tip of the point is broken.

Cattle accounted for more than all the other species collectively and are the predominant species when the MNI is taken into account. The unidentified mammal count, where fragments were assigned to a size-category, was also used to show which class of domesticates prevailed in this assemblage. The frequency of cattle-sized fragments supports the notion that cattle were of primary importance on this site. As is further discussed below, the under-representation of ovicaprids is somewhat surprising.

F.210: The majority of the faunal material originated from the upper midden fill ([649]) and this has been considered independently from the lower material. Out of 445 bone specimens recovered from this feature, 407 (91%) fragments came from the midden deposit. Of the latter, 199 (c. 45%) were possible to identify to species. The relative importance of three main 'food-species' showed a clear predominance of cattle and similar proportions of pig and ovicaprids (Table 8). Both sheep and goat were positively identified. Other species include dog and horse, as well as the same three wild species already recorded in F.71.

Butchery was observed on 11 specimens and includes skinning and disarticulation. A sheep-sized hyoid bone had several knife marks probably implying slaughter and a red deer metatarsal appeared to have been prepared for bone working.

In addition to the butchery, another two definite examples of bone working were recovered. The distal end of a cow ulna has been fashioned into a gouge (106mm long), with the knife marks in the shape of longitudinal striations still visible on the working end of the tool. The feature also yielded a worked bone point fashioned from a sheep/goat tibia (85.0mm long) with the distal end cut at an oblique angle to form a point; comparable to Legge's type 5 (1992, 61, fig. 23).

Gnawing was noted on 28 specimens (c. 7%) suggesting that the bone material was left within the reach of scavengers; dog bone was also identified.

Taxon	Midden			Lower Deposits		
	NISP	NISP%	MNI	NISP	NISP%	MNI
Cow	90	45	7	6	25	1
Ovicaprid	43	21.5	4	9	38	1
Sheep	2	1	1	1	4	1
Goat	1	0.5	1	-	-	-
Pig	51	26	4	2	8	1
Dog	3	1.5	1	-	-	-
Horse	1	0.5	1	1	4	1
Red deer	3	1.5	1	3	13	1
Roe deer	3	1.5	1	1	4	1
Wild boar	2	1	1	1	4	1
Cattle-sized	113	-	-	7	-	-
Sheep-sized	95	-	-	7	-	-
Total	407	100	-	38	100	-
Total NISP						445

Table 8. F.210: NISP- and MNI-values (NISP % based on only total number of identified species: 199).

A small quantity of animal bone was also recovered from the feature's lower fills: 38 specimens. In contrast to the species-

ratio of the midden deposit ([649]), ovicaprids predominated, followed by cattle, pig and horse; two bones were butchered and three demonstrated gnawing.

F.504/526: The feature's faunal material has been divided into two sub-sets, with that from the upper fill [1208] quantified independently of the lower waterlogged deposits. The sub-sets differed in terms of quantity, state of preservation and taphonomic condition; a total of 521 assessable specimens were recorded, 326 (c. 63%) of which originated from the midden ([1208]). Cattle were the dominant species from these upper deposits, accounting for more than all other species combined (Table 9). Only two ageable specimens were recorded: a sheep mandible aged 2–6 months and a pig mandible at 27–36 months.

Taxon	Midden			Lower Deposits		
	NISP	NISP%	MNI	NISP	NISP%	MNI
Cow	81	52	3	45	40	3
Ovicaprid	39	25	2	33	30	1
Sheep	3	2	1	5	4	1
Goat	1	1	1	1	1	1
Pig	16	10	2	12	11	1
Horse	4	3	1	6	5	1
Red deer	9	6	1	4	4	1
Roe deer	1	1	1	-	-	-
Wild boar	-	-	-	6*	5	1
Cattle-sized	73	-	-	55	-	-
Sheep-sized	64	-	-	29	-	-
Mammal n.f.i.	34	-	-	-	-	-
Total	325	100	-	196	100	-
Total NISP						521

Table 9. F.504/526: NISP- and MNI-values (n.f.i. indicates no further identification; NISP % based on only total number of identified species: 154).

Butchery actions had been performed on seven bones, suggesting skinning and meat removal or filleting. In addition, three instances of bone working were noted. A sheep/goat tibia has been split axially and fashioned into an awl-type tool. A sheep-sized limb bone fragment has also been found with two incised longitudinal grooves where the bone would have been split and later modified; this probably represents the working waste or an unfinished tool. The final piece of worked bone is a cattle-sized limb bone fragment with a perforation in the middle. Its distal end seems rounded and polished; however, it is difficult to determine the type and the function of this object.

A total of 196 (c. 38%) bone specimens came from the feature's lower deposits. The material has a slightly better state of preservation and shows almost no signs of gnawing, indicative of the quick deposition. In keeping with the results from the other two pit-wells, cattle feature as the dominant species. Ovicaprids are slightly better represented than in the overlying midden contexts; however, the range of species present seems to reflect the same type of economy and hunting strategies. The sub-set is again dominated by the three main 'food-species', with wild species also present. Two ageable specimens were recorded, a cow mandible aged to 8–12 months and a cow scapula, 0–6 months; an unfused cow scapula attests to local cattle breeding.

One deposit, [1265], in addition to waterlogged wood, flint and pottery, included an articulated portion of two

front wild boar legs (scapulae, ulnae, radii, metacarpals, carpal and phalanges). A complete radius measured 205mm (Greatest Length; GL) and a domestic pig radius recovered from the same context measured 140mm (GL). Measurements of the proximal and distal articulation are also within the range for wild boar given by Payne and Bull (1988, 41). The absence of butchery marks almost certainly indicates that bones were articulated/fleshed when they were deposited.

In contrast to Pryor's sheep-dominated interpretations of the Fenland's Bronze Age field systems (1996), a recent review of the region's faunal data has demonstrated what was actually a predominantly cattle-based economy (58.5–86%; Evans *et al.* 2009, table 6.3). Variously having 54/56% cattle (vs. 27/29% ovicaprids), Striplands' Late Bronze Age assemblage would largely accord with this. Yet, based on data from sites in southern Britain – particularly Runnymede and Potterne – it has been argued that the Late Bronze Age saw a marked intensification of agriculture and an increase in sheep husbandry (Serjeantson 1996 and 2007; Locker 2000). As is apparent in the comparative site-data presented in Table 10, this would not seem true of the region where, instead, it was only during the Early Iron Age that there was an increase in sheep (which remains at higher levels, and locally even increases to 50–75% during the Middle/later Iron Age; see Higbee in Evans *et al.* 2007).

The assemblage's relatively high proportion of wild species also deserves comment. The combined percentage of 'the wild' on the other sites compared here ranges between c. 1 and 4%, and at Striplands these also account for c. 4%. Almost all of the listed sites include red and roe deer. The wild boar in Striplands' faunal record is particularly significant given that its confident determination is usually rare on Late Bronze Age sites (see Hambleton 2009, 27; Serjeantson 1996, 219–20 and Locker 2000, 105), and its occurrence in this case either suggests adjacent woodland suitable for pannage and/or swathes of

wild grassland. Although heavily reliant on cattle, the Striplands Farm community also clearly engaged in hunting: the activity most likely being both socio-cultural and economic in character.

Bulk Environmental Samples

Anne de Vareilles

Altogether 43 samples from 21 features were processed and examined from the various fieldwork stages. Leaving aside the Romano-British and later phase contexts, the results from the bulk soil samples from 17 Late Bronze Age features are discussed.

Environmental and cultural data has survived through both charred and waterlogged plant remains. Though overall quantities of carbonised plant remains were low, delicate elements such as cereal chaff and grass roots indicate that their absence was not a direct result of adverse preservation. Waterlogged seeds were recovered from the large pit-wells F.370, F.71, F.504/526, and F.210. The latter two also contained charred cereal grains and chaff in their midden-capping fills. Snail shells were found in most of the samples, the most common and abundant species being the intrusive blind burrowing snail *Ceciloides acicula*. Since their assemblages are insignificant and no 'indicator' species were found, they shall not be discussed further. Carbonised remains will be considered first and emphasis will be placed upon the large pit-wells.

Cremation F.2: A maximum of 14 hulled wheat and/or barley grains were found, and a single spelt wheat glume base (*Triticum spelta* L.) suggests that the grain may have been offered as whole ears or spikelets. Seven grass stem nodes and six grass (possibly wild) basal nodes with rootlets may support the latter suggestion. Conversely, if the pyre was built on or under turf, roots and the few wild plant seeds might have charred *in situ*. Two hazelnut shell fragments (*Corylus avellana* L.) and 1g of possible burnt animal bone

Site	NISP%			Total	Ref.
	Cow	Ovicaprids	Pig		
Runnymede (LBA only)	28	42	30	6572	Serjeantson in Needham & Spence 1996
Potterne	27	41	32	9366	Locker in Lawson 2000
Nine Bridge, Northborough	72	20	8	628	Higbee in Knight 1998
Pode Hole, Thorney (LBA only)	66	31	3	117	Rackham in Daniel 2009
<i>Striplands Farm</i>					
Midden Material	52	27	21	732	
Lower Pit-well Deposits	56	29	15	374	
<i>Langtoft, S. Lincs.</i>					
LBA	47	15	38	512	Higbee in Webley, forthcoming
EIA	46	41	13	174	
Lingwood Farm, Cottenham (EIA)	37	43	20	323	Evans 1999

Table 10. Frequency of cattle, sheep and pigs on Late Bronze and Early Iron Age sites. Having established the number of identified specimens (NISP) of each species, the percentage of the total NISP found at the site for each species was calculated. The most common domesticates (cow, ovicaprid and pig), defined by the most frequently occurring species, was then separated from the list of identified species and analysed as a separate sub-group. The percentage of the total NISP for each of these species within this sub-group was then calculated in order to demonstrate which were the most prevalent.

could be further evidence of food offerings (McKinley 1997, 132). The assemblage is noteworthy as food offerings are not commonly encountered in Bronze Age cremations; two shell fragments from F.2 – the only context in which they occurred – were also unexpected finds (i.e. possible necklace-/ornament-related).

Pits F.137 ([420] & [421]) and F.5 ([17]): F.137 was 100% sampled (11 litres). Charcoal was abundant and appears to have been deliberately discarded into the pit from a fire/hearth. Cereal remains amounted to 23 whole grains, 12 grain fragments and a hulled wheat glume base (*Triticum* sp.). The seven wild plant seeds are of typical arable weeds and may have been added along with the grains. Associated with the plant remains were 127g of burnt and unburnt animal bone, suggesting that this assemblage represents waste from food preparation and consumption. The same can be said for the finds from pit F.5, which included less charcoal and a maximum of 13 grains.

Structures I-III and the F.210 Midden ([649]): Posthole F.162 from the four-poster Structure I and all five sampled postholes from Structure II had no plant remains whatsoever and, otherwise, just a little fine charcoal was present. Whilst Structure I, interpreted as a granary, is further evidence for the agricultural nature of the late prehistoric landscape, there is no reason why burnt crops should accumulate in the postholes. Roundhouse postholes rarely contain charred plant remains other than residual charcoal, though an exception can sometimes be made for their doorway setting, which appear to have been conveniently positioned for the accumulation of passing debris. Four of the seventeen postholes of Structure III were sampled. Low concentrations of charcoal were present throughout, but only three had other plant remains. The samples (1 litre) contained no more than three grains each and eight glume bases, some of which could be identified to spelt wheat. The only wild plant seed was from a goosefoot (*Chenopodium* sp.). Structure III was constructed upon F.210 and associated with the midden deposit [649]. The higher proportion of chaff to grain is consistent with waste; indeed, it is difficult to characterise these assemblages beyond the accumulation of midden material. Similar counts of cereal remains were found in the six small samples from F.210 [649] (1–1.5 litres), with chaff dominating over grain. Relatively high densities of charcoal, two hazelnut shell fragments, a goosefoot and a dock seed (*Rumex* sp.) make up the remainder of the preserved flora. Although cereal processing waste was clearly discarded into the midden deposits, the remains are too few (probably due to sample-size) to suggest what by-products from particular processing stages were considered good fuel or intentionally discarded. Finds recovered from the >4mm heavy residues are consistent with those excavated and include pottery, burnt and unburnt animal bone, burnt flint, burnt stone and baked clay.

Pit-well F.504/526 ([1278], [1271], [1265] & [1208]) and Pit F.517 ([1259]): Although all five samples contained charcoal, only the capping layer [1208] of F.504 and the inter-cutting pit F.517 ([1259]) yielded other charred plant remains (only 500ml of soil were processed from [1278], [1271], [1265] and F.517 as they were waterlogged; 12 litres were floated from F.504 [1208]). The cereal remains found were all chaff: [1208] had five barley rachis internodes (*Hordeum vulgare* sl.), a spelt glume base and 12 spelt or emmer glume bases (*T. spelta/dicoccum*); whilst F.517 had a barley rachis segment, three

spelt glume bases and three spelt or emmer glume bases. The only other carbonised plant remain recovered was a hazelnut shell from F.517.

Waterlogged Plant Remains

Pit / Well F.504 ([1278], [1271] & [1265]): The bottom, middle and upper fill of this feature produced dense concentrations of seeds, representing around 38 species, and many leaf fragments from trees and/or shrubs. Although the leaves were not identified, the pollen record suggests they could be oak (*Quercus* sp.), birch (*Betula* sp.), alder (*Alnus* sp.), willow (*Salix* sp.), as well as from trees/shrubs noted in the seed record: hazel, blackthorn (*Prunus sanguinea* L.), dogwood (*Cornus sanguinea* L.), elder (*Sambucus nigra* L.) and hawthorn (*Crataegus monogyna* Jacq.). Insect remains, including freshwater water flea egg cases, were abundant in all but the top fill. The three assemblages produced comparable results. Apart from the trees/shrubs, two other broad ecological categories were noted: arable weeds and herbs of disturbed open land, such as fat hen and other goosefoots (*Chenopodium album* L.), common chickweed (*Stellaria media* [L.] Vill.), knotgrasses (*Polygonum* spp.), nettles (*Urtica dioica* L.), brambles (*Rubus* sp.), thistles (*Carduus/Cirsium* sp.), sow-thistles (*Sonchus* sp.) and nipplewort (*Lapsana communis* L.); plants of damp, marshy ground such as crowfoot (*Ranunculus* Subgen. *Batrachium*), marsh stitchwort (*Stellaria palustris* Retz.), water-pepper (*Persicaria hydropiper* (L.) Spach), gypsywort (*Lycopus europeus* L.), duckweeds (*Lemna* spp.) and sedges (*Carex* spp.).

Though the stratigraphic detail is not as refined as in the pollen cores, the data concur in demonstrating open arable land with localised areas of damper ground (albeit some of the aquatic/semi-aquatic probably grew within F.504). The absence of shrub pollen is not altogether unsurprising since they are insect-, not wind-pollinated. The question of how they fit into the landscape must remain enigmatic until further archaeological evidence concerning the planting and management of hedges is achieved. The shrubs are typical species of open or re-generating woodland and could be expected in an area where woodland was both used and locally superseded by arable (see Boreham below). The presence of leaves, thorns and a relatively high representation of seeds/fruits could suggest that the specimens were either growing close to F.504/526 itself or that their wood was employed to erect a fence or dead-hedge around the pit-well. It is worth noting, however, that the fruits of blackthorn, hawthorn, elder and dogwood are all consumed by birds, and which may have distributed their seeds widely across the landscape.

Pit/Wells F.71 ([463]), F.370 ([1067]) and F.210 ([1062]): Far fewer seeds were recovered from these three pits/wells, representing about 30 species in total. The pollen record for F.71 and F.210 is also poor (F.370 was not sampled), suggesting that these results are a product of poor preservation. The macrofossils do not contradict or differ markedly from those seen in F.504: hazel, elder, sloe and brambles would have offered a range of nuts and berries, and shrubs such as dogwood and hawthorn would have made useful firewood. Willow(s) grew around, and possibly even over, the features.

The vegetation around these late prehistoric pit-wells therefore attests to a patchwork of ecological settings, whose boundaries were probably not distinct but gradually merged from one land-use to another.

Pollen

Steve Boreham

Leaving aside a Saxo-Norman feature (F.362), eight monoliths from three Late Bronze Age cut-feature sediment sequences were considered: two each from F.210 and F.71, with four from F.526 during the second excavation-phase.

At the time that the lower/basal sediments of F.210 ([1062]) were being deposited it appears that woodland had been largely cleared from the site and that arable land-use had become established nearby (Figs. 7 & 21). Remnants of oak-hazel woodland were clearly present and, indeed, the *Liliaceae* pollen present in this sequence may represent bluebells growing on the floor of that woodland. Cereals and arable weeds were obviously also growing within the area (cereals up to 3.03%), as were sedges and bur-reed, presumably colonising marshy ground or ditch margins. Towards the top of lower monolith (26cm above base), hazel scrub appears to expand, and as time progresses there is a hint that the landscape was becoming wetter as alder and willow appeared. Cereal pollen was present at 1.38%.

The basal part of upper monolith (41cm) documents a significant change as hazel scrub expanded and cereals disappeared. Arable weeds and evidence of land disturbance are still present, but it is clear that the land-use markedly altered. One possibility is that woodland ceased to be managed, reverting to densely shaded hazel scrub, arable fields were abandoned and that pastoral grazing became the main activity. It is possible that this coincides with the Late Bronze Age/Early Iron Age boundary. The upper part of that monolith records a return to arable activity (53cm; cereal pollen present at 1.75%), the clearance of hazel scrub and some evidence that the landscape again became slightly wetter as alder and bur-reed expanded. Some caution is needed in interpreting these results since the statistically desirable main pollen sum of 300 grains was not reached in any of the samples.

Little can be deduced from the basal sediments from F.71, since the pollen was so sparse and badly preserved. The basal sediments appear to record grassland and disturbed ground; however, the sample from 49cm seems to mark immense local landscape disturbance. Arable agriculture does not appear to be present, and many of the herbs suggest a tall herb meadow environment. Hazel scrub grew nearby, and apart from the presence of alder, there is nothing to suggest particularly wet or damp conditions. The lack of water here may be the reason that the lower sediments in this pit are so badly oxidised.

The pollen assemblages from the F.526 sequences are rather similar with grass-dominated spectra, and arboreal taxa such as hazel, oak, alder and willow (Figs. 9 & 21). It is clear that they do not represent the typical 'post-clearance' later Bronze Age landscape. The persistent presence of hazel (up to 22%) indicates shrubby woodland nearby (perhaps managed coppice), and the low frequencies of oak even hint that fragments of mixed oak woodland still survived in

the vicinity. The occurrence of alder and willow infer local areas of wet woodland (carr) nearby, although the pollen of obligate aquatic plants, such as bur-reed, was not particularly common. The abundance of grass and plants of tall-herb communities suggests meadow or pasture. Although the disturbance indicator – ribwort plantain – was present in almost every sample, cereal pollen was rather infrequent (<1.1%), suggesting that any arable activity was small-scale and some distance from the site.

The evidence from F.210 and F.71 indicate that woodland clearance and arable activity seem to have been well advanced in the area by the Late Bronze Age, and that there appears to be evidence for a brief period of abandonment, possibly at the start of the Early Iron Age. Clearly, soil disturbance was a ubiquitous feature of the landscape, whether associated with arable activity or not at this time.

The different character of F.504 pollen assemblages could, in fact, suggest a somewhat earlier, Bronze Age environment, where partial clearance of the wooded landscape had begun, but arable activity was patchy and low-key. When compared to the evidence of other two features the key issue is whether the greater presence of arboreal taxa relates to a somewhat earlier date or just a more immediate proximity to woodland.

Discussion

While not without interpretative attractions, it would clearly be erroneous to directly equate the scale of the Striplands Site's Bronze Age pottery assemblage with settlement status and somehow consider it a place of 'special' gathering or the like. Directly arising as a result of the survival of midden deposits within the upper profiles of its two main wells, what this rather attests to is the degree of settlement-data loss that usually is incurred with the plough-eradication of surface strata on sites of the period. There is, indeed, often a distinct split between its main settlement-types. On the one hand, there are the great midden sites, such as Runnymede and Potterne (e.g. Needham & Spence 1997; Lawson 2000), wherein vast quantities of material were accumulated/deposited. On the other hand, lacking, for example, the house-eavesgullies characteristic of Middle/later Iron Age settlements, most of the period's typical sites yield only relatively low quantities of finds. The assemblages from either of Striplands' two main wells alone would, in fact, be significantly greater than those found at many such later Bronze Age settlements and, as such, potentially offers a connection between the two. This being said, the paucity of material of this date within the site's subsequent post-Bronze Age linear features (i.e. residual status) would indicate that it was not a matter of settlement-wide midden spreads, but rather that these were localised.

In contrast, the results of the excavation of a later Bronze Age settlement cluster at Toll House, Broom, Beds., are particularly relevant in this regard (Cooper & Edmonds 2007, 106–14). Exposed over c. 0.25ha,

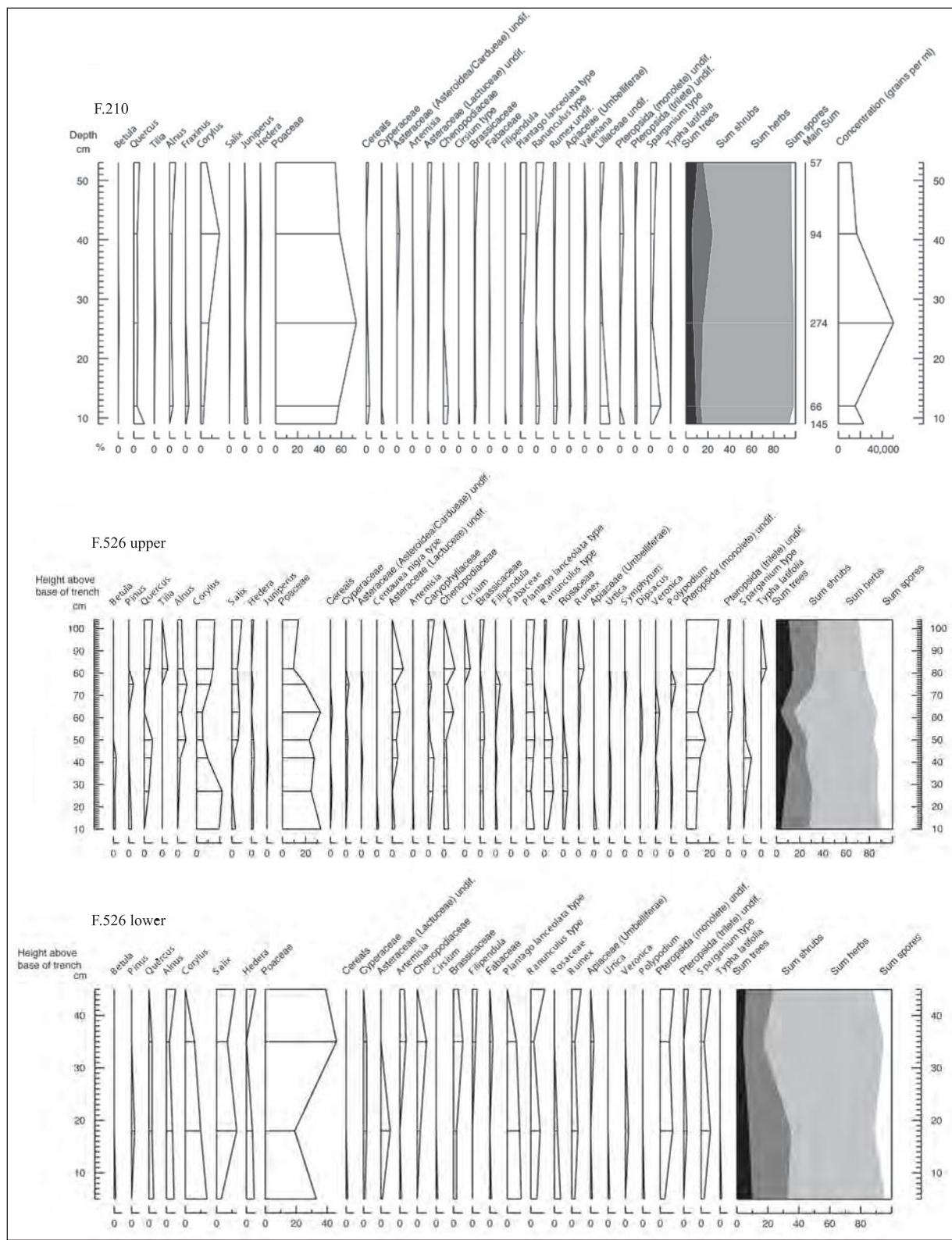


Figure 21. Pollen Diagrams (F.210 & F.526).

with its single post-built roundhouse, four-posters, fence-lines and scattering of small pits, the site has a 'pristine' quality (i.e. single occupation-phase) and seemingly presents a typical household of the period.

All told, 957 sherds of pottery were recovered from it, representing a minimum of 52 vessels. Aside from the fact that the character of some of its pit infillings clearly pointed to the redeposition of midden material

(Brudenell & Cooper 2008), that the centre of the site was crossed by an intensively sample-dug Romano-British ditch permits consideration – through the distribution of residual later Bronze Age finds – of its otherwise missing surface deposits. Based on the plotted densities (Cooper & Edmonds 2007, fig. 4.24), its midden must have lain on the southern side of the cluster's roundhouse and, extended across some 13.00m, its pottery values ranged from 27–56 sherds per metre segment-length (animal bone, 19–24 fragments). With an average of 40 sherds per metre (and 21 animal bones), these densities would be broadly comparable to those of Striplands' midden horizons.⁷ By this, and the estimation that the Toll House's midden may have extended over some 125sqm, it would, in total, have held upwards of some 5000 sherds of pottery and 2625 animal bones (see above for Brudenell's calculation of the two sites' vessel counts).⁸

Not only does this serve to gauge Striplands' two well-middens – each broadly equivalent to, or even less than, a single household's refuse and not attest to any kind of *en masse* group-deposition/-behaviour – but also acts as a cautionary tale. The material respectively recovered from the two settlements without these midden deposits would then represent only 13% of their total populations in the case of Striplands Farm (pottery, by number; bone, 49%) and c. 15% at the Toll House (pottery, by number, excluding residual finds). This is an enormous discrepancy and implies that interpretative modesty must be exercised towards such Late Bronze Age sites if lacking surface strata. The gulf between what little material ultimately ended up in their cut features, as opposed to what otherwise went into midden heaps – in short, *the missing* – is simply too great for 'totalising' modes of social/depositional explanation (e.g. Brück 2007).

Beyond this, the Striplands' findings provide a platform to reconsider the role of organic material within the material culture of later prehistory. The inventory of the organic finds from its pit-wells would confirm the observations of a 1989 paper overviewing the recovery of such finds up to that time *vis-à-vis* a critique of Clark's notion that non-waterlogged assemblages only amounts to a pale 'shadow-world' of the otherwise missing organic finds (e.g. Clark & Godwin 1940, 57; c.f. Evans 1989). Yes, organic containers were recovered – the F.504/526's trough and F.13's possible bark box/tray – but in nothing like the frequency of those features' ceramic vessels. Equally, none of the organic finds recovered have been ornately carved and it is clearly erroneous to envisage later British prehistory as some manner of all-over-decorated 'Polynesia'. The main organic finds are, moreover, 'things' that could not be rendered – largely due to their tensile qualities/needs – in non-organic materials (log ladders and axe hafts) and, now, this is to the point that the recovery of such items are themselves fast becoming commonplace on sites of the period.

Of the site's other findings, the recovery of the copper alloy droplet-adhering crucible piece, as well as the possible mould fragment, add to growing regional corpus of the period's settlements having evidence

of bronze metalworking. This includes Fengate (Pryor 1980; 1996) and, nearer at hand, Barleycroft Farm on the lower Ouse (Evans & Knight 2000). Attesting to the impact of production-related recycling, while the recovery of these items at the Striplands Site – in addition to the evidence of its wooden haft-handles and many toolmarks (from some 20 axes; see Table 6) – certainly tells of the presence of bronze implements, no contemporary metalwork was itself found.⁹

While the perforated mussel shell necklace from pit-well F.71 (*et al.*) is amongst the site's more fragile, if not modest, artefacts, it is actually one of its most informative. It is comparable to findings from other excavations of the period within the region, which now includes a six-cockle shell (plus one whelk) setting from Tower's End, Thorne (Mudd & Pears 2008, 71, pl. 12) and a group of three, similarly modified cockles from Langtoft, Lincs. (Hutton 2008c; see Evans *et al.* 2009, fig. 2.24).¹⁰ Aside from adding to the evidence of the degree to which individuals were then variously 'ornamented' – particularly, the growing corpus of jet toggles and animal-tooth pendants (see Evans *et al.* forthcoming; see also e.g. Woodward 2002) – what is singularly pertinent is the use of mussel shell. It both attests to major river valley contacts by the 'inland' Striplands' community and, also, markedly contrasts with the use of cockle shell in the South Lincs. and Thorne environs. As a marine species, the latter would resonate with salt production in those areas and their contemporary estuarine conditions (see e.g. Gurney 1980; Lane & Morris 2001; Daniel 2009, 156), and even suggest that variation in such necklace 'markers' was environmentally sensitive.

As regards the human remains, the occurrence of both 'loose' body parts (e.g. skull fragments in F.13 & F.71) and cremations within settlements of the period is now well-documented (e.g. Brück 1995). In this instance, the F.2 cremation is noteworthy, not just for the possible inclusion of plant food-offerings in its rite, but also its shell fragments. With the latter not occurring in any of the site's other contexts (see de Vareilles, above), they could suggest that still another necklace shell-setting accompanied the interred individual.

As indicated on Fig. 22, the site's human remains occurred across the southern half of the Bronze Age settlement zone and, arguably, beyond its building posthole- and midden-defined 'core'. Also shown on that illustration are the pit-wells' shared 'axe-signature' linkages. As designated by Taylor above, though there can be no absolute certainty of their uniquely individual attribution, this potentially provides distinct insights into site's settlement dynamics and feature contemporaneity. This first involved listing which toolmark-axes occurred within which pit-well. Not surprising, the two very large midden-capped ones have the greatest number (F.504/526: 10 and F.210: 9), followed by F.370 and F.71–3 with three and four respectively and, finally, F.13, having only two. The link-lines on Fig. 22 indicate which axe-signatures are common to individual pit-wells. Again, not surprisingly, with three such linkages each, it is the largest midden-sealed wells – F.504/526 and F.210

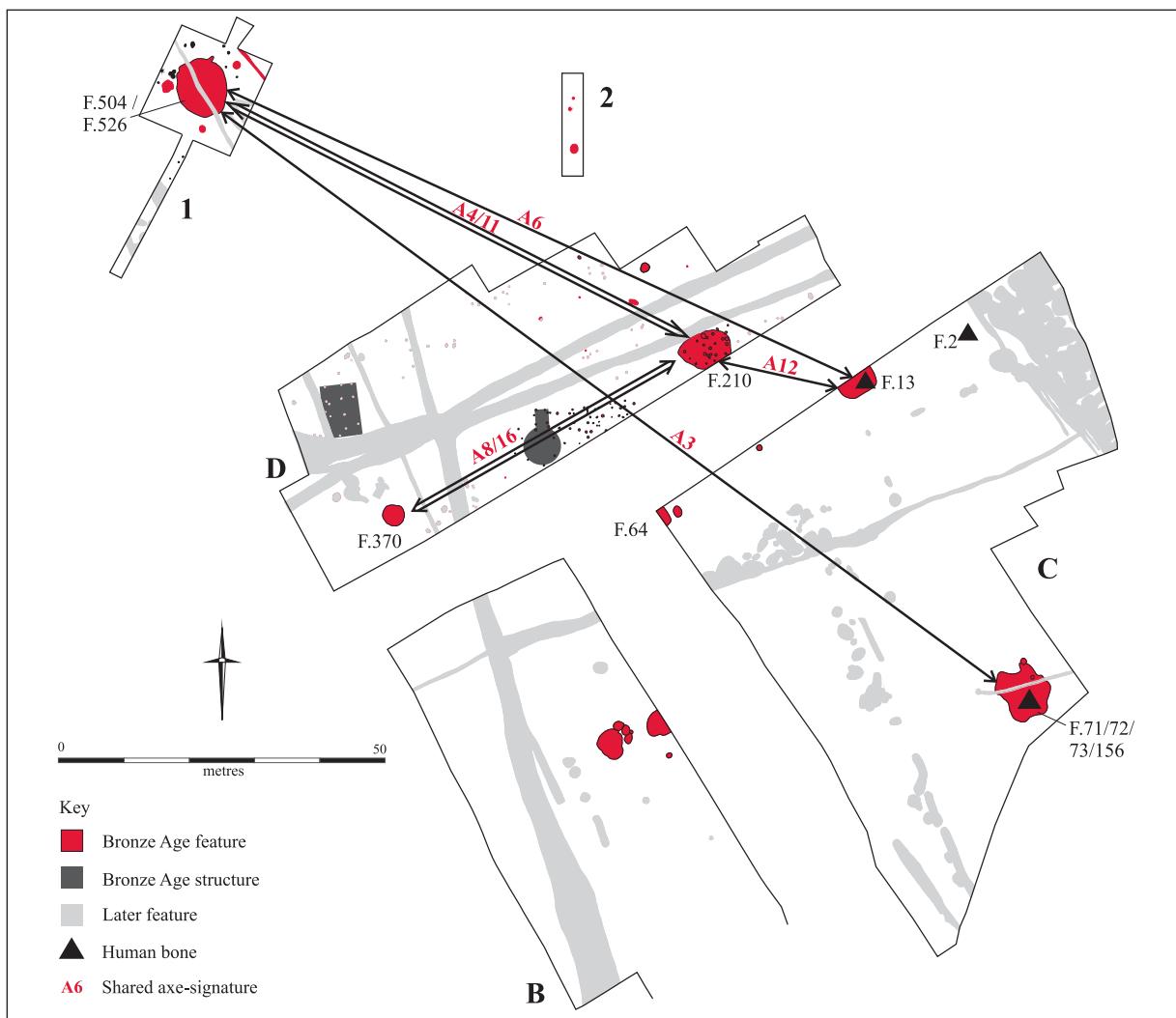


Figure 22. The Bronze Age settlement: human bone distributions and shared 'axe-signatures'.

– that have the most connections. Possibly attesting to their more settlement-marginal situation, F.71–3 and F.370 are both connected to only one other well. Yet, the latter's 'pairing' with F.210, along with F.504/526 and F.210's, are the site's strongest indications of contemporaneity as only these shared more than one axe-signature (two each: Axes 8 & 16 and 11 & 4 respectively). Finally in this capacity, and probably further attesting to the earlier establishment of F.504/526 in the north, no such linkages occurred with its primary-phase (F.530) toolmark-axes, but only with its recut-phases.

Pioneering Communities? – Colonising Claylands

The Striplands Site is informative concerning the character of *later* Bronze Age settlement and land-use specifically because it seemingly lacked any major Middle Bronze Age precursor. Although, as is so often the case with negative evidence certainty is not possible, and while a paddock setting was recovered in Area E (and a single ditch 'fragment' within Area

1; Fig. 3), no evidence of site-/environs-wide fieldsystem was forthcoming; nor has such been found on other neighbouring investigations. From this, it could be inferred that large-scale fieldsystem-division was not essentially an attribute of Late Bronze Age land-use, but was rather an earlier, Middle Bronze Age phenomenon. While there are instances of distinctly 'Late'-attributed fieldsystems, such as at South Horncurch, Essex (Guttmann & Last 2000; see also Yates 2007, 26–8, fig. 3.6 & pl. 4), generally it is a matter of Late Bronze Age settlement occurring within the axes of fieldsystems established some centuries earlier. This would be the case, for example, at Fengate and, as is explored at length within a recent volume concerned with its environs (Evans *et al.* 2009; see also Daniel 2009, 53–4, fig. 3.49), the issue becomes to what degree Late Bronze Age settlement was there incidentally sited – perhaps as a lingering remnant – or how the then-fossilised (by hedges?) fieldsystem landscape was actively utilised? While the site's wood and waterlogged plant remains assemblages hint of hedging (see Taylor and de Vareilles above), the evidence

is far from being unequivocal.

In this vein, it is crucial to recognise how this inland landscape would have differed from the river valley and fen-edge environs where such settlements are usually encountered; primarily, it would have been 'monument-less'. Although a few ring-ditch/barrow candidates are suggested by cropmarks on the lighter soils flanking Oakington Brook some 3km to the southeast (Evans *et al.* 2008, fig. 3.20), this would have effectively been *new lands* with few obvious vestiges of any previous inhabitants/'visitors'.

If evidence of such an 'inland' Bronze Age settlement had been found 20 years ago or more before there would have been a natural inclination to, *de facto*, ascribe it a pastoralist function (see Evans 1987 for overview). Indeed, prior to the Iron Age the main incursions into the region's 'heavy lands' may well have been for woodland resource procurement and, perhaps, involved a distinct stock-herding component. In case of this site's Late Bronze Age, however, it is clear that its inhabitants practiced *mixed farming* and that it was a matter of *permanent settlement*. This is not just demonstrated by its quernstones and cereal remains – the latter, of course, could have always been imported to the area – but by the pollen register of its well features.

Occurring, where present, at a level of *c.* 1–3%, while the level of cereal pollen may not seem particularly high, it is comparable to and even exceeds that on many Middle/Late Bronze Age sites (see Evans *et al.* 2009, 63–4; e.g. Branch & Silva in Mudd & Pears 2008, 60). Indeed, it is in this capacity that the evidence of the site's Saxo-Norman well becomes informative (F.362). Sited at what would have been the junction of 'in-' and out-field plots, it evokes the kind of thoroughly domesticated land-use setting that can easily be envisaged. Yet, within it, cereal pollen only occurred up to a levels of 9–16% and, against this, the Bronze Age wells' values – taking the impact of a further *c.* 20 centuries of decay into account – seems broadly comparable.

The crucial issue behind this, of course, is whether the site's Bronze Age usage actually commenced with its fully fledged/permanent 'Late-period' settlement – which based on its ceramics could not date earlier than the 11/10th centuries BC – or if it was initiated through earlier forays into the local landscape. In other words, when was the site's *pioneering phase*? Leaving aside for the moment its single Beaker sherd, here a number of factors are relevant: the marked concentration of flint within F.504/526's upper mid-den fills and that four sherds of Deverel Rimbury pottery occurred only within pit F.505 beside that feature. Equally, as detailed by Boreham above, that the northern pit-well's pollen demonstrated both the persistence of shrubby wood and possibly even mixed oak woodland, would either indicate the later survival of woodland in that direction or else that feature's somewhat earlier date. By its character, F.504/526's flintwork is unlikely to pre-date the Middle Bronze Age (i.e. lack of distinct Early Bronze Age types) and, therefore, it is reasonable to directly associate it with

the Deverel Rimbury pottery occurring nearby and distinguish this usage as the Late Bronze Age settlement's likely precursor. Admittedly little can be said concerning its character, and it may have amounted to no more than seasonal resource procurement and/or even involved temporary pastoral utilisation (the area perhaps first seeing limited clearance during the later Neolithic/Early Bronze Age as hinted by the Beaker 'presence'). It should, moreover, be emphasised that this 'life in woods-type' scenario (see Evans *et al.* 1999) would not just pertain to the site's pioneering phase. The Late Bronze Age settlement's much evident roundwood and timbers certainly attest to managed woodland within the vicinity and 'the wild' within its faunal assemblage – especially the boar – even suggesting local forest survival.

A note of caution needs, however, to be introduced to these 'pioneering-phase' arguments. It is here imagined that any pre-11/10th century BC occupation could only have been sporadic and of low intensity. Yet, as has been discussed elsewhere (Evans *et al.* 2009) – though corresponding with '*the fieldsystem horizon*' – contemporary Middle Bronze Age/Deverel Rimbury Ware settlements are still relative rare in much of the region and, even when identified, often have only low levels of accompanying pottery. In fact, by the occurrence of such urns in the period's cremation burials, it has been suggested that from what was possibly a low/near-aceramic level of pottery-usage, the nature of their burial rites may itself impact upon the recognition of these settlements. Given this, it is possible that from the 14–12th centuries BC (i.e. prior to the site's 'Late-phase' usage and based on the F.530's 1380–1330/1330–1120 cal. BC radiocarbon date; Beta-280349) the area may have seen more intensive settlement than has actually registered.

That issue aside, the early occupation of the region's 'heavy lands' has received considerable attention in recent years (e.g. Clay 2002; Mills 2007), with the Middle Iron Age generally marking its main settlement-colonisation horizon (as opposed to earlier task-related 'visitations' as indicated by widely dispersed worked flints and, occasionally, pottery; see e.g. Evans 2002). This was, indeed, the case with the Longstanton/Northstowe fieldwork. Extending in total over some 650ha, there 15 Middle/later Iron Age and nine Romano-British sites were discovered (see Evans *et al.* 2008, 174–81). While a few seemingly isolated later Bronze/Early Iron Age pits were recovered (and two distinct later Mesolithic flint scatters on the lighter soils flanking Oakington Brook; *ibid.*, 176), the Striplands settlement was the only substantive pre-Iron Age site found (see also Abrams & Ingham 2008 and Wright *et al.* 2009 further on local clayland site-recovery). That said, large-scale landscape projects are now, for the first time, coming upon both later Bronze and Early Iron Age sites upon the region's claylands. This would include findings made in the course of the University-lands' North West Cambridge evaluation (Evans & Newman 2010), through Cambourne's excavation programme (Wright *et al.* 2009, 65–6) and even, at Papworth Everard, a Middle Bronze Age cre-

mation cemetery (Gilmour *et al.* 2010; see also Cooke *et al.* 2008, fig. 4.41 for Bronze Age settlement densities on Stansted's claylands).

The location of the Striplands settlement – at the interface between an inland gravel ridge and clays – reflects detailed 'local knowledge'. Potentially gleaned through observation of surface-drainage and the tree-throw upcast, this would have accrued through previous forays to these inlands from 'host' river valley settlements (with the site's shell necklace speaking of maintenance of these interconnections). Ultimately, given the site's 'interior' situation, how water was regularly achieved (i.e. the 'invention' of the pit-well) may have been as much a factor restricting settlement as the heaviness of the local soils. To wit, the Longstanton/Oakington environs offers significant insights concerning the geological vs. the topographic possibilities of early land-use and settlement, as it is *not just a clayland-scape*. Its Ampthill Clays are crossed by a 700–1200m-wide gravel ridge that, albeit interrupted, runs from Cambridge northwest to the fens at Willingham. Whilst seeing somewhat higher background worked flint densities than the surrounding clays, despite lighter soils it evidently lacks the intense Neolithic/Bronze Age archaeology – variously, the fieldsystems, flint scatter/pit cluster settlements and monument complexes – of, for example, the adjacent reaches of the Ouse River Valley (see e.g. Evans & Knight 2000; Malim 2000). Presuming that the existence of the ridge was then known through previous procurement visits, this then tells of the *recommendation of land*. Clearly, prior to the Middle Iron Age it was not just a matter of seeking better-drained lands (i.e. gravel terrace-geology), but that major river valleys, in addition to offering ready water supply, were effectively *landscape communication corridors*. Against this, how the region's inland tracts were first 'pioneered' and subsequently colonised are themes certainly warranting much further research.

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Finally, at Striplands Farm – the Shephards – were most charming hosts and, putting up with much 'messing around', were truly instrumental in the project's success (their son often gaining muddy experience with the digging teams).

End-notes

1. Prior to trenching, large-scale transect fieldwalking collections occurred throughout the broader West Longstanton area. Due to pasture cover, for our immediate purposes this only extended into the northern third of the site (Areas D & E); however, with only four burnt flints and a single worked flint recovered there (and no prehistoric pottery), the site was not distinguishable within in the plough-zone. Nor were any features associated with it found during the course of evaluation trial trenching either along its northern margin (Cessford & Mackay 2004) or within the east-lying fields (Cutler 2000; Ellis & Ratkai 2001).
2. This north-of-cables swathe was not to be built upon; the reason for excavating the pit-well there – the one such feature revealed through the geophysics – only arose from the threat of construction-related de-watering.
3. Such large pit-wells continued as a feature of earlier Iron Age settlements, but declined in use during the Middle/ later phases of that period – this being attributable to the fact that the large ditch enclosures of that time seem to have also served as 'catchwaters' (see Evans 1997). Of such Early Iron Age wells, the nearest example would be that at Lingwood Farm, Cottenham (Evans 1999). Excavated during the Fenland Management Programme, this evidently stake-supported wattle-revetted feature yielded more than 175 pottery sherds and 320 animal bones. Almost 500 pieces of wood were also recovered and, while largely consisting of roundwood and working debris, also included a large plank, the 'hollow' from what was probably either a bowl, scoop or ladle, and, remarkably, part of a tripartite disc wheel.
4. Cattle hoof prints were identified around earlier Bronze Age watering holes/ponds at Bradley Fen, Whittlesey and, in one instance, a preserved wattle fence had been erected around the mouth of a well-shaft, presumably to keep animals away from a human supply (Gibson & Knight 2006); see also Masefield *et al.* 2003 and Lewis *et al.* 2006, 133–49 further later Bronze Age pit-wells generally.
5. The numerical designation of toolmarks indicates the

- maximum 'width:depth' of the axe blade/cut expressed in millimetres.
6. Due to page-length restriction, it is not possible to include here details of the specialist contributions methodological procedures and classificatory basis; these are, however, available in the site's archives.
 7. While the negative evidence from such sampling of later-phase linear features at Striplands Farm for residual find densities (as opposed to the Toll House results) must, in part, relate to the absence of settlement-wide midden-type strata, the site's much heavier soils was probably also influential, as they would inhibit weathering-induced finds movement.
 8. Though its figures are likely to have been enhanced by the subsequent reuse of its surfaces as a yard, these artefact-population estimates are broadly comparable with the finds recovered in association with the main eavesgully-surrounded Building 4 roundhouse (c. 9.0m wall-diam.) in the Haddenham V Middle Iron Age enclosure and whose accompanying floor strata survived intact: 6324 pottery sherds and 7058 animal bones (Evans & Hodder 2006, 142–6). When considered together with the Toll House's estimates, this suggests that 6000–7000 sherds might represent a reasonable single, later prehistoric household pottery-population figure.
 9. See Evans 2002 concerning the distributional context of Bronze Age metalwork on the region's claylands and, also, for example, Yates & Bradley 2010 and Malim 2010, generally. The site's woodworking remains also provides significant insights into the specialised character of period's craft production. Complementing the small size of the WD13's probable wooden haft, in particular is the range of the axes-sizes employed, with four being less than 30mm wide and, all told, four different axes were used in the manufacture of the WD65 trough.
 10. Four perforated oyster shells (*Ostrea edulis*) were recovered from different Late Roman contexts at Stonea. While two were thought to perhaps relate to roof-repair patching, the others were considered to have probably been used for costume decoration or personal ornament (Cartwright in Jackson & Potter 1996, 538–40, fig. 201). Also, a perforated 'sea-shell' (limpet) accompanied an Early Bronze Age child's burial at Pode Hole, Thorney (Richmond et al. 2010).
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Beaker Pits and a probable mortuary enclosure on land off Stirling Way, near Witchford, Ely

Rob Atkins

with contributions by Zoë Uí Choileáin, Nina Crummy, Richard P. Evershed, Chris Faine, Rachel Fosberry, Alice Lyons, David Mullin, Lucija Šoberl and Stephen Wadeson. Illustrations by Séverine Bézie

Excavation at this site revealed two Beaker pits, the first of their kind in the area. These were followed by a possibly defensive late Iron Age boundary ditch. An adjacent enclosure – perhaps serving a mortuary function – may have originated in the middle of the first century AD and continued in use until around the late second century AD. Within the enclosure lay a cremation and two inhumations with unusual grave goods marking them out as the burials of significant local people.

Location, Geology and Topography

Archaeological investigations were conducted on former arable land to the north of Lancaster Way Industrial Estate which lies east of Witchford village, just within the western boundary of the city of Ely (Figs. 1 and 2). The underlying geology comprises mid-Pleistocene glacial tills overlying beds belonging to the Middle Jurassic Kimmeridge Clays (British Geological Survey 1980). The southern part of the site lies on the plateau of a small knoll at c. 15.50m OD. The land slopes down to the north to lie at 11.81m OD adjacent to Witchford Road.

Project Background

Oxford Archaeology East undertook archaeological works between 2008 and 2010 in advance of the construction of a new recycling centre. Geophysical survey in 2008 found two possible Iron Age or Roman ditches in the southern part of the site (Masters 2008). Subsequent evaluation uncovered several further Iron Age and Roman features (Atkins 2009); excavation followed in 2010 (Atkins 2010). The site archive is currently held at OA East's offices under the site code ELYREC and will be deposited with the appropriate county stores in due course. This article is designed as a synthesis of the excavated findings and is supplemented by the full analytical report which can be freely accessed at <http://library.thehumanjourney.net/view/subjects/UK-Roman.html>

Archaeological and Historical Background

Numerous archaeological sites lie immediately to the south and east of the excavation area (Fig. 2), with those in its wider landscape setting being shown in Fig. 3. A 'Roman Camp' was recorded 0.4km to the south (Walker 1910, Cambridgeshire Historic Environment Record (CHER) 06912) and Roman pottery was found nearby in 1927 (CHER 06912a). During World War II the site became part of a large airfield: from 1946 onwards the land was gradually cleared and converted back to arable fields. In 1977/8, directly to the north of the 1927 record, more Roman pottery was found 'by the bucketful' (CHER 17276).

Over recent years several archaeological investigations have resulted from the increasing expansion of Lancaster Way Business Park. Initial work made few discoveries (Robinson 1995, CHER 11801; Leith 1996, CHER 00055), although in 2000 and 2003 evaluation and excavation in the same location as the 1927 record found four phases of occupation spanning the Roman period (Crank 2000; Ralph 2003; CHER 15366). Further evaluation and excavation took place to the east in 2006–07 during work on the Ely to Haddenham water pipeline (Hancock 2006, Area A, trench 16; Thompson 2009; CHER 17824). Another Iron Age to Roman settlement was found c. 1km to the south-west (Hancock 2006, Area B, trenches 12 and 13; Thompson 2009; CHER 17823). In 2008, Northamptonshire Archaeology evaluated a large area to the east, some of which has subsequently been excavated (Holmes 2008, CHER 2862; Simmonds and Mason 2008, CHER 3017; Holmes and Simmonds 2009, CHER 3073). This investigation found further evidence of middle Iron Age and Roman settlement to the east of Area A and an Iron Age settlement near Area B.

Period 1: Neolithic to Bronze Age

The earliest features found at the subject site were two late Neolithic/early Bronze Age pits (549 and 575), spaced 14m apart (Fig. 4) and lying on the northern edge of the knoll plateau overlooking the valley to the

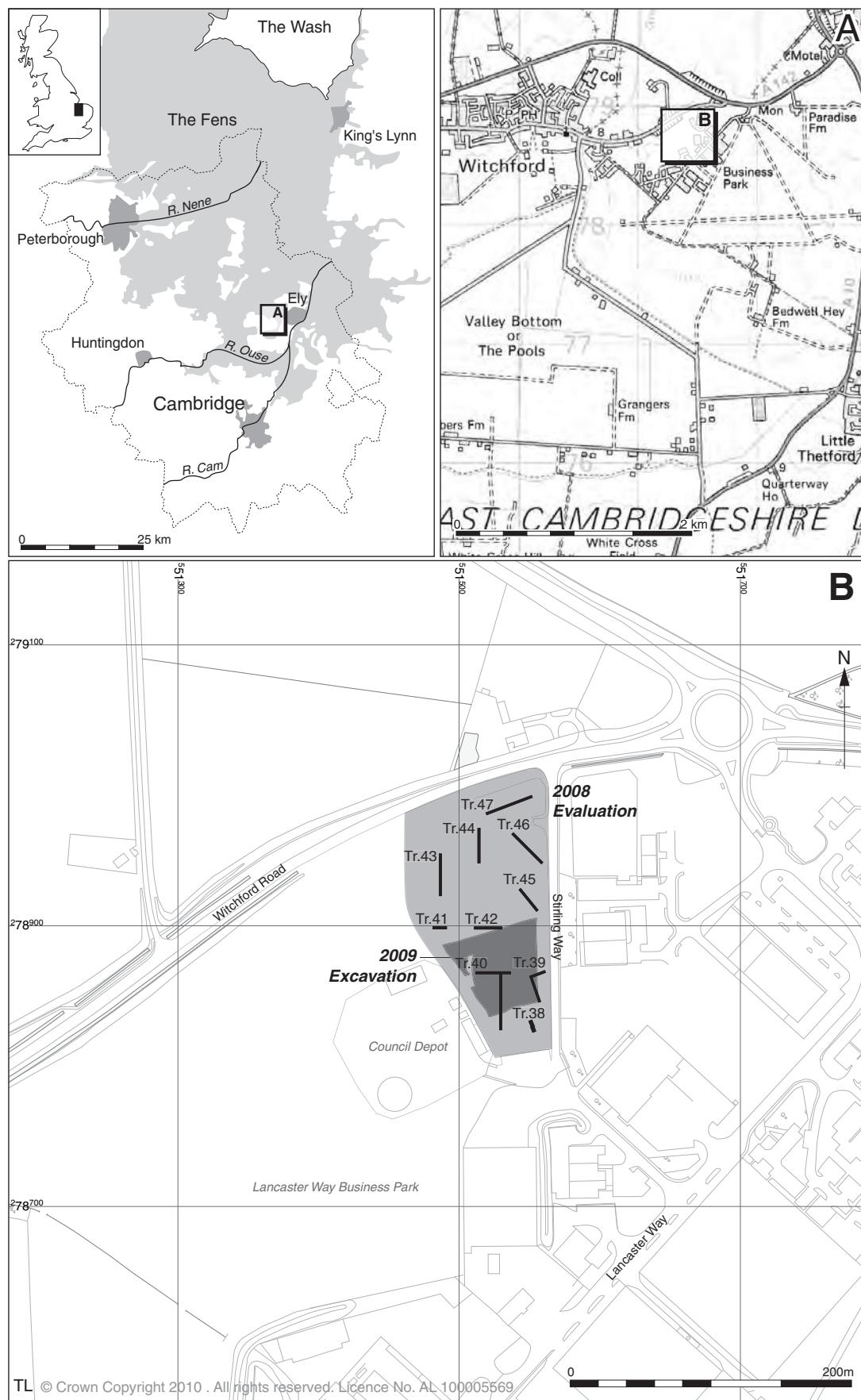


Figure 1. Location of the 2008 evaluation trenches and the 2009 excavation area.

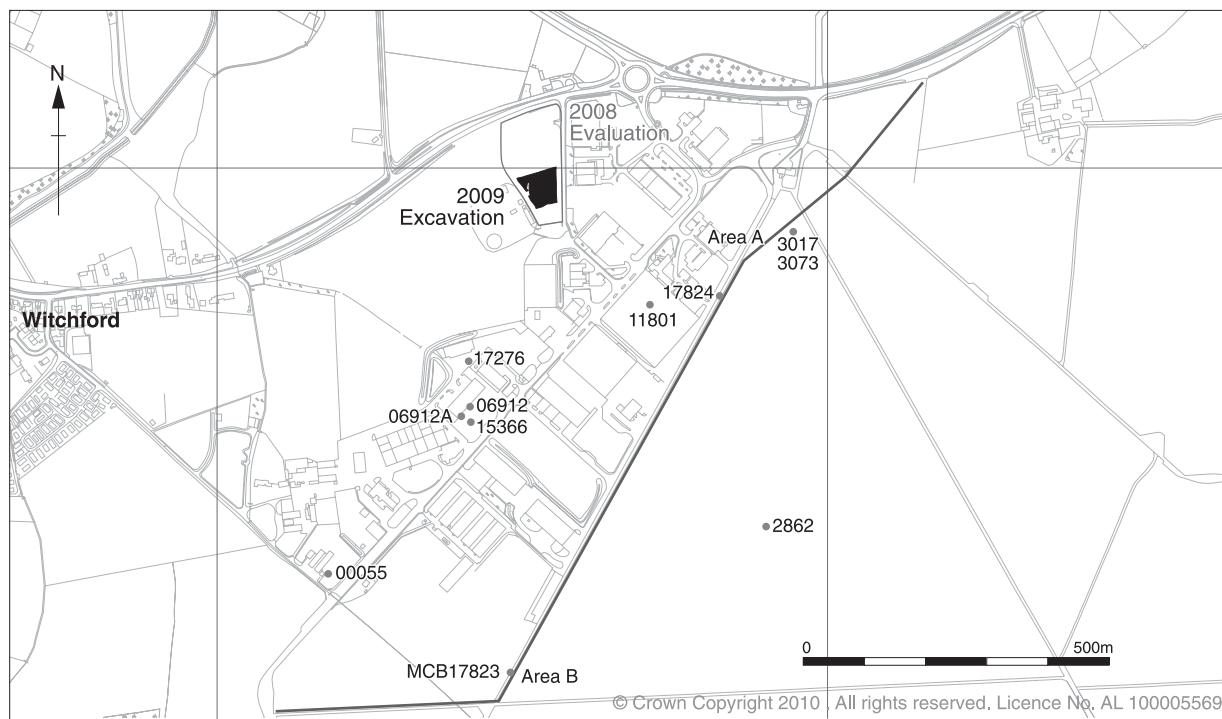


Figure 2. Site location in relation to other archaeological work (showing Cambridge Historic Environment Record numbers).



Figure 3 (see also Plate 2). Terrain model, showing the site with the fens and surrounding Bronze Age, Iron Age and Romano-British sites (after CHER records; Hall 1996, fig. 18; Evans 2003, fig. 142; Atkins and Mudd 2003, fig. 28; Evans et al. 2007, fig. 1 and further additions). [Flint deposits not included].

north. Both were shallow, sub-oval features. Pit 549 yielded 40 Beaker sherds from four vessels, as well as three small late Bronze Age sherds from a single

vessel. Two flakes of flint debitage were recovered, along with small fragments of hazelnut, charred cereal grains and large quantities of charcoal. The small

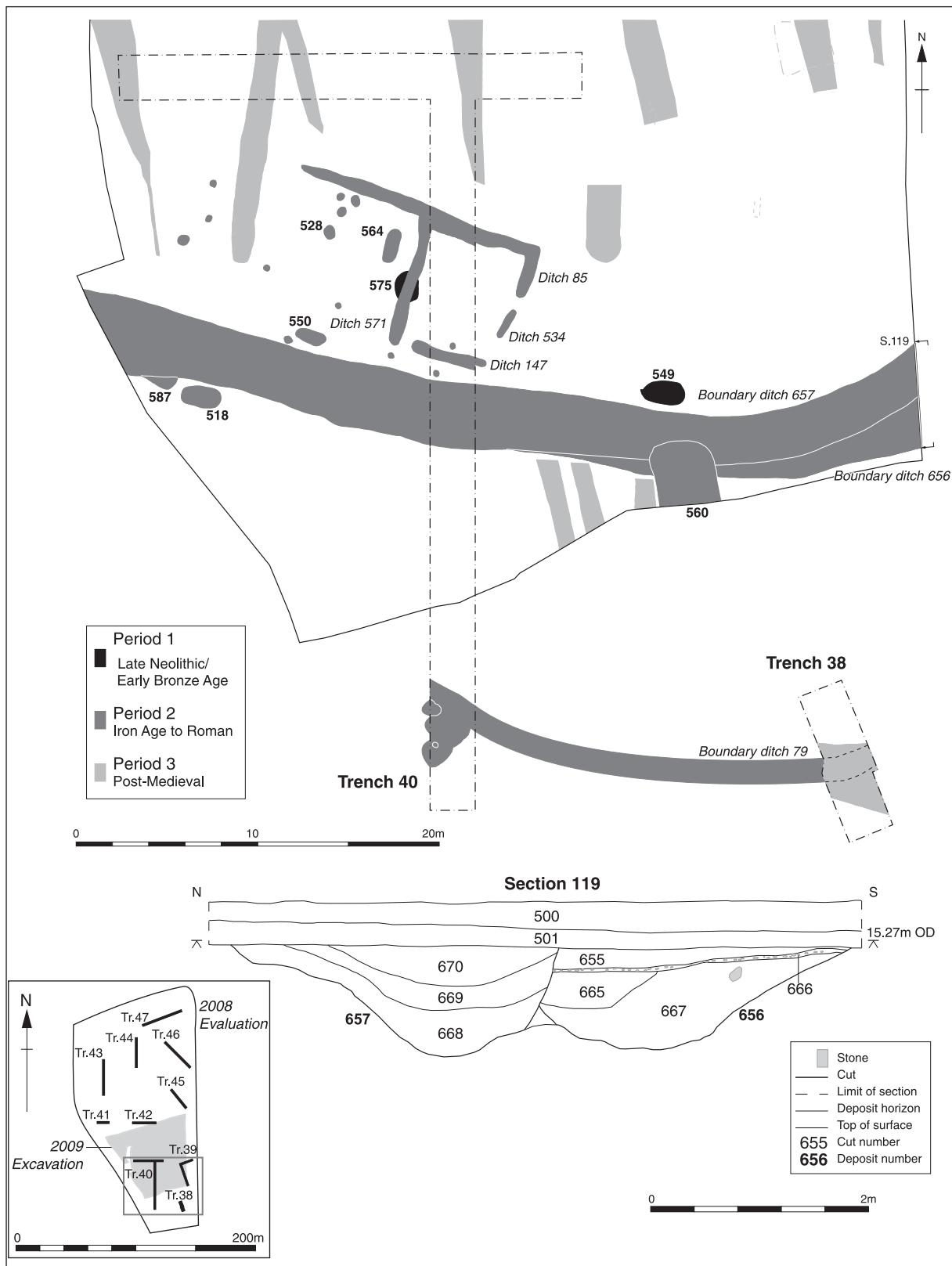


Figure 4. Phased plan of the excavation and evaluated land to the south.

fragments of burnt animal bone found could not be identified to particular species. The second pit (575) had been severely truncated and its fills were undated. Adjacent fills of the early Roman ditch which cut through it notably contained a Grooved Ware fragment and two Beaker sherds which may have come from the earlier feature.

Period 2: Iron Age to Roman

Iron Age

In the western part of the site, two sub-rectangular shallow pits contained late pre-Roman Iron Age pottery and animal bone (Fig. 4, 518 and 587). The northernmost example was cut by a late Iron Age boundary ditch (656) which probably served as the main northern boundary for the settlement known to have existed to the south into the early Roman period. The ditch only partially survived, having been totally removed

on its western side by a recut (Fig. 4, S.119). In its early form, the ditch was more than 2.8m wide and 0.92m deep. The few finds from this initial phase included a substantial sherd from a La Tène style carinated jar. The boundary ditch and its recut followed the line of the crest of the hill and were recorded in the geophysical survey over a 60m distance, running roughly east to west through the excavation area before curving to the north-east near Stirling Way. The land directly to the south was devoid of contemporary features, perhaps suggesting the presence of a bank.

Early to Middle Roman

Boundary ditches

The substantial recut of the boundary ditch (657) was up to 3.15m wide and 1.16m deep (Fig. 4, S.119). A significant proportion of the finds from the site came from this feature, including 641 pottery sherds. The latter notably included 39 sherds from a suspended bowl. Metalwork comprised two copper alloy objects (a hair pin (SF 7) and a ?strip), a late third-century coin

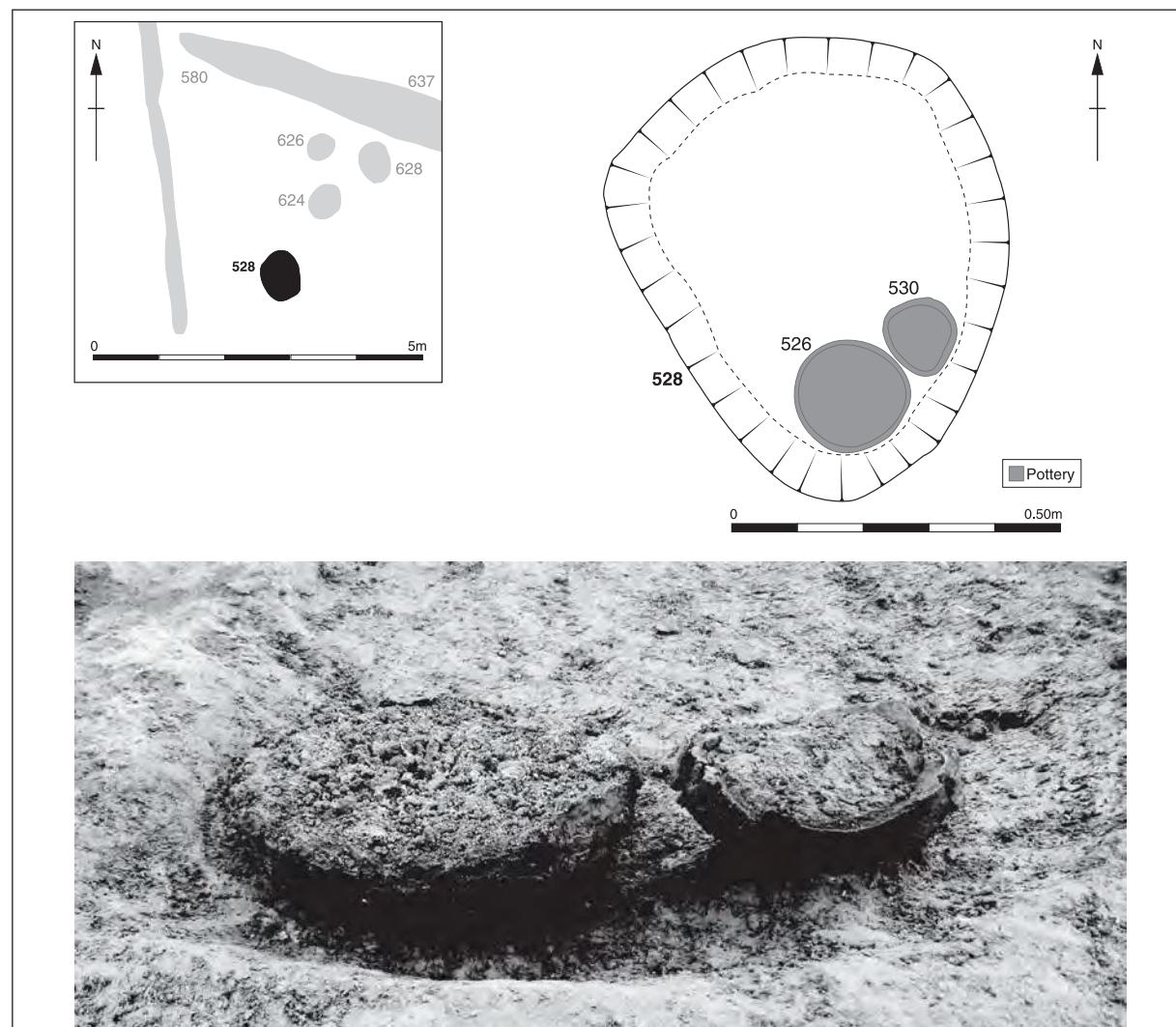


Figure 5. Cremation 528. Photograph is looking north-west.

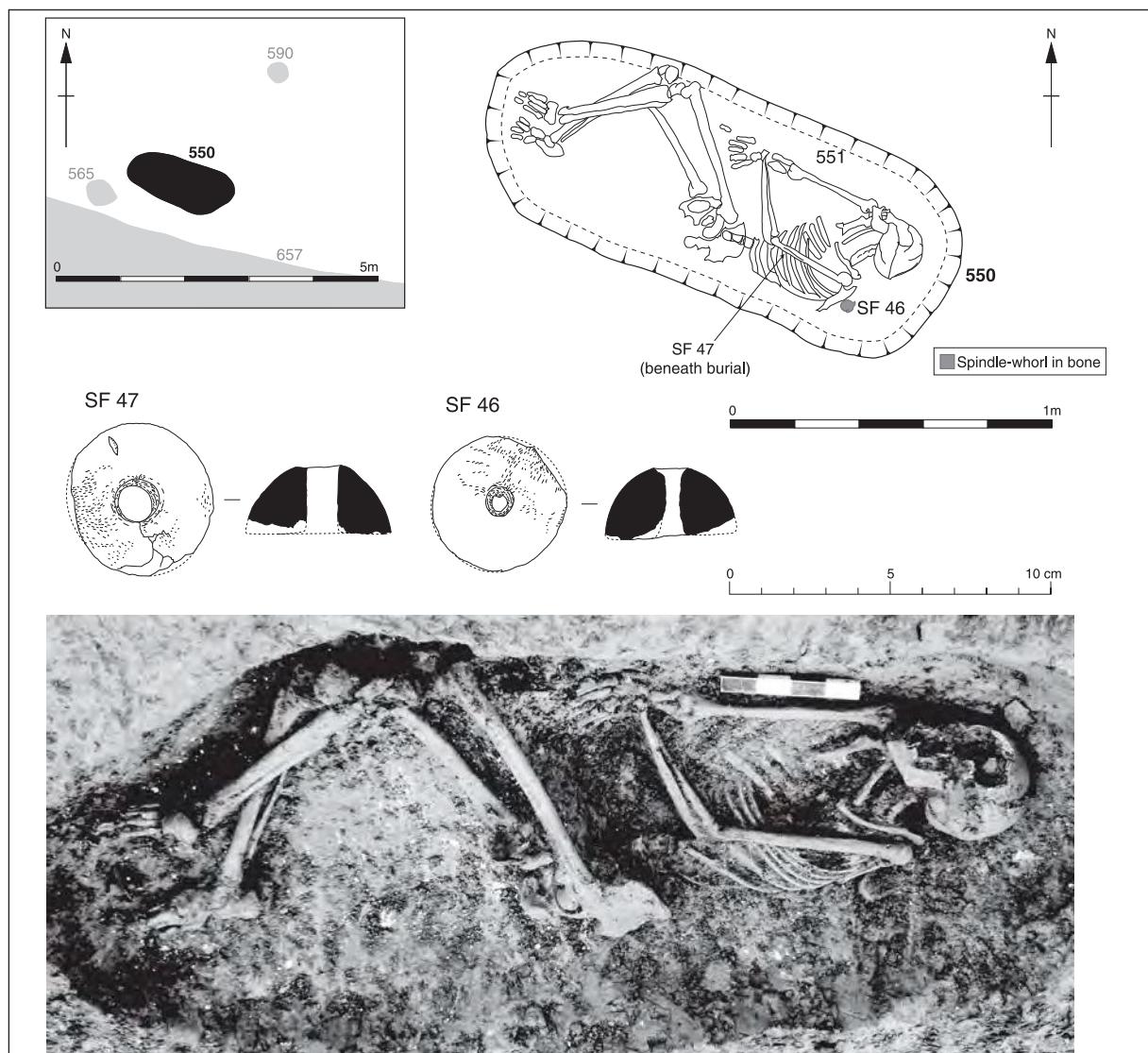


Figure 6. Burial 550, and associated finds.

- SF 46. Bone spindle whorl made from the articular condyle of a cattle femur. The spindle hole is hour-glass shaped and worn. Diameter 42 mm, height 23 mm; weight 18 g. Minimum diameter of spindle hole 4 mm. Found by the upper back/left shoulder of sk. 551, in grave fill 552, grave 550. Early to Middle Roman.
- SF 47. Bone spindle whorl made from the articular condyle of a cattle femur. The spindle hole is a well worn hour-glass shape. Diameter 46 mm, height 24 mm; weight 18 g. Minimum diameter of spindle hole 11 mm. Found under the ribs/vertebrae of sk. 551, grave 550. Early to Middle Roman.

and three iron objects (two strips and a collar ferrule). Other finds included a glass bead of Guido Group 7(i) type (Guido 1978, 69) and an unguent bottle fragment.

To the south of the main excavation, another boundary ditch (79) was noted during the geophysical survey; it ran broadly from east to west over a recorded distance of c. 50m and was sectioned twice in the 2008 evaluation. It was up to 1.65m wide and 0.70m deep. The westernmost slot excavated across it (Trench 40) yielded few finds whereas the eastern-most (Trench 38) produced 1.607kg (191 sherds) of pottery, and small quantities of animal bone, burnt clay and oyster shell.

Funerary and related features

Directly to the north of the main boundary ditches, and thereby presumably outside the settlement's domestic area, was an enclosure and associated burials (Fig. 4). This activity may have commenced in the very late Iron Age and was certainly established by the early Roman period. The enclosure measured 14m south-east to north-west and 7m north-east to south-west, being subdivided into two roughly equal sized compartments. The eastern element comprised four ditches (147, 534, 85 and 571) enclosing an internal area of c. 6.5m by 5.5m, with two possible entrances on the eastern side (0.7m and 1.7m wide) and one to the south (0.7m wide). It seems unlikely that these ditch-

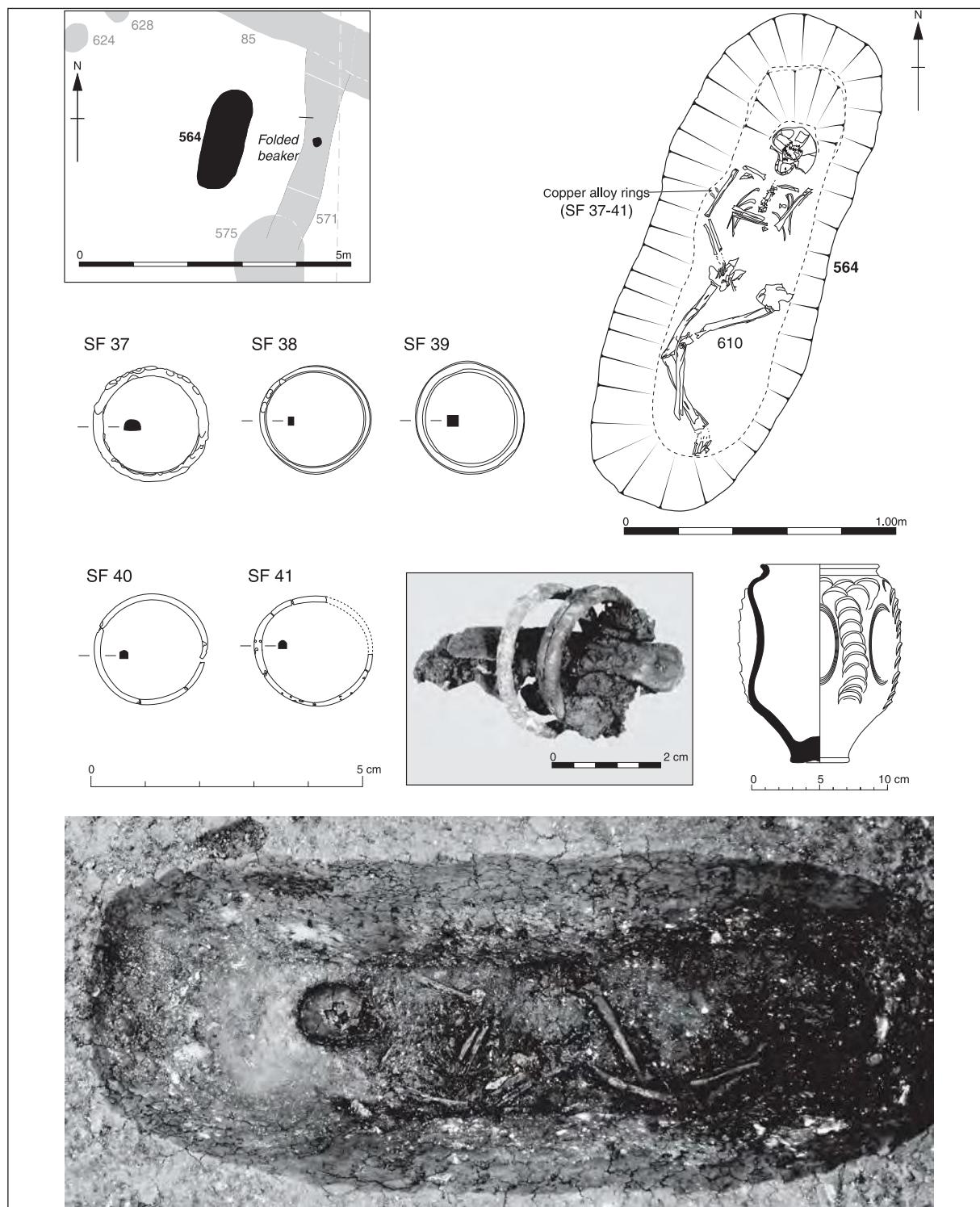


Figure 7. Burial 564 and associated finds.

SF 37 Plain copper-alloy finger-ring of D-shaped section, the uppermost of three on the middle finger of the left hand. Diameter 21 mm, height 3 mm, 2 mm thick.

SF 38 Plain copper-alloy finger-ring of rectangular section, the central one of three on the middle finger of the left hand. Diameter 21 mm, height 1.5 mm, 1 mm thick.

SF 39 Plain copper-alloy finger-ring of square section, the lowermost of three on the middle finger of the left hand. Diameter 21 mm, height 2 mm, 2 mm thick.

SF 40 Plain copper-alloy finger-ring of D-shaped section, in fragments; one of two on the forefinger of the left hand. Diameter 21 mm, height 1.5 mm, 1.5 mm thick.

SF 41 Plain copper-alloy finger-ring of D-shaped section, in fragments; one of two on the forefinger of the left hand. Diameter approximately 21 mm, height 1.5 mm, 1.5 mm thick.

es functioned as construction slots for a building(s) since they were generally V-shaped in profile with slightly rounded bases. They shared similar dimensions and fill types, being a maximum of 0.89m wide and 0.28m deep. The western half of the enclosure had no western or southern ditches, perhaps suggesting that the area was open, but more probably the result of truncation. Alternatively, the western limit of the enclosure may have been formed by a fence line since three postholes ran southwards from the northern ditch. Other postholes lay to the south of the enclosure, between it and the boundary ditch (657), perhaps indicating the presence of another fence line.

Ditch 571 contained two pottery vessels that may have been deliberately placed. A complete Nene Valley folded beaker was found to the east of burial 564 (see below) and the substantial remains of another vessel (88 sherds weighing 0.419kg) were located some 3m to the south. This sandy reduced ware jar with linear comb decoration dates to the first or second century AD. It is very abraded and accounts for most of the 175 sherds recovered from this ditch. The few other finds from the ditches include a decorated samian sherd dated c. AD 120–200. Ditch 85 yielded an iron fish hook, while small quantities of animal bone were found in ditches 85 and 571. Soil samples from the ditches proved to be largely sterile.

Two inhumations, a cremation and five postholes which could have been part of an internal structure(s) lay in the western part of the enclosure, with a single posthole surviving in the eastern part. The shallow cremation burial (528) had been heavily truncated (Fig. 5) and lay within the north-western part of the enclosure. Two jars which may date to the conquest period were placed against the southern edge of the pit. The southernmost vessel (SF 32; context 526) was a funerary urn containing the remains of a cremated adult (158g) which could not be sexed. Directly to the east lay an accessory vessel (SF 33; context 530). The fills of both vessels were sieved but the only finds were cremated bones from the funerary urn.

One of the inhumations (550, Fig. 6) lay parallel to and just to the north of the major boundary ditch (657). This north-west to south-east aligned sub-rectangular grave measured 1.58m long, 0.7m wide and 0.24m deep. At the base of the grave were two bone spindle whorls, associated with the relatively well preserved remains of an adult woman (sk. 551), estimated to have been 1.65m tall, and at least 45 years old. She was buried on her right side with her head to the east, her hands roughly together in front of her pelvis and her legs together in a semi-flexed position. One spindle whorl lay beneath the ribs/vertebrae (SF 47) and the other was placed close against the upper back, near the left shoulder (SF 46). The fact that this latter whorl rested on its side in the correct position for use may suggest that it was buried while still fitted onto a wooden spindle, which has not survived burial (Nina Crummy, pers. comm.). The spindle would have reached up as far as the back of the skull, possibly to the top. Two environmental samples were taken: one from the backfill around feet proved to

contain charcoal, while the other from the region of the head yielded a few abraded cereal grain seeds.

To the north-east, grave 564 contained a moderately to poorly preserved fragmentary skeleton (sk. 610, Fig. 7). This burial lay close to the subdivision within the enclosure and was aligned north-east to south-west. It was sub-rectangular, measuring 1.89m long, 0.7m wide and 0.59m deep. This was a relatively deep grave, estimated to have had an original depth of c. 0.9m deep (allowing for truncation). The skeleton was of an adult and was probably a woman but the bones did not survive well enough to give other information, such as height. The individual was placed in the grave in a supine, largely extended, position. The right hand was over the pelvis, while the left hand lay across the upper arm against the western side of the pit. The legs were placed together in a flexed position with the feet against the middle of the southern edge of the pit. Although the grave was dug to the appropriate length to have accommodated the burial laid supine and fully extended, a 0.2m gap had been left between the northern edge of the grave and the skull, perhaps to accommodate organic grave goods which had not survived. The individual had lost all her teeth except a single premolar, possibly as a result of poor diet. Only three fingers of the left hand survived, with these bones in good condition, albeit stained green by leaching from the copper-alloy rings. There were three rings on the middle finger (SF 37–39) and two rings on the forefinger (SF 40 and 41).

The lower grave fill contained three sherds of pottery dating to the Iron Age and middle first century to second century AD. Soil samples taken from the chest and head area and around the legs proved sterile. No finds came from the two later fills.

Pits

Three inter-cutting Roman pits were found in the extreme south of Trench 40, cutting into boundary ditch 79 (Fig. 4). They were sub-circular in plan and fairly large, being up to 2.5m in diameter and 0.85m deep. These were probably not quarries since far better clay deposits were found in evaluation trenches further down the hill to the north. The quantity of domestic waste found in the backfill of the latest pit suggests nearby domestic settlement. This pit contained 138 sherds (nearly 2kg) of largely unabraded pottery. Only one residual late pre-Roman Iron Age sherd was recovered; all the remainder are mid first or second century. Other finds include a copper-alloy disc (SF 6) which was pierced off-centre. Soil samples from two pits yielded a single cereal grain.

Late Roman

A late Roman layer or trampled footpath (560) ran into the former boundary ditch (657; Fig. 4). Three of the four coins recovered from the layer or nearby were late third century with the other being mid fourth century. Several other late Roman items, including a coin, were found in the topsoil or unstratified across the site and perhaps derive from manure scatters from the nearby late Roman settlement.

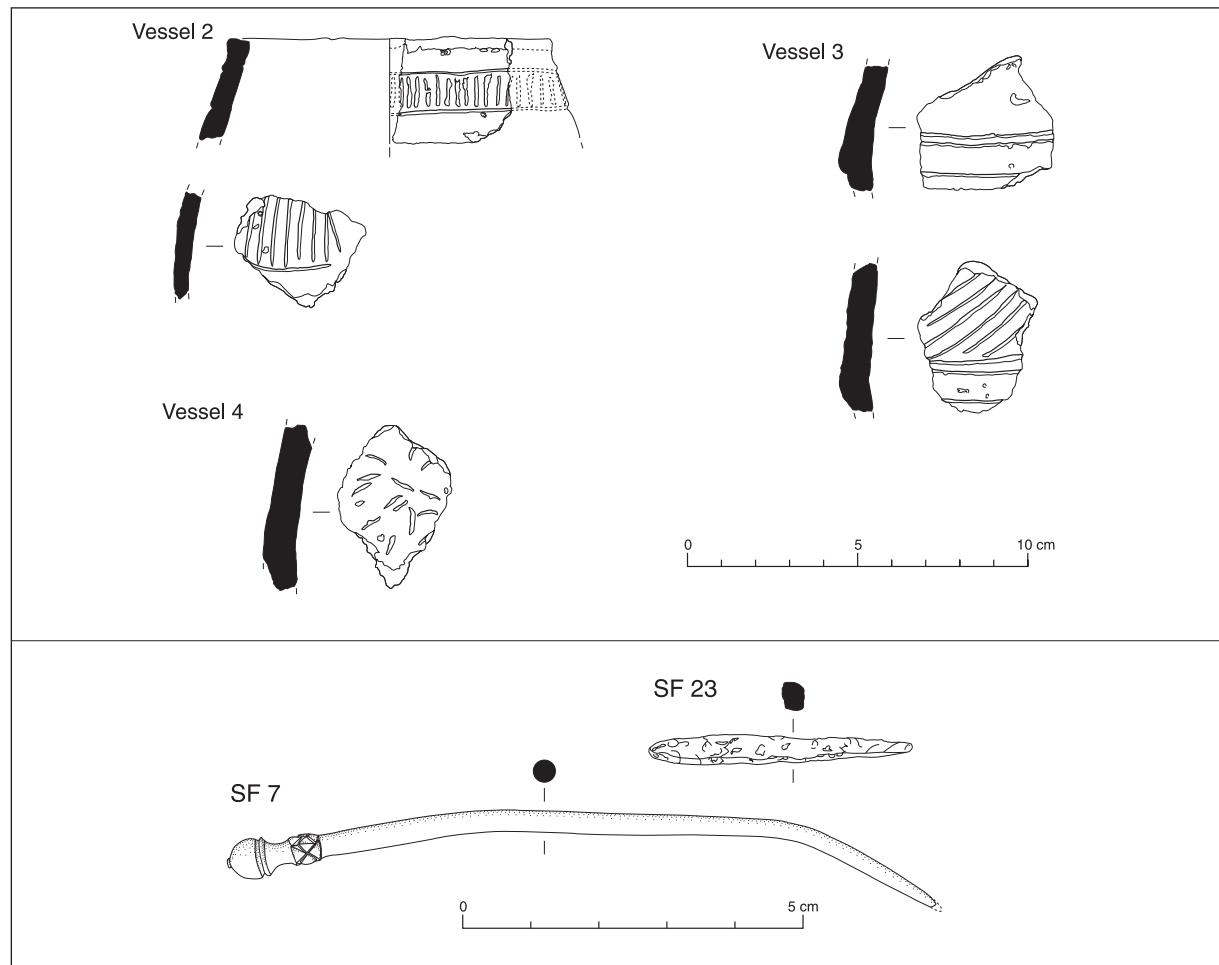


Figure 8. Top: Bronze Age Beaker pottery from pit 549. Bottom: Bronze Age awl (SF 23) and Roman hair pin (SF 7).

Vessel 2: Beaker pottery. Fabric G+Q4. Bounded incised lines below rim; curving and straight lines of comb on body.

Vessel 3: Beaker pottery. Fabric G+Q5. Double parallel ?comb impressed lines along carination; diagonal comb.

Vessel 4: Beaker pottery. Fabric G+Q6. Fingernail impressions.

SF 7: Copper-alloy hairpin with a nippled globular head above a baluster and a square block with a saltire on each face. The globular element is grooved at the base. The shaft is bent. Length 103 mm.

SF 23: Copper-alloy awl with a thick blunt round point at one end and a long square-section pointed tang at the other. Length 38 mm.

Post-Roman

Furrows crossing the site contained pottery and roof tile dating into the eighteenth century but also yielded a few residual Roman finds including an early first century AD Colchester brooch. The furrows were cut by eighteenth or nineteenth century field boundaries and drainage pipes.

The Finds

Flint

David Mullin

The 33 pieces of worked flint found (five blades, seven flakes and 21 chunks) all date to the Neolithic or Bronze Age but were recovered as residual items, mostly in Roman features. Two flake debitage pieces from Beaker pit 549 could pre-date the feature. The chunks and flakes indicate small scale activity in the Neolithic and Bronze Age, but the assemblage is too small to inform on the precise nature of the occupation or the range of activities undertaken.

Earlier Prehistoric Pottery

David Mullin

Some 46 sherds of earlier prehistoric pottery were recovered (weighing 174g). While the majority is Beaker, a single sherd (12g) of Grooved Ware in fabric G+Q2 came from ditch 571 (Table 1). This sherd is decorated with four narrow diagonal grooves below a horizontal groove, but could not be placed within a narrower Grooved Ware sub-style. Grooved Ware of similar fabric has been recovered from Church Farm, Fenstanton (Chapman *et al.* 2005) and from North Fen, Sutton (Webley and Hiller 2009).

The Beaker pottery comprises 40 sherds (144g) from pit 549 and two sherds (14g) from ditch 571. The remains of at least four Beaker vessels from pit 549 are predominantly represented by decorated body sherds (Fig. 8). No vessel profiles could be reconstructed. Vessel 1 (not illustrated) comprises three sherds in fabric G+Q3 decorated with diverging incised lines, possibly part of a chevron. Two rims sherds of Vessel 2 in fabric G+Q4 were found, and are decorated by incised vertical lines bounded by parallel lines of cord impressions. The decoration is very worn but can be paralleled with Beakers from Fengate, Peterborough (Clarke 1970, fig. 858), and by two vessels from Ely itself (Clarke 1970, figs. 885 and 994). The 10 body sherds from the vessel appear to have been decorated by curving incised lines filled by parallel incised decoration, again possibly part of a chevron which can also be paralleled with the Ely vessels illustrated by Clarke. A further commonality between these three Beakers is the poorly executed decoration. Vessel 3 is represented by 23 sherds in fabric G+Q5, mainly from a carination on the body of the vessel. This is demarcated by horizontal rows of comb impressions, below which is a zone of diagonal comb impressions. This emphasis on the carination or change in vessel profile is fairly common amongst Beakers. A single, small fragment of a simple rim of this vessel was also found. Vessel 4 is represented by only four sherds in fabric G+Q6, two of which are decorated by fingernail impressions. Again, fingernail decorated, or 'rusticated' Beakers are fairly common and have been found at Snailwell, Cambridgeshire (Clarke 1970, fig. 791) and North Fen, Sutton (Webley and Hiller 2009). All of the material from pit 549 is fragmentary and shows old breaks and worn surfaces. One body sherd in fabric G+Q1 from ditch 571 is decorated with a pair of parallel impressed lines below which were two diagonal lines, probably part of a chevron. A total of three late Bronze Age sherds (16g) of a fine-walled, flint tempered fabric were recovered from pit 549.

The Beakers from pit 549 are a fairly typical assemblage of Beakers recovered from pit contexts and can be paralleled locally with those from Church Farm, Fenstanton (Chapman *et al.* 2005), where fragments of 37 Beakers were recovered from one feature. The decoration of the Fenstanton sherds is very different, however, and the Ely Beakers are best paralleled with other Beakers from the Ely region (Clarke 1970, figs. 885 and 994). The fabrics of the Ely Beakers are also

fairly typical of Beakers from the region being predominantly grog with added sand.

Table 1. Prehistoric pottery fabrics.

Fabric code	Description
F	frequent angular crushed flint up to 3mm. Interior and exterior surfaces light brown, black core. Late Bronze Age.
G+Q1	frequent grog, occasional sand. Interior and exterior red-brown. Late Neolithic/Early Bronze Age.
G+Q2	frequent, poorly sorted grog up to 2mm. Exterior light brown, interior grey, grey core. Late Neolithic.
G+Q3	sparse sand and grog up to 2mm. Exterior burnished, dark brown. Interior light brown, black core. Late Neolithic/Early Bronze Age.
G+Q4	frequent grog, moderate sand. Exterior light brown, interior black, black core. Late Neolithic/Early Bronze Age.
G+Q5	finely crushed grog and sand. Light brown exterior and interior, black core. Late Neolithic/Early Bronze Age.
G+Q6	moderate grog and sand. Exterior light brown, interior and core black. Late Neolithic/Early Bronze Age.

Lipid Analysis

Lucija Šoberl and Richard P. Evershed

Four sherds from each of the four Beaker vessels within pit 549 were analysed for the presence of lipids (including fats, waxes and fat soluble vitamins). Preliminary results found relatively good lipid preservation in two sherds. Gas chromatograms of pottery lipid extracts show the presence of compounds, indicative of partially degraded animal fat with free fatty acids (palmitic and stearic acid predominantly), mono-, di- and triglycerides. Both pottery extracts also display the presence of odd-carbon number fatty acids with their branched varieties that indicate the presence of ruminant animal fat. The ruminant source of one lipid extract (vessel 4) has also been indicated by its triglyceride distributions.

Further work is being done with gas chromatography-combustion-isotope ratio mass spectrometry to measure $\delta^{13}\text{C}$ values which will provide a more accurate and secure assignation of commodities that were processed within the Beakers. The preliminary results of the lipid residue analyses fit well within the ongoing study of British early Bronze Age pottery from domestic and funerary contexts, where both Collared Urns and Beakers have shown the presence of lipids, originating from various food sources, mainly animal meat or dairy products (Šoberl, unpublished data).

Iron Age and Roman Pottery

Stephen Wadeson, with Alice Lyons

A total of 1673 sherds of Iron Age and Romano-British

pottery, weighing 10.58kg was recovered. The early and middle Iron Age pottery consists of 10 sherds (0.024kg) in a flint and quartz tempered fabric (F1). The majority of the Iron Age pottery (79 sherds, 0.558kg) dates to the late Iron Age (third to first centuries BC). Significantly abraded, the average sherd weight is just 7g. Fabrics containing quartz sand make up the remainder of the late Iron Age assemblage although there is a single sherd in a vegetable/organic-tempered, moderate quartz sand. This assemblage finds parallels in other sites around Ely which seem to show a preference for quartz rich fabrics utilizing the local boulder clays, despite a local supply of shell rich sources being readily available (Hill with Horne 2003, 171). The most substantial sherd is the partial profile from a handmade La Tène style carinated jar (Thompson 1982) from ditch 656. The presence of this vessel suggests the beginning of the adoption of 'Belgic' styles.

Twenty-four sherds of late pre-Roman Iron Age date were found, with a total of six fabrics identified in two fabric groups. Most of the vessels recovered are grog-tempered wares accounting for c. 57% by weight. While no vessel types were identified, the assemblage probably consists of a small number of utilitarian coarse ware vessels occasionally decorated with combed surfaces. The remaining ten sherds are handmade and produced in a finer sand-tempered reduced ware.

A relatively large assemblage of early Roman and Romano-British pottery (1560 sherds, 9.687kg) was recovered. The small and abraded sherds suggest that the majority of the domestic pottery probably reached the site through secondary processes such as mudding and general site clearance. Most of the material is associated with early Roman deposits, especially ditch fills (c. 67%) and pit fills (c. 19%). A total of thirty-two main fabrics were identified.

The early Roman assemblage consists predominantly of locally produced utilitarian coarse wares, particularly sand-tempered coarse wares. Nearly half of the assemblage (c. 48% by weight) consists of unsourced, but locally produced, sandy grey ware sherds. This includes two reduced ware flat-bottomed jars recovered from cremation burial 528 (Fig. 5). These vessels are heavily fragmented and abraded due to post-depositional processes with only the lower third of the vessels remaining making specific identification impossible. The cinerary urn (526) is a locally produced hand made jar. The accessory vessel (530) is wheel made in a similar fabric but better fired. Both vessels are local copies of Gallo-Belgic in late pre-Roman Iron Age style. They are likely to have been produced either side of the Conquest i.e. middle first century AD. Due to their fragmentary state, it is not possible to assign a definite date and they could be slightly later, perhaps even as late as the very early second century.

Other locally made coarsewares account for most of the remainder of the assemblage. A small quantity of fine wares (c. 5% by weight) was recovered and is generally early Roman in date. There is a small

range of products from the regional pottery production centres in the Lower Nene valley. The bulk of this assemblage consists of a single indented beaker with applied barbotine scale decoration (c. 4%) of mid to late second or early third century AD date (Fig. 7; Perrin 1999, 93–5). This drinking vessel is the latest material associated with the main area of excavation. Forms and fabrics traditionally associated with specialist wares are rare within the assemblage as are continental imports with, for example, only five samian sherds being recovered. This assemblage has many similarities with the pottery recovered from Hurst Lane reservoir site (Lucas *et al.* 2007, 56–58) and would suggest activity in the vicinity of the site during the mid first to mid-late second century AD. The assemblage is typical of a utilitarian domestic assemblage recovered from low order settlements within this region, with a general lack of imported wares (Evans J 2003, 105). The presence of a few unstratified later Roman sherds suggests that settlement of this period may lie nearby.

Metalwork

Nina Crummy

Awl

An awl was found c. 25m to the south of the Beaker pits within a post-medieval ditch (Fig. 8, SF 23). Used for punching stitch holes into leather or hide, Bronze Age awls usually, as here, have a square or circular-section working point and a square-section tang for insertion into the handle. This example may be contemporary with the Beaker pits found nearby, since a similar double-pointed awl was found at Abingdon, Oxfordshire, in a female Beaker burial radiocarbon dated to 2460–2220 cal. BC (Allen and Kamash 2008, 9, 54, 61, 71, fig. 6). However, an early date for SF 23 cannot be fully confirmed, as the form is long-lived, with both iron and copper-alloy examples appearing together in the Iron Age (Clarke 1970, 448).

Finger Rings

Five rings were found on the left hand of the woman in grave 564, three on the middle finger and two on the forefinger (Fig. 7). All are plain copper-alloy bands, varying from square to D-shaped in section, although the distinction between the two forms is sometimes very slight. Finger-rings are rarely the only dress accessories deposited in a grave as they often formed part of a suite of jewellery buried with young females (Clarke 1979, 318–20, table 2; Crummy *et al.* 1993, 142–3; Philpott 1991, 130). Sometimes only one ring might be present in a burial, and in this case it might have been a symbol of marriage (Philpott 1991, 130). Of eleven late Roman burials with finger-rings at Lankhills, Winchester, one contained eight and only four had one, leaving the majority with either two, three or four rings. In most cases the multiple groups of finger-rings were not worn and, because of the decay of the bones, the evidence for wear in the graves with one to three rings is often not clear (Clarke 1979, table 2). The burial from Lankhills that

is most pertinent to that from Ely is of a 20–25 year old adult and contained three rings, two of which were found on the same phalanx of the left hand while the third was in close association; the other hand bones were not well preserved but it is likely that this ring had been on an adjacent finger (Clarke 1979, 68–9, grave 326). In general, late Roman burials of juveniles or young adults with multiple finger-rings in a suite of unworn jewellery imply that it was fashionable to wear several rings at once. Several burials contain two or three (Clarke 1979, 318–20; Crummy *et al.* 1993, Table 2.56; Philpott 1991, 130), but a grave at Ospringe, Kent, had four rings, and graves 155 and 438 at Lankhills had four and eight rings respectively, all of the thin hoop style noted at Ely, although many had some element of decoration (Whiting 1926, 145–6; Clarke 1979, table 2).

Burial 564 with its five finger-rings is therefore not unique in containing a large number of finger-rings, but it is an unusually clear indicator of a fashion for wearing many rings on one hand and often on one finger. Pliny observed in the mid first century AD that when Britons and Gauls wore rings they placed them upon the middle finger, and it may be no coincidence that in burial 564 the three rings were placed on the middle finger but only two on the forefinger (*Nat. Hist.* XXXIII, 24). He also notes that among the Romans rings were worn on all fingers except the middle one, the others being 'loaded with rings, smaller rings even being separately adapted for the smaller joints of the fingers' (*ibid.*). A combination of the two practices seems to have survived sporadically in Roman Britain.

Worn by an adult woman and unaccompanied by any other jewellery, the plain finger-rings in burial 564 are comparatively unostentatious, the expenditure of both metal and skill being minimal. Such stark style points to local manufacture, and they do not imply great wealth, yet even so they would have marked out the woman wearing them as special within her community, either economically or socially.

Hairpin

A complete copper-alloy hairpin (Fig. 8, SF 7) is not matched in Cool's study of Romano-British metal hairpins (1990), although it makes use of the same decorative traditions of several of her groups. It can be assigned a broad date-range from the mid first century into the second century AD.

Other Metalwork

A small collection of other metal artefacts was found, comprising six coins which range in date from the early second (Hadrian) to mid fourth century (AD 350–60), two brooches (Colchester brooch, c. AD 10–50, and a Hod Hill brooch fragment, c. AD 43–60/5), an iron coiled collar ferrule which may be contemporary with either or both of these brooches and an iron fish-hook which points to local watercourses supplying the inhabitants with food. No tools or other equipment were recovered, the remaining objects consisting only of two iron strip fragments, both from

the same context in boundary ditch 657 and thereby possibly from the same object.

Bone Spindle Whorls

Nina Crummy

Two bone spindle whorls came from grave 550, associated with skeleton 551 (Fig. 6; SF 46 and 47). The spindles formerly attached would have varied considerably in diameter, as the minimum diameter of the perforation through SF 46 is only 4 mm, and that through SF 47 is 11 mm. The whorls both weigh the same, so the narrower spindle does not reflect a lighter weight for its whorl and perhaps a change of implement for a finer thread.

Each whorl is made from the articular condyle, or head, of a cattle femur. *Bos femur* heads were utilised in this way from the Iron Age to the Saxo-Norman period, being both a readily available source where cattle formed part of the local economy and an ideal shape requiring little adaptation beyond drilling or cutting the spindle hole, which was usually done from both sides to produce a hole with an hour-glass-shaped profile (Rees *et al.* 2008, 244). Iron Age examples have been found at Glastonbury and Meare lake villages and at Danebury, where they come from contexts phased to 300–100/50 BC and later (Bulleid and Gray 1917, 1948; MacGregor 1985, 187; Coles 1987, 51; Sellwood 1984, 395, fig. 7.39, 3.212–13; Cunliffe and Poole 1991, 366, fig. 7.37, 3.369). They are scarce in the Roman period, and there is some possibility that they almost went out of use. One example comes from a second- to third-century context at Colchester and one from a late Roman context at Hacheston, Suffolk (Crummy 1992, 198, no. 1722; Seeley 2004, 144, fig. 103, 347). They occur in their greatest numbers in the Anglo-Scandinavian/late Saxon periods at urban centres such as York, Lincoln, Thetford and Winchester (Walton Rogers 1997, 1741–3; Mann 1982, 22; Rogerson and Dallas 1984, 179; Woodland 1990, 222–4; Rees *et al.* 2008, 243–6).

The whorls in grave 550 are a valuable source of information about the local economy of the dead woman's community. They are unlikely to have been used to spin a vegetable fibre such as flax, as it does not do well in waterlogged soils, making the Ely area unsuitable for such a crop. They imply that cattle were kept and at least some slaughtered locally rather than driven to a large settlement to supply its demands, and that their bones were made available for utilisation after slaughter. They also point to the keeping of sheep and/or goats with many allowed to reach maturity so that they would provide wool, instead of slaughtering most in their first or second year as would be the case for a flock kept for milk and meat (Payne 1973, 292–4).

In the eastern region during the Roman period there is considerable material evidence for fibre preparation, spinning and cloth finishing, all pointing to sheep and their wool forming a major element of the economy (Frere 1994, 290–1). Medium-sized shears for shearing sheep and iron wool-combs as well as dis-

associated wool-comb teeth have been found across the region; there are also many examples of spindle whorls, particularly those made from recycled pot sherds, and the only large cloth-cropping shears known from Britain come from Great Chesterford (e.g. Manning 1966; 1985, 34; Sealey 1995, 77; Crummy 1983, 67; 1992, 156; 2003, 112–13, fig. 44, 96; 2006, 71; Major 1999, 102; Seeley 2004, 120, fig. 81, 140, 144, fig. 103, 346–7; Gardiner *et al.* 2000, 88, pl. 13, 117). In addition, the *Notitia Dignitatum* mentions the post of procurator of an imperial fulling mill at *Venta*, the *Venta* in question perhaps being Caistor-by-Norwich rather than Caerwent or Winchester (Manning 1966).

The female burial with bone whorls at Ely adds further weight to the evidence for wool and cloth production in the eastern region. In the use of cattle femur head whorls it also introduces an element of the pre-Roman Iron Age tradition of self-sufficiency, that is, making tools from materials to hand rather than purchasing a workshop-made item, and to this extent the Ely burial differs from several female graves in southern Britain that contained commercially produced lathe-turned whorls of shale or antler (Clarke 1979, 369; Philpott 1991, 184). Even so, the dead woman can be assumed to have enjoyed a degree of wealth and status by association with the flocks that would have supplied the wool for spinning. The whorls are also well worn, and therefore represent skill as well as status. She would have been expert at her craft, which was one generally carried out when other tasks had been completed. The deposition of spinning equipment in her grave may also have been intended to signify that she had leisure to spin, in the same way that the wool basket and spinning equipment coupled with a jewellery box depicted on the South Shields tombstone of the Catuvellaunian freedwoman Regina, shown seated on a basket chair, implied comparative wealth and freedom from physically hard domestic tasks (Collingwood and Wright 1995, no. 1065).

The Zooarchaeological and Botanical Evidence

Human Skeletal Remains

Zoë Úí Choileáin

Cremation 528 had been truncated by ploughing with the total weight of the remaining bone being 158g. The cremation was excavated in the laboratory in 2cm spits. It was sieved for analysis into >5mm, <5mm >2mm and <2mm fractions. Recognisable fragments of a humerus and ulna survive including a humeral head. Numerous fragments of skull, vertebrae and ribs are also present suggesting a bias towards the upper half of the body although as half of the urn is missing this cannot be fully confirmed. It was possible to identify the individual as an adult but neither age nor sex could be estimated. The skull, vertebrae and ribs are buff-white in colour meaning that these bones were exposed to temperatures of over 600 de-

grees centigrade while the arm bones were a more blue-white suggesting a slightly lower temperature in this area. The urn contained no charcoal or evidence of pyre debris indicating that the remains had been carefully picked from the pyre rather than scooped up.

Of the two inhumations, the individual wearing the multiple rings (sk. 610) is less than 25% complete and highly fragmented. The pelvis is almost entirely missing meaning that this individual was sexed on skull traits alone. Most of the long bones are represented by shaft fragments only with badly damaged epiphyses/joint surfaces only present on the left humerus and the femurs. The surface condition of the bones is good-fair with, however, some root damage present. This is consistent with McKinley's grade 3 because the general morphology of the bones has been retained, but most of the bone surfaces have been affected by some degree of erosion, which has masked the detail of some parts (McKinley 2004, 16).

This individual is probably female and the broad age range of adult was assigned based on the degree of osteoarthritis observed. While it appears than the skeleton is younger than sk. 551 (below), insufficient diagnostic traits survived to confirm this. Although a stature estimate was not possible the robustity of the bones suggests a slighter build than that of sk. 551. Exaggerated muscle attachments on all of the long bones are present. The mandible is fully present although badly fragmented but the maxilla is absent: all of the teeth with the exception of one lower first premolar are missing. The mandible shows almost total resorption meaning that the teeth were lost some time before the individual's death. Tooth loss often occurs later in life but, as the bones show very little porosity or signs of degenerative joint disease, it is possible that here it is at least in part the result of the individual's diet. The premolar showed almost no enamel with no signs of wear or breakages. This trait is a congenital condition known as 'peg tooth'.

The second inhumed skeleton, associated with the spindle whorls (sk. 551), is better preserved and is between 50 – 75% complete; fragmentation was scored as moderate. The arms are the most complete bones with the left humerus being suitable to use for stature estimation. Most epiphyses/joint surfaces survive, as does a large amount of the cancellous bone. As with sk. 610 the surface condition of the bones is consistent with McKinley's grade 3. The individual could be identified as a mature adult female: the auricular surface and pubic symphysis suggest an age upwards of 45 although probably not any higher than mid-fifties. Severe osteoarthritis is apparent on the joint surfaces, most particularly that of the hip and knee joints, with osteophytes also beginning to appear on the shoulder joints which is rare. Extra bone growth and lipping are present on the pelvis, lumbar and lower vertebrae, with a sign of degenerative joint disease which becomes more common in old age. As with sk. 610, sk. 551 displays very exaggerated muscle attachments on all of the bones including the remaining wrist bones. This in conjunction with the extreme osteoarthri-

tis displayed could suggest a life including a large amount of physical activity although there are many causes of this condition including not just age and activity but also diet and genetic predisposition. The teeth of this individual were almost all present. Of the upper teeth all four incisors, both canines, three upper premolars and three upper molars were worn down to the dentine. The three lower molars were also worn down to the dentine with caries being present on all three. Tooth wear, or dental attrition, progresses with the advancement of age because older people would have used their teeth to masticate (chew) for a longer period than younger people. Dental attrition can also be a sign of an agricultural diet with rougher foods such as grain being consumed.

Animal Bone

Chris Faine

An assemblage of 229 fragments (5.2kg) of animal bone was recovered, both by hand collection and environmental sampling. Some 92 bones were identifiable to species (40% of the total sample). The assemblage is dominated by domestic mammals with roughly equal numbers of remains from cattle (n=35) and sheep/goat (31), along with smaller numbers of pig (4), horse (9), dog (11), domestic fowl (1) and unidentified bird (1). In addition, two slow worm scales were recovered. Whilst some late Iron Age features contained faunal material, the vast majority by number (77%) was recovered from early Roman (mid first to late second century) contexts. The Iron Age faunal material is limited, consisting of fragmentary cattle and pig scapulae and a single portion of sheep/goat tibia.

Cattle remains from the early Roman assemblage consisted largely of lower limb elements, portions of the axial skeleton and loose teeth. Only two upper limb elements were recovered. The majority of these elements were from adult animals, with 58% of the sample showing evidence of butchery. The sheep/goat assemblage shows similar patterns, again consisting of lower limb elements, especially radii and tibiae. Seventy-seven percent of the sample showed evidence of butchery. Pig remains are limited, consisting of a fragmentary adult mandible and first phalanx. Horse remains from early Roman contexts comprise a single portion of tibia and a number of loose mandibular molars. Two of these display developmental defects in the shape of deformed roots leading to abnormal wear on the occlusal surfaces. Morphological and metrical analysis of the enamel folds on an M1/2 tooth from boundary ditch 657 could suggest the presence of mule in the assemblage (Baxter 1998, 10), however identification from a single tooth is tenuous. Whilst mules were certainly employed both by the army and the *cursus publicus* – the Roman postal system – their presence in North-West European deposits is rare, with the majority of these being complete mandibles (Baxter 1998, 6; Armitage and Chapman 1979, 345–9).

Dog remains are mostly fragmentary, consisting

largely of loose teeth, mandible fragments and carpal and tarsal bones. Only one portion of long bone (an adult humerus) was recovered. Bird remains were limited to two fragmentary femora, one from a domestic fowl and the other an unidentified wader. Identifiable material from environmental samples consisted of two slow worm (*Anguis fragilis*) scales.

The high prevalence of lower limb and cranial elements in the domestic mammal assemblage suggests on-site processing/primary butchery of carcasses, with meat bearing elements possibly being transported elsewhere (or at the very least outside the limits of this excavation). It has been suggested that some Iron Age settlements in the area may have supplied beef and mutton in particular to possible local centres such as Wardy Hill (Davis 2003). The slow worm remains are indicative of the general environment at the time, suggesting the presence of fields, meadows, scrub or heathland in the vicinity.

Plant Macrofossils and Other Remains

Rachel Fosberry

Twenty-five bulk samples were taken from across the evaluation and excavation. Preservation is by carbonisation and is generally poor. A sample from Beaker pit 549 contains pieces of Beaker pottery, small fragments of hazelnuts (*Corylus avellana*) and occasional cremated bones. Charred cereal grains occur in just four of the samples in quantities of less than five specimens in each. Wheat (*Triticum spp.*) grains are present although identification is tentative due to poor preservation. No chaff elements occur. Charred weed seeds are extremely rare and only occur in a posthole from a possible fenceline relating to the burial enclosure; here goosefoot (*Chenopodium spp.*) and cleavers (*Galium aparine*) were noted in the flot. Animal bone fragments came from some of the residues along with occasional small rodent bones.

Discussion

The Site in Early Prehistory

The Witchford site is the only excavation in the immediate area to provide evidence for pre-Iron Age features. Both of the Beaker pits lay in the same general location as most of the flints and the awl, near the top of the knoll. Some domestic activity evidently took place and the preliminary lipid results show that the pottery vessels had been used for food preparation. The upper fill of one of the Beaker pits contained flecks of charcoal and burnt clay: similar fills of Beaker pits at Fenstanton have been interpreted as deposition of hearth debris (Chapman *et al.* 2005, 18). The Witchford pits are similar to an isolated early Bronze Age pit found at Bluntisham; the latter contained a considerable number of hazelnuts which produced a date of 2290–2030 cal BC (Scottish Universities Environmental Research Centre; SUERC

11482; Burrow and Mudd 2010, 62–3).

The fabric and the poorly executed decoration of the Beaker pottery from the Witchford pits are similar to vessels found within burials elsewhere in Ely. The discovery of the remains of several Beaker vessels may be significant as it has been argued by Gibson (2000) that the depositing of sherds from many vessels denotes rituals designed to ensure the fecundity of the earth and her resources. Alternatively, their presence may simply reflect deliberate recycling of grog.

The flints from the site, although relatively small in number ($n=33$), contrast with the far smaller numbers of flints (14) recorded in all the archaeological work to the south and east (collectively, many times the size of the development area; Fig. 2).

Hall's extensive fieldwalking survey of the Isle of Ely and Wisbech found the main monuments of the prehistoric period to be barrows, with other activity taking the form of flint scatters (Hall 1996, fig. 87, 157). A search of the Cambridgeshire HER for Bronze Age sites and find spots within a 5km radius of the site produced no other Beaker pits (Fig. 3). The HER notes seven Bronze Age records possibly associated with human remains (including barrows) between 3.5km and 5km from the subject site to the north-east, south-east and south-west (Fig. 3): two are in Ely (two adjacent sites recorded as CHER 06136 and another as CHER 07245), one in Soham (CHER 07020), two at Wilburton (CHER 05827 and CHER 05882) and one at Wicken (CHER 06993).

Bronze Age flint scatters are more numerous in the Ely area and it is tempting to view the relatively large numbers of Bronze Age axes and other lithic and metal artefacts within the 5km search area of the site (collectively 49 of the 57 HER records), as suggesting that activities such as tree felling and hunting were widespread here throughout the Bronze Age. The earliest evidence for permanent agricultural and domestic occupation occurs here in the late Bronze Age. The HER lists two possible late Bronze Age causeways at Little Thetford (CHER 06987) and Soham (CHER 07064). A possible late Bronze Age field system has been found in Ely (CHER 17963; Bush 2008; Hunter 1992), while evidence of the same period was found at Trinity Fields (CHER 15553; Masser 2001; Evans *et al.* 2007, fig. 16). Most of the known late Bronze Age sites demonstrate a background scatter of late Neolithic and Bronze Age flint and, in the case of West Fen Road, some Neolithic pits (Masser 2001; Robinson and Bray 1998; Mortimer *et al.* 2005).

One of the main reasons for the lack of evidence for early Bronze Age domestic occupation in the local archaeological record may be due to the topography; in the early Bronze Age the water levels were lower and most early Bronze Age domestic occupation may have lain at c. 0m to 2m OD (see below). At this low level, there is presently very little housing development, meaning that few sites have been excavated. There are three major domestic sites all at around this height relatively close by: Sutton Gault, less than 10km to the west (Connor 2009; Rees 2009;

Webley and Hiller 2009); Shippea Hill, c. 15km to the north-east (Clark 1933) and Hockwold-cum-Wilton, c. 25km to the north-east (Bamford 1982). At Sutton Gault, archaeological work has found widespread late Mesolithic to early Bronze Age agricultural, domestic and funerary remains at between 0m to 2m OD but significantly, no later sites are known on the Sutton Gault island or in its near vicinity (Rees 2009). This is presumably because during the later Bronze Age and afterwards, this area became uninhabitable due to rising flood levels and these earlier features were generally sealed by a peat layer (Rees 2009). At Hockwold-cum-Wilton, the site (over several fields) was just below the then fen peat and was only found in the late 1950s and early 1960s after the peat had shrunk (Bamford 1982, 8). Many hearths and floors were uncovered with a vast quantity of artefacts recovered including several thousand pottery sherds. The Shippea Hill occupation site was on low islands, just above and surrounded by contemporary fresh water fen (Clark 1933). The Fenstanton site lay slightly higher at 6–7m OD and its occupants may have exploited the fen edge. Both the Bluntisham site (Burrow and Mudd 2010) and the subject site lie considerably higher at 14m OD and 15.5m OD respectively, with both sites having far fewer earlier features than the lower lying ones.

Iron Age to Roman Settlement

In the middle Iron Age to early Roman periods, two separate domestic foci are evident in the vicinity, one at the subject site and the other c. 300m to the east (CHER 2862, 3017 and 3073; Holmes 2008; Simmonds and Mason 2008; Holmes and Simmonds 2009). No Iron Age pottery was found in other excavations to the east and south. The middle to late Iron Age start date of both settlement foci is of broadly similar date to many of the other nearby Iron Age/Roman settlements such as Prickwillow Road, Hurst Lane and Wardy Hill (Atkins and Mudd 2003; Evans *et al.* 2007; Evans C 2003), suggesting that both population and farming were expanding in this period.

The presence of a large embanked ditch at the Witchford site may suggest that a defensive element was required in the Iron Age. The ditch followed the upper contour of a meandering ridge at c. 16m OD, running roughly parallel to a causeway route (across a stream or drain) to the west, giving it a good view of the valley bottom. The postulated internal bank probably survived until its destruction by the building of the airfield. Notably, in 1910 Walker recorded the Witchford site as a Roman Camp. The place name is also suggestive: Witchford may derive from 'the Watch on the Ford', its important strategic position controlling the causeway route from Grunty Fen into West Fen/The Cove meaning that the siting of Iron Age sites here may have been equally strategic (Evans C 2003, 266; Fig. 3). The excavated ditch is of the same size as the concentric circuits at Wardy Hill, while the main sub-square enclosure at West Fen Road also had substantial ditches leading to the suggestion that

these two sites can be classed as defended (Evans *et al.* 2007, 74). Some of the middle and late Iron Age ditches found at the Northamptonshire Archaeology evaluation site, 300m to the east, were also more than a metre deep (Holmes 2008), but how these relate, if at all, to the development area is unknown. At Witchford, the large boundary ditch fell from use in the early Roman period possibly at the same time that Wardy Hill ringwork went out of use in the last quarter of the first century AD and here the inhabitants were seemingly displaced (Evans C 2003, 270–1).

Although relatively small scale, the Witchford excavation has increased the otherwise low levels of late Iron Age/Conquest period brooches in the Ely area, with a Colchester and a Hod Hill type being recovered. Only six or seven other brooches of the late Iron Age or Conquest period have yet been found in the Ely area, from five excavations and an evaluation: the lack of brooches and coins of the Conquest period from Ely compared to March has led to the suggestion that Ely's inhabitants were poorer (Evans *et al.* 2007, 72). The status of the subject site's settlement was probably relatively low, as is suggested by the pottery and other finds.

The animal bone assemblage provides some evidence for the on-site processing/primary butchery of carcasses, with some pastoral farming evidently taking place in the vicinity. Crop processing evidently took place away from the development area. Overall the evidence, as with most sites of this period, suggests that the settlement was largely self-sufficient and may have been engaged in many different activities. Domestic occupation continued into the Roman period. At the Northamptonshire Archaeology site to the east, significant amounts of refuse were found within ditches of this date (Holmes 2008). The settlement here appears to have increased in size, now spreading to the west of the Iron Age foci at Site CHER 17824 (Thompson 2009). Occupation at the Witchford site developed, with the probable mortuary enclosure ditches perhaps remaining open into the third century. The low level of late Roman finds suggests that related settlement probably moved from the development area to the known sites just to the east and south (CHER 17824 and CHER 15366).

Probable Mortuary Enclosure and Burials

The probable mortuary enclosure did not have the typical form of a temenos with internal shrine, but the use of the eastern part of the enclosure for such activity and the western side as a part-enclosed mortuary enclosure and burial ground is possible. A similar late Roman mortuary enclosure at Claydon Pike, Fairford, Gloucestershire, also lies against the boundary of a much larger enclosure (Alex Smith, pers. comm.). In terms of the local setting, a probable Iron Age temple has been postulated 1.5km to the north-west from an aerial photograph which shows a double-ditched enclosure (Fig. 3, CHER 07155).

The development area is only the fourth site in the Ely area where more than one Roman burial has been

found (the others being Prickwillow Road, West Fen Road and Watson's Lane, Little Thetford). The lack of burials around Ely is mirrored at many other Roman rural sites in Cambridgeshire. A survey of Roman burials in Cambridgeshire and Peterborough found that most burials/cemeteries lay near former Roman towns with relatively few from rural parts including Ely's environs (Taylor 1993, fig. 6).

What makes the Witchford burials of particular interest is that all three lay within the probable mortuary enclosure which, on the basis of the pottery, seems to have been in use between the late pre-Roman Iron Age and the early/middle Roman period. None of the other excavations with burials within the Ely area were associated with such burial structures/enclosures, either being buried in a designated location within the settlement or singularly.

In the Ely area, the mixed rites of cremation and inhumation are paralleled only at Prickwillow Road, where the cemetery contained five cremations and 15 inhumations, with an additional burial placed in a ditch some distance to the north-east of the cemetery (Atkins and Mudd 2003, 15–19). Further afield such mixed cemeteries seem to be more common. At Duxford to the south of Cambridge, for example, a mixed rite late Iron Age and Roman cemetery associated with a shrine has been found (Lyons in press).

The Witchford cremation may be of mid-first century date, making it the first late pre-Roman Iron Age type cremation yet found within the Ely area, perhaps a local version of a Gallo-Belgic type cremation. The site lies in East Cambridgeshire, an area previously thought to have been beyond the limits (South Cambridgeshire) of La Tène III type cremations (Philpott 1991, 6). It was once suggested that the fact that Iron Age cremations have not previously been found in Ely confirms the suggestion that the Aylesford-Swarling border was to the west of the city, providing a distinct archaeological divide (Evans *et al.* 2007, 72). Aylesford-Swarling type pottery has been recovered from many sites in and around Ely, although admittedly in relatively low quantities (e.g. at Prickwillow Road; Atkins and Mudd 2003). On the basis of the new evidence, it is perhaps more likely that Ely falls within an area which did not embrace the Aylesford-Swarling culture to the same extent as some other places to the west. Small quantities of this pottery type were, however, evidently being brought into the area and a few locally made copies were being produced.

The relative paucity of 'grave goods' is typical of other later cremations found elsewhere in the Ely area. The cremations at Prickwillow Road may have originated in the late first or second century, possibly continuing into the third century AD. All five of the cremations found here were placed in Sandy Ware vessels, only one of which had an associated vessel. None had any other grave goods, although two contained hobnails (Atkins and Mudd 2003, 14). At Sutton, 5km to the east, a second-century cremation was placed within a large storage jar, with another jar also placed inside (Fig. 3; SMR 5744; Hall 1996, 58).

The two inhumations at Witchford probably date to the second century, while those at Prickwillow Road may date to the third to fourth century (Atkins and Mudd 2003).

Given the items they contained, the Witchford burials may have been those of important local women. Many of the local burials of this date did not contain grave goods. Of the 15 inhumations from Prickwillow Road, for example, only three were buried with grave goods (all women) and these ranged from single bracelets in two graves and five in the other (Atkins and Mudd 2003).

Two bone spindle whorls were associated with the mature woman (sk. 551), one of which came from near the neck. This was repeatedly a favoured position for personal objects in female burials over the entire Roman period. For example, a fourth-century burial at Prickwillow Road had five intertwined bracelets behind her neck (Atkins and Mudd 2003). In the case of Witchford, it is likely that the objects were seen as functional, the two whorls perhaps remaining attached to their spindles (as with an example at Lankhills) although the wood did not survive (Clarke 1979). The association of females with spinning may suggest an equivalent of the agricultural implements or tools often found in male graves (Philpott 1991, 184). Spindle whorls associated with Roman inhumation burials comprise only a tiny fraction of recorded burials and this scarcity is reflected in the slightly dated statistic that by 1991 they are known from only 12 other sites in England with normally only a single whorl present: nine examples come from the southwest (Hampshire, Dorset and Wiltshire), one from Humberside, one from North Yorkshire and one from Peterborough at Normangate, Castor (Philpott 1991, fig. 30; Royal Commission on the Historic Monuments of England 1969, 24). Both the Peterborough and Witchford examples emphasise the use of wool and cloth production in the eastern region.

The second inhumation burial at Witchford was probably another woman, wearing five rings on two fingers of her left hand. The wearing of rings forms an occasional but consistent feature of late Iron Age and Roman period inhumations at rural sites over a wide area of central and western England (Philpott 1991, 142–144). Most of these burials were female and they largely date from the middle second century, becoming progressively more frequent. The substantial remains of two pots placed within the enclosing ditch close to one of the burials at Witchford may relate to the placement of offerings.

Conclusions

Despite its small scale, this excavation found important archaeological evidence. The two Beaker pits constitute the first such ‘domestic’ site of this date from the Ely area. Later, the possible defensive ditch running along the ridge would have served as an important strategic watching point on the causeway leading from Grunty Fen to West Fen/The Cove in

the very late Iron Age/early Roman period, at a time of change and uncertainty. The probable mortuary enclosure is a rare example of its type, with the associated burials being interesting and unusual. The lack of other burials and the inclusion of particular grave goods suggest that these women were respected and important people within their local community.

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An Iron Age banjo enclosure and contemporary settlement at Caldecote, Cambridgeshire

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with contributions by Ian Baxter, Sarah Percival, Paul Sealey and Chris Stevens.

Illustrations by Gillian Greer and Carlos Silva

Excavations on the claylands at Caldecote, 9km to the west of Cambridge, revealed the almost complete ground plan of a late Iron Age banjo enclosure and associated settlement dating to between c. 100–75 BC and AD c. 50. A banjo enclosure is defined as a small enclosure with a narrow approach way consisting of parallel ditches (Perry 1982, 57–59). Although this type of monument has been occasionally identified as far north as Cleveland and Yorkshire most examples are concentrated in the southern counties of England, with the greatest number found in Hampshire. The Caldecote example is one of only five known in Cambridgeshire and the only one to have been archaeologically investigated.

Introduction

Since 1996 much of the Highfields area of Caldecote has been subject to large scale housing development. In advance of this work extensive archaeological evaluations and excavations were undertaken by Oxford Archaeology East (formerly Cambridgeshire County Council's CAM ARC; Kemp 1995, Oakey 1996, Leith 1997, Abrams 2000, Kenney 2001 and 2007a) and the Cambridge Archaeological Unit (CAU; Redding 2002). Later investigations in the vicinity took place at Cambourne (Wright *et al.* 2009) and the A428 dualling scheme (Abrams and Ingham 2008).

Prior to this recent work, there were no entries for the parish of Caldecote in the Cambridgeshire Historic Environment Record (CHER) pertaining to local finds from the Palaeolithic, Mesolithic, Neolithic and Bronze Age periods, while evidence for the Iron Age and Romano-British periods was limited. Collectively therefore, this new work has enabled a major development in our understanding of the historic clay landscape in and around Caldecote. The evidence includes Iron Age settlement, an extensive Romano-British field system believed to be a vineyard, and large swathes of medieval ridge and furrow. This article is designed as a synthesis of the excavated findings and is supplemented by the full analytical report which can be freely accessed at <http://library.thehumanjourney.net/view/subjects/UK-Iron-Age.html>.

While a broad overview of the work at Caldecote has been published (Kenney 2007b), this report focuses in more detail on the banjo enclosure and contemporary settlement evidence, presenting the data in its wider landscape context and including significant results from recent aerial photography. The site (TL 354 588, Figs. 1 and 2) lies on some of the higher ground in the parish (at 66–69m OD) where the land slopes gently from north-east to south-west. The top- and sub-soils are poorly drained since the site overlies Pleistocene Boulder Clay geology (British Geological Survey 1975). Within the clay, patches of sands and gravels contain numerous glacial erratics.

The Banjo Enclosure

Limited evidence for early prehistoric activity (Phase 1) consisted of a scatter of Mesolithic flints and an aurochs bone. Many features could not be more closely dated than to the late Iron Age (Phase 2), although the banjo enclosure and some closely associated features have been allocated to subsidiary phases (Phases 2.1–2.5, Figs. 3–5). Pottery from these phases is of middle to late Iron Age type, although it is suggested to be of late Iron Age date (see Sealey below). Subsequent activity dates to the Romano-British period (Phases 3–5). Further details of the earlier and later phases have been published (Kenney 2007b).

Phase 2.1: Pits

Underlying the banjo enclosure was a group of extremely shallow and irregular pits, containing middle Iron Age-type pottery. These may have served as rubbish pits or working areas for the roundhouse within the banjo enclosure, suggesting that the building may have pre-dated the enclosure.

Phase 2.2: Construction and use

In its earliest form, the banjo enclosure comprised a ditch with a 'V'-shaped profile which formed a sub-triangular feature (each arm being c. 32–41m long and up to 0.90m deep) enclosing an area of c. 812m². The



Figure 1. Site location.

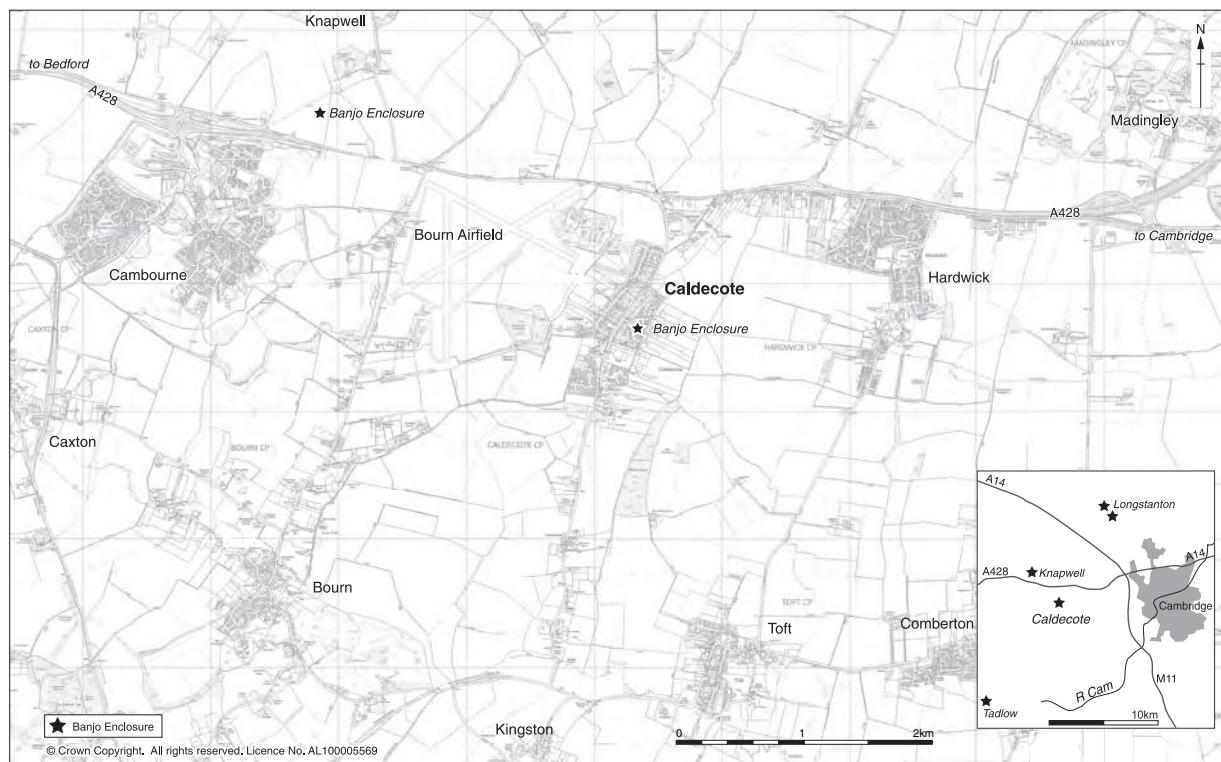


Figure 2. The site in its local context.

entrances of the approach way were orientated to the north-west, across the natural slope of the land, facing towards a small watercourse.

As in subsequent phases, the approach way ditches were not continuous: each phase of the main enclosure ditches did not quite meet the entrance passage ditches on either side, and other gaps existed further along its length. It is suggested that these spaces would have been fenced with removable wooden hurdles to allow for the corralling of animals.

Located centrally within the enclosure, the roundhouse (Roundhouse 1) measured 12m in diameter, with its 2.7m wide entrance facing north-west, down the approach way. Its presence suggests that initially the enclosure was associated with domestic settlement, although the roundhouse may have pre-dated the construction of the banjo enclosure around it.

Phase 2.3: Re-establishment

During the late Iron Age the initial 'banjo enclosure' fell from use and silted up. After a period of time, perhaps several generations, the sub-triangular enclosure was re-established at which time the enclosed area was expanded to c. 1132m² by widening the enclosure on its northern side so that each arm measured between 32–51m. The re-cut ditch was shallower (at 0.50m deep) and had a more rounded profile than in its earlier form. During this phase, the approach ditches had a gap of 9.6m between their termini on the northern side, which may originally have been blocked by fences of which no traces survived. The

disuse fill of the ditch contained both middle and late Iron Age-type pottery. The mollusca present in environmental samples indicate that by this date the environment was predominantly cleared of vegetation.

Eleven postholes in a roughly rectangular arrangement were found within the central area of the banjo enclosure where the roundhouse was located. They were either circular or sub-circular in plan, and evidently formed either part of an internal partition within the roundhouse or possibly represent another (simple lean-to) structure unrelated to the roundhouse – the fact that they respected the building footprint suggests it was still visible at the time of their construction. The absence of finds in their fills raises the possibility that the enclosure was not being used for settlement at this time and was perhaps temporarily given over to livestock management.

Two 'sickle'-shaped ditched features lay just outside the enclosure to the south-east during this phase, and could be the remains (?drip-gullies) of roundhouses or other structures. Their presence suggests that the population may have chosen to live outside the enclosure at this time.

Phase 2.4: Redesign

The banjo enclosure ditch was subsequently re-designed for the third time, very much to its original plan and dimensions. The main enclosure entrance was modified slightly by the creation of short out-turned 'horns' and the addition of a fence-line along the inside of the entrance corridor on its north-eastern side.

The new layout again enclosed an area of c. 812m².

Within the enclosure the roundhouse was re-established, centred on the same spot as the original building but exactly 1m greater in diameter than its predecessor (at 13m). The ditch terminals at the entrance on the western side, which were 3m apart, held a deliberately placed deposit of middle Iron Age-type pottery and quern stone, which may have been part of a closure ritual when the site was abandoned.

To the south of this roundhouse and probably contemporary with it was a four-post structure measuring 3.2m x 3.2m to the outside of the postholes, which themselves measured 0.4–0.5m in diameter. Such structures are often interpreted as raised granaries, which would have been especially useful on clay geology where pit-based storage would have been liable to flooding and therefore impractical (Fitzpatrick 1997). An environmental sample from one of the postholes contained a small number of cereal grains.

Phase 2.5: Destruction by fire and closure rituals

The final phase of the banjo enclosure was marked by destruction; fills within the ditch were black in many places with charcoal and fragments of burnt daub seen throughout, but most prominently on the north-eastern corner. Here a narrow feature 8m long had been dug: this might represent the last phase of infilling, although the steepness of the angle of its sides suggests that it was perhaps a cut feature.

On the opposite (southern) corner of the banjo enclosure lay a large oval quarry pit (Quarry 1). This had a shallow metalled ramp running down into it from the north, typical of small scale quarry pits at this time (Lyons 2004, 17–20). Most of the quern fragments recovered from the site came from this feature, and the assemblage includes both upper and lower stones, largely derived from non-local sources in the south of England (see Percival below). A large natural quartzitic boulder lay on the base of the pit; this was so massive that it could not be removed by hand and was machine-excavated. Although probably a glacial erratic found within the local geology, its presence within the base of this pit is intriguing.

The Surrounding Late Iron Age settlement

The banjo enclosure was not an isolated feature (Fig. 3). Another roundhouse (Roundhouse 2) lay in the northern corner of the site and appeared to have had at least two phases of construction, both with a similar 15m diameter, although slightly off-set from each other. The earlier curved gully was 7.5m long, with a wide shallow 'U'-shaped profile. The second construction trench was an interrupted narrow ditch, with a sharper, squarer profile than the earlier footing. On the western side of the roundhouse was an entrance at least 1.7m wide, of which only the southern terminus appeared within the excavated area. There was also a narrow gap between two termini at the southern limit of the roundhouse. The roundhouse gully terminus cut through an oval pit containing numer-

ous sherds of middle Iron Age-type pottery.

Within the roundhouse were eight postholes in a sub-rectangular arrangement with the long axis running north; it is possible that they formed an internal partition within the building(s). All of the postholes were circular or sub-circular with very steep sides. Four of these postholes contained packing stones. The mollusca that were found demonstrated a slight bias towards open country species.

To the south lay a trackway, demarcated by parallel flanking ditches extending over a recorded distance of 60m. Several other small straight ditch or gully features found in this part of the site were probably all that survived of several different enclosure systems. A human cremation burial was found in the ditch closest to roundhouse. It lay within a small patch of charcoal-rich fill: there was no urn, although it is possible that a leather (or other organic) container was used which decayed over time. The environmental sample from the cremation contained charred berry/bramble seeds, which may have been deliberately included in the cremation pyre.

Between the roundhouse and the trackway in the northern part of the site was a large quarry pit (Quarry 2), positioned to extract a vein of sandy material observed in the boulder clay. It is probable that it had a secondary use as a waterhole as the environmental and mollusca evidence indicate that the feature was full of standing water for much of its life and only slowly silted up. It was 17m long, 4.5–5.7m wide and up to 1.8m deep, with steeply sloping sides except on the northern edge where there was a ramp. While conquest period pottery was recovered from the upper fills, the lower deposits contained diagnostic sherds of middle Iron Age-type wares (Sealey, below).

To the west o17f this quarry lay three small pits, the most significant of which was a shallow sub-circular and flat-based example. At its base lay many stones, some of which were burnt having been deposited from elsewhere rather than burnt *in situ*.

A third roundhouse (Roundhouse 3), 15m in diameter, lay just to the west of the banjo enclosure. Again, its gully had a 'U'-shaped profile, with a narrow gap indicating the position of its entrance to the southwest. Adjacent to this building to the south-east lay a second four-post structure. This possible granary measured 3.1m x 3.1m to the outside of the postholes.

The Finds

The Middle and Late Iron Age Pottery by Paul R Sealey

Introduction

A total of 623 sherds of middle to late Iron Age pottery weighing 4474g with an average sherd weight of 7.2g was recovered, selected items being illustrated in Figs. 6–9. The most important single source of this pottery was the ditch of the banjo enclosure, from which 119 sherds weighing 1388g were retrieved. The



Figure 3. Site features by group and phase.

gullies and internal post-holes of roundhouses were also significant sources of material.

This pottery was studied in the first instance to elucidate site chronology. A research agenda for the Iron Age in eastern England (Bryant 2000, 14–16) has called for the publication of quantified pottery assemblages and remarked on the lack of such reports. When this report was in preparation, the middle Iron Age pottery tradition in the south of the Cambridgeshire still awaited satisfactory definition (Woudhuysen 1998, 37–8) and Caldecote can usefully contribute towards the elucidation of that tradition. The situation is slowly improving, although little has been published from south Cambridgeshire. Important exceptions include the material from the Hutchison Site at Cambridge itself and from the A428 dual carriageway (Webley and Anderson 2008; Percival 2008), but this part of the county has nothing to compare with two reports on large assemblages of pottery from sites from further north in the Fens (Hill and Horne 2003; Hill and Braddock 2006).

Fabrics

Twenty individual fabrics were recognised amongst the Caldecote assemblage (Table 1): these were defined on the basis of their inclusions and the size of

those inclusions.

Table 1. Pottery fabrics in the Caldecote assemblage.

Fabric	Description
CFS	coarse flint < 2.0mm + sand
CH	chalk
CHS	chalk + sand
CS	coarse sand < 2.0mm
FIF	fine flint < 1.0mm
FIRSV	flint + ironstone + sand + vegetable temper
FIS	fine sand < 0.25mm
FISV	fine sand < 0.25mm + vegetable temper
FS	fine flint < 1.0mm + sand < 1.0mm
GR	grog
GRS	grog + sand
S	sand < 1.0mm
SCHF	sand + chalk + flint
SCHSH	sand + chalk + shell
SCHV	sand + chalk + vegetable temper
SH	shell
SHS	shell + sand
SIR	sand + ironstone
SV	sand < 1.0mm + vegetable temper
VCFS	very coarse flint < 4.0mm + sand

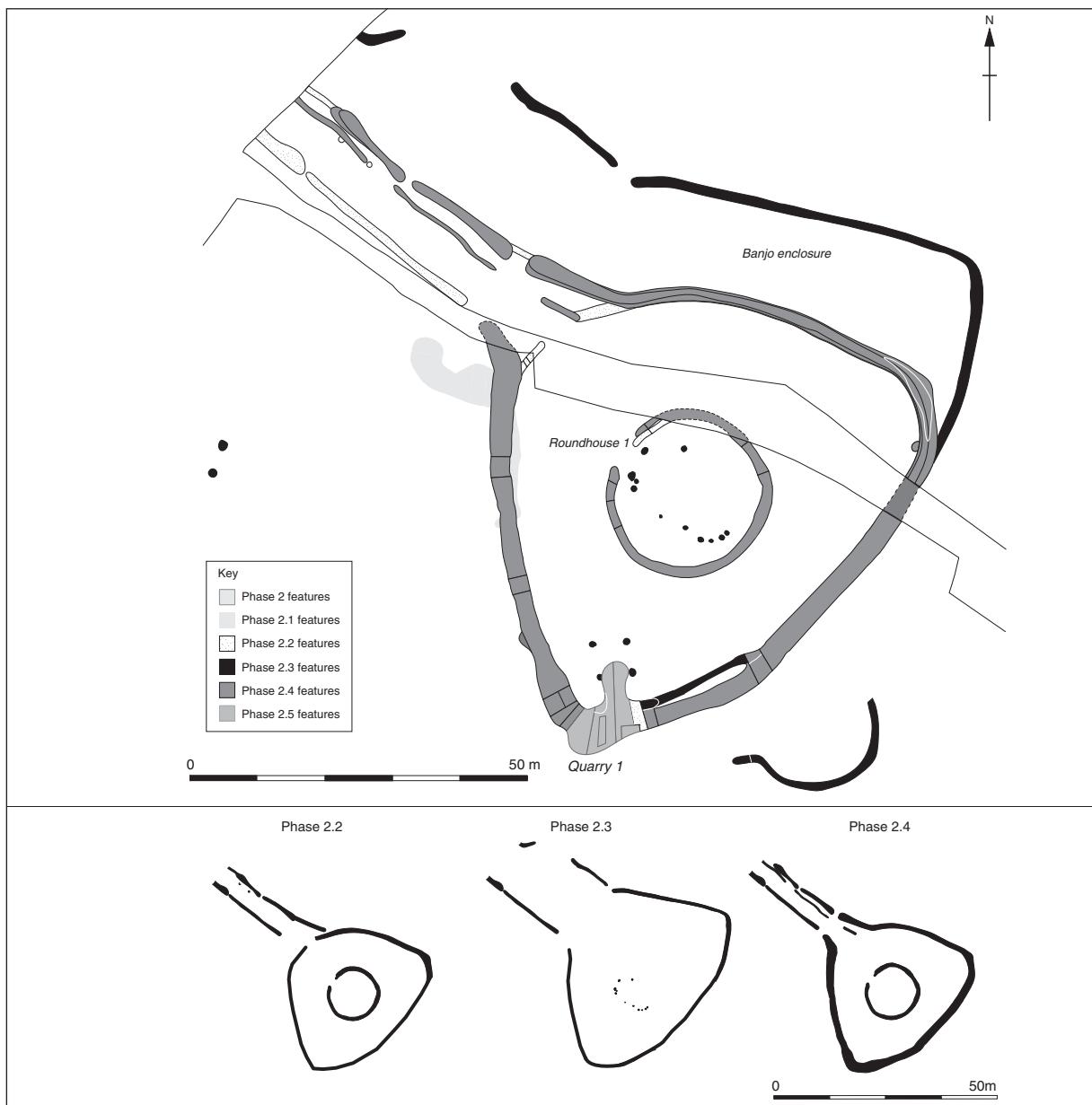


Figure 4. The changing outline of the banjo enclosure.



*Figure 5.
The banjo
enclosure during
excavation,
looking north.*

Chronology

There is nothing in the prehistoric pottery assemblage from Caldecote earlier than middle Iron Age. In fact, most of the Iron Age pottery was middle Iron Age in type, although (as we shall see) sometimes late Iron Age in date. The pottery of middle Iron Age type at Caldecote is a hand-made plain ware which has close typological affinities with contemporary pottery in neighbouring counties. Knowing when this tradition emerged is difficult to establish with any assurance, but the transition from early to middle Iron Age pottery in Cambridgeshire has been variously placed at the beginning of the third century BC or in the second half of the fourth (Hill and Horne 2003, 161; Bayliss *et al.* 2003, 243). The present author has seen an unpublished fourth-century La Tène I brooch associated with similar middle Iron Age pottery from Boreham in Essex which lends some weight to the earlier of these start dates.

As one moves from the late Bronze Age into the early and middle Iron Age in south Cambridgeshire there is a decline in the quantity of exclusively flint-tempered pottery, and an increase in sand and sand-with-flint temper (Woudhuysen 1998, 36–7). The same is true of Essex (Brown 1988, 269), Suffolk (Martin 1988, 34) and Norfolk (Gregory 1995, 90). Although there was no uniform rate of progression, this trend from flint to sand is typical of much of southern

Britain from the middle of the first millennium BC. There were no fabrics at Caldecote tempered exclusively with flint, and fabrics which include flint only account for 4 per cent by weight of all the Iron Age pottery. Middle Iron Age pottery from adjacent sites on the line of the A428 dual carriageway to the north has a quite different composition. There, a fifth of the pottery by weight has fabrics that include some flint. There was nothing present that is typologically Aylesford-Swarling, and so *prima facie* the A428 pottery appears earlier compared to Caldecote (Percival 2008, 2–3, 6). If we can indeed rely on the incidence of flint as a potential indicator of relative date, this suggests that Caldecote is a developed middle Iron Age tradition that belongs later, rather than earlier in the sequence, beginning – let us say – c. 100 BC.

The Iron Age sequence (Phase 2) was divided into five sub-phases; pottery that could not be assigned to any particular sub-phase has simply been described as Phase 2. Table 2 gives the incidence of the pottery fabrics by sub-phase.

In Essex, Hertfordshire and Bedfordshire middle Iron Age pottery comparable to that found at Caldecote was eventually displaced by wheel-thrown pottery tempered with grog (pellets of crushed pottery). This new departure in ceramics marks the advent of the Aylesford-Swarling or ‘Belgic’ pottery that heralds the start of the late Iron Age. Such pottery is

Table 2. The incidence of fabrics by phase for Iron Age Caldecote.

Fabric	Phase 2		Phase 2.1		Phase 2.2		Phase 2.3		Phase 2.4		Phase 2.5		Fabric total
	Sherd count	Sherd weight (g)	Sherd count/weight (g)										
FIS	65	317			14	49	36	144	30	151	7	8	152/669
FISV	7	84			1	15			1	18			9/117
S	19	157	1	2	13	155	38	270	30	270	5	22	106/876
SV									1	58			1/58
CS	3	3					2	15					5/18
FS	6	26							1	4			7/30
CFS	1	32					1	2					2/34
CHS	61	338			14	52	20	174	14	82	5	11	114/657
GR					1	8	12	166	9	116	4	32	26/322
GRS	6	59					22	134	4	21	2	21	34/235
SH	44	146	2	5	31	343	1	6	6	364	1	5	85/869
SHS	15	129			4	19							19/148
SIR	4	5			1	19	1	24	1	5			7/53
CH	18	96			2	3			4	17			24/116
SCHF	1	47	5	23			1	1					7/71
SCHV	17	128					2	15					19/143
SCHSH	2	27			1	3					1	4	4/34
FIRSV	1	7											1/7
Phase total	270	1601	8	30	82	666	137	951	101	1106	25	103	623/4457
Average sherd weight (g)		5.9		3.8		8.1		6.9		11.0		4.1	7.2

found in cremation graves from as early as c. 75 BC in south-east England but did not become significant on settlement sites until later, replacing middle Iron Age wares c. 50–25 BC (Sealey 2007a, 27–31).

Pottery tempered with grog and with grog-and-sand was present at prehistoric Caldecote; some is wheel-thrown. This is unusual for south Cambridgeshire because the material so far published suggests that the 'Belgic' or Aylesford-Swarling pottery there tends to be found in sandy fabrics (Thompson 1982, 7, 17) with grog tempered fabrics in a minority (Hill and Lucas 2003, 220; Hill and Horne 2003, 168; Webley and Anderson 2008, 65).

Wheel-thrown pottery from Fen Ditton near Cambridge is said to have been present in first century BC contexts (Hill 2002, 160), and it might be that early as well at Caldecote. Grog-tempered pottery first appears at Caldecote in Phase 2.2. It peaks in Phase 2.3, only to recede significantly in importance in the next phase. Although the proportion rises in the final Iron Age phase, the tiny size of the Phase 2.5 sample makes it an unreliable indicator of trends in pottery supply and use. In view of what was said above about the start date of 'Belgic' pottery in East Anglia, it seems reasonable to put Phase 2.2 in the decades after c. 50 BC and to start the occupation of the site at c. 100–75 BC. Nothing specifically Roman was found in the banjo enclosure features and the farmstead apparently came to an end in the middle of the first century AD.

The decline in the incidence of grog-tempered pottery at pre-Roman Caldecote (Table 3) is of interest. We have a site where, after an initial adoption of Aylesford-Swarling pottery, the vogue for this new pottery passed, and the existing middle Iron Age tradition reasserted itself. Caldecote is not alone. At nearby Duxford the same phenomenon has been recognised by Sarah Percival (in press). Not until the early Roman period was Aylesford-Swarling reintroduced at Caldecote, when it is present in some quantity in the c. AD 50–125 quarry (Quarry 2). The phenomenon has a direct bearing on the question of how and why the adoption of this new pottery in East Anglia could be so slow and fitful (Hill 2002, 157–8; Sealey 2007a, 30). The steep rise in the shell-tempered Fabric SH from Phases 2.3 to 2.4 (1 % and 33 % by weight respectively) and the dwindling quantity of grog-tempered pottery hint at a realignment towards regions to the north or west, so the unusual ceramic history of late Iron Age Caldecote articulates perfectly with what else we know of this land of shifting identities (Hill *et al.* 1999, 269).

Nine of the illustrated vessels came from Quarry 2. Its fill accumulated over a long period of time from the mid-first century AD until the beginning of the second century. There is no *a priori* reason why at least some of these vessels should not have been produced in the conquest period, and remained in use for decades afterwards. One notes how at Wardy Hill hand-made middle Iron Age pottery remained in use until the site was abandoned c. AD 80. Wardy Hill is not alone in this respect (Hill and Horne 2003, 164,

166).

Table 3. Percentages by weight of grog-tempered fabrics in the Iron Age phases.

Phase	Fabric GR	Fabric GRS	Fabrics GR + GRS
2	-	3.7	3.7
2.1	-	-	-
2.2	1.2	-	1.2
2.3	17.5	14.1	30.9
2.4	10.5	1.9	12.5
2.5	31.1	20.4	51.5

Fabrication, Typology and Decoration of the Late Iron Age pottery

It appears that the pottery of middle Iron Age type was always hand-made. Although some of the 'Belgic' pottery at Caldecote was wheel-thrown, it is equally clear that some was hand-made. Not all sherds from wheel-thrown pots need bear the evidence of manufacture in the way of thrown marks and other features, so it was not possible to establish if each and every sherd was hand-made or wheel-thrown (let alone finished on a turn-table). For this reason no attempt was made to quantify fabrication techniques, however useful such data might have been for clarifying the arrival or adoption of Aylesford-Swarling 'Belgic' pottery at Caldecote.

Analysis begins with the survey of middle Iron Age-type vessels; it covers not just middle Iron Age pottery from pre-conquest contexts, but pottery of recognisably middle Iron Age type that was present in the early Roman quarry pit. No complete vessel profile was recovered but the impression given is of an assemblage with some typological diversity. A few necked bowl or jar forms have the slack 'S'-profile with everted rim above a high shoulder so typical of the middle Iron Age in East Anglia and Essex (Fig. 6, Nos 1–4). Some thick-walled vessels have steep sides with a high shoulder and vestigial neck (Fig. 6, No. 5); sometimes the neck is absent altogether to give a more globular bowl form (Fig. 6, No. 6). More open bowl forms with a rim diameter apparently wider than the base are rare (Fig. 6, No. 7). Vessels with shallow and unemphatic necks are well represented (Fig. 6, No. 8). Sometimes a plain rim rises straight from the shoulder with barely any neck constriction at all (Fig. 7, Nos 9–13). Typically rims are simplicity itself: a plain rounded feature, sometimes thickened or swollen at the end (Figs. 7 and 8, Nos 14–15). Other rims are neatly finished with a flat outer edge (Fig. 8, No. 16). One is pinched and tapered (Fig. 8, No. 17). Bases are flat, without exception.

One of the most interesting vessels is the small hand-made bowl or cup in Fabric SHS, from Quarry 2 (Fig. 8, No. 18). The tall neck and carinated body are unique on the site; so too is the decoration, with its combination of grooved lines and double rows of square-toothed rouletting. Such rouletting is nowhere common and one must turn to the stamped Iron Age pottery of the Lincolnshire region to find parallels (Elsdon 1975, 29; 1996, 428–9; 1997, 108; Gregory

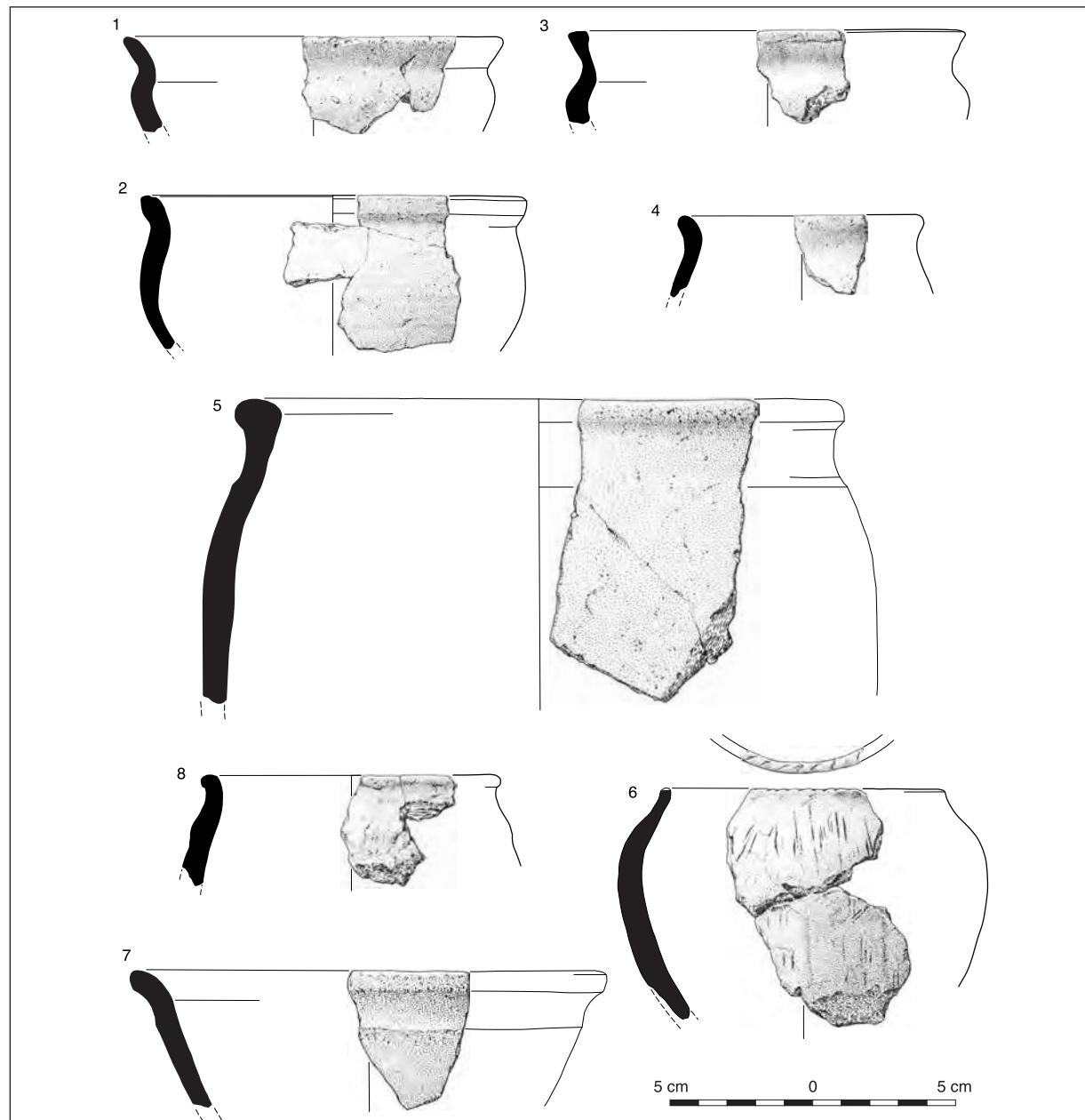


Figure 6. Iron Age pottery (Nos. 1–8).

(No. Fabric. Description. Feature (Fill/Cut), Phase)

1. SHS. Grey core with mottled light brown surfaces. Roundhouse 2 (280/279), Phase 2
2. SH. Grey core with mottled light grey and light brown surfaces, possibly burnt. Roundhouse 1 (1023/1025), Phase 2.2
3. S. Dark grey core and surfaces. Banjo enclosure ditch (354/353), Phase 2.3
4. S. Black core and surfaces. Banjo enclosure ditch (1039/1047), Phase 2.4
5. FIS. Black core with dark brown surfaces. Roundhouse 2 (280/279), Phase 2
6. FISV. Black core and inner surface, the outer surface is dark brown. There are thick and extensive patches of burnt food residues on the interior. Quarry 2, Phases 2 and 3 (early Roman)
7. SCHF. Black core with a grey inner surface, the outer surface is brown. Pit (283/281), Phase 2
8. GRS. Dark grey core with brown surfaces. Banjo enclosure ditch (285/284), Phase 2.4

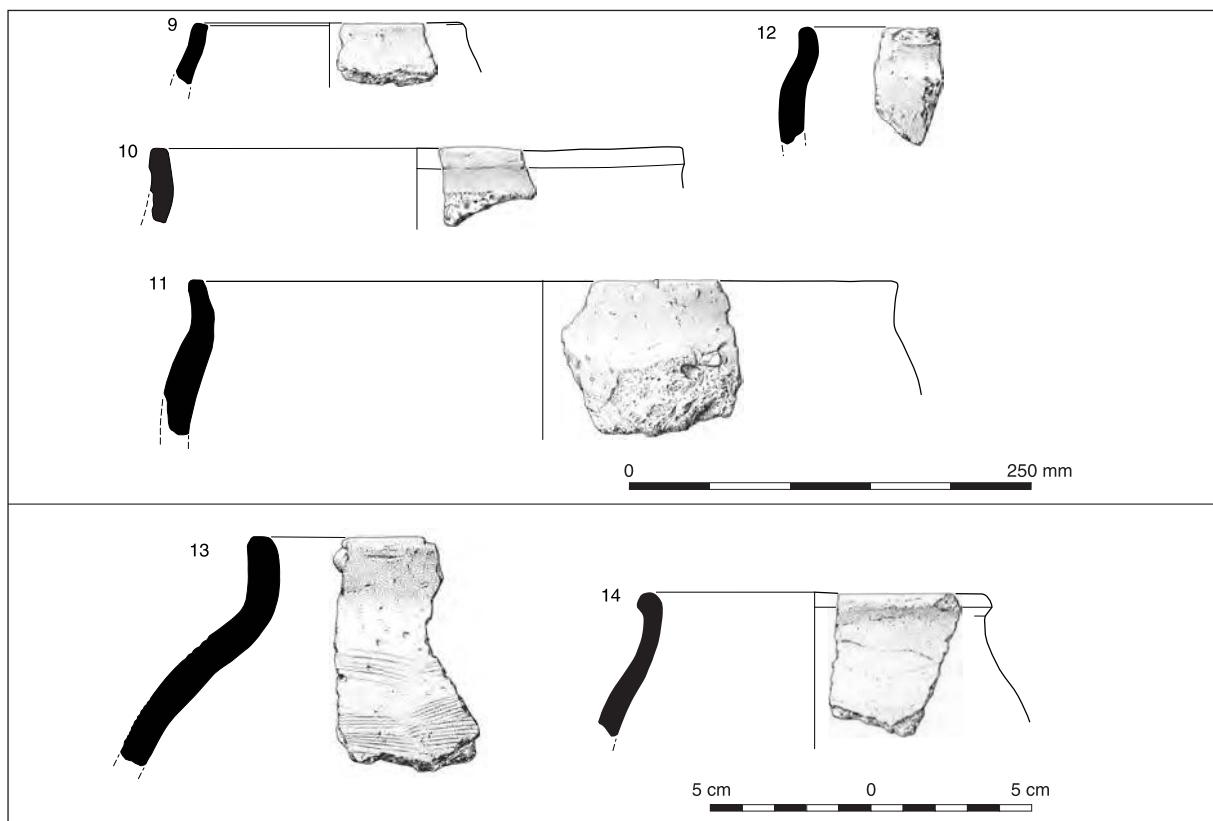


Figure 7. Iron Age pottery (Nos. 9–14).

(No. Fabric. Description. Feature (Fill/Cut), Phase)

- 9. GRS. Grey core with brown surfaces. Wheel-thrown. Banjo enclosure ditch (294/296), Phase 2.3
- 10. GRS. Grey core and inner surface, the outer surface is brown. Banjo enclosure ditch (354/353), Phase 2.3
- 11. SV. Dark grey core and inner surface, the outer surface is brown. Banjo enclosure ditch (417/418), Phase 2.4
- 12. CH. Black core with a light brown inner surface, the outer surface is dark brown. Quarry 2, Phases 2 and 3 (early Roman)
- 13. GRS. Dark brown core with light brown surfaces. Quarry 2, Phases 2 and 3 (early Roman)
- 14. CH. Grey core with light brown surfaces. Roundhouse 1 (280/279), Phase 2

and Elsdon 1996, 509, stamp 22). Similar decoration on a pot from Hacheston (Suffolk) has also been recognised as having affinities with Lincolnshire (Arthur 2004, 160, fig.108), and one concludes that the Caldecote pot reached south Cambridgeshire from Lincolnshire as well. M. Brundenell kindly drew attention to two rims from Abington Pigotts with comparable rouletting (Fox 1924, plate V, sherds C and D) that might also be Lincolnshire products.

The Aylesford-Swarling component at pre-Roman Caldecote is represented by a necked bowl with bead rim and a vessel with a thickened rim quite distinct from the other Iron Age rim forms (Fig. 8, Nos 19 and 20). Vessels in this ‘Belgic’ tradition were more in evidence in Quarry 2. Although most are taken to be arrivals on the site after AD 43, not all of them need be making a few words on their typology appropriate. The assemblage is dominated by necked bowls, some with the corrugations or cordons on the shoulder so common in the tradition (Fig. 9, Nos. 21–23). A jar with pronounced horizontal grooving around the shoulder is the so-called Braughing jar, a common Hertfordshire form (Fig. 9, No. 24). What might be a

local Cambridgeshire version of this long-lived form is represented by a globular vessel with horizontal combing (Fig. 9, No. 25).

The decoration of pottery at Iron Age Caldecote is most conveniently approached by considering the Aylesford-Swarling ‘Belgic’ pottery and wares of middle Iron Age type together. It should be made clear at the outset that we are dealing with what is essentially a plain ware tradition. Only three of the 33 rims were decorated (9%); what little decoration there is on rims is confined to pottery of middle Iron Age type. Two have finger-tip impressions along the top and another has straight, incised lines cut across the rim (Fig. 9, Nos 26, 27 and 29). Only 28 of the 623 body sherds (4%) were decorated. Several ‘Belgic’ sherds have combed surfaces; others have single grooves or corrugations and rippled surface mouldings. Incised lines are the only other significant surface decoration on body sherds; the only fabric in which it is common is the shell-tempered Fabric SH. One such sherd from the banjo enclosure ditch is a thick-walled sherd with deep scored tramlines, quite different from the other pottery on the site. It bears every appearance of

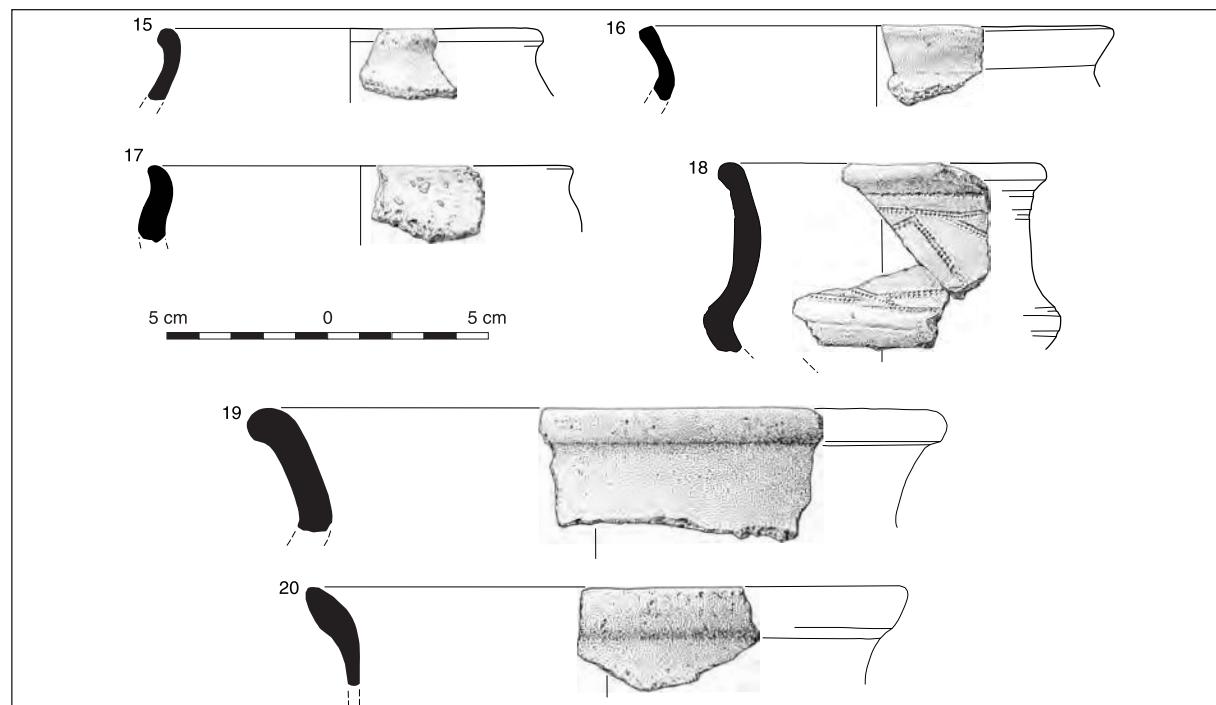


Figure 8. Iron Age pottery (Nos. 15–20).

(No. Fabric. Description. Feature (Fill/Cut), Phase)

- 15. FISV. Dark grey core with dark brown surfaces. Roundhouse 1 (280/279), Phase 2
- 16. S. Grey core and light grey surfaces, possibly burnt. Banjo enclosure ditch (342/340), Phase 2.4
- 17. FIS. Dark grey core with a brown inner surface, the outer surface is dark brown. Banjo enclosure ditch (285/284), Phase 2.4
- 18. SHS. Grey core and mottled grey to brown surfaces. Quarry 2, Phases 2 and 3 (early Roman)
- 19. SHS. Grey core with brown surfaces. Pit (283/281), Phase 2
- 20. SCHV. Light grey core with light brown surfaces, possibly burnt. Pit (283/281), Phase 2

an exotic vessel in the East Midlands scored tradition and can be proposed as an arrival at Caldecote from further afield. Two other vessels with scored bodies are illustrated (Fig. 9, Nos 28 and 29).

Sources of the Late Iron Age Pottery

It is generally suggested that most of the pottery in use on any Iron Age site would have been made in the immediate vicinity, and there is comprehensive ethnographic evidence to support this hypothesis (Hill and Horne 2003, 170; Sealey 2007b, 58). Caldecote lies on chalky boulder clay with veins and lenses of sand and gravel, and the Gault clay outcrops 3.25km to the south-west: both clays could have been exploited for pottery in antiquity. Structural fired clay from the site includes rounded ironstone pellets like those in Fabrics SIR and FIRSV, and suggests that these two fabrics could have been made on site.

The diversity of fabrics at Iron Age Caldecote is typical of sites in south Cambridgeshire and the Fen margins. To some extent this might be attributable to the variety of the geology in the neighbourhood of settlements or to the seasonal occupation of others, where residents brought pots to the site from elsewhere (Hill and Braddock 2006, 177, 188–9). Another possibility is that fabric diversity tells us the pottery came from different sources further afield. Indeed the

use of tempers such as crushed burnt flint and grog that are impossible to tie down to a specific source region may have concealed the extent to which pottery was exchanged in the Iron Age (Sealey 2007b, 59). We may have to rely more and more on typological analysis to identify exotic vessels. Caldecote itself has one vessel that reached the site from Lincolnshire (Fig. 9, No.23). The few scored sherds in shell-tempered ware should be seen as imports from the west of the county, where East Midlands scored ware was the dominant ceramic. East Midlands scored ware reached as far west as Shropshire, perhaps as containers for some specialist product like cheese (Elsdon 1992, 84).

Burnt Residues on Late Iron Age Pottery

Three late Iron Age sherds have black deposits adhering to the surfaces on the inside of the vessel; one of them is illustrated (Fig. 9, No. 21). These deposits consist of thin patches of matter up to a millimetre or so thick, sometimes with a cracked surface. That these residues were formed in antiquity is apparent as they do not run over the edge of the break on the sherd. This matter gives every impression of being the remains of accidentally burnt or charred foodstuffs and is the clearest evidence for the use to which pottery was put at Caldecote. Eventually the tabulation of data from many different sites may elu-

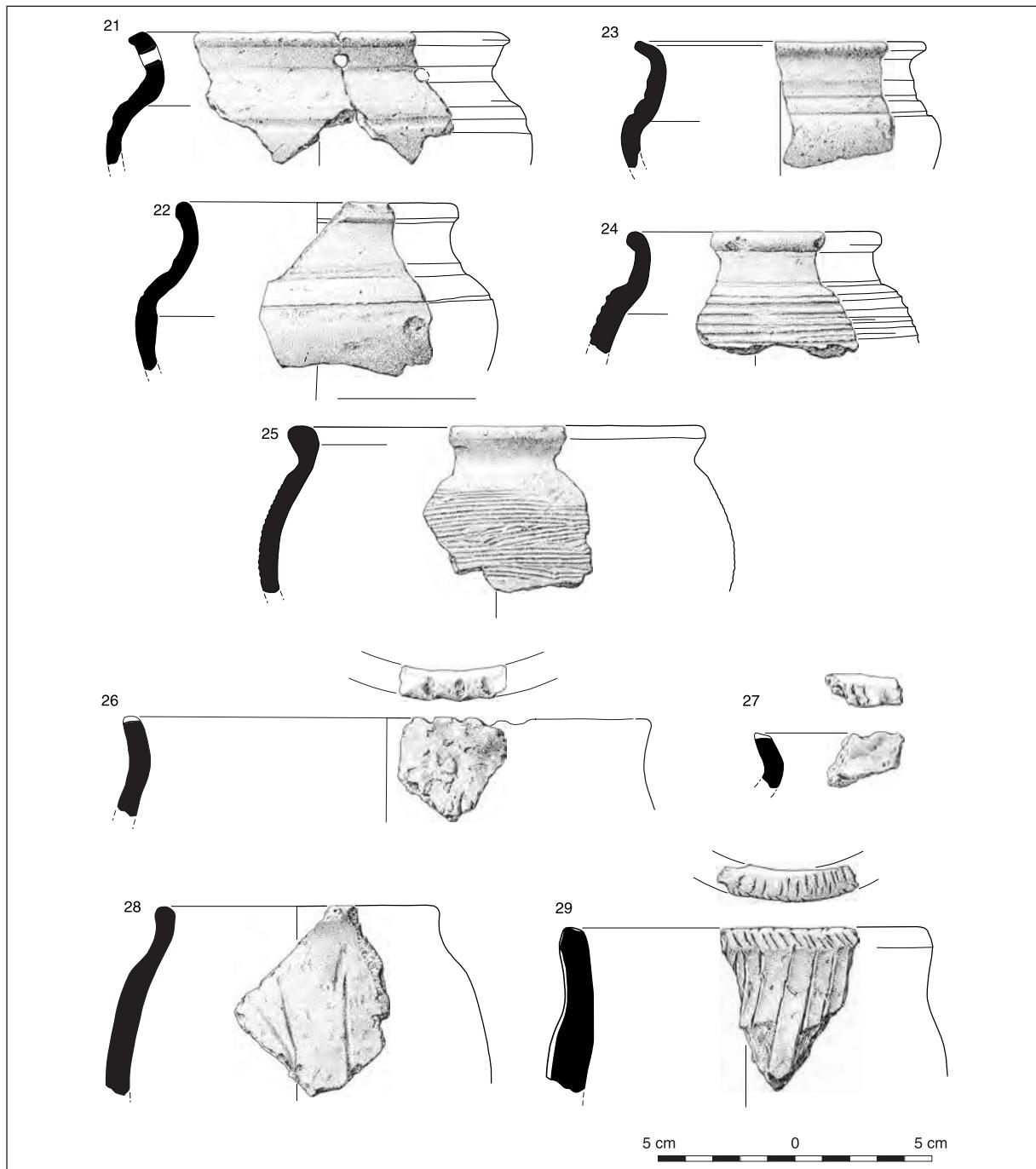


Figure 9. Iron Age pottery (Nos 21-29).

(No. Fabric. Description. Feature (Fill/Cut), Phase)

21. FISV. Black core and surfaces. There are post-firing perforations drilled through the neck. Quarry 2, Phases 2 and 3 (early Roman)
22. S. Light grey core with mottled light brown surfaces. Wheel-thrown. Quarry 2, Phases 2 and 3 (early Roman)
23. S. Dark grey core with a brown inner surfaces, the outer surface is black. Wheel-thrown. Quarry 2, Phases 2 and 3 (early Roman)
24. GR. Light brown core and inner surface, the outer surface is black. Wheel-thrown. Quarry 2, Phases 2 and 3 (early Roman)
25. FIS. Black core and dark grey surfaces. Quarry 2, Phases 2 and 3 (early Roman)
26. SHS. Black core and outer surface, the inner surface is brown. Roundhouse 1 (1023/1025), Phase 2.2
27. FISV. Black core and inner surface, the outer surface is dark brown. Roundhouse 1 (1023/1025), Phase 2.2
28. S. Brown core and surfaces. Roundhouse 1 (274/273), Phase 2
29. CHS. Black core with a brown inner surface, the outer surface is mottled brown and dark brown. Banjo enclosure ditch (362/364), Phase 2.4

cide the processes involved (Moorhouse 1986, 111). Two of the sherds are from the banjo enclosure: one from the ditch and the second from the south butt end of the round house gully. The third sherd is a late Iron Age vessel from Quarry 2. Pots with burnt residues had been used for cooking and one would therefore expect such vessels to be coarser-tempered utensils that would have been capable of withstanding thermal stress and shock. This was not the case at Caldecote, where the burnt residues are on finer tempered sherds. Moreover the illustrated example (Fig. 9, No. 21) is a thin-walled and delicate pot with decoration, seemingly unsuited to the rough-and-tumble of the cooking hearth. The same apparent mismatch between fabric, form and function has been noted at some other Iron Age sites where burnt residues have been reported (Brown 1991, 286; Hill and Horne 2003, 181). The topic of burnt residues is discussed by the writer in more depth elsewhere (Sealey 2007b, 59–60).

Querns

by Sarah Percival

The incomplete remains of three saddle and two rotary-type querns, used to process cereal crops, were recovered from Iron Age deposits at Caldecote. Saddle querns were in use from the Neolithic period until the end of the Iron Age (Watts 2002). The fragmentary examples from Caldecote are robust, largely unmodified natural sarsen boulders (probably sourced from local glacial deposits) and as such are not closely datable. A large comparative assemblage was found at the Plant Breeding Institute site at Trumpington, however, which dates the sixth to the third centuries BC (Percival 2004).

The remains of two further querns are imported and consist of an incomplete rotary quern lower stone (a type in use between the late Iron Age and Romano-British periods) and the complete lower and upper stones from another example. These pieces are of greensand from the quarry site on the Hythe Beds at Lodsworth, Sussex (Peacock 1987, 62). Lodsworth querns have also been found at the late Iron Age to Roman settlement of Odell, Bedfordshire (King 1986, 80; Ingle 1990, fig.6) and at Hinchingbrooke Country Park, where they were found with pottery dating to the first century AD (Percival 2004).

At Caldecote all of the quern pieces were found in late Iron Age ditches, features cut into ditches, eaves drip gullies (including the entrances to buildings) or pits associated with the end of the active life of the site. The presence of special deposits within site boundaries is well attested and may act as a symbolic marker between wild nature outside and organised habitation inside (Hill 1995) and it is possible that the Caldecote querns are examples of ritual 'closing' behaviour.

Worked Bone

by Scott Kenney

Two worked bone objects came from Iron Age contexts. One was made from a sheep/goat tibia shaft

with the distal end shaped and smoothed to form a gouge, while the other was a juvenile cattle ulna with the distal shaft shaped and smoothed to form an awl. Similar finds have been recovered from several other sites in Cambridgeshire; awls may have been used in activities such as leather or textile working (Bailey with Shepherd Popescu 2006, 18).

Fired Clay

by Paul R Sealey

Structural material

Forty-four per cent by weight of the site total of fired clay came from Iron Age roundhouses. Most was of a light brown to pink fabric with chalk and sand, with around a fifth of the total being red with fine sand. There was 235g from Roundhouse 2 in the north-east of the site; another 908g came from the gullies and internal post-holes of Roundhouse 1 within the banjo enclosure.

Only a very few pieces of structural fired clay have wattle impressions, making it clear that wattle-and-daub was not a regular structural component of the buildings at Caldecote. Instead the structural fired-clay is better explained by cob, a building material made from a mixture of water, clay, chalk and straw which could be used for structures without any timber framework (Stead and Rigby 1986, 47–50). Unlike wattle-and-daub, cob is not combustible and so its survival is more precarious (Barford *et al.* 1996, 327). Cob is seldom reported, and its presence at Caldecote is of some interest. Bearing in mind that so much of it came from the gullies of roundhouses, it is reasonable to think that it derived from the destruction of those dwellings. Houses can be destroyed in fire by accident or through hostile action in warfare. At Caldecote there was no way of telling what lay behind the final destruction of the banjo enclosure, but mindful of pleas to rehabilitate warfare as a major factor in the Iron Age (James 2007), we should at least acknowledge structural fired clay here and elsewhere as potential source material for evidence of prehistoric conflict.

Fired Clay Artefacts

The fired clay artefacts from Caldecote consist of loom weights and oven furniture. No complete loom weight was recovered, but pieces of triangular weights of Iron Age type could be recognised as such from the corners and perforations of fragments. Triangular loom weights disappear from the archaeological record soon after the Roman invasion (Wild 1970, 63). They were recovered from a length of roundhouse gully in the banjo enclosure, as well as from other deposits. The loom weights at Caldecote are in the same fabric as the structural cob; both were presumably made on site. Triangular loom weights are common finds across wide areas of south-eastern Britain in the Iron Age where their presence indicates not only the production of woven cloth on site, but access to flocks of mature adult sheep managed for their wool (Luff 1993, 18, 72, 82, 131). It is interesting that

this is not borne out by the faunal remains because most of the sheep/goat present had been slaughtered before their second year.

What is suggested here to be oven furniture consists of a flat plate and a pedestal. The flat plate is represented by five small fragments weighing 41g with a grey core and red-brown surfaces. It is 17.6mm thick with rounded edges and straight sides; there are no signs of perforations. Fragments of such plates are occasionally found in late Iron Age and Roman contexts, where they have been proposed as oven furniture (Partridge 1989, 152–4; Drury 1978, 114). A length of roundhouse gully in the banjo enclosure produced a fragment of fired clay that had sufficient of the original surface to indicate a rod or bar that expanded at one end to give a flat under surface suggesting a pedestal that supported an integral upper plate.

Zooarchaeological and botanical evidence

Faunal Remains

by Ian Baxter

A total of 938 fragments of animal bone with a weight of 10kg were hand-collected from Iron Age deposits at Caldecote: of these 221 fragments are identifiable to species or a broader taxonomic category.

Analysis of this material has shown that the faunal assemblage is dominated by sheep/goat, which account for 48% by Number of Identified Specimens (NISP) of the main domesticates, while cattle comprise 22% and pigs 20%. The cattle bones derive from both juvenile and adult beasts, while most sheep were slaughtered before their second year. Pig remains are relatively frequent and these animals must have been around two years old when they were slaughtered. The bones recovered are consistent with domestic pigs, with nothing to suggest the presence of wild specimens. Pony-sized equine (*Equus caballus*) bone fragments account for 9.5% of the material; ages at death range between less than 4½ years and 10 years.

This is a small assemblage (with relatively poor preservation) and there is insufficient data for any period to attempt to estimate and compare kill-off patterns for domestic livestock. It can be seen however, that animal husbandry, in particular sheep farming, was consistently practiced at Caldecote in the later Iron Age period.

Plant Macrofossils and molluscs

by Chris Stevens

Amongst the sixty-six environmental samples taken from Iron Age deposits, only three produced evidence for cereals. Notably one included a single grain of barley, *Hordeum vulgare sensu lato*, while evidence for arable weeds was relatively scarce, and consisted of a few grains of oat and some smaller seeds of the Chenopodiaceae, fat-hen, *Chenopodium album* and *Atriplex*. A seed of dock was also recovered, along with

seeds of knotgrass, *Polygonum aviculare* and (probably wild) oats, *Avena sp.*

The finding of cereals within the samples would tend to point to some domestic activity and the storage of cereals at the site, though whether they were farmed locally is impossible to say. Evidence for the presence of scrub may be due to a lack of activity on the site, or possibly a short-lived occupation where grassland faunas and faunas of disturbed soils were unable to establish themselves. The presence of water-molluscs suggests damp conditions and possibly even some flooding of the site.

Discussion

The discovery of this late Iron Age landscape at Caldecote, including a banjo enclosure, is potentially very important to our understanding of the exploitation of the Cambridgeshire claylands during this period. Until recently it was thought that the claylands were not farmed by the Iron Age peoples (with limited technology to drain and manage this type of land) and that they preferred to only live in the fertile river valleys (Wright *et al.* 2009, 3). Development in aerial photography techniques and wider excavation however, has proven this not to be the case (Mills and Palmer 2007). Indeed excavations at nearby Cambourne have revealed mid to late Iron Age settlement by farming communities occupying roundhouses set within enclosures linked by drove ways to extensive field systems (Wright *et al.* 2009, vii), while further excavations along the modern A428 revealed at least another four late Iron Age farmsteads in this immediate area (Abrams and Ingham 2008, xii). It is now clear that the settlement at Caldecote was not an isolated community but part of the widespread exploitation of these claylands during the mid-to-late Iron Age when agrarian activity was expanding and previously marginal land could be utilised for the first time with the development of iron tools (Winton 2003, 18; Sharples 2010, 61).

When it was excavated the Caldecote banjo enclosure was thought to be unique in this landscape, but thanks to a continuing campaign of aerial photography, it is now known to be one of at least five in central and south Cambridgeshire (Fig. 2). A circular banjo enclosure at Knapwell (Wright *et al.* 2009, 2–3, fig. 1; Cox and Deegan 1996), only c. 6km to the north-west of Caldecote has been discovered, while at Longstanton, located c. 13km to the north-east of Caldecote, an Iron Age settlement includes two small banjo enclosures (Evans *et al.* 2008, p.179, figs. 3.21 and 3.23.4). In addition another banjo enclosure complex has been provisionally identified at Tadlow a little further (c. 18km) to the south-west (Palmer 2009). All five share the same basic design of an enclosure with a ditched approach way, although the main enclosure at Caldecote is triangular, those at Longstanton and at Knapwell are circular and that at Tadlow square. All appear to be part of larger settlements, although from aerial evidence alone it is difficult to tell how

contemporary the surrounding features are.

Theories of what banjo enclosures were built for have ranged from stock enclosures, to mixed farming complexes, to high status monumental enclosures (Perry 1966; 1970; Cunliffe 1978; Hingley 1984), with a distinction made between banjo enclosures used to enclose a settlement and those where the banjo enclosures are primarily used for stock management within a larger settlement complex (Perry 1986, 41).

The excavation of the Caldecote banjo enclosure suggests that it was initially constructed around a pre-existing roundhouse becoming an enclosed settlement. In its second phase it perhaps became a stock enclosure within a larger settlement and finally resumed a settlement role within the same interconnected landscape.

The interpretation of the Caldecote banjo enclosure as a place of high status settlement would certainly seem to fit with the evidence during its first and last constructs, with a funnelled monumental approach and a large central circular building. There is, however, no evidence (artefactual or ecofactual) to support the idea of particularly 'high' status living. There is certainly nothing to suggest coin production or regional administration mooted for some other examples (Barrett and Corney 1991, 241), while the Caldecote banjo enclosure does not seem to be linked in any certain way with other significant archaeological features in the locale, such as hill forts or burials (Corney 1991, 233) which could relate to the ruling classes and ritual respectively.

It is noteworthy, however, that if the suggestion that the central roundhouse pre-dated the first banjo enclosure at Caldecote is correct this may be an example of early property enclosure, a process which appears to have been taking place across southern Britain during late Iron Age (Evans and Hodder 2006, 319; Hill 2007, 23, fig. 5). This development in how the landscape was viewed and managed represents a significant change. Perhaps this act of enclosure itself could be seen as evidence for a higher status of living, separating those inside the banjo enclosure from the 'outside' and providing a boundary that defined (at least part of) the community (Sharples 2010, 60).

Between these two phases of domestic settlement the intervening enlargement of the banjo enclosure and redesign of the central structure (perhaps with a shelter in the position where the roundhouse had once stood) may be more suggestive of a period of stock management. In this context it is an exciting idea that banjo enclosures at different locations (such as Caldecote and Knapwell) could have been parts of the same complex (Bradley 1987, xiii), with different enclosures, connected by track ways, in use at different times of the year and/or for different purposes i.e. one for settlement, others for the management of animals (breeding, slaughter and trade). The different enclosure shapes were perhaps more suited to different activities, local topography or family groups. The use of the enclosures may not have been static, indeed they could have varied, which may go some way to explaining the changing designs (and roles)

of the banjo enclosure at Caldecote.

It appears that the central and south Cambridgeshire banjo enclosures are not unusual in their diverse design. Despite the deceptively simple description of banjo enclosures, known examples exhibit great variation in size and shape. While many have circular or sub-circular main enclosures, some are 'D'-shaped, sub-rectangular or irregular and complex. The main enclosure can be as much as 90m in diameter or as small as 35m (Fasham 1987, 61), within which range the Caldecote example (measuring 41m by 32m during its smaller phases and 51m by 32m during its expanded middle phase) comfortably fits. It has been suggested that the Knapwell example at least is comparable in size and shape to those found on clay soils in Northamptonshire (Deegan 2007, 116–117, fig. 55).

The artefactual and ecofactual evidence recovered during this excavation produced some interesting assemblages. Unfortunately environmental evidence is poorly preserved in these soils but some evidence for the presence of cereals has been found suggesting that crops were at least being processed on site (the presence of quern confirms this) and they may have been grown in the vicinity. The animal bones that have survived give a picture of mixed animal husbandry with a particular preference for sheep/goat farming. Sheep and goats are versatile animals that can accept clayland grazing and provide wool, milk and manure (when living) and provide meat, marrow, horn, bone and leather (once butchered). Other animals were still needed for a variety of meat and dairy items, for traction and transport.

It has already been seen from the landscape studies that the community at Caldecote was not an isolated one and both the pottery assemblage (which suggests links to the north (Lincolnshire) and the west and the querns (some of which were imported from Sussex), support this. Trade must have taken place along existing land and waterways and would have relied on the exchange of goods (Hill 2007, 25) as no coinage was recovered.

The changes in the layout to the banjo enclosure at Caldecote (combined with the abandonment of wheelmade Aylesford-Swarling pottery and the re-introduction of the mid Iron Age ceramic handmade tradition) are remarkable, as they show a continuous evolution of a single settlement over several generations – the pottery suggests between c. 100–75 BC and c. AD 50. This evidence for continual redevelopment is not available from aerial photography alone and demonstrates the value of detailed excavation.

Why these changes occurred is not certain; they may have been due to environmental issues such as fluctuating water levels (Wright *et al.* 2009, xii) or they were perhaps the result of the shifting tribal boundaries and allegiances known to have been taking place in the 'borderlands' of south Cambridgeshire (Evans *et al.* 2008). During the late Iron Age this area was on the edge of the territories of all of the four major tribes in the region: the Iceni to the east, the Corieltaui to the west, and the Catuvellauni and Trinovantes to the south. Indeed the presence of several Iron Age

hill forts to the east of Caldecote suggests that a troublesome border may not have been far away. Knight (2007, 202–203) suggests that the re-cutting of existing enclosures could have been a symbolic act. Certainly the structured deposits found at Caldecote would indicate the changes that took place, over a period of approximately 150 years at Caldecote, were worthy of marking by the community that undertook them.

The evidence suggests the settlement at Caldecote should be viewed as only a small part of a wider system of agrarian clayland management at a time when the concept of enclosed property is first being introduced. These changes can be regarded as evidence of a community that was beginning to define its landscape and as the generations passed had the necessary skills to alter its surroundings to survive in a changing physical and political landscape.

Conclusion

At one time banjo enclosures were only identified in the counties of Hampshire, Dorset, Wiltshire, Berkshire and Oxfordshire, although this is now changing, thanks largely to a programme of aerial photography sponsored by English Heritage. New examples are now known in Bedfordshire, Cambridgeshire and Northamptonshire with some identified as far north as Cleveland and Yorkshire. At the time of going to press 142 examples of banjo enclosures have been recorded across the country, the majority being found in the south and southwest (National Monuments Record data). Excavated examples, such as the Caldecote banjo enclosure, are remarkably rare and as such significantly add to the corpus of published data for this monument type.

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Archaeological excavation at 'The Walnuts', Oundle Road, Woodston, Peterborough

John Thomas and Stephen Jones

With contributions from Jennifer Browning, Nicholas J. Cooper, Paul Courtney, Alice Forward, Patrick Marsden, Angela Monckton, Daniel Prior and Deborah Sawday

Archaeological evaluation and subsequent excavation was undertaken by University of Leicester Archaeological Services (ULAS) at 'The Walnuts', Oundle Road, Woodston, Peterborough in advance of housing development by George Wimpey (East Midlands) Ltd. The earliest evidence came from a scatter of Neolithic pits associated with Peterborough Ware located in the southern half of the site. A small scatter of pottery and tile also hinted at nearby Roman occupation although no direct evidence was recovered on the site. A long sequence of medieval and post-medieval occupation was represented across the site. Complex occupation remains close to the Oundle Road street frontage consisted of twelfth to thirteenth century pits, thirteenth to fourteenth century boundaries and a fifteenth to sixteenth century agricultural building associated with yard surfaces, drainage and pits. Further evidence for sixteenth to seventeenth century occupation included a well, boundary ditches, pits and the creation of a large pond. Evidence for activities to the rear of the properties included changing boundaries, pits and quarrying remains reflecting use of the area between the twelfth and sixteenth centuries. A wide range of pottery, animal bone and well-preserved environmental evidence adds to the picture of domestic occupation and associated activities on the site, providing important information on the early development of Woodston.

Introduction

Woodston is a largely residential area of Peterborough, situated approximately 1.5 miles south of the modern city centre (Figure 1). Historically however, Woodston was part of Huntingdonshire, and settlement there had its origins in a village which grew around the junction of Oundle Road and Wharf Road in the late tenth century.

Redevelopment of an area of land formerly known as 'The Walnuts' (now known as 'The Squires'), to the south of Oundle Road, presented the opportunity for archaeological examination of a significant area within the historic core of the former village. The site lies in close proximity to St Augustine's church, which has pre-Conquest origins, and the probable site of the medieval manor, two of the early village's key

components. A number of chance finds and small-scale interventions have hinted at the archaeological potential within the historic core of Woodston and the present project offered the largest area so far to examine evidence of the area's early development.

The development proposals by George Wimpey (East Midlands) Ltd. outlined plans for residential use at 'The Walnuts' affecting an area of c. 0.55ha. A trial trench evaluation was undertaken by ULAS in June 2003 which established the archaeological potential of the site, revealing stratified medieval deposits close to the Oundle Road street frontage and Neolithic and medieval remains towards the rear of the site. A subsequent excavation was undertaken by ULAS in August and September 2003, following consultation with the Peterborough City Council Planning Archaeologist.

The site lies on fairly level ground at a height of c. 11m OD. The natural substratum consists of Second River Terrace deposits (bedded gravels) over Oxford Clay (fossiliferous interbedded clays, shales and mudstones).

This report presents the results of the fieldwork and incorporates the results of specialist analysis of the artefacts and ecofacts recovered. Full specialist reports for all finds categories exist within the site archive. A small number of features indicated use of the area during the Neolithic period, whilst further evidence of prehistoric activities was provided by a thin scatter of struck flints. Residual Roman finds also hinted at nearby occupation although no direct evidence was revealed. The bulk of the evidence reflected a sequence of occupation from the early medieval period through to the nineteenth century. The site archive will be deposited with Peterborough City Museums (Accession No. WAL 2003).

Historical Background

Paul Courtney

The place-name Woodston seems to combine an Old English personal name, 'Wood' or 'Woods', with the habitative element -tun (a farm or settlement; Mawer

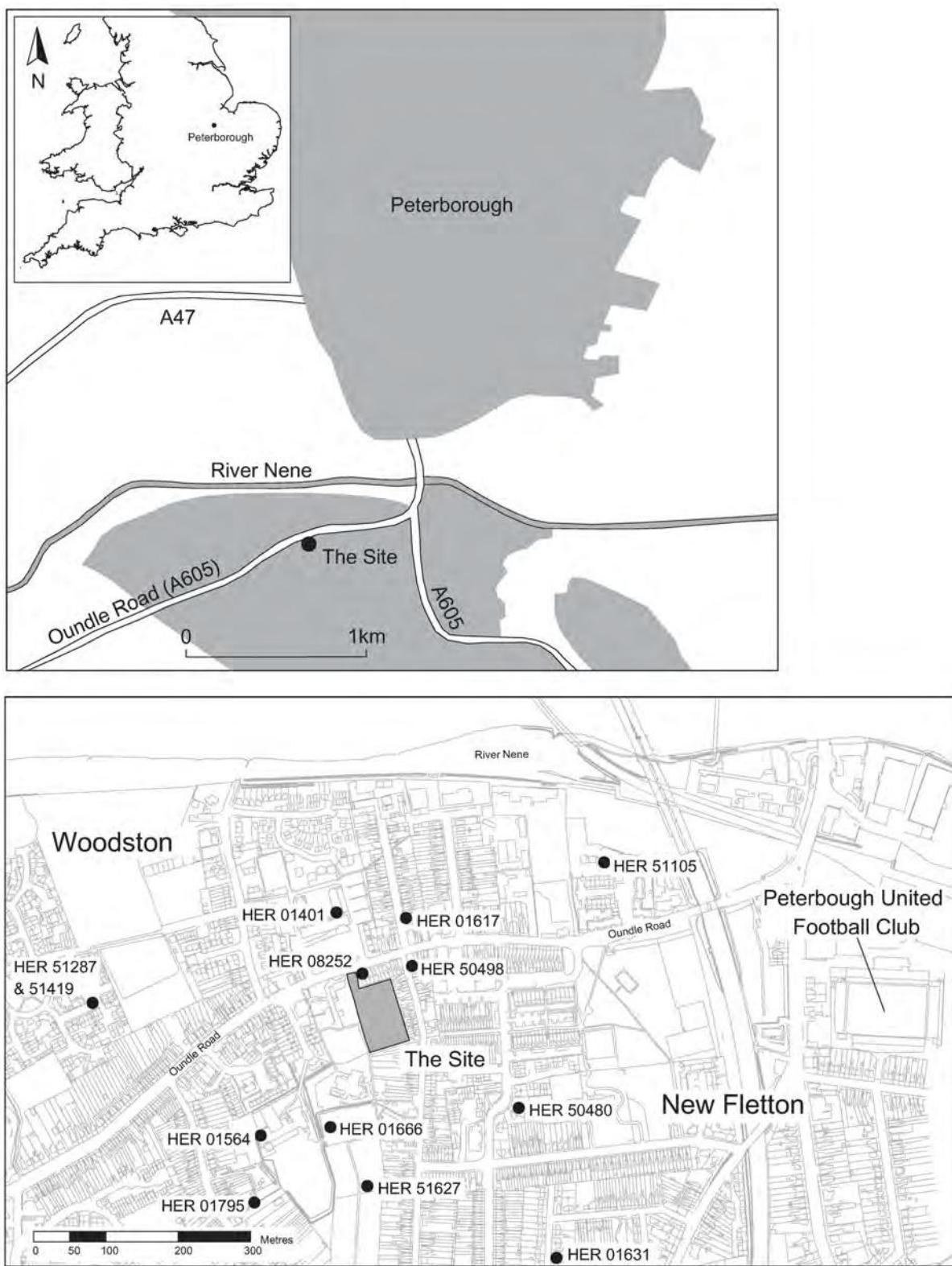


Figure 1. Location Plan © Crown Copyright. All rights reserved. Licence number AL 100029495.

and Stenton 1926, 229). Woodston was among the lands given to Bishop Aethelwold by King Edgar in order to endow Thorney Abbey in the late tenth century (Page *et al.* 1936, 233). The Domesday Book (1, 205a) records that the manor was rated at 5 hides. The abbey had two ploughs on one and a half hides of land (the demesne or inland). The tenant population comprised 16 villeins with four ploughs. Domesday also recorded a church and a priest, as well as 16 acres of meadow and four acres of underwood (coppice).

In 1268 the abbot of Thorney obtained a market grant at Woodston for a market and fair (Calendar of Charter Rolls (CChR), ii, 101). The market is recorded in the Quo Warranto proceedings of 1286 but not the fair, and the market appears to have disappeared by the 1330s (Caley and Illingworth 1818, 298; Masschaele 1997, 170).

Woodston comprised approximately 65 households in 1279 *Rotuli Hundredorum* (RH), (ii, 643–4). The Hundred Roll of the same year records that Thorney Abbey had five and a half hides and one and a half virgates of land at Woodston. The abbot had one and a half hides (188 acres) in demesne, one and a half acres of pasture, eight acres of meadow and a windmill. The manor court covered an acre (RH, ii, 643–4). Eight villeins held full virgates (25 acres) and thirteen held half-virgates (14½ virgates in total). In addition there were 29 cottagers, a product of the expanding population, who were almost certainly supported by wage labour. Dyer (1985) has noted a link between boroughs and adjacent communities of cottagers who provided extra workers for the town; although the seasonal economy of the fens (grazing, fowling and fishing) may also have provided work. Also mentioned in 1279 were 12 free tenants of which the most notable were William de Waldeshef and Martin of Woodston, who each held two virgates. These two also had four minor tenants between them.

In 1327, 24 persons in Woodston were taxed and in 1332, 29 persons were taxed (Raftis and Hogan 1976, 185–6 and 250–1). No poll tax records survive for Huntingdonshire. The bishopric of Lincoln recorded 96 communicants in Woodston in 1603 (Foster 1926, 286). In the 1664 hearth tax roll 20 persons holding 54 hearths are recorded in Woodston but it is uncertain how many were too poor to pay (Sneath 2000, 28). The Compton census of 1670 recorded 86 communicants (Whiteman 1986, 317). In 1327 Woodston was ranked seventeenth out of 22 vills in the Normancross Hundred based on number of tax payers. In 1603 it was ranked ninth out of 19 parishes in the deanery of Yaxley and in 1670, ninth out of 20 parishes, both based on numbers of communicants. It thus seems to have risen in the rural hierarchy since the fourteenth century, possibly due to the economic impact of the nearby borough. It probably had a population of over 300 in the late thirteenth century and around 250 in the mid seventeenth century based on the above records.

Site Topography

The site lies within the historical core of Woodston, which was centred on the T-junction formed by Wharf Road and Oundle Road. The main components of the medieval village were St Augustine's church, the manor site and former peasant tofts (enclosures). The latter numbered 16 in 1086 but had evidently been subject to amalgamation and splitting by the time of the 1811 enclosure map (Figure 2). The manorial site, Woodston House, clearly lay west of the church, its court evident on the enclosure map. Former peasant tenements also extended east of the church to the parish boundary with Fletton. It is possible that the tenement immediately east of the church was once the site

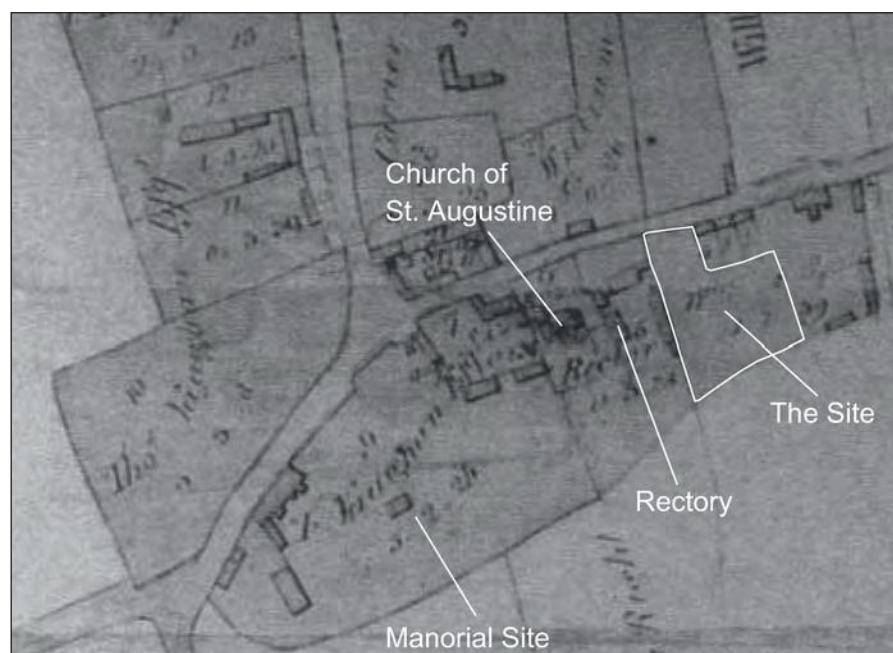


Figure 2. 1811 Enclosure Map of Woodston showing location of site, manor and rectory (North to top, not to scale).

of the medieval vicarage.

The 1811 enclosure map also indicates the presence of the rectory immediately east of the church. Its antiquity otherwise remains uncertain. By 1889, the current rectory had been built and Palmerston Road had been inserted into the landscape, a short distance east of the excavated site. The development site itself appears to have been pasture with trees at this time. A tennis court had been added by 1926 in the southern part of the site. Between 1958 and 1968 a house and outbuildings had been built at the southern end and a row of garages and other small structures at the north end.

Archaeological Background

Archaeological evidence for past activities in and around Woodston has been recovered as a result of excavation, evaluation and from chance finds (see Figure 1 for location of nearby examples). To the south west of 'The Walnuts' site, a small Palaeolithic handaxe (Peterborough Historic Environment Record (HER) Ref. 01795) represents the earliest evidence for human activity in the area. Later prehistoric activity is also attested from excavated evidence on the opposite side of Oundle Road at the former British Sugar factory (Casa-Hatton 2001a, Cooper 2002; HER Refs. 51287 and 51419). A probable prehistoric ditch was also revealed during evaluative work at Marshall's Garage to the east of 'The Walnuts' (HER Ref. 51105) suggesting the site lay within a wider area of later prehistoric occupation. Roman finds include coins (HER Ref. 01617), about 100m to the north-east of 'The Walnuts', and a face-urn pot (HER Ref. 01564), about 200 m to the south-west; but all such finds were casual discoveries. Roman coins and a brooch were also discovered to the south east of the site (HER Ref. 01631). However, due to the scattered distribution of these finds the nature of former Roman settlement in the immediate area of Woodston village is uncertain. The most important archaeological find in the vicinity of the site is the pagan Saxon cemetery about 200 metres south of the present site (HER Ref. 01666). This is largely known from finds made during gravel digging in the nineteenth century, but in 2007 a grave associated with the cemetery was excavated following the exposure of human bone in an allotment plot (HER Ref. 51627). An Anglo Saxon brooch found to the east of the main cemetery area (HER Ref. 50480) may also be related to the cemetery. Prior to the excavation at 'The Walnuts', there was little evidence relating to the medieval village of Woodston although early medieval metalwork and worked bone close to the site (HER Ref. 08252) and a stone-lined well to the east (HER Ref. 50498) provided some indication of domestic occupation. Remains of medieval ridge and furrow have been recorded in two areas to the north of the site (HER Refs. 01401 and 51105), both set back from the Oundle Road frontage and suggesting the location of agricultural plots directly behind the village tofts.

The Excavation Results

John Thomas and Stephen Jones

with specialist input from Jennifer Browning, Nicholas Cooper, Alice Forward, Patrick Marsden, Angela Monckton, Daniel Prior and Deborah Sawday.

The evaluation identified a complex sequence of stratified archaeological remains close to the Oundle Road frontage in the northern area of the site. Further archaeological remains were also present in the central part of the development area, relating to rear plots of properties adjacent to the street. In contrast no remains were revealed in trenches located in the extreme southern part of the site.

In response to the evaluation results and the threat from development proposals three areas were chosen for further excavation work (Figure 3). Area 1 was situated adjacent to the Oundle Road frontage and comprised a c. 232 square metre area. The central part of the site was excavated in two areas (Areas 2 and 3), comprising c. 1010 and c. 505 square metres respectively.

The recent land use history of the site had meant that archaeological deposits were relatively well-preserved. The area of the former house platform at the south-west of the site was unaffected by the development and foundations for the garages that had recently occupied the frontage were very shallow.

The complexity of the archaeology in Area 1 has resulted in a high degree of residuality of finds (finds groups were mixed as a result), of intercutting of features from different periods, particularly in the later layers and features. In spite of this a number of key contexts offered sealed and well-dated pottery assemblages which, when combined with stratigraphic information gathered from targeted excavation, resulted in a good understanding of the site's development.

Archaeological remains revealed in Areas 2 and 3 relate to activities carried out in the backyard areas of properties fronting onto Oundle Road. As a result of the sites layout and the location of designated areas that were affected by the development, Areas 2 and 3 lay to the south-east of Area 1 making it difficult to relate episodes of activity between the street frontage area and those to the rear of the site. It seems more likely that the activity recorded in Areas 2 and 3 relates to occupation of neighbouring properties to the east of that examined in Area 1. Nonetheless some insight into the changing nature of property size and the activities therein can be gained from the excavation results, with three broad phases represented.

The archaeological results from the excavated areas will be presented in chronological sequence and the overall development of the site considered in the Discussion.

The character of the archaeology closest to the street frontage, with many overlapping and intercutting episodes of activity, resulted in a complex archaeological sequence with mixed assemblages of datable finds in many instances. As a result the over-

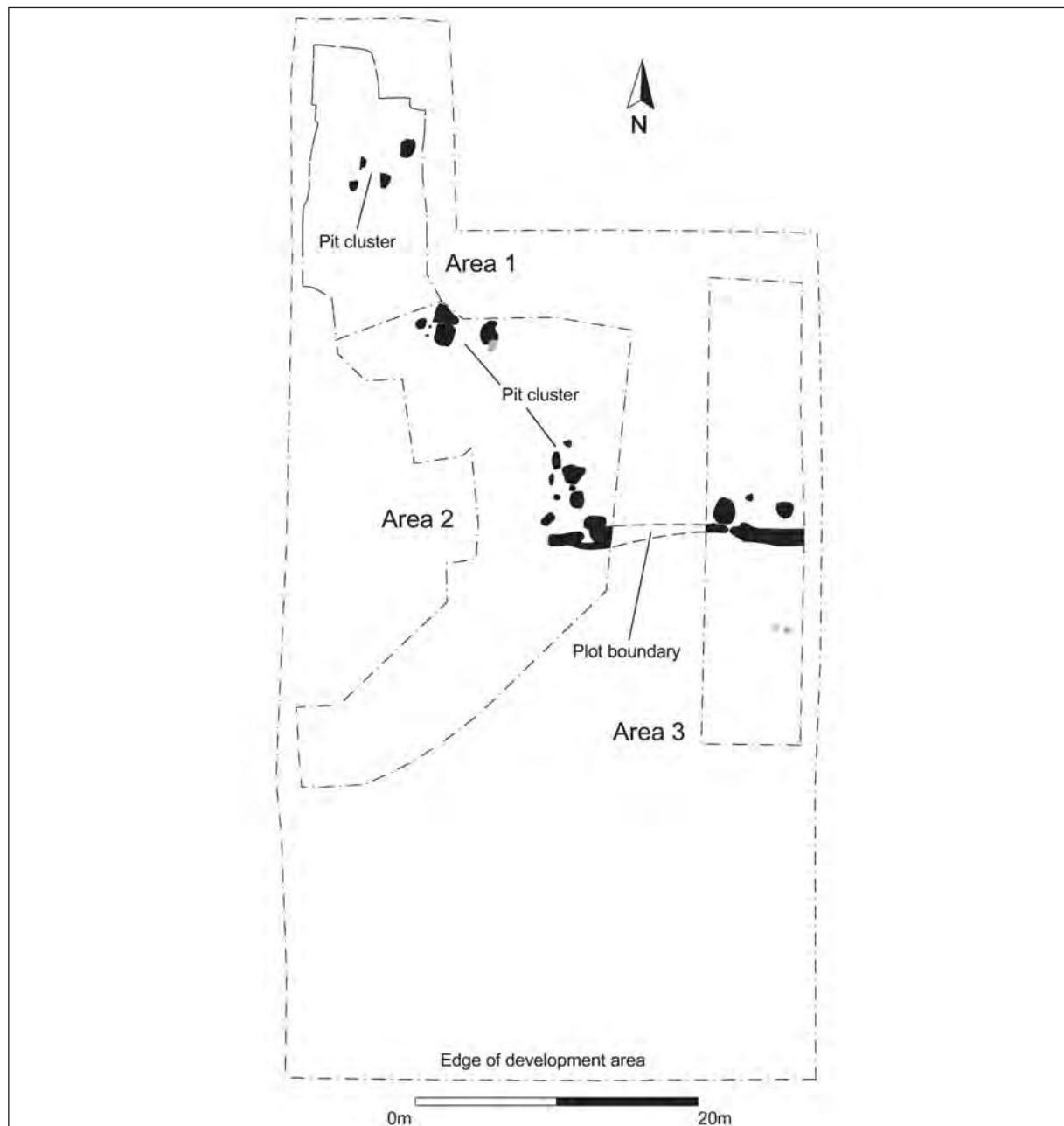


Figure 3. Overall site plan showing locations of the excavated areas, prehistoric pits (grey) and early medieval (12th to 13th century) features (black).

all chronological development of the site is presented in a series of necessarily broad periods.

Prehistoric and Roman Activity

The earliest evidence for activity on the site came from three small pits in Areas 2 and 3 which produced a total of 14 sherds of Neolithic Peterborough Ware and associated flintwork (for location see Figure 3). All three pits were filled with distinctive light greyish brown silty sands. Limited evidence for seeds and cereal grains was recovered from environmental analy-

sis of the pit fills, although the species represented are more typical of medieval deposits and are likely to have been intrusive. A thin scatter of typologically Neolithic/Bronze Age flint flakes was also present across the site in later features indicating that the pits were located in a wider area of occupation around the site.

Four sherds of Roman pottery and a small assemblage of roofing tile were recovered from later (medieval) features across the site. Though small and fragmentary, the pottery group, consisting of Nene Valley, Grey and Shelly Ware sherds indicates a consistent later 3rd to 4th-century date. No other direct

evidence could be related to Roman occupation on the site but the finds do point to activities in the vicinity.

Medieval and Post Medieval Activity

Early Medieval Activity (twelfth to thirteenth Century) Figure 4

A scatter of pits cutting into the natural clay in the southern part of Area 1 represented the earliest medieval activity adjacent to the street frontage. Due to the intensive nature of subsequent occupation of the site, much of this evidence was poorly preserved. The finds assemblages associated with the pits are indicative of domestic waste, hinting at nearby occupation, although no direct evidence for structures was observed.

Pottery, including products of the kilns at Stamford, St Neots and Bourne, provided a mid-thirteenth century date for this activity. Some of the pottery was sooted from use in cooking while the plant remains surviving in the pit fills included bread wheat and a little rivet wheat, as well as barley grains and chaff indicating that they derived from cereal processing or bread making, and suggest the pit had been used to deposit domestic refuse.

The southern limit of medieval properties on the site between the twelfth and thirteenth centuries was marked by an east-west boundary lying approximately 58m back from the street frontage, and possibly indicating the southern limit of Woodston at this time. This boundary was observed in Areas 2 and 3 and consisted of a series of inter-connected ditches measuring between c. 0.79m–1.4m wide and c. 0.5m deep. The ditches generally produced a low number of finds with only a small assemblage of Stamford and Shelly Ware sherds recovered, alongside cattle and dog bones, perhaps reflecting their relative distance from the main areas of occupation to the north.

Several clusters of pits indicated activity areas, probably associated with small-scale episodes of quarrying, within the area defined by the plot boundaries. A number of the pits showed evidence of natural slumping around their edges, suggesting that once excavated they had remained open for some time to allow weathering to occur. This would explain why later episodes of quarrying avoided the earlier pits. Not all of the features yielded dateable material but close spatial grouping suggests broadly contemporary activity. It is a possibility that a further north-south aligned boundary lay within the unexcavated part of the site between Areas 2 and 3.

Medieval Activity (c. 1250–1450) Figure 4

Slight evidence for activity during the thirteenth to mid fifteenth centuries was represented towards the rear of Area 1 by two associated features, probably reflecting two phases of a boundary. The earliest, a shallow linear feature on an east-west alignment,

may have been a truncated ditch from which thirteenth to fourteenth century Bourne and Stanion-Lyveden Ware pottery was retrieved. This feature was observed over a distance of c. 1.3m although it had been badly truncated and is likely to have originally continued across the site.

Adjacent and to the north of the linear feature, a stone wall may have been a replacement boundary. The wall consisted of four or five courses of limestone, bonded with pale orangey brown mortar. It was observed over a length of c. 4m although this had also suffered truncation at either end from later pit digging. Traces of the wall footings were noted to the east however, indicating that it had once spanned the full length of the excavated area. There was no evidence for an associated foundation trench, although it is possible that any footings were fairly shallow and may not now be archaeologically visible. Layers of slumped clay to either side of the wall's base may have provided some support in lieu of a foundation trench. It is equally possible that these deposits were the remains of a cob wall that had been allowed to fall into disrepair, eventually slumping against its stone foundations.

Two pits provided further evidence of activity during this period, both of which contained a range of medieval pottery including Stamford Ware, St Neots Ware, Lyveden-Stanion and Bourne B Ware pottery.

The overall organisation of space within Areas 2 and 3 appears to have been maintained into the fourteenth century although both areas were clearly used more extensively than before. The southern extent of the properties was demarcated with a loose arrangement of ditches and possible quarry pits which lay on a broad east-west alignment slightly south of the former twelfth to thirteenth century boundary. As with the previous period of activity, there was little in the way of datable finds from these features, although a small group of Stamford, St Neots and Bourne B Ware sherds was recovered. A substantial amount of animal bones was found in the central part of the boundary ditch, where they appear to have been discarded as refuse. The majority of this assemblage comprises remains of horse (38 bones), but also of cattle, sheep and pig (19 bones in total).

A north-south oriented ditch was observed in the central part of Area 2, running for approximately 9.4m before terminating some 4.6m from the northern edge of the area. This ditch contained a range of pottery including Stamford Ware, Shelly Ware, St Neots Ware and Bourne B. A discrete burnt deposit within the ditch terminal contained charred seeds associated with food preparation and possibly represents domestic hearth waste that was disposed of in the open boundary. It seems likely that this ditch represents part of a property boundary and may even define the eastern limit of the street-frontage occupation represented in Area 1. Slightly to the west of the ditch a stone-rich spread containing occasional thirteenth to fourteenth century pottery sherds may have been an area of hard-standing for a temporary structure or specific activity.

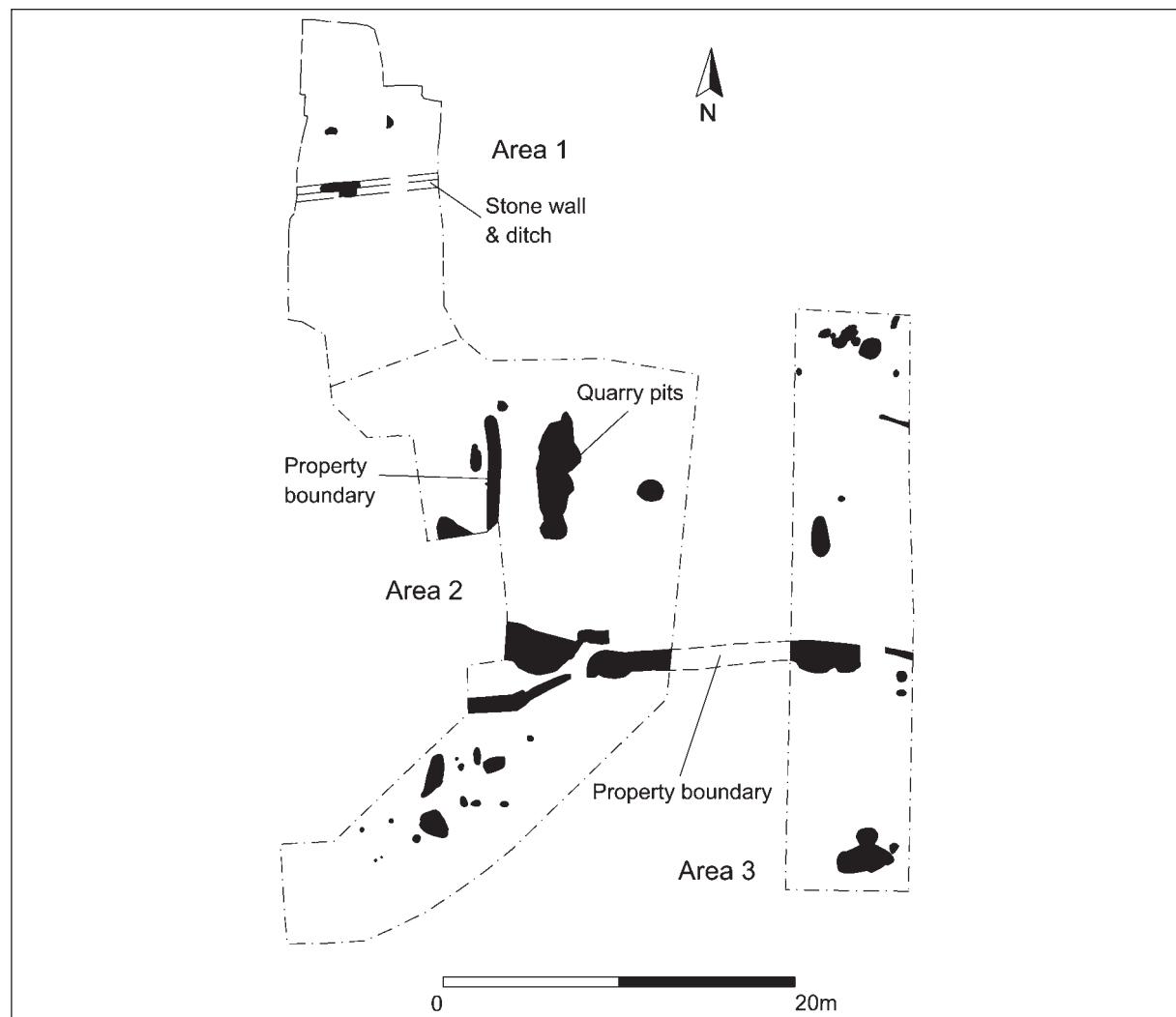


Figure 4. Medieval activity: features dated to c. 1200–1450.

No other obvious north-south boundaries were evident for this period although it may have been that such markers were represented by shallow fences or hedges at this time which would leave little archaeological trace. A linear arrangement of pitting, probably for gravel quarrying lay in the centre of the site and had developed along a north-south line, possibly in respect of the ditch described above.

Scattered single pits located across the site during this period probably also represent small-scale quarrying and occasional refuse pits. Most of these features are generally undated but several produced small quantities of Stamford Ware, St Neots Ware and Bourne B Ware.

On the eastern side of the site, at the northern end of Area 3, a cluster of features including pits, post-holes and gullies indicated a relatively busy area, perhaps closer in form to areas of occupation on the street frontage. Generally these features are undated, but one pit contained a group of pottery sherds made in Stamford, Shelly, Lyveden-Stanion and Bourne B Wares.

In contrast to the earlier phase of occupation, there was limited evidence for activity to the south of the boundary system. A cluster of post-holes lay in association with several quarry pits in Area 2 and a pair of intercutting quarry pits was located in Area 3. These were associated with small amounts of thirteenth to fourteenth century pottery including Bourne B and Lyveden-Stanion Wares. The irregular pattern of the post-holes makes explanation difficult, although their presence indicates structural activity, most likely they are the remains of fences or animal pens.

Later Medieval Activity (c. 1450–1500/1550) Figures 5 and 6

Much of the occupational evidence for Area 1 can be attributed to activity during the fifteenth and sixteenth centuries. This activity appears to have been centred on a timber building which was also associated with external yard areas and pit digging.

Several distinct layers reflect both external and internal areas. Cobbled surfaces on the western and

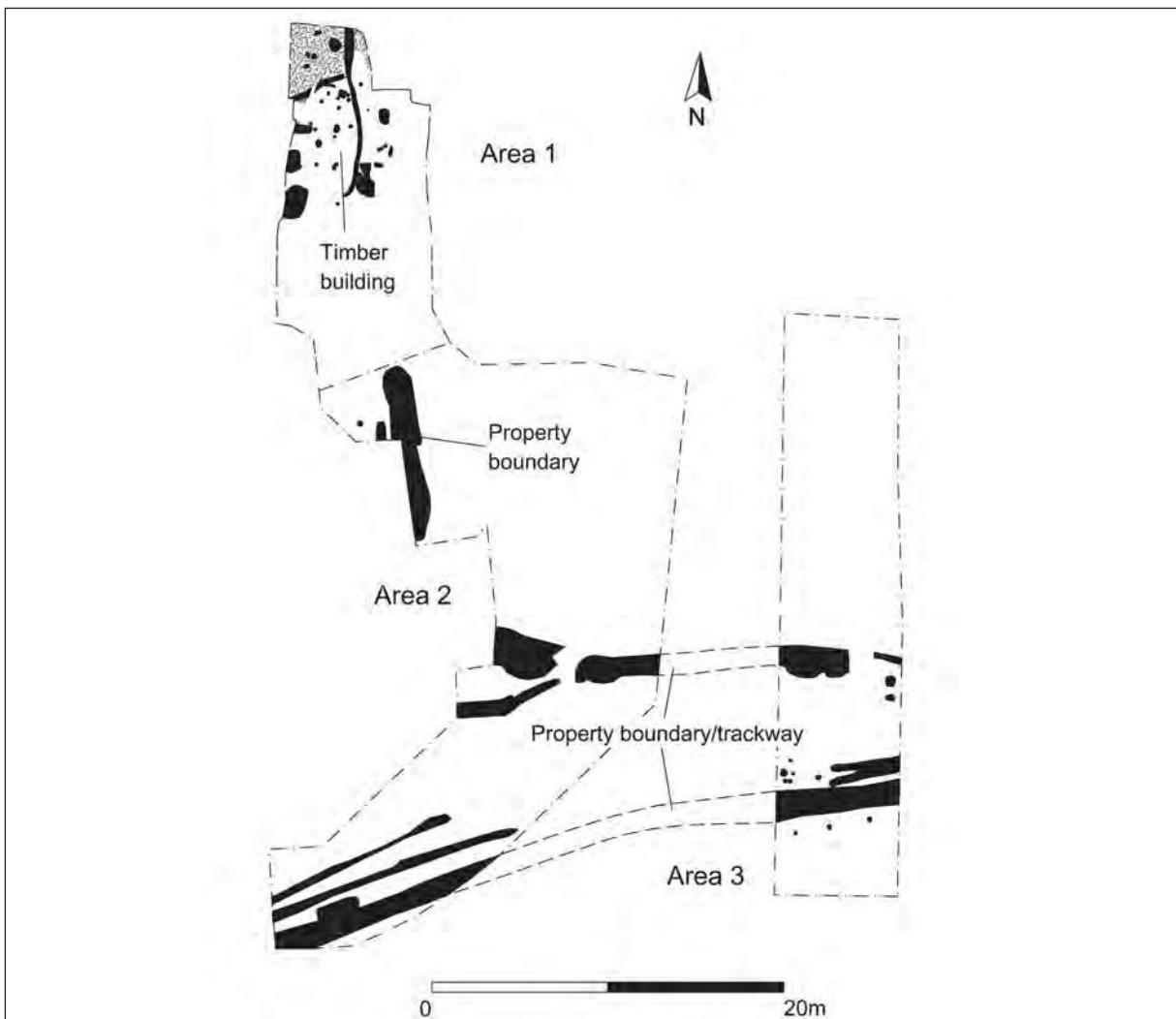


Figure 5. Later Medieval Activity: features dated to c. 1450–1550.

northern sides of the site indicated yard surfaces while more silty layers in the centre of Area 1 are suggestive of internal surfaces, perhaps relating to earthen floors within the timber building. A spread of pottery from the silty layers included a large amount of Bourne Ware as well as charcoal indicative of nearby domestic occupation.

Evidence for a timber building consisted of a concentration of post-holes in the centre of the site which lay in close association with the silty layers. Although somewhat disjointed as a result of later disturbance, the overall pattern of the post-holes reflects a rectangular timber building measuring c. 9.6m in length by c. 5m wide. The building plan is oriented north-east to south-west with its northern gable end closest to the street frontage. Some evidence for internal division is also indicated by a number of post-holes, particularly concentrating in the northern part of the building. Although the overall plan of the structure is difficult to resolve the evidence suggests that it is likely to be a result of several phases of rebuilding and renovation on the same spot. This is particularly

evident from the overlapping silty layers within the building, which suggest the floor was regularly renewed.

A series of loosely associated spreads of compact stone and pea-gravel were probably related to the later use of the building, possibly reflecting the introduction of more solid flooring at some point. These were mostly clustered near the north-eastern corner of the structure but one patch straddled the projected wall-line on the western side of the building and may have served as a threshold at some stage. A scatter of post-holes in this general area of the building may have formed an internal porch but their function within the building is uncertain and they could just as easily have belonged to a separate phase of construction. A number of the post holes were found to contain fragments of Bourne D Ware pottery providing an indication of their later medieval date.

A number of pits were located around the building's perimeter, further emphasising the space that it occupied.

Two pits to the rear of the building are associated

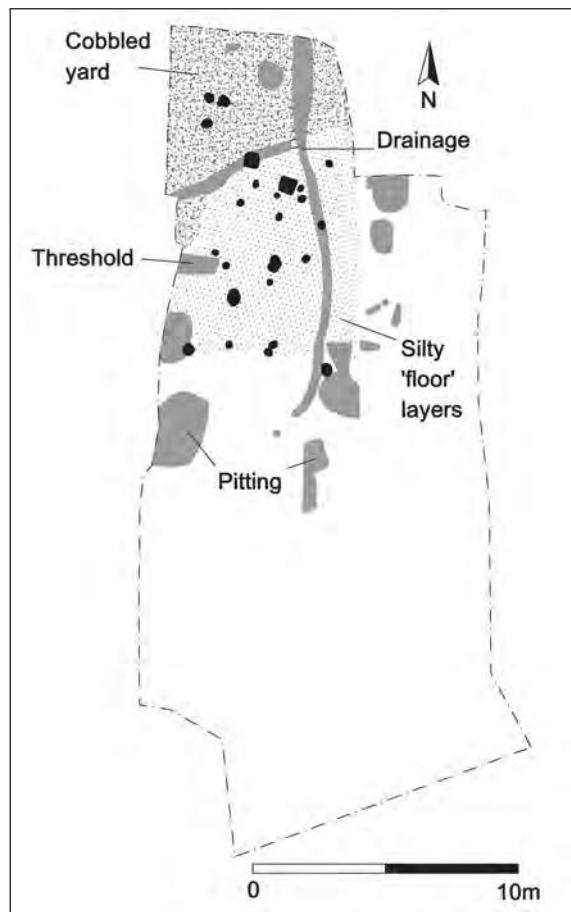


Figure 6. Detail of timber building.

with a large assemblage of domestic waste comprising Bourne and Lyveden-Stanion Ware pottery, oyster and mussel shells and animal bones of cattle, horse, sheep, pig and goose, some of which were butchered or gnawed.

A series of drainage features was also associated with this phase of activity. It is possible that some were directly associated with the building although they may represent a number of separate attempts at removing water from the area. In the northern part of the area a narrow gully crossed the northern part of the area on a north-east to south-west alignment and lay at the meeting point of the cobbled surface and siltier layers.

Another, more sinuous, drainage gully ran through the middle of Area 1, projecting from the northern edge of the site at the frontage, and terminating just beyond the back end of the building. This contained a mixed pottery assemblage including later medieval Bourne Wares, Lyveden Stanion Ware and residual Shelly Wares. Animal bone fragments of cattle and sheep/goat were also recovered.

A more well-constructed drain crossed the western side of Area 1 on a north-east to south-west alignment. In comparison to the other simple gullies, this was partially stone-lined, with a clay base and regularly placed limestone blocks forming the sides and

capping. Pottery sherds recovered from the drains fill indicate a c. sixteenth century date for the drain's infilling. A scatter of domestic waste from cereal cleaning, including wheat (rivet and bread varieties) and chaff fragments, as well as fish scales was also recovered indicating nearby occupation, perhaps associated with the timber building.

A final phase of activity represented in Areas 2 and 3 indicates a reorganisation and expansion of the area to the rear of properties fronting Oundle Road. This is represented by a substantial new boundary ditch running across the southern edge of the two areas approximately 76m from the Oundle Road street frontage. This new boundary measured c. 2.2m wide with a fairly steep-sided concave profile c. 0.45m deep and contained fragments of Late Medieval Transitional and Bourne D Ware and animal bone. The boundary may have been augmented with smaller fences, as suggested by a regular line of post-holes lying adjacent at the southern end of Area 3 or the parallel gullies at the southern end of Area 2.

This new ditch may have functioned as a boundary by itself or could have formed the southern side of a trackway, with the previous southern boundary ditch acting as the northern side. Given the broad date range of the pottery (thirteenth–fifteenth century) it is a possibility that both boundaries were in use together. Both follow a similar orientation and the gaps in the northern boundary may have been deliberately placed to allow access from the tofts. A small cluster of post holes lying adjacent to the southern boundary in Area 3 suggested structural activity although it was impossible to interpret their overall plan.

Two phases of a north-south ditch lay in the northern part of Area 2. Both were approximately 17m in length and appeared to have functioned as property boundaries. Both ditches contained quantities of fifteenth to sixteenth century pottery and animal bone.

Early Post Medieval Activity (c. 1500/1550–1650+)

Figure 7

It is unclear when the timber building on the street frontage went out of use and it could feasibly have continued to stand into the early post-medieval period. However a number of features, predominantly dating to the sixteenth to seventeenth century, encroached upon the area formerly occupied by the structure, suggesting its removal by this time.

Two drains clearly date to this period of activity, while a north-south linear spread of large pits lay in the centre of the area, truncating the eastern side of the earlier building and some of the associated features.

On the southern side of the area two inter-cutting pits both contained large amounts of pottery, dominated by Bourne D Wares and occasional animal bones. One also contained a fragment of worked shelly limestone, possibly once part of a small architectural column. One flat side has been worn smooth through indicating re-use of the fragment, possibly as a grindstone or smoother. To the north of these a large

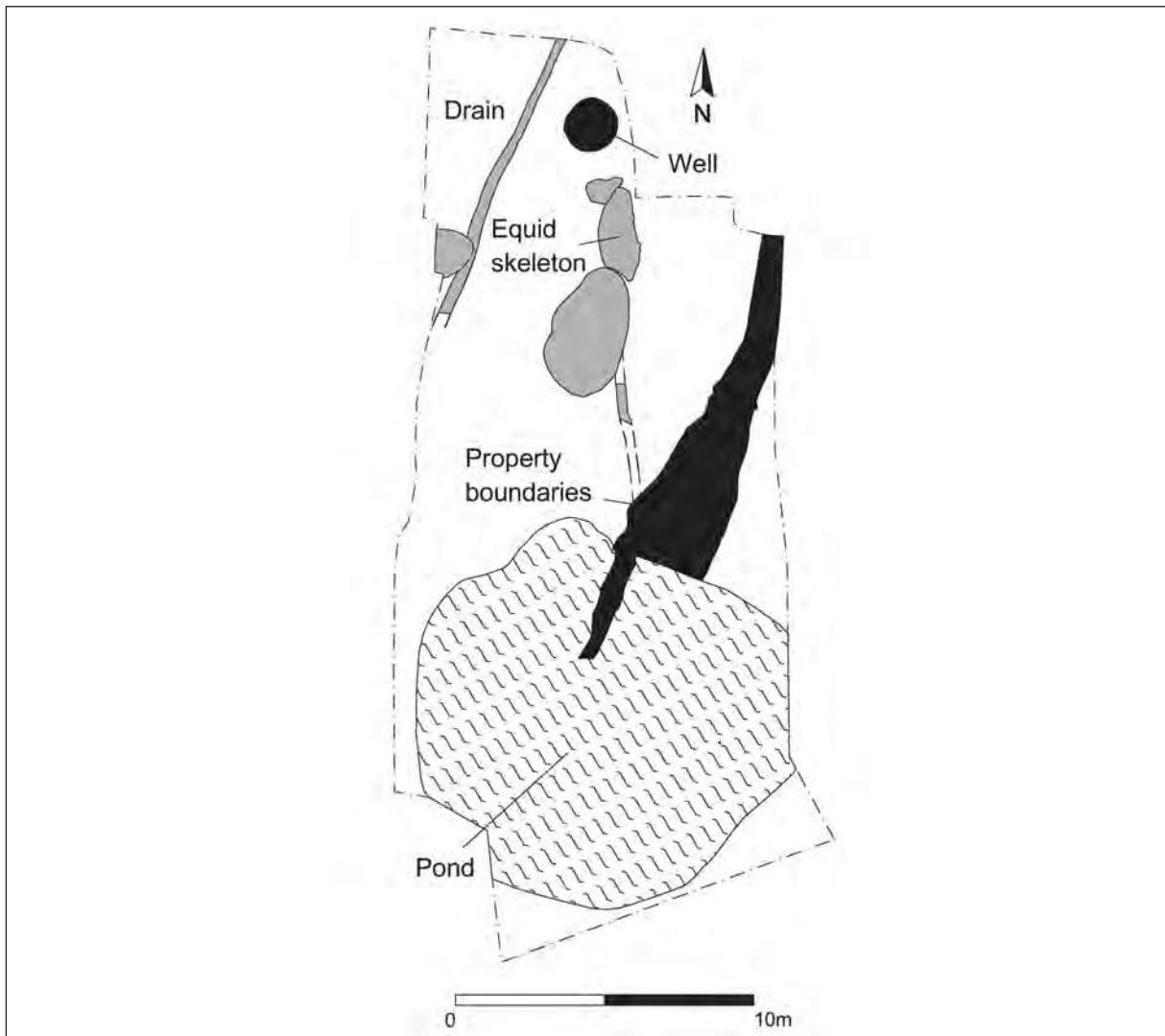


Figure 7. Early Post-Medieval activity (c. 1500/1550–1650+) in grey and Later Post-Medieval/Early Modern activity (c. 1600/1650–1750+) in black.

oval pit contained a small amount of pottery including a *tyg* or handled cup of Post-Medieval Black Ware.

A pair of inter-cutting pits lay in the centre of the area. The earliest of the two contained a disarticulated equid skeleton, as well as cattle, sheep and pig remains. What remains of the equid do not enable a precise identification although the limb proportions, coupled with measurements on the first phalanx suggest the animal to have been a donkey rather than a horse. Quantities of pottery were also recovered, with Bourne D Wares dominating the assemblage. A c. 0.1m thick compact layer of limestone rubble sealed the pit, and may have served to consolidate the softer, underlying pit fill. The later pit was slightly larger and appeared to have lain open for a longer period. Pottery, animal bone and building material are associated with this pit as well as a fragment of whetstone.

A final pit associated with activity of this period protruded in from the northern edge of the excava-

tion. The fill of this pit contained pottery, including Post Medieval Glazed Red Earthenware, animal bone and charcoal. After the pit had gone out of use it had been capped with a layer of yellow clay, perhaps suggesting usage as a cess-pit. High densities of charred plant remains and occasional fish bones and scales were evident, as is often the case in such features, although the lack of mineralised remains indicated that no sewage was present.

Later Post-Medieval/Early Modern Activity (c. 1650–1750+) Figure 7

Further evidence for activity near the Oundle Road frontage represented seventeenth to eighteenth century occupation. Although no direct domestic remains were found the nature of the features from this phase, and the associated finds, suggest the main living areas were situated close to the excavated area.

A stone-lined well lay near the northern edge of Area 1. The stone lining was c. 1m in diameter although it was situated within a larger construction pit with a diameter of c. 1.8m. The well construction pit was filled with mixed clays against which the well structure had been built. An assemblage of pottery from these deposits contained residual medieval sherds but also a substantial group of Bourne D Ware fragments suggesting a sixteenth to seventeenth century date for the well's construction. The well structure was made of coursed limestone blocks, each measuring c. 0.2m x 0.2m x 0.1m. The uppermost c. 0.6m section of the well construction has a narrower diameter (c. 1m) than the lowest course which widened to a diameter of c. 1.3m. Following disuse the well was infilled with a number of deposits which were associated with pottery, tile and glass dating from the eighteenth century onwards.

A large pond c. 11m in diameter dominated the southernmost part of the area. The lower fills contained fragments of bone, pottery, clay pipe and glass dating from the seventeenth and eighteenth centuries. Preserved plant and seed remains from these layers confirm the presence of standing water with nearby marginal vegetation.

An associated layer of limestone and flint nodules set in clay represented ground consolidation around the northern edge of the pond. This layer also contained a range of seventeenth century pottery indicating that it was contemporary with the pond. It is possible that this layer also served as an access route to the rear of the property at this time.

The uppermost levels of the pond contained seventeenth century pottery, large stone fragments, clay pipe, broken brick and animal bone. This layer was between 0.2m and 0.4m deep and spread several metres beyond the northern edge of the pond, partially covering the stone layer and perhaps indicating a final period of disuse and abandonment of this part of the site by this time.

A sequence of frequently re-cut linear features following a similar north-east to south-west alignment on the eastern side of the area may have formed a property boundary. The earliest feature was a shallow undated gully which was succeeded by a more substantial ditch associated with seventeenth century pottery, butchered animal bone and a large dump of demolition material containing hand-made brick fragments. A final ditch was partially revealed but due to its location on the very edge of the excavation it could not be fully examined. The relationship between the ditches and the pond is unclear and the pottery from both suggests broadly contemporary use. It is feasible that the ditches acted both as boundary features and drainage for the frontage area, taking water into the pond at the back.

A rubble-rich demolition layer containing eighteenth and nineteenth century finds, directly overlaid the excavated area. This was machined off carefully prior to hand cleaning in the early stages of the excavation. Similar deposits, containing finds dating from the eighteenth century onwards, were also found

within the upper backfills of the well suggesting a phase of consolidation and ground levelling prior to new development.

Discussion

John Thomas and Stephen Jones

Excavation at 'The Walnuts' has revealed slight evidence for prehistoric and Roman activity and important new evidence for the medieval development of Woodston. Although slight, the prehistoric remains complement previous discoveries of similar dates from nearby archaeological sites. The main evidence reflected a long sequence of medieval and post-medieval occupation adjacent to the Oundle Road street frontage with corresponding plots to the rear, providing evidence for the early growth and development of Woodston village.

Prehistoric and Roman

There is little that can be said regarding the Neolithic pits, other than that they add to a growing picture of prehistoric activity in the Woodston area and offer some of the earliest evidence. The flint and shell-tempered fabrics from the site are typical of those characterising Peterborough Ware in eastern England. The dating of Peterborough Ware has been re-assessed in recent years so that a date range of 3500–2500 BC is suggested, placing it earlier in the Neolithic than had been previously thought (Gibson and Kinnes 1997; Gibson 2002).

Archaeological work to the north of 'The Walnuts', on the opposite side of Oundle Road, has revealed evidence of post-built structures, substantial ditches, gullies and pits associated with Late Bronze Age or Iron Age material (Casa-Hatton 2001a, Cooper 2002). Slightly further afield, to the east of the site, a cluster of shallow Neolithic/Bronze Age pits was discovered during excavations at Botolphs Bridge, Orton Longueville (Kemp and Spoerry 2002, 13). Further evidence from Orton Longueville, in the form of enclosures and possible droveways, indicates probable livestock management activities dated to the Neolithic/Bronze Age (Casa-Hatton 2001b). The presence of the pits at 'The Walnuts' highlights the potential for prehistoric remains in the area.

The presence of Roman pottery suggests some sort of occupation at Woodston between the 3rd and 4th centuries AD. Although the evidence is fragmentary, a wider area of occupation may be postulated by the scattered presence of Roman coins, pottery and a brooch found from the surrounding area.

Medieval

Archaeological remains relating to activities on the street frontage and rear plots of the early village of Woodston represent the bulk of the evidence from the site. Unfortunately the disposition of the excavated areas does not enable an examination of an entire

property from front to back, however evidence from the southern side of the site (Areas 2 and 3) does indicate the changing nature of the village plan over time.

The earliest evidence for medieval activity suggests twelfth to thirteenth century occupation and is characterised by a scatter of pits near the street frontage and the formative plot layouts to the rear. The domestic nature of the finds associated with the pits suggested they lay close to nearby occupation areas although no clear evidence for buildings was revealed. It is possible that any associated buildings lay to either side of the excavated area, or had been truncated by later activities. A range of pottery vessels such as jugs and spouted pitchers indicate the essentially domestic nature of the finds and these are predominantly of Stamford, St Neots/type and Shelly Wares, indicating the relatively local supply of pottery to Woodston at this time.

Butchered animal bone and charred plant remains indicative of cereal processing or bread making further support the evidence for nearby domestic occupation. Abundant cereal remains were found in early medieval samples from the frontage, which contained cereal cleaning waste of chaff and weed seeds with charred cereal grains of free-threshing wheat including bread wheat and rivet wheat, with barley. The later medieval samples are interpreted as containing proportionately more cereal cleaning waste than suggested for the earlier period, suggesting that this was an important activity on or near the site. The presence of chaff and weed seeds may suggest the local cultivation of wheat including both bread wheat, rivet wheat, and barley. It is possible that threshed cereals brought to the site from local fields or elsewhere, were being cleaned from contaminants for sale or use in foods made from whole grains. Some of the deposits are also thought to contain domestic waste from food preparation. The site provides evidence for rivet wheat outside the town of Peterborough where it was present from the thirteenth to fourteenth century onwards (Moffett 1991, Monckton 1996), and found at this site perhaps at a slightly earlier date. Other crop remains over the phases of the site are of charred legumes, including peas and possibly beans.

The rear yard areas during this phase appear to have been loosely defined by a discontinuous system of short ditches and pits. This relatively informal boundary arrangement may suggest that it developed in piecemeal fashion over a protracted period. It might also indicate that movement between properties was unhindered, perhaps hinting that some resources were shared between properties. Alternatively, less archaeologically visible boundaries such as hedges or shallow-founded fences may have been used. Limited evidence for activities in the rear yard areas is restricted to a scatter of large pits which were represented across the two southern areas. These may have originally served as quarry pits although it is clear that domestic refuse was finding its way into them during backfilling, possibly indicating the presence of nearby middens as a source.

Continued occupation during the thirteenth to

fourteenth centuries, characterised by the presence of Bourne A and B Wares is indicated, although the evidence for this period is relatively sparse, perhaps also suffering from truncation by later activities. Limited evidence for street frontage activity is represented by two phases of boundary which, although truncated, appeared to have once spanned the excavated area from east to west. It is likely that this boundary once separated activities on this part of the site and may have marked the rear of the main occupied area. Activities in the rear yard area appear to have been very similar, with evidence for quarrying and smaller-scale pitting occurring in discrete clusters about the site. The existing boundary system at the southern limit of the properties appears either to have been developed or replaced. This uncertainty is a result of the broad dates associated with pottery from these features, but the system seems essentially to have been maintained from the previous phase. A linear development of quarry pits on a north to south alignment appears to have developed adjacent to an existing boundary, which would have sub-divided the rear yards. As with the previous period of occupation a certain amount of domestic refuse was incorporated into the backfilling of the boundary features and quarry pits, indicating continued settlement activity in the vicinity.

Late and Post Medieval

Occupation on the site seems to have peaked sometime during the fifteenth to sixteenth centuries with much of the evidence for domestic occupation on the street frontage relating to this period. The focus of activity within the excavated area was a timber building with clearly associated internal and external surfaces relating to a succession of floors and cobbled yard areas. Although the overall plan of the building was relatively evident it was also clear that this was a product of numerous phases of renewal and repair on the same spot, perhaps a measure of its importance and continued use, or of a shortage of available space at this time. The precise nature of the building's use is difficult to interpret although it seems not to have had a domestic function given the lack of evidence for an associated hearth, and the general flimsiness of the build. By this period at the Botolphs Bridge settlement at Orton Longueville to the east, domestic buildings were constructed of stone, or at least had stone footings (Kemp and Spoerry 2002, 16) and it seems more likely that this structure had an agricultural function. The provision of drainage adjacent to the walls of the building may perhaps indicate its use as a livestock shelter at some stage.

Domestic occupation must have been located nearby however, owing to the number of refuse pits distributed around the perimeter of the building. Finds assemblages from these pits included large amounts of pottery, with Bourne D Ware evidently of major importance, animal bone and charred plant remains supporting the notion of continued domestic activity in the vicinity. The pottery groups are dominated

by wares from the Bourne production centre less than 24km to the north of Peterborough, although a smaller amount of pottery from the Lyveden-Stanion kilns is also represented. The pottery types are representative of refuse from domestic occupation, with jars, jugs and bowls all present. A range of domestic animal bones were also present within the pits, suggesting cattle, sheep and pig were eaten and/or kept by the sites occupants. A number of the horse and cattle bones had evidence of gnawing suggesting that the bones had not been buried instantly but had perhaps become incorporated into middens, making them available for scavenging. Further evidence for nearby domestic activities included charred plant remains and fish scales from a pit that had probably been deliberately sealed with a clay layer, suggesting its possible use as a cess pit.

The timber building was demolished towards the end of the sixteenth century indicating a reorganisation of the immediate backyard area, although continued evidence for pit digging and drainage indicates that domestic occupation of the site had not ceased. This is further supported by the construction of a well at this time, presumably serving as a domestic water supply. The two large pits in the centre of the frontage area also provide interesting evidence of activities during this period. Although there is clearly a continued domestic element to the finds assemblages the presence of semi-articulated horse/donkey bones in a pit of this period also hint at other activities. Given that the main meat-bearing areas of the animal remained intact it seems unlikely that it was killed for consumption; in any case this was generally not accepted in medieval society except in extreme circumstances (Grant 1988, 160). Light cut marks on the skeleton indicate removal of the hide which was probably taken, along with the three missing limbs, and intended for processing elsewhere. A very similar example was recently discovered in Leicester where a complete horse's trunk displaying evidence of hide removal had been buried within a medieval pit alongside domestic refuse (Score 2006, 47). It is suggested that here also that the hide had been removed deliberately for use in leather-making. The tanning process was strictly controlled in the medieval period with only cattle hides used. However whittawying, a process similar to tanning, was allowed to use the skins of a wider range of animals, often making use of hides from animals that had died naturally (Thomson 1981, 171). The possible donkey on this site may well have died of natural causes and the hide been removed and taken to a whittawyer while the rest of the body was buried on site. Excavation of sixteenth to seventeenth century tanning pits at Bonners Lane in Leicester also revealed remains resulting from the whittawying process, including articulated horse limbs (Finn 2004, 33–4).

The southern limit of properties during this period was extended southwards and defined by a more formalised boundary arrangement, perhaps involving a trackway. Not only does this indicate a major reorganisation of the properties revealed within the

development area, but it provides a reflection of the reorganisation of property that Woodston may have experienced at this time. This new boundary, a much more permanent and formalised version of its predecessors, can be seen to have formed the south-eastern limit of a large oval shaped area of land forming the southern side of the village until at least 1811, reflecting its importance and continued use into the nineteenth century.

Despite the formal nature of the southern plot boundary, distinction between individual properties appears to have remained rather vague. A single, relatively short, north-south boundary may have acted as a boundary between properties. However there was little other evidence for similar divisions of this period across the site suggesting either an informal arrangement of ownership or perhaps the use of hedges as boundaries.

Activity in the seventeenth century is characterised by the creation of a pond which effectively demarcates the southern limit of the street frontage area. Areas of hard-standing around the pond edge suggest that it was intended as a watering hole for animals. This is a marked change of use for the area but the presence of domestic remains in the lower pond fills suggest that occupation was still situated nearby. The sequence of ditches dating to this period on the eastern side of Area 1 may have acted as property boundaries but would also have helped drain standing water into the pond. Building rubble and domestic refuse within the ditch fills suggest that habitation lay nearby. Abandonment of the site is marked by final infilling of the well and deposition of a demolition/levelling layer containing rubble and domestic debris dating to the eighteenth century after which there appears to have been little activity on the site until modern times.

Overall the results of the excavation have shown a considerable history of occupation reflecting activity in the area before the village of Woodston was established, and also the development of the settlement during the medieval period. A number of smaller archaeological investigations within Woodston have revealed evidence for similar deposits, however the larger scale of this project has enabled a more understandable picture of occupation. Clearly the street frontage area was a busy and important zone of activity throughout the medieval period. Although direct evidence for habitation was not revealed, the nature of the finds assemblages indicates that it probably lay in close proximity. Pottery finds show how Woodston fitted into the wider pattern of trade and exchange, which was essentially a local supply with changing foci as the medieval period progressed. Animal bones and plant remains provide a good measure of what was kept and consumed by the site's occupants and, in the case of the dismembered equid skeleton, an insight into contemporary local crafts. The changing nature of medieval village organisation is also highlighted well by the regularly reworked backyard plan.

The level of complexity and survival of archaeo-

logical remains at 'The Walnuts' highlights the potential for similar preservation in other parts of the village and will aid future planning decisions. On a regional level the excavation results will contribute important evidence for the growth and development of rural settlement, contributing to key research aims for the area (Wade 1997, 52; Murphy 1997, 54).

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Down the Line: Archaeological investigations on the route of the Cambridgeshire Guided Busway

Alison Dickens and Matthew Collins

With contributions by Katie Anderson, Vida Rajkovača, Anne de Vareilles, Lawrence Billington, Matthew Brudenell, Natasha Dodwell, Andy Hall, Mark Knight and Simon Timberlake

Between late 2006 and the middle of 2008 archaeological excavation was carried out at ten locations along the 18 kilometre route of the Cambridgeshire Guided Busway. Monitoring of groundworks was also carried out along the whole length as well as heritage railway recording of the track and at key locations. Archaeological remains were found at seven of the excavation locations as well as in one significant location during the monitoring programme. Three of these sites are dealt with in other publications; the remainder are reported on in this paper.

Two sites at Swavesey revealed evidence of Iron Age and Roman activity, extending the known area of occupation on the island at this date down to the fen-edge. The evidence suggests that this was a processing or redistribution location rather than dense settlement. At the Windmill site near Over remains of a similar period were found, but here there was clear evidence of settlement extending from the middle Iron Age through to around AD 70 when it is likely that the settlement focus shifted due to landscape reorganisation. At Arbury evidence was found indicating the presence of a substantial Roman building with finds of pottery, building material and coins.

The Cambridgeshire Guided Busway (CGB) has been constructed in large part on the trackway of the former Cambridge to St Ives railway. Work began in late 2006 and as part of the programme extensive archaeological work was undertaken by the Cambridge Archaeological Unit (CAU) in order to satisfy conditions placed on planning permission. The archaeological work was co-ordinated on behalf of the contractor BAM Nuttall by Steve Haynes of Arup (Archaeologist to the Design Joint Venture) and was monitored for Cambridgeshire County Council Archaeology Office by Andy Thomas, Senior Development Control Archaeologist.

Based on the results of desktop assessment (Arup 2003) and trenched evaluation (Collins and Dickens 2009), and reflecting a number of subsequent design changes, ten locations along the CGB route were eventually designated for mitigation by excavation or to be evaluated in order to determine mitigation. The field-work was carried out between October 2006 and July 2008, as sites were made available (Fig. 1). Specifically these were (from north to south):

- Swavesey in-track site (Jun/Jul 2008)
- Swavesey Kiss & Ride (Jan/Feb 2007)
- Landscape and Ecological Mitigation Area (LEM) C (Apr 2007)
- LEM D: The Windmill Site (Nov 2006 – Jan 2007)
- Longstanton Park & Ride (Oct/Nov 2006)
- LEM I (Apr 2007)
- Arbury Park (Sep/Oct 2007)
- Long Road Construction Site (Jan/Feb 2007)
- Addenbrooke's Link (Mar 2007)
- Shelford Road Construction Site (Feb/Mar 2007)

In addition to these 'set piece' sites, archaeological monitoring was carried out on the contractor's groundworks along the entire length of the busway, commencing in December 2006. This included:

- Monitoring of geotechnical test pits along the entire route
- Monitoring of ballast stripping
- Monitoring of haul road construction
- Monitoring of service diversions and replacements
- Monitoring of track groundworks (e.g. pad foundations)

During monitoring archaeological remains pre-dating the Post-Medieval period were observed at relatively few locations, the exception being at Arbury in-track (see below).

As the investigations progressed little or no archaeology was revealed at the LEM C, LEM I and Long Road Construction sites. Other than to record their inclusion in the project, these sites will not be dealt with further. Three other sites did have minor archaeology, but lie within the immediate vicinity of other ongoing large projects and are more properly dealt with there. These are the Longstanton Park and Ride, to be dealt with as part of the Northstowe investigations, the Addenbrooke's Link site, to be dealt with as part of the 2020 project, and the Shelford Road Construction compound, dealt with as part of the forthcoming Addenbrooke's Link Road Publication (Timberlake forthcoming).

The main focus of this paper are the four remaining sites: Swavesey in-track and Kiss & Ride; LEM D (the 'Windmill' Site) and Arbury Park and the Arbury in-track observations (Fig. 1). These are singled out

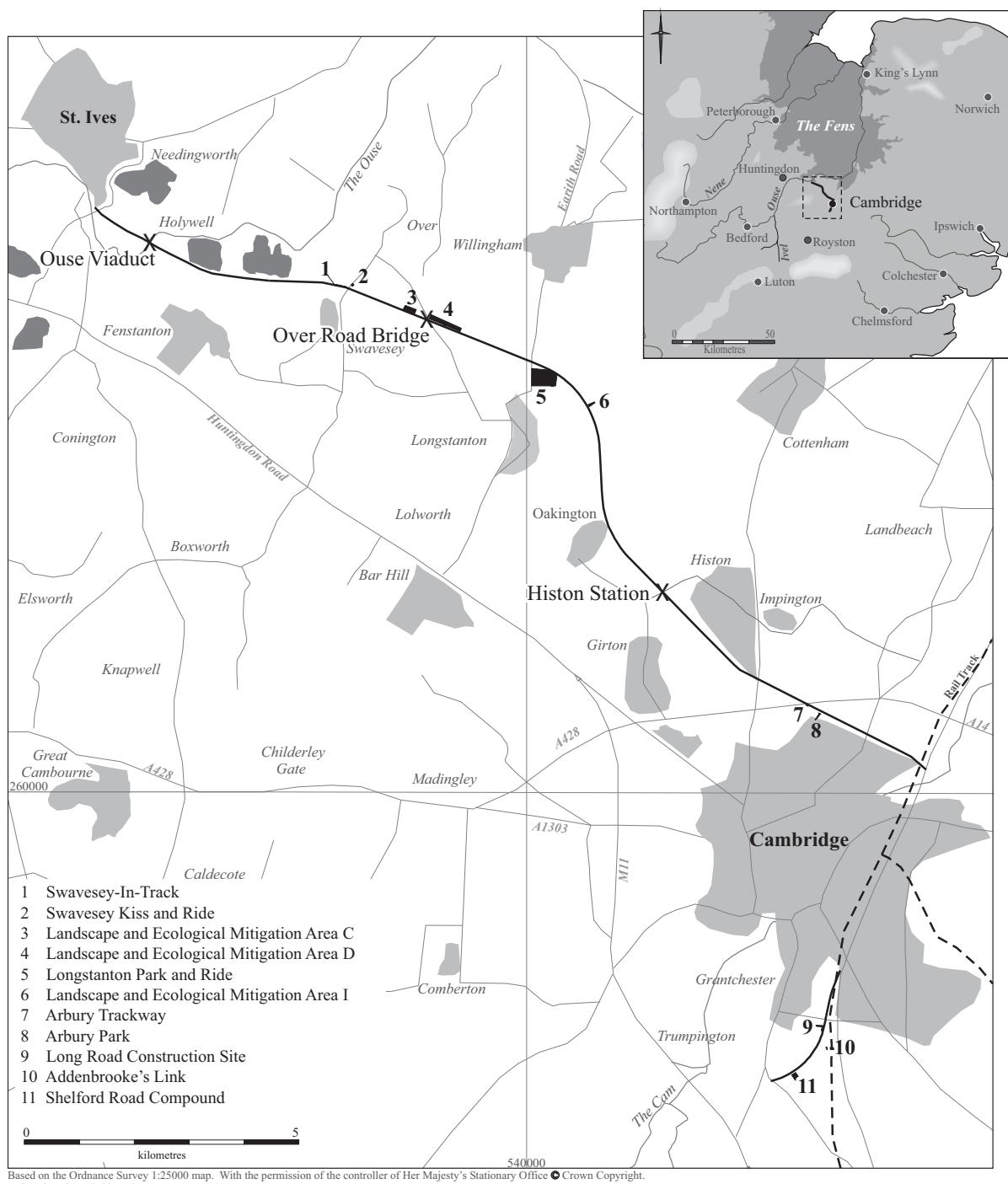


Figure 1. Location of sites investigated along the Cambridgeshire Guided Busway.

as important particularly in that, though none were large or definitive in their scope, they all add important new data to the study of the areas in which they occur.

Before dealing with these sites, however, it is also important to reflect upon the archaeology of the railway itself, the artificial construct across the landscape that is the only tangible link between these disparate locations.

The Eastern Counties Railway Company (which

subsequently merged with Great Eastern Railway in 1862) opened the line between Cambridge and St Ives on 17th August 1847. There were intermediate stations at Histon, Oakington, Longstanton and Swavesey. The line was busy in the later nineteenth and early twentieth century, but passenger numbers were in significant decline by the 1950s. By the 1960s eighty trains a day were timetabled but as passenger traffic fell and coal freight from the north dried up this dwindled. Freight services from Histon

and Oakington ended on 19th April 1965 and from Swavesey and Longstanton a year later with the passenger service finally withdrawn in October 1970. The freight service remained open as far as Histon for seasonal deliveries of fruit to the Chivers factory, but this ended in 1983. A service to Fen Drayton continued until 1992 hauling aggregate for ARC, but even this had declined to once a week by the late 1980s. Following the end of commercial traffic on the line a few passenger charters ran until the late 1980s and in 1979 The Railway Development Society organised the first of the popular 'specials' from Swavesey to promote the reopening of the line. These continued until 1990. Although abandoned and overgrown for more than a decade the line was not formally closed until August 2, 2003.

The archaeological expression of the railway fell into two main categories: firstly the physical remains of the track and associated structures and secondly, evidence of the construction methods employed.

The most detailed recording, including structural survey, was carried out at three locations; Histon Station, Windmill Bridge on Over Road and at the Ouse Viaduct near St Ives. Between these locations the record is primarily photographic, recording, in effect, the state of the railway line immediately prior to its removal (Dickens 2007, 2010).

In general terms, very little other than the track itself survived, and that only between Milton Road in Cambridge and Holywell Ferry Road End near St Ives. Most of the lineside furniture had been removed or had 'disappeared' in the intervening years leaving only a handful of signal lights and a buffer between Swavesey and Holywell Ferry Road End, and a lineside hut between Arbury and Histon. The track reflected the constantly developing nature of railway hardware with a mixture of the generally older bull-head rail and generally more recent flat-bottomed rail distributed along the entire length. Twenty-two different chair types were identified (the means by which the rails are fixed to the sleepers), although some of these were specialized types associated with points. Wooden and several types of concrete sleeper were in use, both being observed in association with both rail types.

The Cambridge to St Ives line has long had a reputation as something of an experimental location, and some evidence of this survived. According to www.disused-stations.org.uk this was the location of the first serious test of continuous welded rail, with this section still *in situ* on part of the long curve around Oakington Airfield. Also here was first tested the multiple aspect or traffic light signalling system, though no physical trace of this survived, and experimental rolling stock were run here during the changeover from steam to diesel (http://www.disused-stations.org.uk/l/long_stanton/index.shtml).

The three recorded structures noted above are not dealt with here in any great detail, as this is recorded in the archive (Dickens 2007, 2010); however, the results for Histon Station, surveyed in July 2007, are worth noting in a little more detail as it does reflect

the early development of, and in a sense hopes for this branch line, which never quite came to fruition. All the stations between Histon and Swavesey are superficially similar at their earliest and least developed state. At Histon six phases of development were identified (Fig. 2):

- Phase 1: The Crossing House c. 1847
- Phase 2: Addition of the north-south wing c. 1870
- Phase 3: Addition of the Waiting Room c. 1880s
- Phase 4: Addition of the kitchen/toilet extension c. 1880s
- Phase 5: Addition of the "Station Master's Office" c. 1890s
- Phase 6: Addition of the Canopy between 1911 and 1914.

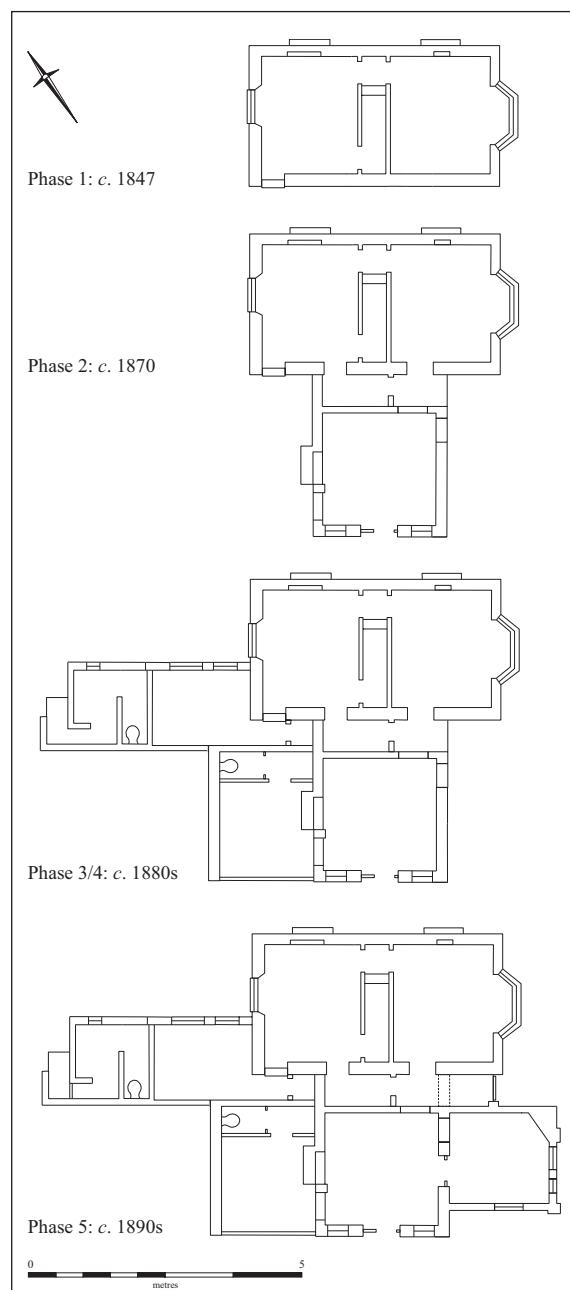


Figure 2. Histon Station: Main Station Development Phases.

The earliest structure at Histon is a central four-roomed house, presumably built around the opening of the line in 1847 (Fig. 3). Some evidence observed during the works suggests that originally this station had a low platform rather than the later raised one. The engineer for the line was M.A. Borthwick and given the similarity between the early station buildings at Histon, Oakington and Longstanton, it is likely that they were part of the original design, possibly by Borthwick himself. The success of the line in the later nineteenth century was presumably the prompt for the development and expansion of the station, but it was all over before the First World War. The expansion and decline of the station at Histon reflects the story of the line as a whole, but also more specifically, the relationship between the railway, the station and the Chivers' factory which developed alongside it. The peak of both, with the station served by two goods yards as well as the Chivers' siding, appears to have been in the early part of the twentieth century, with the station buildings reaching their maximum extent shortly before that at the end of the nineteenth century. The gradual development of the station complex is evidence that the line at its height was not quite that envisaged at the beginning by the company or the engineer, but it is also interesting to note the superficial similarity of the "developed" stations at Oakington, Longstanton and Swavesey. In each case the early buildings are the twins of that at Histon. Although all subsequently expand to a T-shape the added wings are all different to each other and to the Histon building, and it does appear that whereas the original concept was a single vision, the subsequent development was a much more locally influenced affair.

Histon Station was originally intended for demolition. Following a local campaign this decision was reversed and the building still stands, although now missing the canopy and platforms.

Windmill Bridge

The brick bridge on Over Road (bridge no: 2260) was a 'skew bridge' in that it continued the line of the road crossing over the railway and was set at an oblique angle to the track below rather than at right angles to it. In this case the bridge is oblique to the track by 49 degrees (Dickens 2010).

The bridge had three arches, the track running beneath the central one (Fig. 4). The arches were built using the 'English' or 'helicoidal' system (adopted widely for railway bridges) in which the bed-joints are laid parallel to one another and perpendicular to the direction of the bridge (Simmons and Biddle 1997, 47). The lower structure was constructed from yellow bricks with seven courses of dark engineering bricks picking out the details on the string line below the parapet. Below this string line the structure was faced with bright red brick extending about halfway across the two outer arches on the east side and somewhat further on the west. This was clearly a later addition, the facing itself subsequently repaired on more than one occasion. The yellow bricks carried through the arches with the exception of the southernmost arch where the eastern third was covered in the same red brick as the later facing. The roadside parapet was constructed in pale orange brick (weathered to a dull brown) with a coping of engineering bricks. When exposed in demolition these bricks had only slight frogs, if at all, and appeared to be quite roughly made and not of the best quality.

Examination of the bridge suggests that the yellow brick build is the earliest, with later repairs and replacements. It is unclear whether the parapet is part of the original build or a later replacement/addition. The bridge was demolished in late 2007.



Figure 3. Histon Station: Main Station Buildings South Facing Elevation.

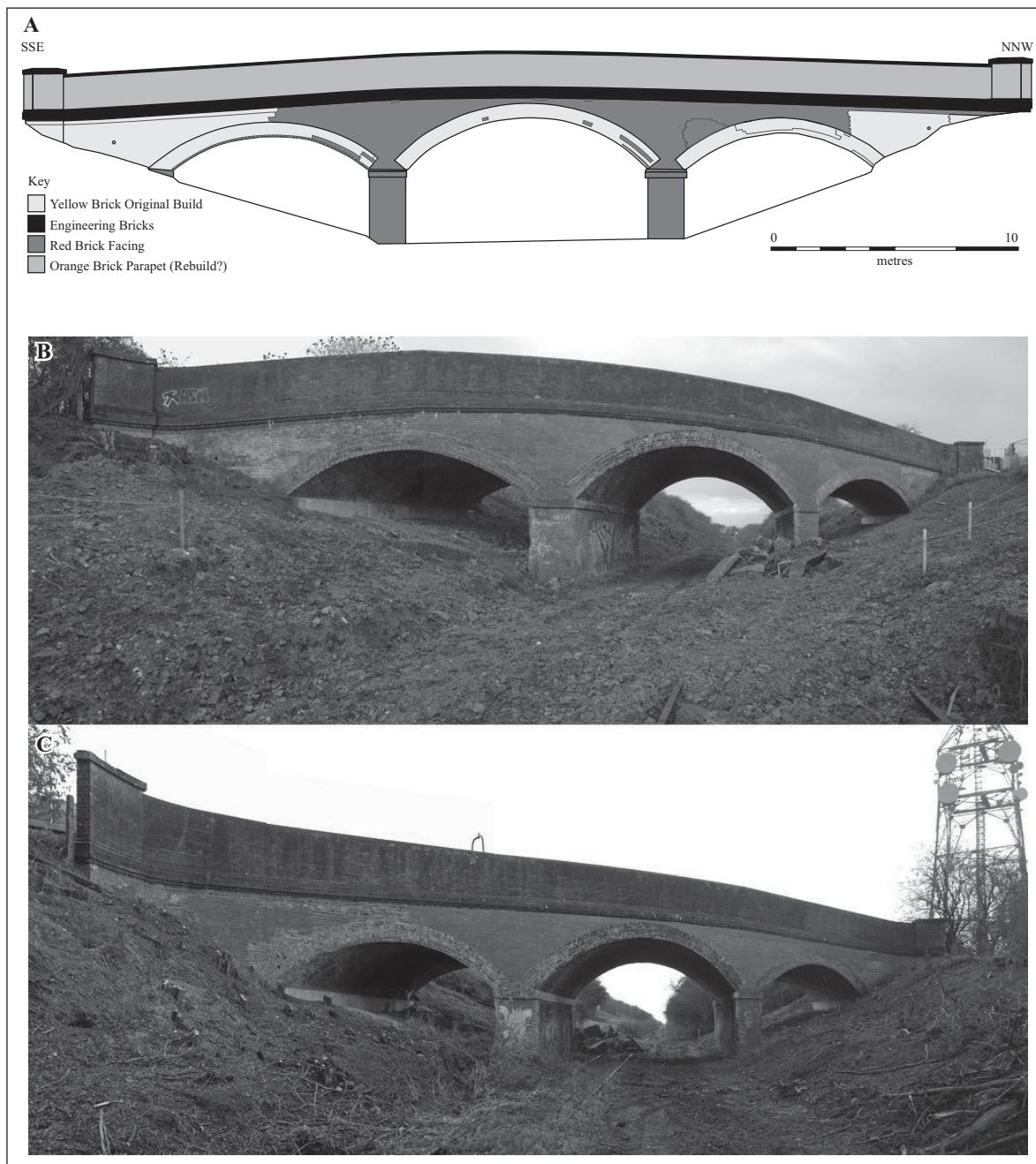


Figure 4. Windmill Bridge, Over Road: A. east facing elevation with brick types; B. east facing elevation; C. west facing elevation.

River Great Ouse Viaduct

The viaduct near St Ives (bridge no: 2272) consisted of two wrought iron spans side by side across the river with a series of flood spans extending either side (Fig. 5). The northern flood spans were still *in situ*, the southern ones having been removed previously (Dickens 2010). The iron structures were supported on a series of 21 brick piers, eleven on the east bank, ten on the west. Although similar in construction style, the two river spans differed in detail, the southerly (the "Down" line, i.e. to St Ives) being somewhat

slighter than the northerly one (the "Up" line, i.e. to London via Cambridge).

Unlike some of the more spectacular and graceful viaducts of the period, the Ouse crossing was a utilitarian structure, the river bridge sections rather reminiscent of World War I tank construction. The side sections were formed from riveted wrought iron plates joined across the width with short girders and braced beneath with criss-cross straps. The different style of the two spans suggests they were not entirely contemporary, but as the brick piers were rebuilt in the 1920s (based on the archive drawings) there

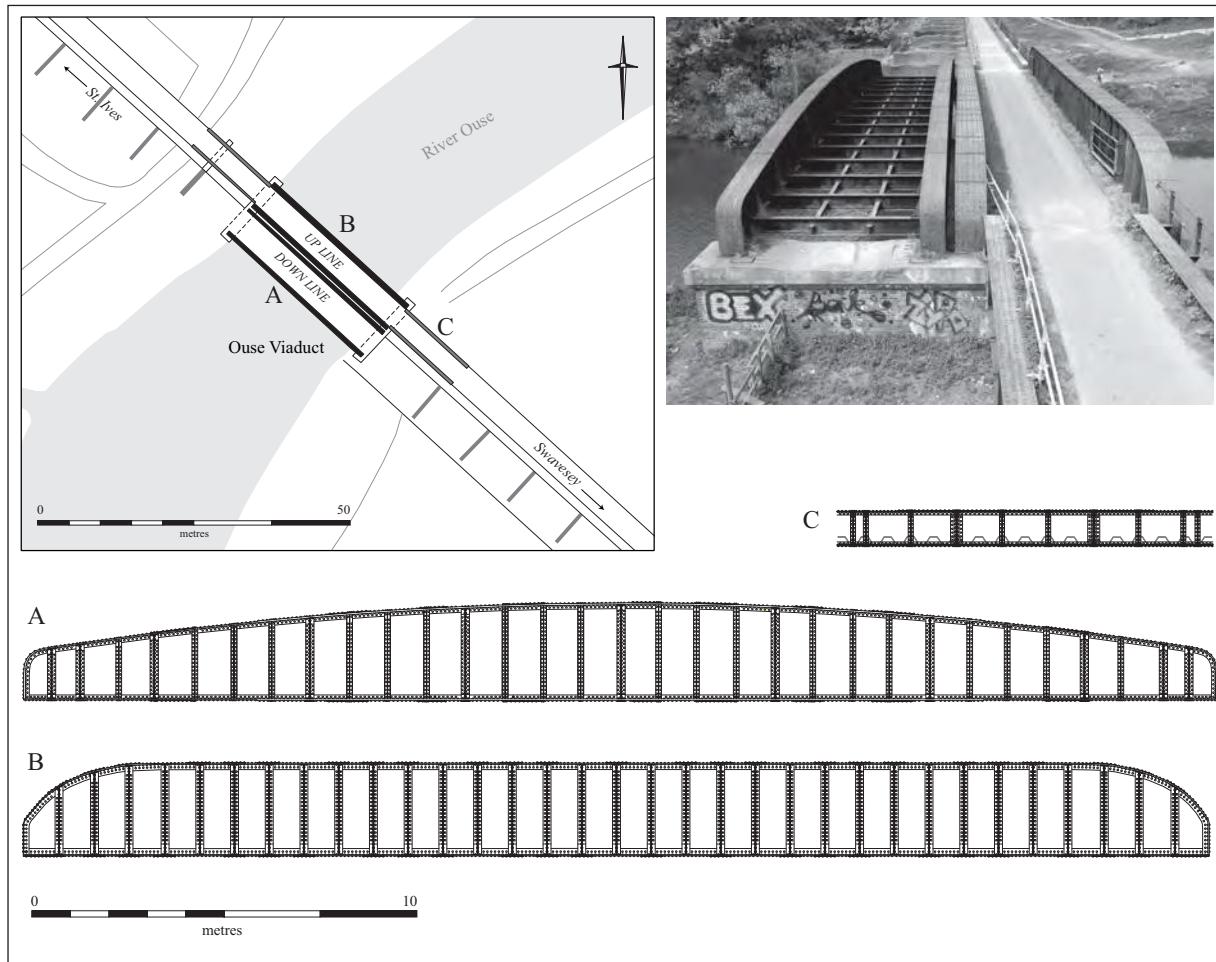


Figure 5. Great Ouse Viaduct: A. south facing elevation (external) of south river span; B. north facing elevation (external) of north river span; C. general elevation (internal) of flood spans on north track.

was no indication from them as to which might be the earlier. On the inside of the south parapet of the southern span was the scar of a maker's plate. Based on comparison of the shape it is likely that the bridge was made by either Westwood Baillie & Co, a London based marine engineering company who branched out into bridge building, or Westwood & Co, which continued the business after 1883. Westwood Baillie & Co. was founded in 1856 so the southern river span cannot date to earlier than that – some nine years after the railway was opened. Westwood Baillie patented a corrugated flooring system for bridges in 1875, the system used in the flood spans extending either side of the northern river span. This would tend to suggest the southern bridge probably dates to before 1875 as it does not incorporate this development. The corrugated floor system produced very light spans of up to 100 feet (30.5m) in length, easily wide enough to span the Ouse at this point. Whilst not provable on the available evidence it seems at least likely that the solid, heavily girdered northern river span (on which no maker's plate could be seen) belongs to the earliest days of this line whilst the much more lightly constructed southern span is at least a decade later in date

and perhaps more. The flood spans either side of the northern bridge must be later replacements as they cannot date earlier than 1875. Their manufacture was probably by Westwood & Co, Westwood & Baillie's successor which was still in existence in the 1960s and which made parts of other river bridges on associated branch lines, including that at Godmanchester in 1894 (image 82/4/4A in a 1970 survey of the Cambridge to St Ives line by the Industrial Archaeology Society archived in the Cambridgeshire Collection).

The archive papers made available by the Guided Bus Contractor contain one interesting, though sadly undated, drawing which refers to a proposal for the "Proposed reconstruction of Br. No. 2272 [...] between Swavesey and St. Ives using superstructure of Br. 2292 [...] between Bluntisham and Earith". The St Ives to Ely branch line was fully opened on 10th May 1878 (Paye 1982, 12). The line was never very popular and was closed to passengers in 1931. Among the river crossings constructed was a viaduct over the Ouse about halfway between Bluntisham and Earith. Westwood & Baillie were not involved, the iron girder construction being left to Messrs. Cochrane, about whom no more is known. The girder construction used appar-

ently required several concrete filled iron cylinders in the waterway, which the Westwood & Baillie system would have avoided. The construction was fraught with difficulties and delays, but was eventually completed. Paye refers to the viaduct as "the most substantial item of civil engineering on the branch [...] used as a landmark by RAF crews approaching Mepal or Somersham during and after World War Two" (*ibid*, 23). The section of the line including the viaduct was closed completely in 1958 and the line lifted within a year. This presumably dates the reuse of the span sections at St Ives to about that time. The Earith viaduct had 16 skew spans, which had to be straightened and shortened for reuse at St Ives. Nineteen were required so three new ones had to be made, the drawings for which also survive in the archive. Again these are clearly not on the Westwood Baillie model. As the northern line spans are of the Westwood Baillie type the replacement spans must have been used on the southern down line side. They were removed at some point after the closure of the line leaving only the empty brick piers. The Ouse Viaduct was demolished in mid 2007.

The Archaeological Sites

Swavesey

The village of Swavesey lies on the fen-edge approximately 10 miles northwest of Cambridge and is located primarily upon two First Terrace gravel islands, with that to the north being smaller than the southern. The islands rise to an approximate high of 15m OD, with the 4m OD contour correlating generally to the fen-edge prior to drainage during the Medieval and Post-Medieval periods (Cambridgeshire County Council 2001). Both the sites (Swavesey in-track, centred at NGR 536265/269496; and the Kiss & Ride site centred at NGR 536468/269512) were located on the northern periphery of the north gravel island at a height varying between 3.8m and 5.1m OD (Fig. 6).

Swavesey has seen a number of archaeological investigations over the years (Cessford and Mackay 2004; Cooper and Kenney 2001; Cooper and Spoerry 1997; Evans 1990; Roberts 1998; Spoerry 1996; Whittaker 2001, Willis *et al.* 2008), and its history from the Saxo-Norman period onwards is also well documented, (Elrington 1989). Less well understood are aspects of the earlier history, particularly on the peripheral areas of the island. Prior to the Guided Busway investigations the only pre-Iron Age activity noted within the immediate vicinity was a low density scatter of worked Neolithic flint recovered at Blackhorse Lane, sufficient only to suggest the landscape was not being densely utilised at this time. The earliest known settlement in Swavesey, also located at Blackhorse Lane, was dated to the Late Iron Age/Early Roman period, and included an Early Roman kiln (Evans 1990) and at least two further kilns of the

Late Iron Age/Early Roman period (Willis *et al.* 2008). No evidence for later Roman occupation has been identified to date within the village itself; however, a recent evaluation some 400m to the northwest discovered relatively dense Romano-British activity in the form of a droveway and accompanying enclosure ditches (Murrell 2007). This evaluation indicated the presence of an extensive area of agriculture attached to a significant rural dwelling/settlement dated to the later Roman period. The only other known Romano-British finds recovered within the vicinity are some pottery and quern stone fragments found c. 500m to the west of the village (Cambridgeshire Historic Environment Record (CHER) 3481), and a quantity of pottery discovered during drainage works on the Swavesey Drain on Mare Fen, just north of the village and some 200m northwest of the Kiss & Ride site (Evans 1990).

Archaeological evidence suggests that Swavesey village has been continuously occupied since Saxo-Norman times, and St Andrew's, the parish church, is known to have its origins in the Late Saxon period (Taylor 1998, 85). A Benedictine priory was built around the church grounds by 1086, the surviving earthworks of which can still be seen. These lie 100m southwest of the Kiss and Ride site and abut the southern edge of the in-track site. Domesday Book documents that at this time the population of the village was 65, however by the end of the 13th Century it is recorded as having grown to '212 holdings', equating to an estimated population of 1000 (Ravensdale 1984). The manor, located on the site of the current Manor Farm and some 150m to the south of the Kiss and Ride site, changed hands several times within this time span, but it was under the Zouche family that Swavesey saw much of its growth. The building of a canal (known within the Fens as a 'lode') from the River Ouse to the market place and establishment of a quayside or 'hithe', together with the granting of a market and fair by Henry III in 1244 led to Swavesey becoming a locally important economic centre. Archaeological evidence shows both herring and marine shellfish were processed here in commercial quantities for use throughout the area (Spoerry 2005).

The construction date for the castle at Swavesey is unknown; however, it is acknowledged that a castle existed or had existed by 1476, because by then the area around 'Castle Mound' was known as the castell croft (Hall 1996). The presence of a castle demonstrates that Swavesey had grown sufficiently to become strategically and economically important enough to warrant it. Suggested dates and reasons for its construction are: campaign of Ely in 1070–71, the baronial unrest (or Anarchy period) of the 1140s (Elrington 1989; Ravensdale 1984) or the troubles in the late 13th century when the uprisings of Simon de Montfort led to the raiding of villages along the fen-edge (Taylor 1998). More recent interpretations, however, tend to place the castle's construction within the Anarchy period of the mid twelfth century (Spoerry 2005).

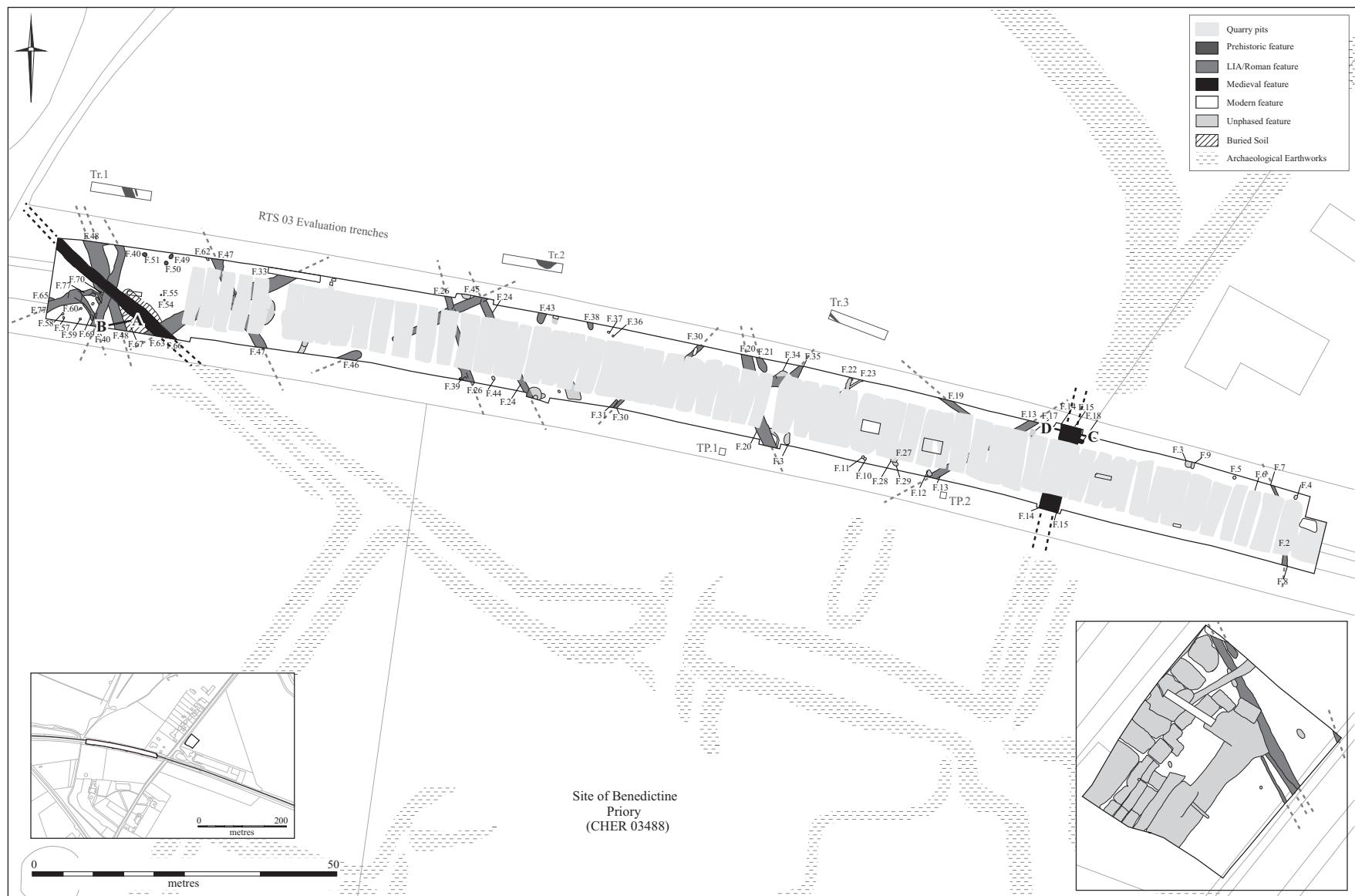


Figure 6. Location of Swavesey sites.

The construction of the railway in the 1840s led to the infilling of parts of the lode, leaving a pond adjacent to what is now Station Road and another one at Market Street. Swavesey's waterborne trade was still such, however, that it was considered necessary to build the New Dock, which abuts the western edge of the in-track site. The actual route of the lode into the centre of the village is not precisely known and it has been theorised that an off-shoot of it may have led to the Benedictine Priory, possibly crossing the in-track site, and may still be visible today as an earthwork (Cambridgeshire County Council 2001).

There are also several dated and undated sites listed on the Cambridgeshire Historic Environment Record (CHER) that bear some relevance to these two sites and their potential for archaeology. CHER 08897, some 200m southeast of the level crossing that divides the two sites, is purported to be the location of Swavesey Manor and its associated structures. CHER 09128 which lies directly adjacent to the northern edge of excavation for the in-track site was identified through aerial photography and seemingly consists of possible enclosures and trackways that have been tentatively dated to the Medieval period and linked to the Benedictine Priory.

The investigations

Four principal phases of activity were identified across the two sites: prehistoric, Late Iron Age/Early Roman, Medieval/early Post-Medieval and Post-Medieval/modern. All four were recorded on the in-track site, but only Late Iron Age/Early Roman and Post-Medieval on the Kiss and Ride Site.

Contributions from the several specialists have been incorporated into the text, however the most significant reports (Late Iron Age and Roman pottery, faunal remains and macro-environmental) are presented in full later in the report).

Additional specialist contributions are from: Mark Knight (prehistoric pottery), Lawrence Billington (flint) and Simon Timberlake (pollen and worked stone).

Prehistoric

In the assessment report three pits (F.49, F.50 and F.51) were tentatively assigned to the Neolithic (Collins and Dickens 2009, 19). Subsequent re-evaluation of the environmental remains together with radiocarbon dating indicates that they are unlikely to be quite this early. The pottery recovered from one of the pits (13 fragments weighing 18g – Mean Sherd Weight (MSW) 1.4g) was made up entirely of plain body sherds with a corky or vacuous appearance and without original surfaces (Knight in Collins and Dickens 2009, 32). This small assemblage could represent the degraded remains of an Early Neolithic bowl, a Grooved Ware (Clacton sub-style) vessel or a Deverel-Rimbury Urn. All that can be said with any confidence is that the sherds are prehistoric and probably belong to the Neolithic or Bronze Age.

Despite the date of the pottery, however, the same

pit produced a good assemblage of plant remains more comparable to other Romano-British samples across the site than to an earlier period. Accelerator Mass Spectrometry (AMS) radiocarbon dates were obtained from two oat caryopses (the dry seed-like fruit produced by cereal grasses), a single wheat/barley grain (*Triticum/Hordeum* sp, the only cereal grain present) and a wild grass seed. The oats dated to the Middle Bronze Age (Cal BC 1530 to 1410; Beta - 281362) and the other seeds to the mid to late Roman period (Cal AD 130 to 350; Beta - 281361). Oats are known to have been cultivated in the Iron Age and, though this would be a rare find for the Bronze Age, wild varieties were probably brought in relatively early from the continent as contaminants of cereal crops (Greig 1991). The mid-late Roman date is more unexpected as the pottery finds elsewhere on the site point to a Late Iron Age/Early Roman date for most activity (see below). The pit was very shallow (0.33m deep) and it is not unusual for small later ecofacts to contaminate the upper fills of earlier features. Without any additional evidence for a mid-late Roman presence on this site these assemblages must be interpreted with caution, bearing in mind the possibility of later intrusive macro-remains.

Regardless of the later dates suggested for the features, one pit and other areas of the site did produce a background level of flint indicative of earlier activity in the vicinity. An assemblage of 32 worked flints (173g) and three burnt unworked flint chunks (65g) were recovered from the in-track site. The assemblage provides good evidence for Mesolithic/earlier Neolithic activity taking place in the area, visible only in the form of residual lithic material incorporated into later features.

The unretouched flakes consist mostly of hard hammer struck pieces of irregular morphology, which are typical of flake-based industries of the later Neolithic and Bronze Age. Two blades from a later ditch together with several flakes with carefully trimmed platforms from the surface of the site and an undated posthole are suggestive of Mesolithic or earlier Neolithic activity. A core rejuvenation flake from one of the possible earlier pits is strongly suggestive of dedicated blade production and also indicates Mesolithic or earlier Neolithic flintworking. A multiplatform flake core was recovered from a small undated pit. This piece had been carefully reduced and rotated until no further removals could be made. The efficient use of raw material evidenced by this core and the quality of flaking could indicate a Neolithic date for this piece.

The retouched elements of the assemblage contain an unusually high density of generally rare tool types in the form of two piercers and two notched blades. All four of these pieces were manufactured on blade or narrow flake blanks, and their forms are strongly suggestive of later Mesolithic or earlier Neolithic technologies. Their appearance in a small assemblage such as this, unassociated with more common tools such as scrapers, might suggest a discrete episode of non-residential, specialised activity.

Late Iron Age/Early Roman

On the in-track site, features attributed to this period included a series of 16 ditches, most of which were either on a northeast-southwest or northwest-southeast orientation (Fig. 7 upper shows the section of one of these). Three probable ditch termini, again orientated northeast-southwest or northwest-southeast, a curving ditch, four pits and a possible beam slot were also found. Grouped towards the southwest corner of site was a series of five curving gullies and gully segments, all of which were truncated by the same ditch. Also present were six postholes and two stakeholes adjacent to each other. The postholes were primarily grouped in the southwest corner of site and potentially represented part of a structure. This was, however, difficult to determine definitively due to their proximity to the edge of the excavation area.

At the Kiss and Ride site the Late Iron Age/Early Roman activity identified was concentrated towards the northeast end of site and centred on a northwest-southeast orientated ditch which had several re-cuts, and a parallel gully. In the far northeast corner a possible second Roman ditch, was identified, and, although only partially exposed, appeared to be parallel to the first. These two ditches had a gap of approximately 9m between them.

The total of pottery from both sites was 81 sherds of Late Iron Age and Roman date. A variety of vessel fabrics were recorded (see Table 1), the most commonly occurring being the sandy greywares, which are typical of a Roman assemblage. Reduced sandy wares were also well represented. Most of the fabrics are likely to have been locally produced. Pottery kilns are known from work at Blackhorse Lane some 730m to the south (Willis *et al.* 2008) and with a peak at c. AD 50–70 the Swavesey in-track site would have been contemporary with this, although occupation probably continued beyond the production period of the kilns. The exceptions to the local material were two imported South Gaulish Samian sherds.

The assemblage primarily dates to the Late Iron Age/Early Roman period, with no evidence of activity after early/mid second century AD. The assemblage included Late Iron Age pottery occurring alongside 'Romanising' and Early Roman material. In Cambridgeshire this is not uncommon (Anderson in Evans and Knight 2008) and there is evidence of pottery made in the Late Iron Age tradition continuing beyond the Roman conquest and the introduction of 'Romanised' pottery. This therefore suggests the site peaked around c. AD 50–70, although occupation may have gone on until the early/mid second century

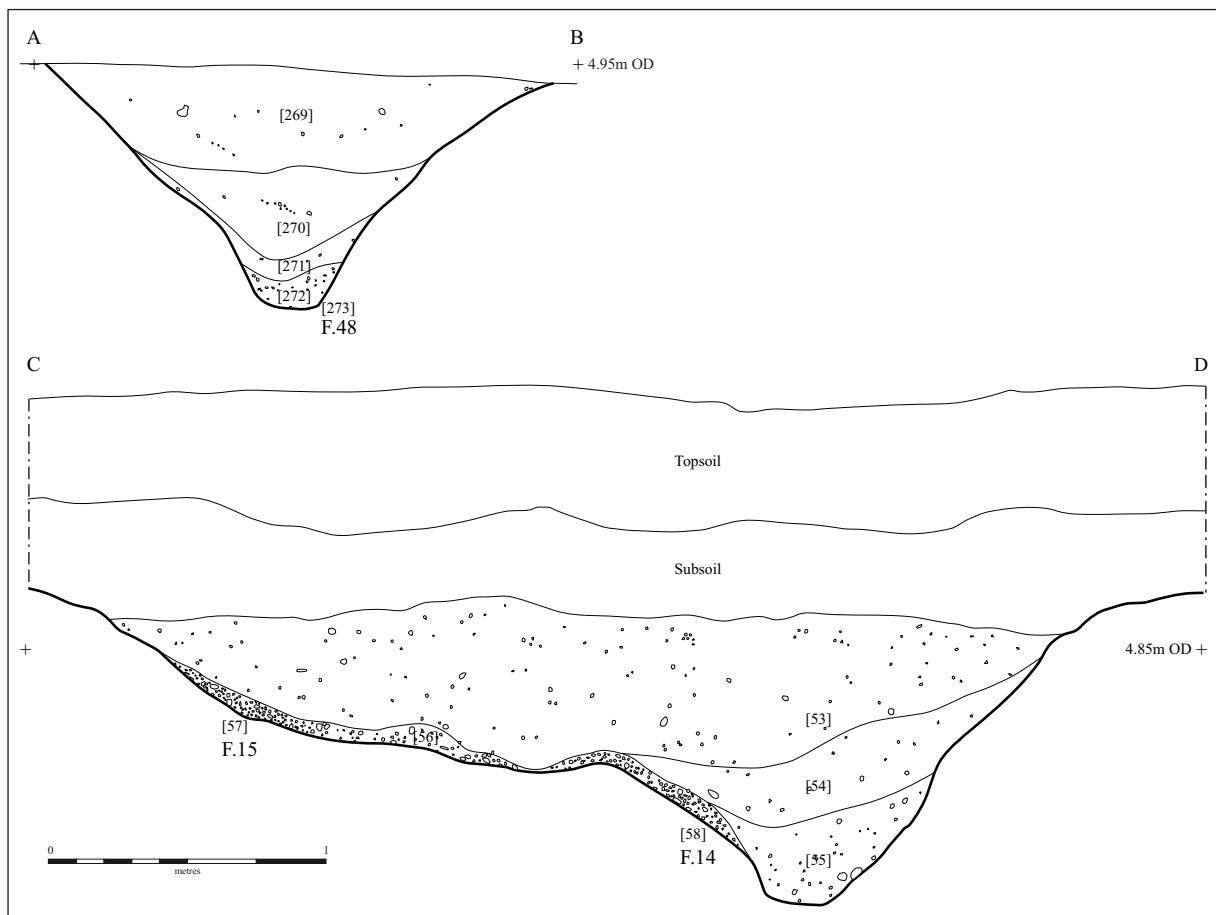


Figure 7. Swavesey Feature sections: A–B north facing section Iron Age ditch F.48; C–D south facing section of medieval ditch F.14.

Fabric	No. of sherds	Wt (g)
Black-slipped ware	3	48
Buff sandy ware	1	6
Coarse sandy greyware	44	459
Grog-tempered ware	6	109
Oxidised sandy ware	3	18
Reduced sandy ware	20	179
South Gaulish Samian	2	21
Whiteware	3	51
TOTAL	82	891

Table 1. Swavesey Sites: all pottery by fabric.

AD. The pottery is typical of a small rural site, with a small range of vessel forms present (largely due to the condition of the assemblage). The presence of the two Samian sherds implies that the site had access to wider trade networks, although the majority of the pottery is likely to have come from the immediate local area.

A rim fragment of what is probably the lower stone of a rotary hand quern, probably of an original diameter of approximately 380–400mm was found in a posthole on the in-track site. The original thickness would have been c. 40–50mm. The facies of this is a characteristically medium-coarse grained sandstone with both white and pink feldspar and some small clasts of rounded quartz pebble (<5mm), yet not obviously conglomeratic. The grinding surface of the quern is moderately worn. The likely history of this is that it was broken up after becoming too worn and thin for re-dressing, and may have been burnt during this process. The quern is made from Millstone Grit, probably of Southern Pennine origin. This quern stone appears to be quite typical of first–third century Roman sites in Cambridgeshire. The use of rotary querns appears to be dominant even in these rural contexts with common usage of stones such as Millstone Grit imported along road routes from the production sites in the Southern Pennines (Roman to Early Medieval quern stone quarries have been identified in North Derbyshire and South Yorkshire such as at Hathersage and Wharnecliffe Edge (Peacock 1998)).

Ten bulk soil samples from nine of the Late Iron Age/ Early Romano-British features on the in-track site were processed for plant remains, all of which were preserved through carbonisation. The two samples from the Kiss and Ride site were very poor with nothing from one and only four wild seeds from the other. These have not been included in the analysis. Quantities of cereal grains, chaff and wild plant seeds varied greatly between samples, but the types present remained consistent. Cereal types that could be identified with certainty through chaff were hulled six-row barley, spelt wheat, bread wheat and a little rye. Spelt was by far the dominant crop but the low presence of other cereals could indicate that types were not restricted to specific fields. Straight barley grains appeared more numerous than twisted ones, suggest-

ing that two-row barley may also be present. Emmer wheat may have been grown, though probably as a persistent contaminant of spelt from earlier periods rather than an intentional crop. Oat caryopses were noted but, with the absence of floret bases, could not be confirmed as being wild or domestics. Other crops and herbs were not found. The samples appear to represent a specific spelt processing by-product and probably do not, therefore, provide an accurate representation of the original importance of various crops.

Two soil columns were taken for assessment of pollen, one from Early Iron Age pit/well (F.32) and one from the possible Late Iron Age/Early Roman enclosure ditch (F.48). Four sub-samples from F.32 and three from F.48 were prepared and examined. The samples were found to contain very little pollen (<20 grains each), and of the few grains that could be identified most were very poorly preserved. None of these could be identified to species level. The main reason for the poor preservation is the relatively high pH of the chalky/marly soils across the site.

In the faunal record cattle and cattle-sized specimens dominated the assemblage with other species being under-represented. Of the non-food domesticates, horse and dog are present and a single bird specimen was identified as domestic goose. A juvenile pig humerus sawn through the bone shaft was the only specimen showing signs of butchery. The small cattle-dominated faunal assemblage recovered from the two sites did not yield sufficient data to warrant detailed discussions about the economy; however, the quantity and range of species from such a small area appears to indicate the presence of a nearby rural settlement with relatively well developed agricultural practices.

Medieval/Post-Medieval

Four features were dated to this period at the in-track site, all ditches. Two, F.14 and F.15, were parallel to each other on a north-south alignment and shared a capping fill which meant no relationship could be determined (Fig. 7, lower; Plate 3B). These ditches extend into and are visible as an earthwork in the field directly to the south of the site. The most probable interpretation is that they are related to the remains of the Benedictine Priory located within this field. The other two ditches were also parallel to each other, but on a northwest-southeast alignment. These two features were also visible as an earthwork in the field to the south and again were probably also associated with the Priory (Plate 3A).

All four ditches were probably still visible as earthworks prior to the construction of the railway and were almost certainly backfilled as part of the construction process, as evidenced in ditches F.14 and F.15 by the topsoil derived backfill that constituted the upper fills and capping layer contained mid nineteenth century finds in the form of decorated tobacco pipe, pottery, brick and tile. The only finds recovered from the lower fills, which consisted of natural silting and weathering, were animal bones.

At the Kiss and Ride site a series of quarry pits

were orientated northeast-southwest, the same alignment as Over Road. All of the quarry pits excavated were very similar in size and profile, generally being rectangular in shape with very steep or near vertical sides leading to a flat base. Very few finds were recovered from any of the these, although sufficient dating evidence was retrieved to place this activity within the 1800s.

Railway related activity

Most of the 200m length of the in-track site was dominated by a succession of rectangular quarry pits that truncated much of the site, leaving around 2m clear on either side, where most of the earlier archaeology was observed. The relatively uniform nature of the pit fills and the lack of finds suggest that after sand and gravel had been extracted from the pits they were backfilled quite rapidly. The extracted sand and gravel was used to form a layer of compacted sub-ballast beneath the ballast layer on which rails and sleepers were placed. Other railway related features included a series of substantial telegraph postholes located on the northern side of the line. A record was made of the base of the former signal box, and an unsuccessful attempt made to locate the footings of the crossing keeper's cottage at Middle Fen Crossing some 200m west of the main excavation area.

Specialist Reports

Late Iron Age and Roman Pottery

Katie Anderson

General Methodology

All pottery was examined and details of fabric, form, EVE (estimated vessel equivalent), decoration, usewear and date, were recorded with any other information deemed significant. Vessel fabrics were recorded using the CAU fabric codes, as were vessel forms for Romano-British material. Middle/Late Iron Age forms were based on Thompson (1982) form codes. Sherds which could be refitted, or were clearly from a single vessel were recorded in one record, with a note made about the number of refitting sherds. If sherds from different contexts could be refitted, or were deemed to be from the same vessel, a note was made besides each entry.

Results

The two assemblages yielded a total of 81 sherds of Late Iron Age and Roman pottery, weighing 885g and representing 0.99 EVEs. Because of the close proximity of the two sites, the data have been combined.

The number of vessel forms was limited (three compared to six at Blackhorse Lane) which is largely due to the size and condition of the assemblage (Table 2). Jars were well represented (43% of all sherds, 94% of identifiable sherds), although only a minimum of five vessels were recorded, comprising two necked, beaded rim jars, two everted rim jars and one flat-topped beaded rim jar. By contrast the assemblage from the Blackhorse Lane kiln site was dominated by bowls (48.6%) with jars at only 11.0% (based on rim sherds; Willis *et al.* 2008, 64). The remaining diagnostic sherds comprised a sherd from a South Gaulish Dragendorff 18/31 dish (Webster 1996, 23) and a whiteware flagon.

Form	No. of sherds	Wt(g)
Dish	1	6
Flagon	1	33
Jar	35	479
Non-diagnostic	45	373
TOTAL	82	891

Table 2. Swavesey Sites: all pottery by form.

Most features contained fewer than ten sherds, with the exception of three features. Enclosure ditch F.33 contained the largest quantity of pottery, with 22 sherds (270g). This included the two Samian sherds, the flagon handle and a minimum of three coarseware jars. The pottery from this feature dated from the mid first to second century AD, and included some Late Iron Age/Early Roman material and some Early Roman pottery.

Ditch F.48, which is part of the same enclosure, contained 20 sherds (166g). The pottery was primarily Late Iron Age/Early Roman in date, and included several grog-tempered and reduced-sandy sherds. There were a small number of sherds which could only be dated Romano-British, although given the nature of the assemblage an Early Roman date seems most likely.

Well F.76 contained 20 sherds weighing 185g, including 18 sherds from a single vessel, a sandy greyware jar with a combed band of decoration, dating to the Early Roman period.

Faunal Remains

Vida Rajkovača

General Methodology

The zooarchaeological investigations at all sites followed the system implemented by Bournemouth University with all identifiable elements recorded (NISP: Number of Identifiable Specimens) and diagnostic zoning (amended from Dobney and Reilly 1988) used to calculate MNE (Minimum Number of Elements) from which MNI (Minimum Number of Individuals) was derived. Identification of the assemblage was undertaken with the aid of Schmid (1972), Hillson (1999) and reference material from the Cambridge Archaeological Unit reference collection. Most, but not all, caprine (sheep or goat) bones are difficult to identify to species however, it was possible to identify a selective set of elements as sheep or goat (expressed as sheep/goat) from the assemblages, using the criteria of Boessneck (1969) and Halstead (Halstead *et al.* 2002). Unidentifiable fragments were assigned to general size categories where possible. This information is presented in order to provide a complete fragment count.

Ageing of the assemblages employed both mandibular tooth wear (Grant 1982; Payne 1973) and fusion of proximal and distal epiphyses (Silver 1969). Where possible, the measurements have been taken (Von den Driesch 1976). Taphonomic criteria including indications of butchery, pathology, gnawing activity and surface modifications as a result of weathering were also recorded when evident.

Results

The total of 25 excavated contexts at Swavesey produced a small faunal assemblage amounting to 68 assessable fragments (3995g). The majority of the faunal remains came from ditches and gullies with a small number being recovered from pits (Table 3). The state of preservation was quite poor,

with the bone being affected by post-depositional fragmentation, weathering and surface erosion. The absence of gnawing marks in the assemblage is indicative of quick deposition of the material. A juvenile pig humerus sawn at an oblique angle through the bone shaft was the only specimen showing signs of butchery. The sawing of this element suggesting, perhaps, that bone working was practiced on site.

Feature	NISP	NISP%
Ditches	53	78
Gullies	10	15
Pit/Wells	5	7
TOTAL	68	100

Table 3. Swavesey Sites: distribution of animal bone by feature type (NISP – Number of Identified Specimens).

Six badger elements were recovered from ditch F.19 and are likely to belong to the same animal. In addition, a possible fox specimen was found in gully F.71, initially identified as dog. Measurements were taken of the two complete horse elements: humerus and a metacarpal both giving similar withers height estimates of 13.3 to 14.1 hands or pony-sized individuals (Table 4).

Taxon	NISP	NISP%	MNI
Cow	25	54	1
Sheep/goat	1	2	1
Pig	4	8	1
Horse	6	13	1
Dog*	4	8	1
Domestic goose	1	2	1
Badger	6	13	1
Total identified to species	47	100	.
Cattle-sized	13	.	.
Sheep-sized	8	.	.
TOTAL	68	.	.

Table 4. Swavesey Sites: Number of Identified Specimens (NISP) and Minimum Number of Individuals (MNI); *includes possible fox specimen.

Cattle seem to be the most commonly exploited animal both for meat and for traction on arable land, and the near absence of sheep/goat is not surprising when the topographical setting, in a low-lying wet area, is taken into consideration. The notable prevalence of cattle over other domesticates clearly indicates particular environmental or socio-economic factors favouring cattle over sheep husbandry. All conclusions, however, are based on a small sample and should be taken with caution.

Plant Remains

Anne de Vareilles

General Methodology

Bulk soil samples were floated using a modified version of the Siraf flotation machine (Williams 1973). Flots were collected in 300µm aperture meshes and analysed dry under a low power binocular microscope (6x–40x). Identifications were made using the George Pitt-Rivers Laboratory reference collection, University of Cambridge. >4mm fractions of the heavy residues were sorted by eye and all ecofacts and artefacts recorded. Nomenclature follows Zohary and Hopf

(2000) for cereals and Stace (1997) for all other flora.

Results

Ten bulk soil samples from nine Late Iron Age/Early Romano-British features and one sample from a small prehistoric pit F.51 were processed for plant remains, all of which were preserved through carbonisation. Quantities of cereal grains, chaff and wild plant seeds varied greatly between samples, but the representation of taxa remained constant. Cereal types that could be identified with certainty through chaff were hulled six-row barley (*Hordeum vulgare* subsp. *vulgare*), spelt wheat (*Triticum spelta*), free-threshing hexaploid wheat (*Triticum aestivum* sl. – bread wheat) and a little rye (*Secale cereale*). Spelt was by far the dominant crop, but the low presence of other cereals could indicate that types were not restricted to specific fields. Straight barley grains appeared more numerous than twisted ones, suggesting that two-row barley (*H. vulgare* subsp. *distichum*) may also be present. Emmer wheat (*Triticum dicoccum*) may have grown, though probably as a persistent contaminant of spelt from earlier periods rather than an intentional crop. Oat (*Avena* sp.) caryopses were noted but, with the absence of floret bases, could not be confirmed as wild or domestics. Other crops and herbs were not found. The samples appear to represent a specific spelt processing by-product and probably do not, therefore, provide an accurate representation of the original importance of various crops. Barley, rye and bread wheat are likely to have grown as individual crops, but are poorly represented here, only occurring as contaminants of spelt. It is worth noting, however, that spelt processing waste is repeatedly found on Late Iron Age/Early Roman sites in and round Cambridge where other crops only appear to occur as contaminants.

The wild plant seeds can all be classified as arable weeds. Of the estimated 30 weed types, a few species occurred in abundance throughout most of the samples; oraches (*Atriplex* sp.), scentless mayweed (*Tripleurospermum inodorum*) and grain-sized wild grass seeds always outnumbered other species. Smaller grasses, goosefoots (*Chenopodium* spp.), docks (*Rumex* spp.), knotgrasses (*Polygonum aviculare* and *Fallopia convolvulus*) and brassicas (wild cabbage – *Brassica/Sinapis* sp., wild radish – *Raphanus raphanistrum*, black mustard – *Brassica nigra* may have been used as flavouring) were frequent. Clover and/or medics (*Medicago/Trifolium* sp.), red bartsia (*Odontites vernus*) and corncockle (*Agrostemma githago*) were present in one or two samples.

The two samples from the Kiss and Ride site were the least productive with nothing from Roman ditch F.26 and just four wild seeds from ditch F.5. These have been excluded from the comparison in Fig. 8. Concentrating on the in-track area, ditches F.47 and F.20 accumulated only the occasional residual surface finds of charcoal, grains and wild seeds. Ditch F.35 contained a mix of barley, glume-wheat and free-threshing wheat grains, but no chaff and only one wild plant seed, whereas ditch F.25 had no grains but two glume-wheat glume bases and 26 arable weed seeds, 12 of which are scentless mayweed. Where the remains from ditch F.35 represent accidental losses during cooking or consumption, those from ditch F.25 are a by-product from a specific stage of crop-processing where seeds were positively removed over chaff – perhaps during a phase of sieving prior to pounding during which the hulled grain is released from its chaff. Four other samples contained grains, chaff and weed seeds, but all showed highest concentrations of chaff, followed by arable weed seeds and finally grain. Waste seen in F.25 was mixed

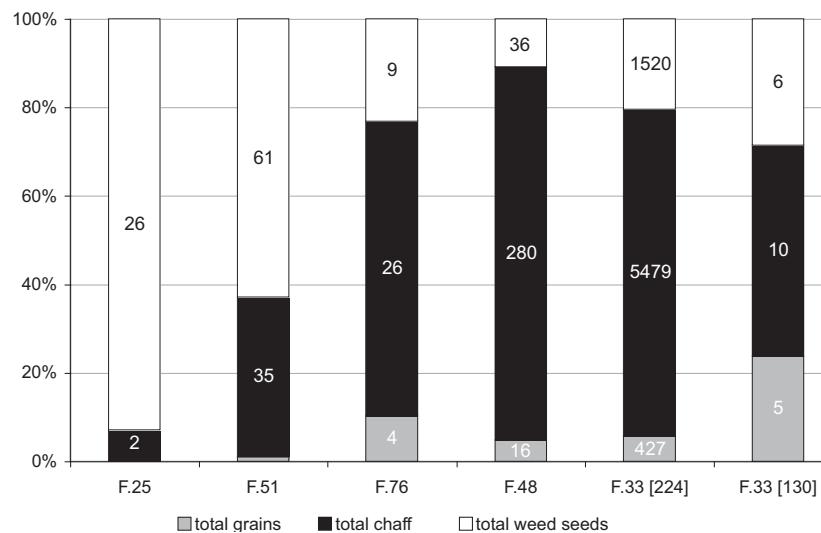


Figure 8. Swavesey Sites: proportions of grain, chaff and seeds.

with by-products from further final stages of crop cleaning (see below). Context [337] in the probable well F.76 was not waterlogged, but contained some charred plant remains in similar proportions to enclosure ditches F.33 and F.48. Although the well did not contain an intentional discard of burnt crop-processing waste (four grains, 26 elements of chaff and nine seeds), it is likely that such activities occurred nearby.

The relationship between ditches F.48 and F.33 could not be ascertained due to the limits of the open excavation area; however, it is likely that the two formed one rectilinear enclosure. Ditch F.33 was sampled in two locations which, though of practically equal soil volume, produced different results. Fig. 8 shows that despite containing similar proportions of grains, chaff and seeds absolute counts varied significantly. Whereas the plant remains from F.33 [130] are probably a haphazard accumulation of locally produced debris, the same burnt waste was intentionally discarded into the ditch during the formation of F.33 context [224]. A rich assemblage abounding in spelt wheat chaff was also recovered from F.48.

Of the 5400 glume bases found in ditch F.33, 3181, or 59%, could be identified as spelt wheat. Preservation of the remainder precluded identification beyond spelt/emmer or glume-wheat. Definite emmer chaff was not recovered. Another portion of the same flot was analysed at the assessment stage and revealed a little rye chaff and grain, confirming the presence of this cereal. Though not unheard of in prehistoric contexts, in East Anglia rye is almost always found in Romano-British layers. Rye chaff occurred in similarly low numbers to barley chaff despite barley grains being nine to ten times more common than those of rye. Free-threshing wheat, certainly of the hexaploid variety, is another cereal more usually associated with late Roman/Saxon sites (Greig 1991; Murphy 1997), yet it was found in small quantities in both F.33 and F.35. Rye and hexaploid free-threshing wheat were found in phase III (AD 270–410+) contexts at Vicar's Farm (Lucas and Whittaker 2001; Evans forthcoming b), which is fitting with a gradual diversification of crops during the Roman period (M K Jones 1984). Although one cannot exclude the possibility of intrusive later Romano-British remains, finds from ditches F.33 and F.35 are not the only examples of Early Roman introductions around Cambridge; in-

deed free-threshing wheat was found in Late Iron Age/Early Roman contexts at Papworth (Patten forthcoming) and the Hutchison site (Evans *et al.* 2008), and free-threshing wheat along with rye were found in Conquest period contexts at Castle Street, Cambridge (Evans and Ten Harkel 2010). Other species which mark the adoption of Roman crop and agricultural tools are stinking chamomile (*Anthemis cotula*) and corncockle. The latter was a weed introduced along with new cereal types. It was found in F.33 and could be further evidence of an Early Roman influence upon the local agricultural system. Stinking chamomile is an indicator of clay soils and its rise as an arable weed across Southern Britain during the Roman period is a sign that heavy mouldboard ploughs superseded the ard, thereby allowing agriculture to expand onto clay soils (MK Jones 1981, 1984, 1991). The complete absence of stinking chamomile could indicate that though new cereals were being experimented with, earlier tilling methods and tools were still in use. One sedge (*Carex* sp.) and many dock (*Rumex* spp.) seeds add to the evidence against deep ploughing since, like other perennials, they are very sensitive to deep ploughing. Field pennycress (*Thlaspi arvense*), of which a single seed was found, is described as 'possibly native' (Clapham *et al.* 1987; Stace 1997) and may have been introduced along with corncockle.

Only burnt cereal processing waste was found (Fig. 8). Those where the largest category consisted of chaff represent the later stages of processing during which glume bases, previously separated from the grain by pounding and/or parching, would be removed (Hillman 1984; G. Jones 1984). The weed seeds consisted mainly of small, free and heavy seeds and grain-sized seeds such as corncockle and large grass caryopses. The former category would be removed with the chaff during sieving, whilst the larger seeds, better 'camouflaged' within the grain, would have to be picked out at the final stage (G Jones 1984). It is also during these stages that small cereal tail grains, also present in the samples, are lost. Rich, informative samples were found in this small strip of excavation, and although much can be said about the site's agricultural regime and crop husbandry, one should remember that only part of a potentially larger and far more complex site has been exposed. The remains show a specific by-product of the later stages of spelt processing waste

which appears concentrated in the enclosure delineated by ditches F.33 and F.48. The Kiss and Ride site and nearby Covells Drain (Murrell 2007) are comparatively poor in archaeobotanical remains suggesting that the aforementioned enclosure may have been the focus for post-storage spelt processing. It remains possible, however, that rather than being a centre for economic activities, the enclosure supported specific practices which required crop processing waste for its fuel. No evidence was found for earlier stages of processing which may have occurred outside the excavated area. The presence of various cereal types within a spelt dominated crop suggest that barley, rye and free-threshing wheat were also used and probably grown alongside spelt. These crops appear to have been sown in the immediate area of the site, above the wetter soils in the vicinity. A crop rotation system is envisaged whereby herds could have been left to graze and fertilise fallow land. It is possible that certain areas were unsuitable for herds as some soils appear to have been more nutrient rich than others.

Spelt, the most common cereal in the region's Iron Age, remained so until well into the Roman period. New introductions from the continent only became commonplace in the third century when they are often associated with the use of new technologies that enabled agriculture to expand onto heavy soils in order to increase production in a growing market economy (Grieg 1991; MK Jones 1984, 1991). Results from Swavesey in-track, albeit difficult to interpret because of the restricted excavation area and the possibility of contamination by later remains, fit within growing evidence for earlier Roman influences upon the agricultural system (see above). The data suggests that new cereals and their associated weeds were quickly included into the local admixture of crops. Conversely, Iron Age technology, namely use of the ard, appears to have persisted beyond the introduction of new crops and other trends in material culture. Few bones and pottery sherds, all of Late Iron Age/Early Roman date, were recovered from this area suggesting that if this area was settled in was only short-lived (see below). Rather than an inhabited area this site could be interpreted as an agricultural centre run by or for an adjacent settlement. Whilst its use may have peaked during the Late Iron Age/Early Roman, the mid-late Roman AMS date and the layout of the overlapping ditches suggest it may have been a focus for agricultural activity over several centuries.

Radiocarbon Dates Beta Analytic

AMS dates were obtained from two oat caryopses, a wheat/barley grain (*Triticum/Hordeum* sp.) and a wild grass seed all from pit F.51. The results are shown in Table 5.

Discussion

Other than the poorly defined earlier aspect shown by flint and the earlier pottery associated with the three pits, the later impact of the Benedictine Priory and, more significantly the railway, the main period of activity at both sites is Late Iron Age/Early Roman in date, and this seems to have ended by about AD 70. This is slightly complicated by the later Roman date from the oat caryopses, but there is not sufficient data to resolve this apparent contradiction at this time.

Given the physical limitations of both sites it is difficult to determine with precision the nature of the activities represented; however it is likely that the ditches represent part of a field system on the fen-edge associated with the agricultural practices of a rural settlement. The relative lack of finds from these features supports the view that they were at some distance from a settlement centre. The number of ditches present and the instances of intercutting between them and between ditches and other features indicates a certain longevity to the activities taking place. Although there is a greater density of features at the west end of the in-track site indicating a concentration of activity, the orthogonal nature of the other ditches suggests a deliberate organisation of the land running down to the fen-edge. Whether this should be seen as fields or enclosures is difficult to determine based on the exposure, but the arrangement indicates that they cannot all be entirely contemporary. The main ditch orientation at the Kiss and Ride site parallels that of the in-track site with the possibility of a 9m wide track clipping across the northeast corner. Though the quantities of material were small, there is enough to confirm that this is part of the same landscape arrangement seen on the larger site.

Based on the pottery there is no evidence of activity at either of the Swavesey sites after early/mid sec-

Sample Data	Measured Radiocarbon Age	13C/12C Ratio (delta 13C)	Conventional Radiocarbon Age(*)
Beta - 281361	1770 +/- 40 bp	-24.6 o/oo	1780 +/- 40 bp
Sample: Swavesey in-track F.51 <i>Triticum/Hordeum</i> sp.			
Analysis: AMS-standard delivery			
Material/pretreatment: (charred material): acid/alkali/acid			
2 sigma calibration:	Cal AD 130 to 350 (cal bp 1820 to 1600)		
beta - 281362	3140 +/- 40 bp	-21.6 o/oo	3200 +/- 40 bp
Sample: Swavesey in-track F.51 <i>Avena</i> sp.			
Analysis: AMS-standard delivery			
2 sigma calibration:	Cal bc 1530 to 1410 (cal bp 3480 to 3360)		

Table 5. Swavesey in-track site: Report of Radiocarbon Dating Analyses. * Dates are reported as RCYBP (radiocarbon years before present (bp), 'present' = 1950).

ond century AD. In contrast with the Windmill Site at Swavesey (see below) there is not only Late Iron Age pottery occurring alongside 'Romanising', but also true Romanised pottery. The quantities recovered at Swavesey were very small (81 sherds compared to 891 at the smaller Windmill site). The indication is that the Swavesey site was not domestic in nature, since a much greater volume of material culture would be expected if that were the case. This interpretation is supported by both the faunal and environmental evidence. For the animal bone the small cattle-dominated faunal assemblage recovered from the two Swavesey sites did not yield sufficient data to warrant discussions about the site's economy; there is evidence, however, of the presence of nearby settlement with relatively well developed agricultural practices. Cattle seem to be the most commonly exploited animal both for meat and for traction on arable land. The near absence of sheep/goat is not surprising, if the topographical position is taken into consideration. In these lower lying wetter areas the prevalence of cattle over other domesticates supports the presence of factors favouring cattle to sheep husbandry, amongst which would be environmental conditions.

A broad interpretation of the activity at the Swavesey sites would be that they lie outside the area of any intensive settlement, but are related to it, as a focus for agricultural activity, perhaps secondary processing or storage or perhaps providing the fuel for a separate and unidentified activity. The location, close to the fen-edge, may indicate a collection point of sorts, perhaps where the products of several processes were gathered together, either for redistribution or to provide the raw material for further processing.

Although the nature of the material excavated, and the necessary physical restrictions of the site itself, do not allow for more detailed or thorough interpretation, it has allowed for a significant expansion of the area of Swavesey's north island occupied in the Late Iron Age/Early Roman period, right up to its northern edge. The site was selected for excavation because of the presence of the Priory earthworks and yet that turned out to be a very minor element of the area's history.

The 'Windmill' Site Landscape and Ecological Mitigation Area (LEM) D

The Landscape and Ecological Mitigation Area (LEM) D site (henceforth the 'Windmill' site), centred on NGR 538128/268857, is located approximately midway between the villages of Longstanton and Over on land off Gravel Bridge Road (Fig. 9). It is bordered by open farmland to the north and east, the route of the Guided Busway to the south and Gravel Bridge road to the west. The site slopes upwards from the northwest end from 12.8m OD to a maximum height of 15.3m OD before sloping downwards to the southeast end at 11.6m OD. The investigation revealed a varied geology across the site, with the northwest end being generally yellowish sandy Boulder Clay with

patches of Third Terrace river gravels. Moving southeast, this rapidly changed to blue grey Ampthill Clay, before becoming glacial gravels as the site sloped upwards. Towards the base of the slope at the southeast end of site the geology once again reverts to blue grey Ampthill Clay (British Geological Survey 1975).

Prior to this investigation very little was known about the archaeological potential of the immediate area. A Guided Busway evaluation 200m to the southwest (Cessford and Mackay 2004, 11–13) and the excavation of Landscape and Ecological Mitigation Area C 300m to the northwest (Collins and Dickens 2009, 49–51) revealed almost no archaeology beyond some background Post-Medieval activity. Slightly further afield, however, some 1.2 kilometres northeast of the site, excavations during the 1960s at Cold Harbour Farm near Over had revealed evidence of fairly substantial Late Iron Age and Roman rural settlement, including a Roman pottery kiln (Hall 1996).

Other possible sites within the vicinity were also identified from cropmarks during the Fenland Project and included two conjoined rectangular enclosures (CHER 11133) some 2–300m to the northwest, tentatively dated either Iron Age or Roman based on their form (Hall 1996). These sites have not otherwise been investigated.

It is also not known to what extent archaeological remains were compromised by the 1840s construction of the railway cutting bordering the southwest edge of the Windmill site. A watching brief for the Guided Busway, carried out along the stretch of line immediately east of the cutting (about 500m east of this site), however, revealed the partial remains of an Early–Middle Iron Age pot (M. Brudenell pers. comm.) which had a small quantity of cremated bone associated with it, indicating the presence of at least later prehistoric activity in the environs of the site. Only one gramme of buff white, well calcined bone was recovered in association with the sherds. The cremated bone fragments were small, the largest being 14mm and were unidentifiable as either human or animal (N. Dodwell pers. comm.).

Adjacent to the northwest edge of site is the Grade II listed Over Windmill dated to c. 1840 and restored to working order in the late 1960s.

The Investigations

As the Windmill site was not covered by the initial evaluation phase, a trenching phase was carried out first. Geophysical survey appeared to show a circular structure neighbouring the windmill, suggesting perhaps that a precursor to the current mill may have existed. The geophysics results also highlighted several possible linear features grouped towards the western half of the site, and a series of amorphous looking possible features on the summit of the slope towards the middle of site, but very little else (Collins and Dickens 2009, fig. 15).

The 20 trenches were partly positioned to test potential features identified through the geophysical

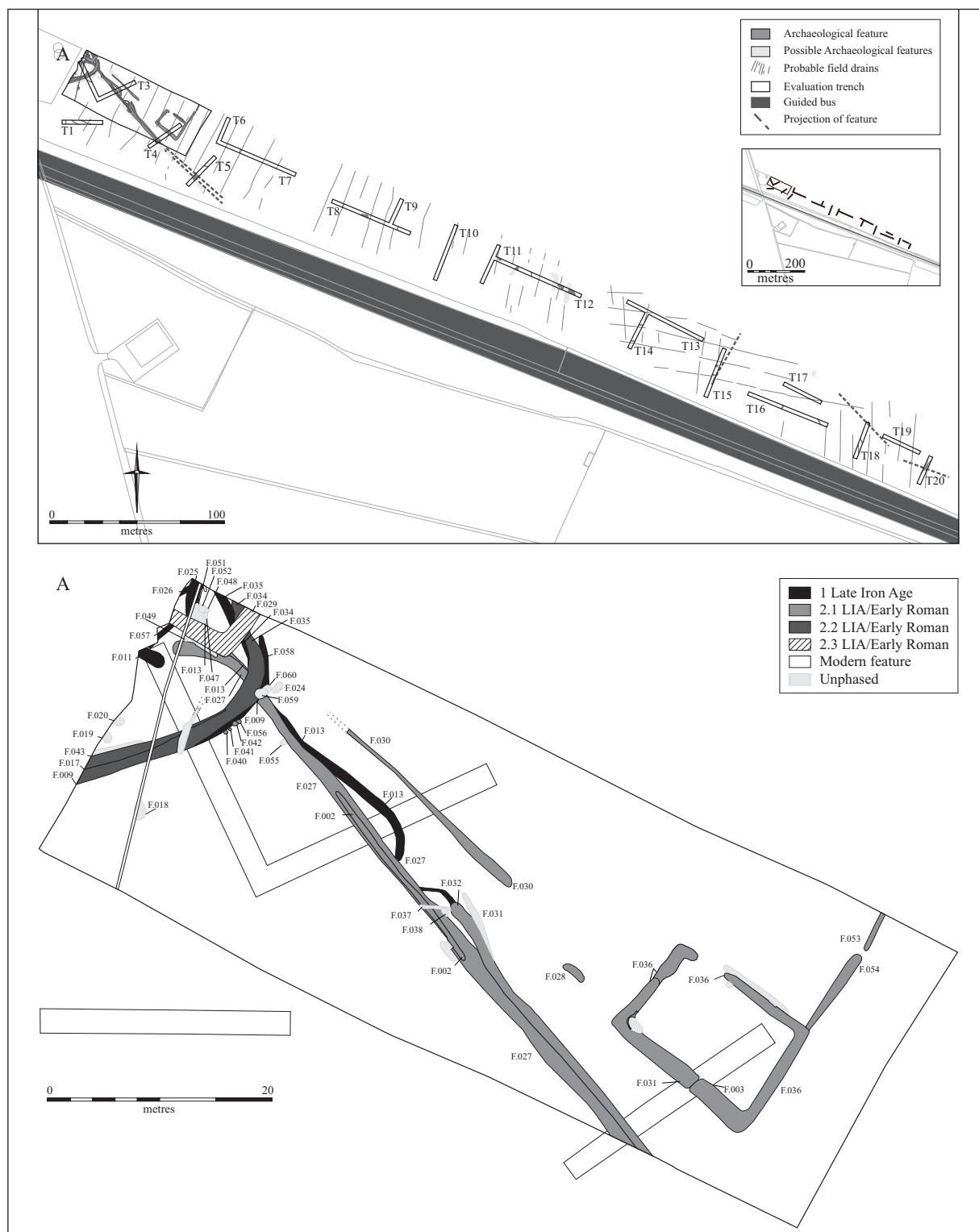


Figure 9. Windmill Site: Excavation and trench locations.

survey and partly to test apparent blanks. Ten of these trenches contained archaeology, most significantly 11 ditches recorded in trenches at the northwest end of site, with most of these yielding quantities of pottery, dated Late Iron Age/Early Roman, and faunal remains. The trenches in the central part of the site

revealed a series of intercutting Post-Medieval quarry pits and those towards the southeast revealed four small ditches, yielding Roman pottery and animal bone, a small pit dated Late Iron Age and a Post-Medieval ditch.

Based on these results it was determined that an

area approximately 80m by 30m at the western end of the site should be examined by open area excavation. The area excavated was on a slight slope rising upwards from a height of 12.7m OD along the northwest edge to 13.8m OD in the northeast corner. A significant amount of archaeology was revealed, mostly dating to the Late Iron Age/Early Roman period but with elements of Early – Middle Iron Age as well.

Contributions from the several specialists have been incorporated into the text, however, the most significant reports (prehistoric pottery, late Iron Age and Roman pottery and faunal remains) are presented in full later in the report.

Additional specialist contributions are from: Anne de Vareilles (plant remains), Lawrence Billington (flint), Simon Timberlake (slag and worked stone) and Natasha Dodwell (Human bone).

Earlier Prehistory

There was very little indication of earlier activity, with only 11 flints recovered from later features across the whole site, suggesting only a background usage of the area during that time.

The worked flint assemblage was dominated by unretouched waste flakes. These represent a simple flake based industry concerned with the expedient removal, by hard hammer, of flakes of varied morphology demonstrating a lack of concern over core maintenance or platform preparation. Two cores amplify the attributes seen in the flakes. Both are irregular, multiplatform flake cores with numerous knapping errors in the form of incipient cones of percussion, crushed platforms and hinged flake scars. Little attempt has been made to work consistently from a dominant platform with flakes being opportunistically removed from any potential platform. The technological traits of the flakes suggest a later prehistoric date; they are typical of the undiagnostic elements of flint working throughout prehistory from the later Neolithic onwards; however, the lack of flaking control and anticipation evidenced in the cores suggest a later Bronze Age date for these pieces at least. A single retouched tool, an end scraper, was recovered. An expedient product made on an irregular flake, this piece is not strongly diagnostic, but the character and quality of the retouch suggests a Neolithic or Early Bronze Age date.

The earliest datable ceramics from the Windmill site were residual sherds of late Early Iron Age pottery recovered from later ditches and gullies (Fig. 10.1, 10.2). The pottery included several finger-tipped rims sherds, a round bodied bowl with everted rim and an ovoid jar with finger-tipped rim and shoulder. Some of the fabric types observed continue to be used into the Late Iron Age, particularly the plain shelly wares (see below). Similar late Early Iron Age material has been found at Rhee Lakeside South, Earith (Brudenell 2007) and Knobbs Farm, Somersham (Brudenell 2008). Both of these assemblages have been dated on typological grounds to the Early–Middle Iron Age transition around the fourth century BC. The early pottery from the Windmill site is probably broadly

contemporary with these assemblages, and shares fabrics and forms of decorative treatment in common. Given the presence of these Early Iron Age sherds in several ditches also yielding Late Iron Age pottery, it is possible that there were earlier features along these axes, which were disturbed during later boundary construction.

Late Iron Age/Early Roman

Based on pottery finds and stratigraphic relationships the archaeology divides into two main phases of activity, the second with three sub-phases.

Phase 1, the features of which contained only Iron Age Pottery, consisted of a small number of ditches and gullies. Two curving ditches, orientated northwest-southeast formed a possible entrance. To the west were several short lengths of ditch, most of which were truncated by later features, so their full extent was unclear.

In Phase 2.1 the line of the earlier curving ditches was superseded by a much more substantial ditch, which removed the possible entrance. This ditch was recut at least once. Amongst the features north of this boundary was a small rectangular enclosure, F.36, with an internal area measuring 13.5m by 8.5m (approx 115m²) and an entranceway measuring 3m wide. Among the few finds recovered were Late Iron Age/Early Roman pottery, including 32 sherds from a single vessel (see below), faunal remains and fragments of lava quern. The enclosure appears to have been originally dug in segments, with two obvious terminals closely abutting each other along the southwest side. At some stage the northeast edge and the western corner were recut. Apart from a single post-hole lying slightly to the southeast of the entranceway no internal features were identified.

In Phase 2.2 the line of the main boundary ditch was breached by a substantial ditch, again with several recuts, curving from a northeast-southwest orientation to a northwest-southeast one, disappearing into the west and north baulks. Generally, the archaeology grew progressively denser towards the northwest corner of the site suggesting that the focus of settlement was probably located just beyond the site boundary in this direction. Indeed, it is likely the Over Windmill is situated on top of substantial earlier archaeological remains. The curving ditch contained significant quantities of domestic rubbish suggesting it was used as a dump after it fell out of use.

In Phase 2.3 a ditch with a 90-degree angled corner cut through the main boundaries of Phases 2.1 and 2.2 and again contained Late Iron Age/Early Roman pottery, as well as some Romanising sherds. Its form suggests this ditch is the corner of an enclosure and could represent a settlement boundary, although this could not be demonstrated conclusively within the confines of the excavated area.

A fairly substantial assemblage of Late Iron Age and Early Roman pottery was recovered from the Windmill site, totalling 891 sherds of pottery (9409g) and representing 6.3 EVEs (see Fig. 10.3, 10.4, 10.5, 10.6). A total of 29 features contained pottery in vary-

ing quantities. Most of the Late Iron Age sherds, dating between c. 350 BC – AD 50, cannot be closely dated within this bracket, and unhelpfully no wheel made or cordoned sherds were recovered; however, the presence of a vertically combed sherd from the Phase 1 curved ditch is important in this context, as this form of surface treatment is characteristic of Late Iron Age coarseware pottery dating from c. 50 BC – AD 50. The ditches that cut it must therefore post-date 50 BC, making them both of Late Iron Age date rather than transitional.

The Roman wares consisted of sandy greywares, whitewares and buffwares, with some grog-tempered vessels. There were no Roman sherds identified from known sources and a complete absence of imported Samian or amphora. This dearth is likely to reflect the period of occupation, with the site appearing to have gone into decline by the mid/later first century AD, before the Roman period (in terms of ceramics) had fully emerged. In many ways the most interesting el-

ement of this assemblage is its date, which although suggesting occupation was relatively short-lived, does put the date of occupation at around the time of the Roman Conquest. The pottery dates to c. 350 BC – AD 69, although, given that handmade wares occurred alongside wheel-thrown ‘Romanising’ wares, as well as a lack of established Roman wares, a more precise date of AD 0–60 is suggested. After the Conquest, it was some time before changes to indigenous pottery could be seen in this area of East Anglia. Often the only evidence of contact with the Roman world during this early period is the presence of imported wares, namely Samian wares and amphorae, both of which are absent from this assemblage.

The faunal assemblage recovered from the Windmill Site comprised 154 assessable specimens weighing 4824g. Dating of the assemblage was based on data obtained from the pottery analysis, placing most of this material into the Late Iron Age/ Early Roman period. The majority came from linear and en-

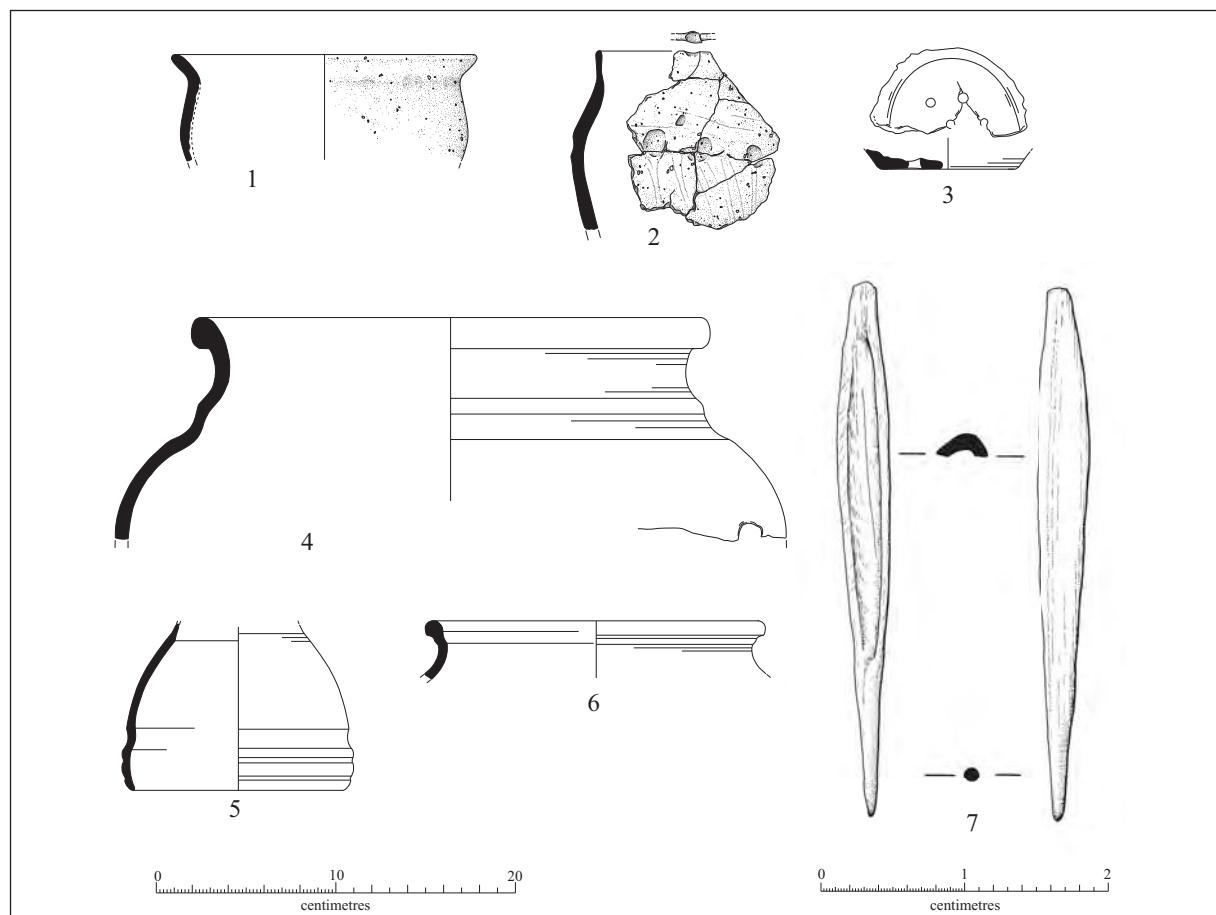


Figure 10. Windmill site finds.

1. Round bodied bowl with everted rim. Early Iron Age
2. Ovoid bodied jar with short upright neck, decorated with finger-tip impressions on the rim-top and shoulder. Early Iron Age
3. Perforated base, probably from a strainer. Late Iron Age
4. Grog- and sand-tempered jar, with a cordon on the rim. Late Iron Age/Early Roman.
5. Sandy lid with grooves and cordons on the neck. Late Iron Age/Early Roman.
6. Grog-tempered beaded rim jar. Late Iron Age/Early Roman.
7. Awl made from the limb shaft of a medium sized mammal. Late Iron Age/Early Roman

closure ditches situated in the northwest corner of the excavated area. Two features, the substantial Phase 2.2 ditch (F.9) and the corner of the Phase 2.3 possible enclosure ditch (F.29), contained relatively high quantities of animal bone accounting for c. 40% of the assemblage. Cattle numbers were slightly higher within the NISP count (Number of Identified Specimens), whereas sheep/goat accounted for more individual animals on site, followed by horse, pig and dog. Wild fauna were absent from the assemblage. In addition to butchery evidence, a piece of worked bone was also recovered, fashioned into an awl from the limb shaft of a medium sized mammal (Fig. 10.7). This was found in the Phase 2.2 curving boundary ditch.

Twelve bulk soil samples retrieved on site were floated and analysed. All the archaeobotanical remains observed were carbonised showing no signs of past wet or waterlogged deposits. Charcoal was present in all samples, but in low concentrations representative of a general scatter over an inhabited/used area. The majority of the cereal remains and wild plant seeds were found in two samples from the northwest corner of the site, one from the Phase 2.1 curving ditch and one from the Phase 2.2 enclosure ditch. A single unidentified seed was found in the late recut in the Phase 2.1 boundary ditch in the centre of the site, whilst the six samples from the southeast corner revealed two elements of glume-wheat chaff (*Triticum* sp. and *Triticum spelta* L. glume bases), and four wild grass seeds (*Phleum* sp.). Three further glume-wheat glume bases and a wild grass seed were found in a feature in Trench 15 to the southeast of the main open area. A further feature in Trench 5, also outside the main site area, had nothing but a tiny scatter of fine charcoal.

The Phase 2.2 enclosure ditch contained four whole grains of hulled barley (*Hordeum vulgare* sensu lato) and spelt wheat, and 11 grain fragments. Six glume-wheat glume bases (three of spelt) and a straw node were also found. The 16 wild plant seeds are predominantly wild grasses and probably represent arable weeds. The Phase 2.3 enclosure ditch had no wild plant seeds, but five pieces of glume-wheat chaff, two glume-wheat grains and six grain fragments.

Though quantities of plant remains are too low to interpret the agricultural economy, proportions of chaff and weeds to grain suggest spelt and barley processing occurred nearby. The scale of processing, whether for personal consumption, community or wider markets, is unknown. Charcoal and small fragments of pottery and animal bones found in the sample residues attest to a range of activities. The distribution of plant remains fits within the general pattern of pottery and bone finds which shows a denser concentration of activities in the northwest corner of the excavated area.

Several fragments of lava quern were recovered from the site including a tiny piece with a right-angled corner, which suggests that it is the edge of a fragmented rotary quern. More substantial was a slab of worked gritstone (130mm x 70mm x 33–40mm thick), probably part of a rotary quernstone.

The slightly convex surface is pitted, suggestive of the original pick-end dressing across the top of the upper stone, the grinding surface underneath being very slightly concave and typical of rotary querns. No ridging (dressed grinding ridges) can be seen, yet at the same time this surface doesn't seem to be that well worn. In this instance no estimate could be made of the diameter of the stone from the surviving worked surfaces, though typically querns of this thickness (40mm) might be anything up to 500mm – 700mm wide. The medium-coarse gritstone lithology with pink orthoclase and large sub-angular glassy quartz grains is very typical of the Millstone Grit (Upper Carboniferous) sandstones quarried during the Roman period at classic Derbyshire (Pennine) sites of Roman–Medieval millstone production such as near Hathersage and Wharnecliffe Edge. Hand-turned millstones were being quarried here and distributed through Southern Britain by the first century AD (Peacock 1998).

The Phase 2.2 boundary ditch produced four slag smithing lumps probably associated with the secondary smithing of iron. The two larger pieces are heavy and slightly magnetic suggesting the loss of iron to the slag during the forging of an iron object in the furnace. At least two of the pieces show evidence of an attached baked red clay hearth lining. These are likely to be Roman or possibly Late Iron Age in date. Also from the surface of the same ditch were eight pieces of quite friable and very cindery slag, conceivably associated with ironworking. As it has a bleached 'pumice-like' appearance the slag may well have suffered from post-depositional processes such as leaching.

The Phase 1 gully in the northwest corner of the site produced a small fragment of an adult left human pelvis. The fragment exhibits pathological changes to the surviving part of the acetabulum (hip socket) which are suggestive of tuberculosis or septic arthritis; several sharp edged, erosive, scalloped-shaped hollows penetrate the trabecular bone and the socket itself is almost flattened with the cortical bone being polished/eburnated and exhibiting porosity. Published reports of tuberculosis in the Roman period are relatively uncommon although several probable cases have recently been identified in the region (Evans *et al.* 2008, 54; Evans *et al.* 2009, 209–10; Lyons and Roberts in prep.).

Specialist Reports

Prehistoric pottery

Matthew Brudenell

124 sherds (1018g) of handmade later prehistoric pottery dating from the end of the Early Iron Age (c. 500–350 BC) through to the Late Iron Age (c. 50 BC – AD 50) were recovered from the excavations. The pottery was recovered from a total of 15 contexts, relating to 11 separate features (Table 6).
Fabrics

Group S, Shell (54 sherds, 381g, 37% of assemblage by weight)

S1: Moderate to common, coarse and very coarse poorly sorted shell (11 sherds, 122g)

S2: Sparse coarse and very coarse poorly sorted shell (4 sherds, 22g)
 S3: Moderate to common medium and coarse shell (6 sherds, 22g)
 S4: Moderate fine and medium well sorted (9 sherds, 40g)
 S5: Rare medium and coarse shell (8 sherds, 59g)
 S6: Abundant coarse and very coarse shell (1 sherd, 6g)
 SQ1: Moderate to common, coarse and very coarse poorly sorted shell in a dense sandy clay matrix (4 sherds, 28g)
 SFCH1: Moderate coarse shell, sparse medium and coarse crushed flint and sparse coarse chalk (6 sherds, 76g)
 S: Small sherds with shell inclusions (5 sherds, 7g)

Group CH, Chalk (1 sherd, 7g, 1% of assemblage by weight)
 CH1: Moderate to common, coarse and very coarse poorly sorted chalk, with rare coarse flint and shell

Group F, Flint (13 sherds, 115g, 11% of assemblage by weight)
 F1: Common medium and coarse flint (2 sherds, 8g)
 FQ1: Moderate medium and coarse flint in a dense sandy clay matrix (7 sherds, 95g)
 FQ2: Moderate to common fine and medium crushed flint in a dense sandy clay matrix (3 sherds, 12g)

Group G, Grog (42 sherds, 350g, 34% of assemblage by weight)
 G1: Common to abundant coarse grog, with very rare medium chalk (1 sherd, 19g)
 G2: Moderate to common coarse grog, with rare medium chalk and rare shell (1 sherd, 4g)
 G3: Common medium and coarse grog (2 sherds, 46g)
 GQ1: Sparse medium and coarse grog, and very rare coarse flint in a dense sandy clay matrix (29 sherds, 171g)
 GQ2: Moderate medium grog, and very rare coarse flint in a fine sandy clay matrix (4 sherds, 34g)
 GFQ1: Sparse very coarse grog and sparse medium and coarse flint in a dense sandy clay matrix (5 sherds, 76g)

Group Q, Sand (14 sherds, 165g, 16% of assemblage by weight)
 Q1: Dense quartz-sand (5 sherds, 124g)
 Q2: Sparse sand (1 sherd, 3g)
 QF1: Dense quartz-sand with rare medium or coarse flint (5 sherds, 31g)
 QVE1: Sparse sand with moderate linear voids from

burnt out vegetable matter (1 sherd, 5g)
 Q: Small sherds in a sandy fabric (2 sherds, 2g)

The assemblage was dominated by small abraded body sherds with a mean sherd weight (MSW) of 8.2g. Overall, 72% of the sherds were classified as small (measuring under 4cm in size), 27% were classified as medium (measuring between 4–8cm in size) and 1% were classified as large (measuring over 8cm in size). A further 17g of pottery crumbs were noted in the assemblage, but are not commented upon in this report. These comprised sherds weighing under 1g.

Based on the total number of different rims and bases identified, the assemblage contained fragments of a minimum of 14 vessels (9 different rims, 5 different bases) with a combine estimated vessel equivalent (EVE) of 1.45. Only two of these vessels were sufficiently intact to assign to form. As a result, the dating of the pottery in this assemblage is primarily based on the character of the fabrics and their comparison to larger groups from the surrounding region.

Feature assemblages

Phase 1

Ditch Terminus/Pit F.11

F.11, context [032] yielded a single undiagnostic sherd (1g) of prehistoric pottery in fabric S.

Ditch F.12, Trench 15

Ditch F.12 yielded four sherds of pottery (13g). These were recovered from contexts [035] (two sherds, 3g), and [036] (two sherds 10g). The pottery from context [035] was comprised of residual sherds in fabric F.1 which are of Late Bronze Age or Early Iron Age date (c. 1100–350 BC). Those in context [036] were in fabric S1 and probably date to the Middle/Late Iron Age (c. 350 BC – AD 50).

Ditch F.13

Ditch F.13 yielded 10 sherds of pottery (198g). These were recovered from context [040] (seven sherds, 41g) and context [210] (three sherds, 157g). The pottery from context [040] consisted of sherds in fabric S5 and included a base and a single Scored Ware sherd (12g). Context [210] yielded a large combed sherd in fabric Q1 (113g), and sherds in fabrics S (3g) and G3 (41g). The combed sherd is typical of the Late Iron Age, dating to c. 50 BC – AD 50. This range also overlaps with the later currency of Scored Wares.

Pit F.33

Pit F.33, context [033] yielded 6 plain body sherds

Phase	Feature	No. of Sherds	Wt. (g)	MSW (g)	No. of Vessels	Fabrics present
1	11	1	1	1	-	S
1	12	4	13	3.3	-	S1, F1
1	13	10	198	19.8	1	G3, Q1, S, S5
1	33	6	18	3	-	Q1-2, QVE1, S1, SQ1
1	35	5	37	7.4	-	GQ1-2
2	4	1	37	37	-	FQ1
2.1	2	59	519	8.8	12	CH1, FQ1-2, G1-2, GFQ1, GQ1, Q, QG1, S, S1-5, SFCH1
2.1	27	23	135	5.9	1	GQ1, Q, S, S1, S6, SQ1
2.1	32	6	25	4.2	-	Q1, S3-4
2.1	37	7	27	3.9	-	QF1, S3
2.2	9	2	8	4	-	Q1, G3
TOTAL		124	1018	8.2	14	

Table 6. Windmill Site – Prehistoric pottery assemblage breakdown by feature/phase. MSW – Mean Sherd Weight.

(18g) in fabrics Q1 (one sherd, 2g), Q2 (one sherd, 3g), S1 (two sherds, 4g), SQ1 (one sherd, 4g) and QVE (sherd 1.5g). A Late Iron Age date (c. 350 BC – AD 50) is appropriate for fabrics of this character.

Ditch F.35

Ditch F.35, context [035] yielded five plain body sherds (37g) in fabrics G1 (one sherd, 3g) and G2 (four sherds, 34g). The character of the fabrics implies a Late Iron Age date for this material (c. 50 BC – AD 50).

Phase 2.1

Ditch F.2

Ditch F.2 yielded the largest single assemblage from the site totalling 59 sherds (519g). The pottery was recovered from contexts [005] (34 sherds, 340g) and [220] (25 sherds, 179g). Sherds belonging to all the major fabric groups were represented. Shell fabrics of Group S dominated the assemblage, accounting for 48% of the pottery by weight. This was followed by Group G grog fabrics (33%), Group F flint fabrics (14%), Group Q sand fabrics (3%), and Group CH chalk fabrics (1%).

Despite this ditch being stratigraphically late in the boundary sequence, the pottery recovered from the slots included a number of sherds which date to the end of the Early Iron Age, c. 500–350 BC. These included the partial profile of a round bodied bowl with everted rim in fabric GFQ1 (3 sherds, 33g), and two different rim sherds with finger-tip impressed rim tops in fabrics S5 (18g) and QF1 (7g). A rim with a finger-tip impressed neck in fabric S2 (4g) is also likely to date to the fifth or fourth century BC, as are 17 other sherds (159g) in fabrics FQ1–2, QF1 and FSCH. Most other sherds from the ditch cannot be closely dated. Many of the grog-tempered fabrics are likely to be of Late Iron Age date, though there were no wheel-made, corded or combed sherds present in this assemblage, neither were there any Scored Ware sherds characteristic of the Middle/Late Iron Age (350 BC – AD 50). That said, the shell-tempered fabrics present are entirely typical of this period. In addition, the two different perforated bases in fabrics GFQ1 (2 sherds, 43g) and G1 (19g) are best paralleled in Late Iron Age assemblages. The perforations on these bases were made prior to firing suggesting that the vessels originally functioned as strainers.

Ditch F.27

Ditch F.27 yielded 23 sherds of pottery (135g). With the exception of a single body sherd from context [216] (5g, fabric S6), all the pottery was recovered from context [085] (22 sherds, 130g). This contained sherds in fabrics GQ1 (14 sherds, 94g), S1 (two sherds, 9g), S (two sherds, 2g), SQ1 (three sherds, 24g), and Q (one sherd, 1g). Sherds belonging to fabric Group S and Q are likely to be of Late Iron Age date (c. 350 BC – AD 50); however, those in GQ1 are probably of late Early Iron Age date (c. 500–350 BC), contemporary to those from Ditch F.2. All appear to belong to the same vessel, and included seven refitting sherds which created the partial profile of an ovoid bodied jar with a short upright neck. The jar was decorated with finger-tip impressions on the rim-top and shoulder, which is fairly typical of Early Iron Age ceramics.

Ditch F.32

Ditch F.32 yielded six plain body sherds (25g) from context [120] in fabrics Q1 (two sherds, 6g), S3 (one

sherd, 3g) and S4 (three sherds, 16g). The character of the fabrics suggests a Late Iron Age date for this material (c. 350 BC – AD 50).

Gully F.37

Gully F.37, context [125] yielded seven plain body sherds (27g) in fabrics QF1 (one sherd, 16g) and S3 (four sherds, 11g). The sherd in fabric QF1 is likely to be of Early Iron Age date, and is probably residual. The other shell tempered sherds cannot be closely dated, though they probably belong to the Late Iron Age (c. 350 BC – AD 50).

Phase 2.2

Ditch F.17

Ditch F.17, context [034] yielded two undiagnostic sherds in fabric Q1 (3g) and G1 (5g). The sherds cannot be closely dated, through the fabrics are more typical of the Late Iron Age.

Phase 2 outside open area

Ditch F.4, Trench 20

Ditch F.4, context [010] yielded a single shoulder sherd in fabric FQ1 (37g). The fabric of this sherd is more typical of the Early rather than Late Iron Age, though it may be residual. The feature also produced pottery of Late Iron Age/Early Roman date (see below).

The earliest datable ceramics from the Windmill Site were residual sherds of late Early Iron Age pottery recovered from ditches F.2 and F.27, together with body sherds from gully F.37 and ditch F.12. The pottery from F.2 and F.27 included several finger-tipped rims sherds, a round bodied bowl with everted rim and an ovoid jar with finger-tipped rim and shoulder. This early material occurred in a variety of fabric groups with flint, sand, grog and shell inclusions (fabrics F1, FQ1–2, QF1, FSCH, S2, S5, GQ1). Some of these fabric types continue to be used into the later Iron Age, particularly the plain shelly wares. Late Early Iron Age pottery similar to that recovered from this site has been found at Rhee Lakeside South, Earith (Brudenell 2007) and Knobbs Farm, Somersham (Brudenell 2008). Both have been dated on typological grounds to the Early–Middle Iron Age transition around the fourth century BC; the Rhee Lakeside South assemblage being associated with two AMS radiocarbon dates of 400–200 cal. BC (95% confidence, Beta-229352; 2260 ± 40 BP) and 400–210 cal. BC (95% confidence, Beta-229353; 2250 ± 40 BP). The early pottery from the Windmill Site is probably broadly contemporary with these assemblages, and shares fabrics and forms of decorative treatment in common. Given the presence of these Early Iron Age sherds in ditches yielding Late Iron Age pottery, it is possible that there were earlier features along the axis of F.27 and F.2 which were disturbed during boundary construction.

The remaining later prehistoric pottery from the site dates to the Late Iron Age between c. 350 BC – AD 50. Most of these sherds cannot be closely dated within this bracket, and unhelpfully no wheel made or cordoned sherds were recovered; however, the presence of a vertically combed sherd from F.13 is important in this context, as this form of surface treatment is characteristic of Late Iron Age coarseware pottery dating from c. 50 BC – AD 50. More significantly, F.13 is early in the boundary sequence and pre-dates the construction of F.27, F.2 and F.32. These ditches must therefore post-date 50 BC, making them of Late Iron Age date. On this basis we may therefore postulate that most of the site's ceramics

belong to the Late Iron Age, which would also fit with the relatively high proportion of grog-tempered pottery sherds: a fabric typical of this period. A late date may also explain the paucity of Scored Ware sherds in this assemblage.

Late Iron Age and Roman Pottery

Katie Anderson

The assemblage comprised 891 sherds that were generally small in size, with a mean weight of 10.5g. The pottery dates to the Late Iron Age to Early Roman period, possibly reflecting a fairly short period of occupation, and contained handmade, wheel-turned and wheel-thrown vessels. Handmade wares were often recovered alongside wheel-turned wares and in some cases Romanising vessels. Wheel-turned vessels (vessels which are only finished on a wheel) were the most commonly occurring within the assemblage, representing 48% of all identifiable vessels. This is probably a reflection of the date of the assemblage, since this technique was primarily used in the Late Pre-Roman Iron Age (LPRIA), before wheel-throwing became the dominant technique in the Roman period.

Vessels made in the Iron Age handmade tradition are present, although in smaller quantities (19%) than vessels made using a wheel. This is a pattern seen in many Late Iron Age assemblages (Brudenell pers. comm.), with handmade vessels continuing to be used alongside wheel-turned and wheel-thrown vessels, into the mid first century AD. A variety of fabrics were present in this assemblage, and although none can be sourced, it can be assumed that most were procured locally, as is the nature of pottery production during this period (Table 7). Grog- and sand-tempered sherds were the most frequently occurring fabric types, with a small number of sherds containing shell or crushed flint. There is some consistency in the fabrics, suggesting the same sources were exploited, although more detailed fabric analysis would be necessary to determine whether or not this was the case. The dominance of sandy wares is expected for a site of this date from this area of Cambridgeshire.

The Roman wares consisted of sandy greywares, white-wares and buffwares, with some grog-tempered vessels. There were no Roman sherds from known sources and a complete absence of imported Samian wares or amphorae. This dearth is likely to reflect the period of occupation, with the site appearing to have gone into decline by the mid/later first century AD, before the Roman period (in terms of ceramics) had fully emerged.

A minimum of 53 different vessels were identified within the assemblage, with seven vessel forms represented (see Table 8). Jars were the most commonly occurring vessel form, which is typical of rural assemblages of this date. Within this group several different forms were present, including plain everted rim jars, storage jars and tall, plain everted rim jars with offset necks. There were also several examples of Romanizing/Early Roman beaded rim jars. Rim diameters varied from 14cm to 32cm highlighting a variety of uses for the vessels, supported by the evidence of heavy sooting on two of the vessels, interior limescale on a third and one jar with a perforation under the rim, which appears to be pre-firing and was possibly used to suspend the vessel. The same vessel also had a post-firing perforation on the body, which may have been a repair hole. Thirteen of the jars had been burnished to varying degrees, with five vessels with rilling and three combed.

Fabric	No. of sherds	Wt (g)
Buff sandy	2	10
Coarse sandy	50	312
Coarse sandy greyware	22	178
Fine sandy	5	47
Grog	10	88
Grog and flint	5	38
Grog and sand	291	3884
Grog and shell	14	191
Roman whiteware	16	43
Sand	86	696
Sand and calcareous	18	234
Sand and flint	142	1444
Sand and iron	91	1220
Sand and mica	72	630
Sand and shell	46	290
Shell	21	104
TOTAL	891	9409

Table 7. Windmill Site: Iron Age and Roman pottery sherds by fabric.

Form	No. of sherds	Wt (g)
Platter	3	106
Beaker	1	1
Bowl	10	213
Cup	8	60
Jar	151	3353
Jar/bowl	50	486
Lid	34	238
Unknown	634	4952
TOTAL	891	9409

Table 8. Windmill Site: Iron Age and Roman pottery sherds by vessel form.

Four different finewares vessels were identified, comprising two carinated cups, one of which had two thin cordons, a small beaded rim beaker and a platter, which was a copy of a Gallo-Belgic Cam. 12 form (Tyers 1996, 162). All of these vessels are likely to have been locally produced as copies.

In order to put this site into its regional context, it is important to consider how the ceramic record from other local sites might demonstrate whether this apparent pattern of 'late adoption' of Roman ceramics is typical of the region. Figure 11 shows the ratio of handmade versus wheel-made vessels (wheel-turned and wheel-thrown combined), for five Late Iron Age/Early Roman assemblages from Cambridgeshire. It demonstrates that this assemblage has a relatively low percentage of handmade vessels, although it is almost identical to another Guided Busway site at Shelford Road Compound (Timberlake forthcoming). Perhaps the most likely explanation for this is the date of the site, and this supports a view that although occupation was relatively intensive (given the quantity of material recovered), it was short lived.

A number of large evaluations have taken place locally, particularly in and around Longstanton, approximately 1.6 kilometres to the south of this site (Evans *et al.* 2006). The work uncovered a series of Late Iron Age and Roman settlements, with comparable assemblages. In terms of composition, sand and shell-tempered wares dominate all of the contemporary assemblages, and the range of forms within

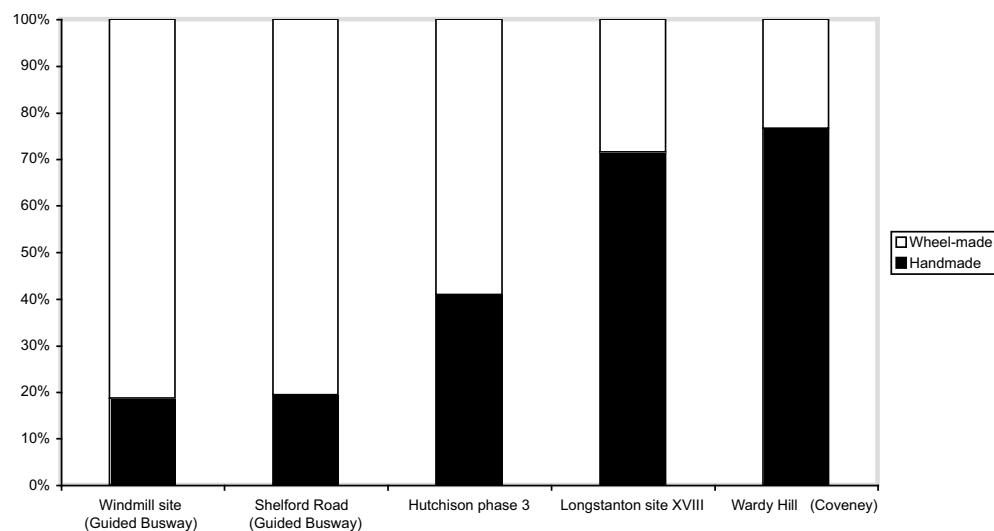


Figure 11. Relative proportions of handmade and wheel-made vessels from five Late Iron Age/Early Roman sites in Cambridgeshire (based on sherd count).

both assemblages was limited, with open, globular forms being the most common (Brudenell in Evans *et al.* 2006). On a small number of sites there was also the occurrence of handmade vessels alongside wheel-turned and wheel-thrown vessels, supporting a view that the adoption of new ceramics types was slow and that while new types might be added to the repertoire, the old styles were still being made and used. The example from one Longstanton site, however, (site XVIII, Brudenell 2006), showed a much higher percentage of handmade vessels, which perhaps suggests this particular site was occupied slightly earlier than the Windmill site.

Approximately eight kilometres northeast of this site, a much larger transitional period assemblage was recovered at Wardy Hill, Ely (Evans 2003). Although this site has a longer overall chronology than the Windmill site, the pottery from the transition period phase has many shared characteristics; most notable is the presence of handmade vessels alongside wheel-turned vessels. Fabrics are also similar with sand and shell temper dominating. The major difference with the two sites is the ratio of handmade wares to wheel-made wares, with the Wardy Hill assemblage producing a much higher percentage of handmade vessels (see Fig. 11). As with Longstanton site XVIII, this therefore implies the Wardy Hill assemblage is earlier than the Windmill site.

A further contemporary assemblage was recovered from another guided Busway site, south of Cambridge (the Shelford Road Compound see Anderson in Collins and Dickens 2009; Timberlake forthcoming). This assemblage contained only half the quantity of pottery as the Windmill site (341 sherds, 2791g), but had many of the same vessel forms, with jars dominating, a small number of simple bowl forms and very little else. The handmade component of the Shelford Road Compound assemblage is almost identical to that of the Windmill site, both representing c. 20% handmade versus c. 80% wheel-made. In terms of fabrics however, these sites differ quite significantly. The Windmill site assemblage contained a large number of shell-tempered wares in contrast with Shelford Road Compound (Anderson in Collins and Dickens 2009), which had no shell-tempered wares. This suggests that much of the pottery industry was very localised during this period, with shell-tempered wares only

featuring on sites north of Cambridge.

In contrast to these two sites is the Hutchison site next to Addenbrooke's Hospital, Cambridge (Evans *et al.* 2008), which produced a large assemblage spanning the Late prehistoric and Early Roman periods. Phase 3 (50 BC – AD 50) was chosen for comparison. This site produced a larger percentage of handmade vessels (see Fig. 11) than either the Windmill or Shelford Road Compound sites. The latter located only about one kilometre southwest of the Hutchison site. This therefore might refine the dating of these sites and supports a view that both represented a relatively short period of occupation.

The Windmill site assemblage has much to offer in terms of understanding the Late Iron Age and Early Roman transition in northern Cambridgeshire, providing an important glimpse into the immediate pre and post-Conquest periods. The prominence of wheel-made vessels along with the lack of true 'Roman' pottery implies that occupation could have been just a few generations, with a date of AD 20–60 tentatively put forward. It is therefore sufficient to give an insight into the transition period and is of importance in a wider, regional analysis of the Late Iron Age and Early Roman transition.

The site's inhabitants seem to have been slow to adopt new styles and types of pottery, even though it is likely that these types of vessels had started to appear in the local market. That the site fits more easily into Late Iron Age traditions is supported by the faunal remains, which also suggest Iron Age rather than Roman traditions of animal husbandry (Rajkovača this report).

The finds assemblages reflect a small, rural settlement, which had yet to become fully Romanised, although it is as yet unclear, as to whether this site was part of a larger settlement which continued beyond the conquest period, or else was totally abandoned and relocated as a result of Romanization. Certainly, the evidence from this site and others, in particular the Shelford Road Compound, suggest that the uptake of 'Romanised' ways of life did not immediately proceed following the Roman conquest. These assemblages also support the view that there was a strong correlation between sites adopting new material culture etc. and the de-

velopment of true 'Romanised' sites, which in some cases involved moving away from the old Iron Age sites, to start new Roman ones.

Faunal Remains
Vida Rajkovača

The assemblage comprised 154 assessable specimens weighing 4824g. The majority of the assemblage was hand-collected with a small portion being recovered from the sieving of bulk soil samples.

The state of preservation ranged from poor to quite good. Out of 46 contexts, the bone from 21 was recorded as quite poor or poorly preserved with many demonstrating a high degree of bone surface modification and weathering. The actual numbers corresponding to this show that out of 154 assessable fragments, 55 (36%) were poorly preserved. Butchery and gnawing were rare, being observed on one and seven specimens respectively.

The quantity of animal bone decreased to the southwest end of the site, the small Phase 2.1 enclosure (F.36) producing only bone specimens, two of which were identified to species. The overall paucity of finds within this enclosure and its position in corner point of a potential field boundary some distance away from the settlement might suggest this enclosure was used for livestock.

Of 31 specimens identified as cow, 20 were loose teeth and mandibular elements. A similar pattern was observed within the sheep/goat cohort, where loose teeth and mandibles accounted for c. 50% of the identified specimens (Table 9).

Taxon	NISP	NISP%	MNI
Cow	31	44	2
Sheep/goat	29	41	3
Horse	7	10	1
Pig	3	4	1
Dog	1	1	1
Total identified to species	71	100	.
Cattle-sized	44	.	.
Sheep-sized	39	.	.
Total	154	.	.

Table 9. Windmill Site: Number of Identified Specimens (NISP) and Minimum Number of Individuals (MNI).

Five ageable specimens were recorded, four of which were sheep/goat mandibles. All four specimens gave a different age at death: 6–12 months, 1–2 years, 2–3 years and 6–8 years. A single cow mandible was aged as an old adult. It is clear that some animals were maintained into maturity

for their secondary products such as milk, wool and traction.

Although the Windmill site faunal record showed a slightly higher count of cattle, very much a characteristic of a Romanised settlement, other recognised traits of a Roman economy such as an increasing consumption of chicken and a higher percentage of pigs (King 1991) are absent. This might suggest that the husbandry strategies in use remained deeply rooted in the native Iron Age tradition. Alternatively, the higher cattle numbers could be due to the fact that precise animal exploitation strategies are shaped to fit regional variations in microclimate and topography.

Pigs do not form a large proportion of the bones on Late Iron Age sites generally, and the large percentage of pig bones at the Late Iron Age/Early Roman Puckeridge-Braughing site in Hertfordshire is uncharacteristic of other samples (see below, Fifield 1988, 150). The relatively small pig cohort at the Windmill site could simply reflect a lack of extensive woodland for pannage, a response, perhaps, to the demand for cultivated land by farmers to support a growing population, a situation where cattle would have had added importance as working animals on arable land.

The prevalent view that (Late) Iron Age agriculture followed a pattern of intensive sheep husbandry does not seem appropriate in this region where cattle are the most commonly found species. Two exemptions to this rule are at Castle Street, Cambridge, and at Puckeridge-Braughing, Hertfordshire, (Table 10) with their livestock husbandry most likely being modified to fit the environmental and social circumstances of the time. In addition, one of the most important Late Iron Age/Early Roman transitional assemblages, that recovered from Wardy Hill near Ely, also produced a predominant sheep cohort; however, as the faunal record originated from more than one phase of occupation and it has not been quantified by phase, it is difficult to assess relative importance of species for the period for this particular site (Evans 2003).

In conclusion Late Iron Age/Early Roman communities living in this area appeared to have practiced a mixed economy resulting in a rather conservative and restricted diet, with cattle being the mainstay. This pattern clearly demonstrates how important it is to take regional variations, both environmental and cultural in character, into account.

Discussion

The discovery of the Windmill site adds a previously unknown 'dot' on the Late Iron Age/Early Roman map of this part of Cambridgeshire, information on which has expanded hugely in the last few years thanks to work on projects such as Longstanton/Northstowe (Evans *et al.* 2008), Cambourne (Wright *et*

	NISP %			Date
	Cow	Sheep/goat	Pig	
Longstanton Windmill Site (154)	49	46	5	LIA/ER
Addenbrooke's 2020 (141)	55	41	4	LIA/ER
Hutchison Site, Addenbrooke's (155)	59	37	4	LIA/ER
Summersfield Site, Papworth Everard (395)	56	37	7	LIA/ER
Haddon, Peterborough (100)	46	45	9	LIA/ER
Castle Street, Cambridge (240)	28	58	14	LIA/ER
Puckeridge-Braughing, Hertfordshire (7260)	31	36	33	Early Roman
				Fifield 1988

Table 10. Percentage of cattle, sheep/goat and pig on Late Iron Age/Early Roman (LIA/ER) sites from the region (sample size in brackets).

al. 2009) and the recent evaluation work along the A14 (Patten *et al.* 2010). Although the exposure was too small to define with precision the nature, or indeed size, of the site, it does appear to broadly conform to what is known of similar sites in the area. There is evidence of continuity from the later Iron Age into the Conquest and Early Roman period, with an indicated end date of activity around AD 70. This puts the site amongst that group with a clear pre-Flavian cessation of activity.

What this site does contribute to is the ongoing debate on the nature of Romanization in Cambridgeshire, particularly as expressed in the ceramic component. Development of a single model of change is "hindered by variability in the ceramic record and the difference in assemblage compositions displayed between different areas, different sites and different social contexts" (Anderson forthcoming). Changes to the composition of pottery assemblages and the speed of adoption of new types vary considerably from one part of the county to another, with evidence from some sites indicating that the transition to fully Romanized assemblages was a drawn out process which in some places did not even begin until the early Flavian period (*ibid.*). The Windmill site lies at neither end of that trend. Adoption appears slow but is clearly occurring (80% of the assemblage is wheel-turned or thrown) perhaps in a limited market with no evidence of imported or specialist wares; a settlement with its roots placed firmly in the Late Iron Age tradition. The faunal record also reflects this pattern. There are some characteristics of Romanization, specifically a slightly higher cattle NISP, but other indicators are absent. This is a mixed economy, conservative, and again with its roots seemingly in the Late Iron Age past rather than a Roman future.

The Windmill site fits best into a model of later Iron Age settlement origins seen at other more prestigious fenland locations such as Stonea (Jackson and Potter 1996) and Wardy Hill (Evans 2003) contrasting with others established post-Conquest such as Langdale Hale, Earith (Evans forthcoming *a*). The latter tend to have assemblages of true Romanized wares with no Late Iron Age antecedents whereas by contrast fen communities in the Late Iron Age used a limited range of wheel-turned vessels with assemblages still dominated by handmade wares (Anderson forthcoming). Again, the Windmill site with its 20% of handmade wares, as with the faunal record, falls at neither extreme of the range.

The specific landscape context of the Windmill site is harder to determine. It is likely that the apparent abandonment of the settlement around AD 70 was as a result of reorganisation in that landscape, a pattern seen elsewhere, most recently in the ongoing work in the Addenbrooke's landscape (Evans *et al.* 2008, Newman *et al.* 2010). A handful of other sites are known in the vicinity of the Windmill site, but there has been little systematic investigation (Fig. 12). Cold Harbour Farm, about 1400m to the northeast, was partly excavated by W.G. Simpson in the 1960s, but not published. This work revealed evidence for

fairly substantial Late Iron Age and Roman rural settlement, including the presence of Roman pottery kilns after which a local ware has been named (Hall 1996). This site was first recognised in the 1880s when Babington records that Roman coins, mostly Constantinian (fourth century) were discovered in a metal box probably a little to the west of the area investigated by Simpson (Babington 1883, 82). During the investigations in the 1960s the earliest levels produced hand-made and wheel-made pottery 'from the Belgic tradition' (Phillips 1970: 189). Another part of the site produced late first/early second century pottery while surface finds of colour coated wares indicated the site was in use until the fourth century (Hall 1996, 150). This would suggest that the Cold Harbour Farm site, whilst originating in a period similar to that of the Windmill site, continued on much longer to become a truly Romanized settlement.

Situated a little closer to the Windmill site are three locations recorded by David Hall during fieldwalking for the Fenland Project in 1980 (Hall 1996, 151). Over sites S8, S9 and S11 lie 650 to 900m east of the Windmill site and include dark occupation areas with colour-coated and Samian wares, grey wares and tile. At site S11 further kilns were recorded (though not apparently excavated) that appear to be associated with those at Cold Harbour Farm, certainly producing similar wares. Presumably these find spots are associated with the cropmarks that extend between them (Fig. 12). Closest to the Windmill site is Hall's site OVE S10. Here was found occupation debris with grey, shelly and colour-coated wares together with a piece of tile. Rectangular enclosures were noted in cropmarks immediately adjacent to the finds site. Although a detailed breakdown of the finds is not provided the description suggests a Roman rather than Iron Age site, perhaps, at only 500m to the north this is a candidate for a relocated Windmill site population. More recently an evaluation on the Over industrial estate, some 100m west of S10, revealed a number of deposits and features dating to the Roman period. Features were identified in the north of the area representing at least two phases of activity interrupted by an episode of flooding thought to date to the second century. The pottery assemblage suggested settlement in the vicinity, whilst abundant remains of charred seeds and other plant remains provide evidence that primary crop processing was undertaken on or near the site (House 2009). This is likely to be a continuation of Hall's previously identified S10 site and suggests a potentially extensive area of settlement.

The small exposure at the Windmill site has revealed part of a settlement originating in the Iron Age and ending by AD 70. It belongs to the Fenland region type of site, rather than that of South Cambridgeshire (Anderson forthcoming), its end indicating both landscape and population in a state of change.

Arbury

Two sites were investigated at Arbury (Fig. 13): Arbury Park was an open area excavation comprising c. 0.18 hectares located just to the north of Kings Hedges Road, Cambridge, and some 150m west of Cambridge Regional College, NGR 545485/261814. The site was situated on Third Terrace river gravels with patches of clay at a height varying slightly between 11.8m and 12.0m OD. Arbury in-track was part of the watching brief that monitored the length of the Guided Busway route during dismantling of the railway and the subsequent groundworks. It was located along the line of the former railway some 220m northwest of the Arbury Park site centred on NGR 545287/261993. It was bordered by Impington Lake to the southwest, a copse of trees to the northeast and fields to the northeast. The site was approximately 262m² in area and situated on Third Terrace river gravels with patches of clay, at a height varying slightly from 12.5m OD at the northwest end to 12m OD at the southeast end.

In summary, other known archaeological sites

within the area include the substantial circular Iron Age earthwork of Arbury Camp, some 800m to the west (Evans and Knight 2002, 2005, 2008), and the considerable Roman remains known to exist within the present day Arbury and King's Hedges wards. These include a Roman villa centred on Kings Hedges primary school some 300m to the south with associated enclosure ditches and field systems (Lisboa 1995). Furthermore, just 15m east, and on the opposite side of the projected line of the Roman road 'Akeman Street', an archaeological evaluation uncovered a series of Roman pits, containing a significant amount of pottery, and a metalled surface which was believed to be part of the road surface (Evans 1991). Of most significance for the Arbury Park site is the projected line of 'Akeman Street' itself, the predicted course of which takes it within 5m of the northeast corner of the site.

The Investigations

The Arbury Park site was stripped under controlled archaeological supervision, whereas the in-track site,

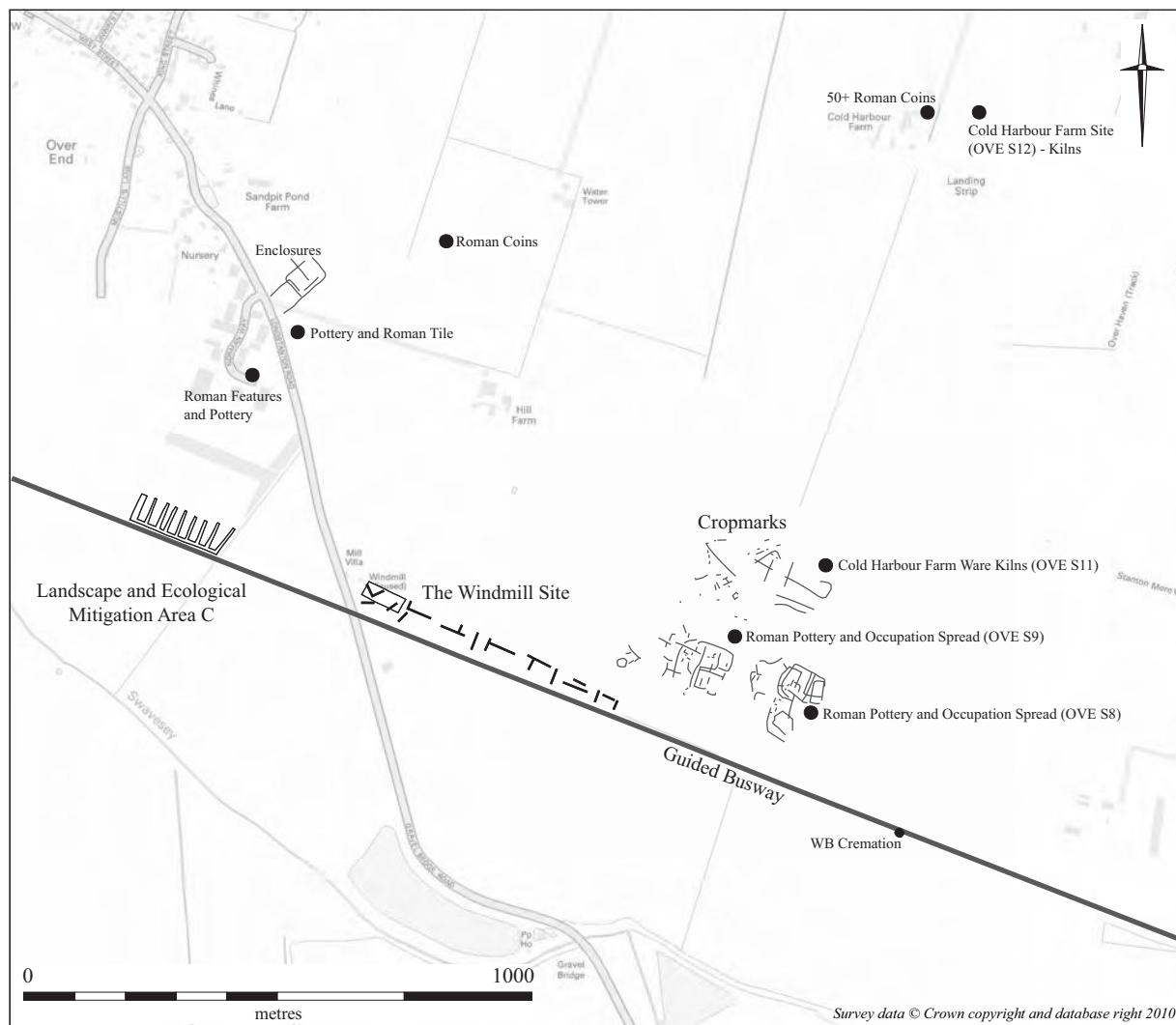


Figure 12. Windmill Site: Known sites and finds in the wider area.

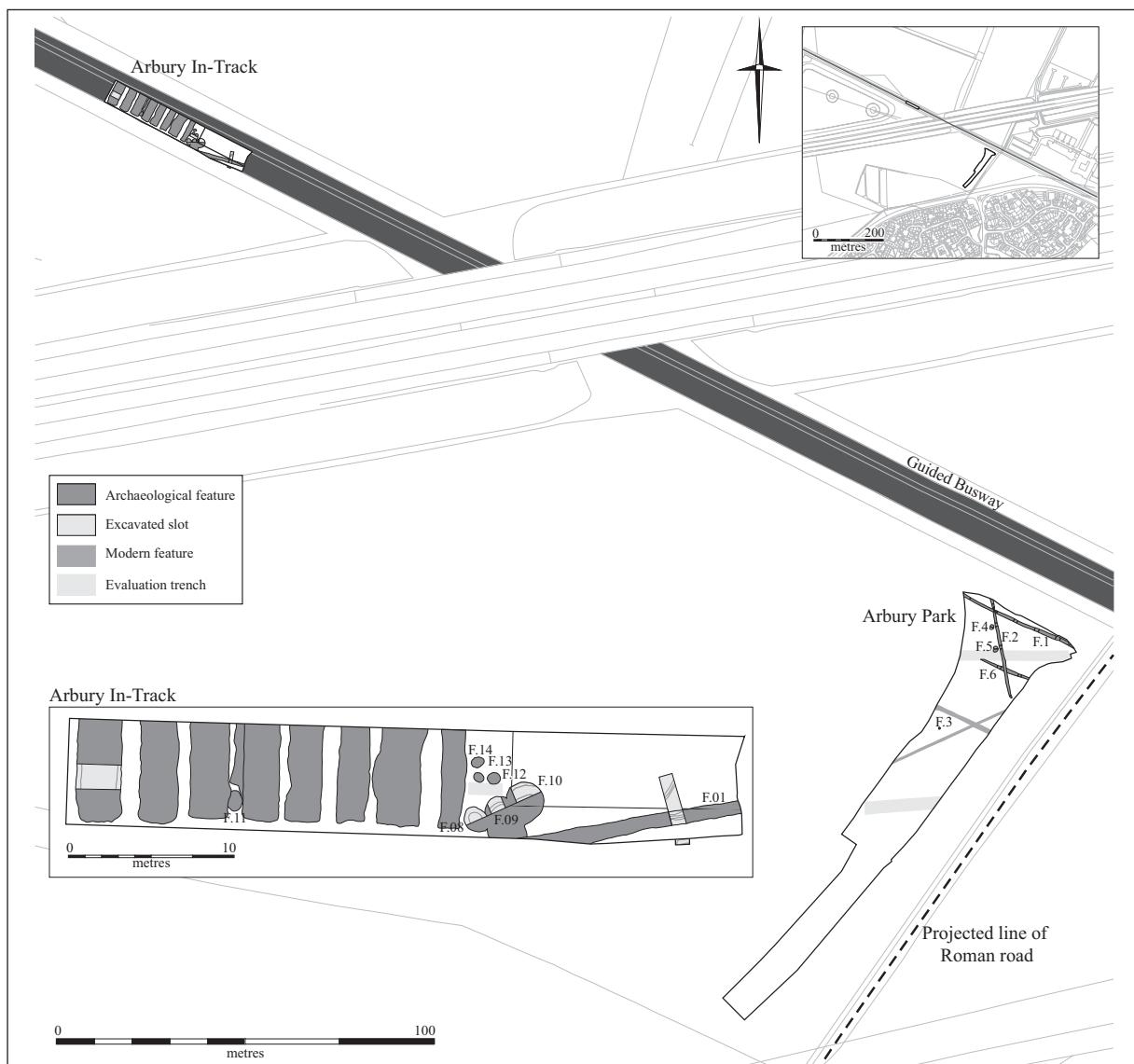


Figure 13. Location of the Arbury Sites.

although stripped with a toothless bucket, was observed under watching brief conditions, with excavation after significant remains had been identified.

Contributions from the several specialists have been incorporated into the text, however the most significant reports (Roman pottery and building material and faunal remains) are presented in full later in the report.

Additional specialist contributions are from: Anne de Vareilles (macro-environmental), Andy Hall (metallwork) and Simon Timberlake (shellfish).

All the finds and features from both sites dated to the Early Roman period.

Arbury In-Track Site

On the in-track site the Roman activity consisted of a fairly substantial northwest-southeast orientated ditch, F.1, with a further ditch, F.4 that was only vis-

ible in section and either terminated or, more likely, turned sharply. Another possible ditch, F.2, was only visible in section. As well as the ditches a series of pits and possible pits, F.3, F.5, and F.7–14 were present along with a probable quarry pit F.6. Two of these pits, F.3 and F.7, were very shallow and potentially natural hollows that had Roman material culture caught up within them, where as the others were quite substantial cut features, particularly F.8.

The majority of the finds recovered from this site came from ditch F.1, which contained significant quantities of pottery, tile, animal bone and shellfish, mainly concentrated in upper fills. The other features, however, also produced significant amounts of material, for instance F.8, which was part of a small pit cluster with F.9 and F.10, contained almost 70 sherds of Roman pottery, including several from an East Gaulish Samian dish. Six Roman coins, three from ditch F.1, including a quite rare second Century AD

silver *denarius*, two from pit F.3 and one from quarry pit F.6 were also recovered from the site.

A total of 574 sherds of Roman pottery, weighing 14,186g and representing 23.14 EVEs suggest that this location or its immediate vicinity saw intensive occupation. Detailed examination of the pottery assemblage identified material dating from the mid second century AD to the fourth century AD, although those vessels that could be more closely dated suggested a peak between the third–fourth centuries AD. A wide variety of fabrics were identified with coarsewares dominating the assemblage (Fig. 14.1–14.3). A variety of fineware fabrics were recorded, including local, non-local and imported wares. The assemblage contained a wide variety of vessel forms with jars the most common type but beakers and dishes were also well represented. Most of the main Roman vessel forms are present including jars, dishes, flagons, mortaria and bowls as well as some more unusual forms such as Castor box. The pottery suggests a peak in activity during the third/fourth century AD, as demonstrated by the relative lack of Samian and the pres-

ence of Hadham and Oxfordshire wares, and some Late Nene Valley colour-coated forms.

In addition to the pottery a large quantity of Roman tile totalling 163 pieces and weighing 17,174g was recovered from the site, along with 49 brick pieces weighing 1664g. All four major tile types were represented in varying quantities. *Tegula* were the most frequently occurring with *imbrex*, floor tiles and flue tiles, in comparison, poorly represented (Fig. 14.4, 14.5). The tile and brick represented in this assemblage suggest the presence of at least one Roman building, although there was no evidence of any building ‘footprints’ during the excavation.

Of the six Roman coins (one silver, five copper alloy) recovered from the in-track site four were *nummi* ranging from 11mm to 18mm in diameter. One depicting the Emperor Constantius II or *Constantius Gallus* was minted between AD 350–360, two, most probably of the Emperor Valentinian I or *Valens* were minted during the period AD 360–380 (Fig. 14.7), the fourth is very worn however a diadem head dress is evident suggesting a fourth century date. The fifth

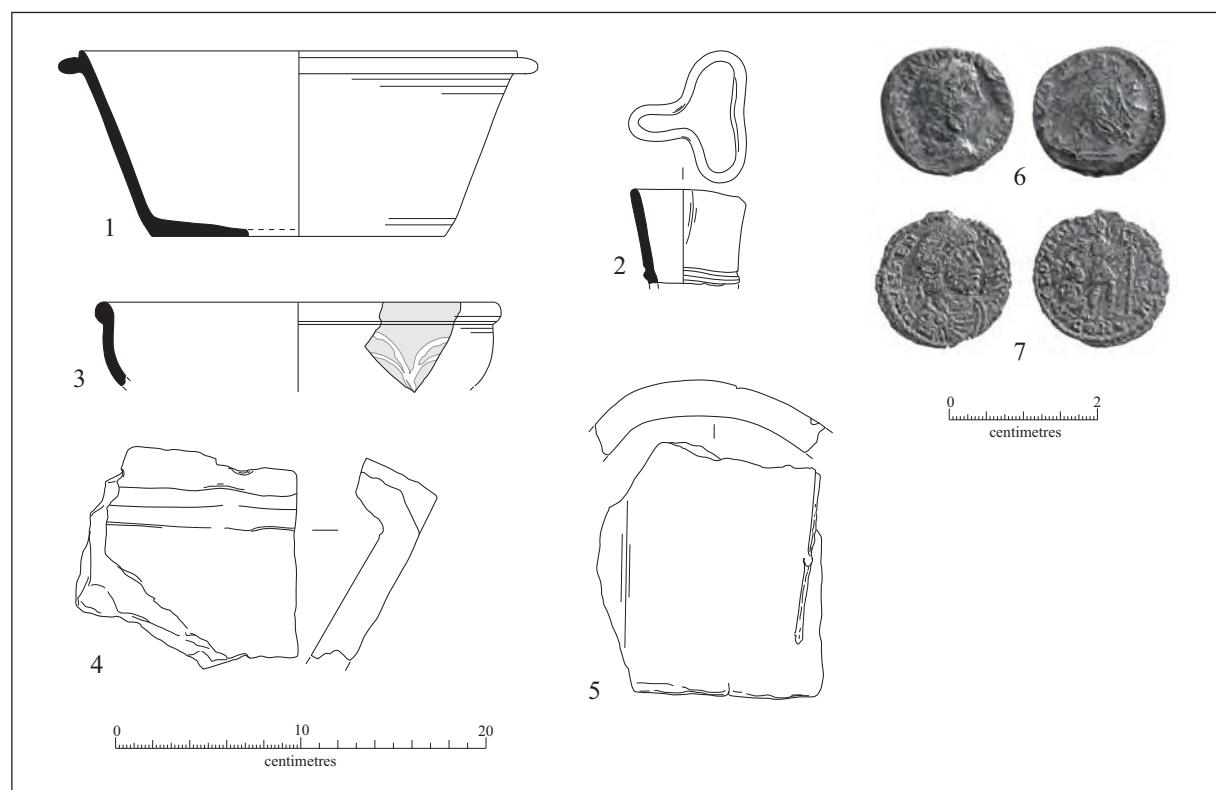


Figure 14: Arbury Finds

1. Coarse sandy greyware beaded, flanged bowl. 3rd-4th Century AD.
2. Nene Valley colour-coated pinched-mouth flagon. 3rd Century AD.
3. Nene Valley colour-coated beaded bowl with white painted arc decoration. 4th century AD.
4. Roman *tegula* (roof tile).
5. Roman *imbrex* (roof tile).
6. Silver *denarius*. The Emperor appears to have a laurel leaf head dress. The reverse shows a figure advancing holding items in both hands. The legend on the reverse reads VICT. PART. MAX. This could be a coin of Caracalla, 198-217AD, but it could also be a contemporary copy.
7. Copper alloy *nummus*. The reverse shows a standing figure holding a standard in the left hand whilst dragging a kneeling prisoner by the hair. The emperor is most likely Valentinian I or *Valens*. Minted during the period 360-380 AD.

copper coin is in poor condition. The obverse portrait depicts a young Emperor with a radiate crown, but no beard, possibly *Tetricus II*. The reverse depicts a standing female figure. The coin dates to the second half of the third century AD.

The only non-copper coin is a silver *denarius* (Fig. 14.6). The poor condition makes this a difficult coin to identify. The Emperor appears to have a laurel leaf headdress and the reverse shows a figure advancing holding items in both hands. The legend on the reverse reads VICT. PART. MAX. This could be a coin of Caracalla, AD 198–217, but it could also be a contemporary copy.

Two copper alloy fragments were also recovered, a heavily corroded fragment of copper alloy sheet, in numerous pieces, and a short section of bent copper alloy rod of round section, measuring 12mm in length, possibly a fragment of a chain link or a brooch.

Some 3.76 kilogrammes of oyster shell (*Ostrea edulis*) was recovered from slots cut through several Roman ditches and other features sampled as part of this watching brief. All of the oysters recovered had evidently been prised open, consumed, and discarded, whilst some of the shell had been broken. A single broken valve of an edible mussel (*Mytilus edulis*) was found amongst the oyster shell from a ditch fill.

Arbury Park Site

The limited amount of archaeology identified during this excavation was restricted to the northeastern end of site, with no features being identified in the southwestern half. The archaeology consisted of two parallel ditches approximately 12.5m apart on a northwest by southeast axis, a third ditch on an almost north-south axis and two medium sized pits.

The three ditches had a similar profile of moderate to quite steeply sloping sides leading to a rounded base, and were all of a similar size. All three showed a paucity of finds, with a small amount of animal bone recovered from one and a single Roman pottery sherd dated second–fourth century AD recovered from another. One of the northwest-southeast parallel ditches cut the north-south ditch, which in turn cut the second of the parallel ditches. Both pits identified during this excavation were located along the southwest edge of ditch F.2 and neither contained any finds.

None of the environmental material from this site was subject to further study. The environmental samples generated small flots with only a scatter of charcoal (mostly <2mm across) and a few other plant remains including three cereal grain fragments and one wild plant seed from one ditch and one glume-wheat glume base from another.

Specialist Reports

Roman Pottery Katie Anderson

The Arbury in-track assemblage (574 sherds) was characterised by relatively large sherds, which were generally un-

abraded, as is emphasised by the high mean weight of 24.7g, as well as the high EVEs count (23.14). This implies that the material was relatively ‘fresh’ when deposited, symptomatic of material not travelling far between breakage/discard and deposition. The assemblage broadly dates second–fourth century AD; however, the presence of a number of Late Roman pottery types suggests a third–fourth century AD date for the main phases of activity.

A wide variety of fabrics were identified within the assemblage (see Table 11). Of this coarseware fabrics dominated, representing 77% of the assemblage. Locally made, sandy coarsewares were the most commonly occurring fabric, including 67 Horningsea greyware sherds, although the majority of sherds within this category are unsourced. Shell-tempered wares, which are also likely to have been produced locally (e.g. at Earith) were well represented, totalling 45 sherds. A variety of fineware fabrics were recorded, including local, non-local and imported wares. Nene Valley colour-coated wares were the most common (49 sherds weighing 927g), with Hadham oxidised wares also well represented. There were two sherds of Oxfordshire red-slipped ware and two Pakenham colour-coated sherds. The imported wares comprised 11 East Gaulish Samian sherds (a maximum of three vessels), one Central Gaulish sherd and three Late Baetican amphora sherds, although it is unclear whether the latter are from a single vessel or not.

Fabric	No. of sherds	Wt (g)
Black-slipped	33	474
Buff sandy	1	2
Central Gaulish Samian	1	19
Colour Coat	17	155
Coarse sandy greyware	224	4781
East Gaulish Samian	11	162
Fine sandy greyware	9	195
Fine sandy oxidised	4	96
Hadham oxidised ware	26	245
Horningsea greyware	67	3994
Imitation BB	3	49
Late Baetican amphora	3	570
Micaceous GW	4	81
Nene Valley CC	49	927
Oxford red-slipped ware	2	7
Oxidised sandy ware	53	827
Pakenham CC	2	63
Red-slipped	1	14
Shell-tempered	45	796
White-slipped	10	69
Nene Valley whiteware	9	660
TOTAL	574	14186

Table 11. Arbury in-track site: All pottery by fabric. BB, black burnished ware; GW, greyware; CC, colour-coated.

The vessel fabrics represented in this assemblage broadly date second–fourth century AD; however, there are indications that a more specific date can be applied. For example, the very small quantity of Samian in the assemblage suggests that the site peaked in the third–fourth century AD, since if the peak had been during the second–third century AD, then a greater number of Samian vessels would have been expected. Even on small rural sites in Cambridgeshire, it is fairly typical that Samian accounts for up to 5% of an assemblage (Willis 1998). In this assemblage, it accounts



Plate 1. Striplands Farm, Longstanton. Re-Colonisation: top, Francis Pryor and Maisie Taylor inspecting the F.71-3/156 deposits in 2005 (with Evans and Patten, left and right); below, the same feature some four years later (August 2009), the stripped surface having been colonised by plants and with the Bronze Age pit-well seeing a second life as a pond.

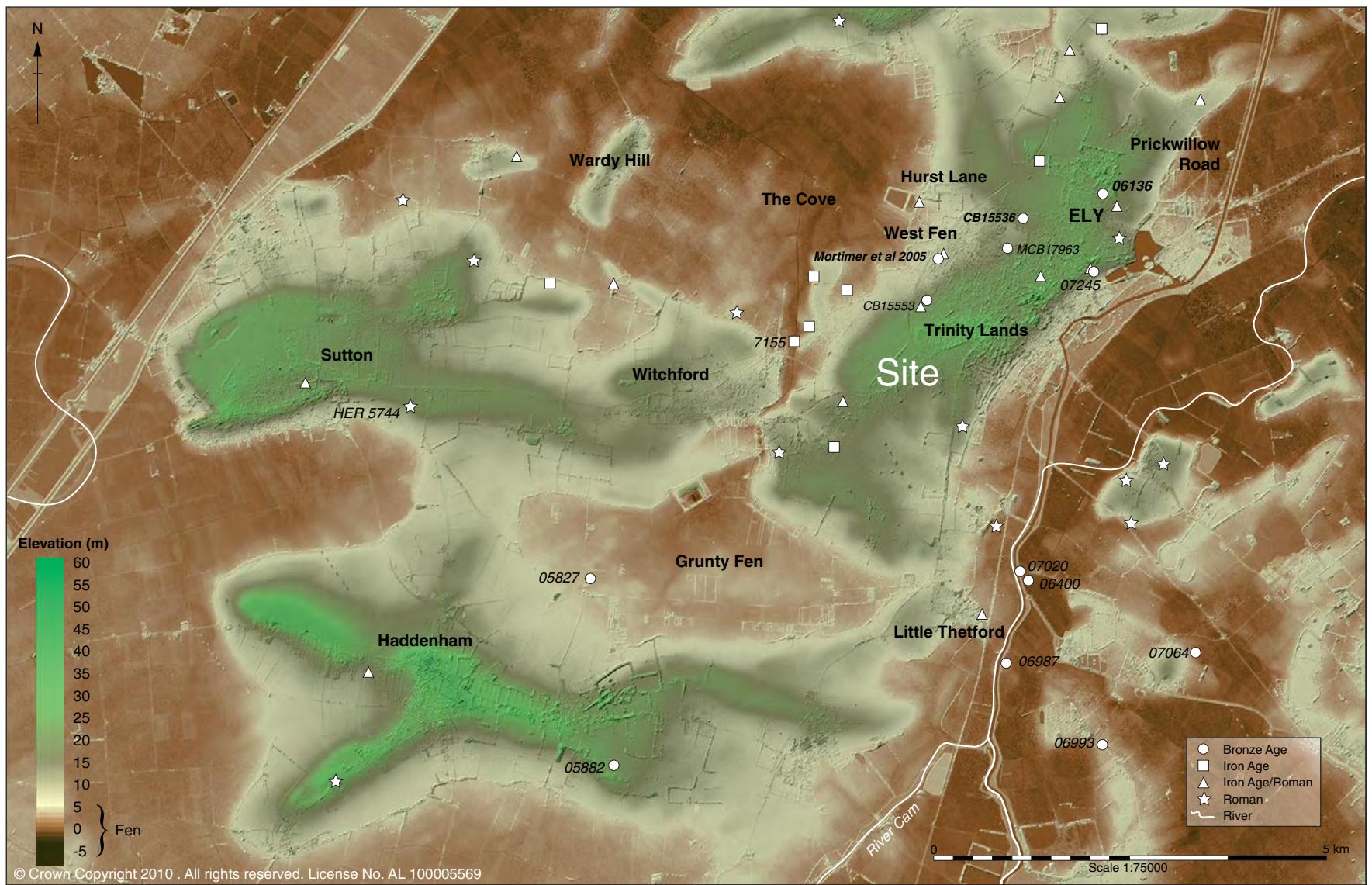


Plate 2. Witchford: terrain model, showing the site with the fens and surrounding Bronze Age, Iron Age and Romano-British sites (after CHER records; Hall 1996, fig. 18; Evans 2003, fig. 142; Atkins and Mudd 2003, fig. 28; Evans et al. 2007, fig. 1 and further additions). [Flint deposits not included].

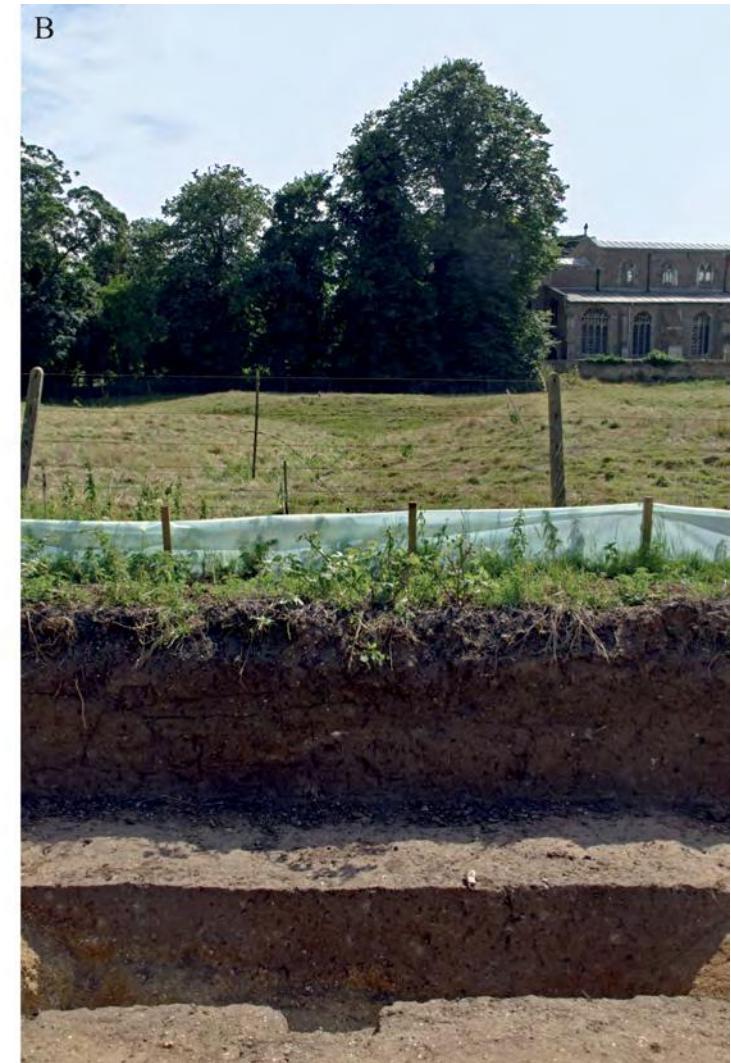


Plate 3. Cambridgeshire Guided Busway Swavesey in-track site:
A. looking southeast showing continuation of ditch F.48 as an earthwork;
B. looking south showing continuation of ditch F.14 as an earthwork.



Plate 4. Northborough Manor, viewed from the south.



Plate 5. Northborough Manor: the north front of the gatehouse and stables.

for just 2%. Given the nature of the assemblage it therefore seems most likely that the lack of Samian is a reflection of chronology rather than status/wealth. This is further supported by the presence of several Late Roman wares, including Oxfordshire red-slipped wares and Hadham red-slipped wares, which are known to have been third–fourth century AD in date.

The higher frequency of Nene Valley products is somewhat expected, given the date of the site and its relative proximity to the production centres. The same can be said of the Horningsea wares, which were produced within five kilometres of the site. The wide variety of vessel fabrics identified is an indication that the site had access to wide trade networks.

The assemblage contained a wide variety of vessel forms (see Table 12). Jar sherds were the most common type (42% of all diagnostic sherds), but beakers and dishes were also well represented (each accounting for c.16% of all diagnostic sherds). Most of the main Roman vessel forms are represented in this assemblage, including jars, dishes, flagons, mortaria and bowls as well as some more unusual forms such as Castor box.

Form	No. of sherds	Wt (g)
Amphora	3	570
Beaker	36	349
Beaker/jar	2	7
Bowl	16	590
Castor box	4	56
Dish	35	844
Flagon	2	92
Jar	94	3794
Mortarium	12	717
Open	2	195
Storage jar	17	1445
Unknown	351	5527
TOTAL	574	14186

Table 12. Arbury in-track site: All pottery by form.

Given the nature of the excavation, there is not the usual opportunity to interrogate the data in terms of its deposition. One feature, however, lends itself to more detailed analysis. F.1, a northeast-southwest ditch, contained 57% of all of the pottery recovered, totalling 327 sherds, weighing 7906g and representing 11.73 EVEs. The material was recovered from several slots along the length of the ditch, from three different contexts; the upper fill [005] contained most of the material, totalling 221 sherds of pottery (5323g, 8.72 EVEs). The lower ditch fill [006] contained 92 sherds of pottery (2352g, 2.57 EVEs). Context [011] contained 14 sherds, weighing 231g (0.44 EVEs). As suggested by the mean weight of the pottery from this feature (24.2g), this included large and unabraded sherds, suggesting primary deposition. The pottery from F.1 has a date range from second–fourth century AD, although the bulk appears to be third–fourth century AD. There is no clear difference in date between the different contexts in the ditch, suggesting fairly rapid deposition.

The composition of the assemblage in terms of vessel forms is a good marker of both status and function. Following the methodology used by J Evans (2001), the Arbury Park assemblage was plotted against other sites in the area in order to compare the frequencies of bowls, dishes and beakers versus jars, a division not necessarily between coarsewares and finewares, but between cooking and serv-

ing vessels. For the purposes of this comparison, sites from all Roman periods have been used, primarily because there is little change in basic assemblage composition from the Early to the Late Roman period. For these four vessel types jars always feature prominently, and the other three types consistently occur. Contemporary Late Roman sites will, however, be highlighted for closer comparison. This method also allows for a more accurate comparison of sites, regardless of the size of the assemblage.

As is evident from Fig. 15 the assemblage from Arbury has the lowest percentage of jars and one of the highest percentages of beakers, bowls and dishes. The closest sites to Arbury in terms of assemblage composition were Cambourne (Seager-Smith 2009) and Orton Hall Farm (Mackreth 1996), both of which had more complex histories than many sites. It is suggested that Orton Hall Farm operated as an ‘imperial estate’ (Mackreth 1996), representing more than one household. Cambourne, on the other hand, appears to have been a series of farmsteads; however, its longevity, stretched across almost the entire Roman period, perhaps explaining why there was a greater variety of vessel forms present in the assemblage.

Though by no means conclusive, the comparison of assemblage composition between different sites in Cambridgeshire highlights Arbury as being different from other sites in the area, especially sites which were contemporary. Vicars Farm (Lucas and Whittaker 2001; Evans forthcoming *b*), Waterbeach (Ranson 2008; Tabor 2010) and Northwest Cambridge (Evans and Newman 2010) are the closest in distance to Arbury and represent three different types of site. Vicars Farm was a small settlement to the south of the Roman town of Cambridge and which spans most of the Roman period, although it appears to peak in the third–fourth century AD. Northwest Cambridge also saw a longer period of occupation (throughout the Roman period), with some evidence of high status activity, including ceramic building materials (CBM) and worked wood. The pottery assemblage, however, does not show the same composition as at Arbury, having a higher percentage of jars and far fewer beakers, bowls and dishes (it should be noted that Northwest Cambridge was an evaluation rather than an excavation and that therefore the evidence is somewhat restricted). Finally, the assemblage from Waterbeach comprised material from several large middens thought to be associated with a possible shrine. Despite these three examples representing a variety of site types, they all have very similar assemblage compositions, and contain much higher percentages of jars, and much fewer beakers, bowls and dishes than Arbury.

That Arbury had ‘high’ status, later Roman activity is not a new discovery and there are several archaeological sites in the vicinity of the in-track site, which demonstrate that it was located within a larger settled area (see main discussion below).

Without further work in the vicinity, interpreting the pottery assemblage is problematic. However, it is clear that this assemblage differs in composition to other local sites, especially those which are contemporary. The pottery demonstrates that the nature of occupation at the site was different from the rural/farmstead type sites, but also from sites with more specific functions including a possible shrine. With the lack of any definite ‘Villa’, perhaps the best analogy and closest fitting site in terms of date and more importantly function is Orton Hall Farm, which showed evidence for a range of activities including milling, brewing and animal management (Mackreth 1996).

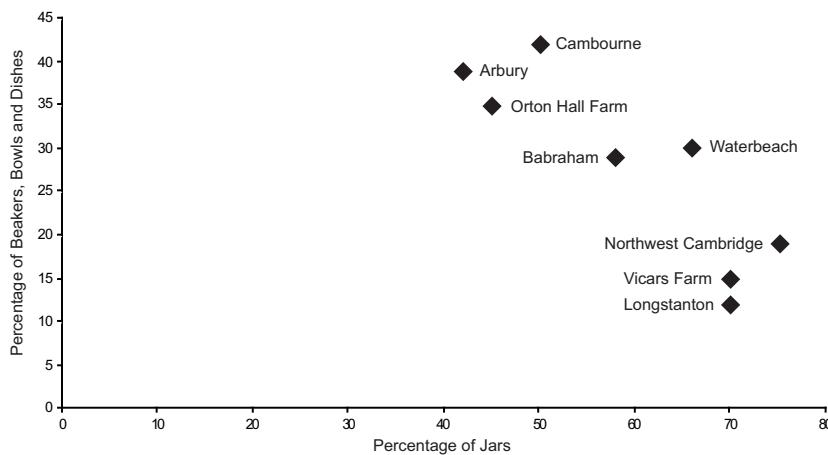


Figure 15. Percentages of jars compared to beakers, bowls and dishes (based on sherd counts) from Roman sites in Cambridgeshire.

Roman Building Material Katie Anderson

A large amount of Roman tile totalling 163 pieces and weighing 17,174g was recovered from the site, along with 49 brick pieces (weighing 1664g). The tile assemblage comprised pieces of varying size with some very large, semi-complete tiles, to small fragments. The overall mean weight was relatively high at 105.4g. All four major tile types were represented in varying quantities (see Table 13). *Tegula* roof tiles were the most frequently occurring, totalling 31% of the assemblage. *Imbrex* roof tiles, floor tiles and flue tiles were, in comparison, poorly represented. Due to the condition of the assemblage, there was a large number of pieces which were non-diagnostic.

Type	No. of pieces	Wt (g)
Box Flue	4	303
Floor Tile	6	1966
Imbrex (roof tile)	11	1571
Tegula (roof tile)	51	10001
Non-diagnostic	91	3333
TOTAL	163	17174

Table 13. Arbury in-track site: All Roman tile by form.

The majority of the tile came from ditch F.1, totalling 119 pieces, weighing 12,091g and in particular, the upper fill of the ditch, context [005], which contained 93 pieces, weighing 10,524g. Within the ditch, 34 pieces of *tegula*, seven pieces of *imbrex*, six of floor tile and four of box-flue tile were identified.

Smaller quantities of tile were recovered from eight other contexts. Context [022], a pit/well, contained 18 pieces of tile, weighing 2764g, thus with a high mean weight of 153g. This included seven *tegula* and ten *imbrex* pieces, some of which were very large (Table 14).

The brick assemblage was primarily recovered from one feature (pit/ditch F.2, contained 47 pieces). It was relatively fragmented with a mean weight of 33g. Although dating of tile and brick is problematic, their association with the Roman pottery suggests a broad second–fourth century AD date, with a more specific third–fourth century AD date more likely.

The tile and brick represented in this assemblage indicate the presence of at least one Roman building, although there was no evidence of any *in situ* building footings during the excavation. The range of tile forms recovered, including the presence of a small number of box flue tiles and floor tiles alongside a higher number of roof tiles, may suggest a high status dwelling, such as a villa.

Context	No. of pieces	Wt (g)
5	93	10524
6	19	1179
11	7	388
16	6	529
18	3	394
20	3	121
22	18	2764
24	4	537
26	3	262
28	5	268
38	1	44
Surface	1	164
TOTAL	163	17174

Table 14. Arbury in-track site: All Roman tile by feature.

Faunal Remains

Vida Rajkovača

Excavations at the Arbury in-track site resulted in the recovery of 159 assessable bone specimens (weighing 9008g) of which 92 (58%) were identified to species. The faunal material was hand-collected and does not include any material from the sieving of bulk soil samples.

The state of preservation ranged from moderate to quite good with 98% of the assemblage demonstrating moderate preservation with minimal weather and surface exfoliation. Other taphonomic factors such as butchery and gnawing are rare, noted on a total of only 18 specimens.

The majority of the faunal material originated from the substantial ditch F.1 accounting for c. 75% of the assemblage. Ditch F.4 yielded 16 assessable specimens of which 12 were identified to species while Roman quarry pit F.6 contained three bone fragments. The remainder of the assemblage

came from pits amounting to a total of 21 bone fragments (Table 15).

Feature types	NISP	NISP%
Ditches	135	85
Pits	21	13
Quarry pits	3	2
Total	159	100

Table 15. Arbury in-track site: Distribution of bone by feature type.

A complete range of species identified is given in Table 16. Bones from domesticated species predominate accounting for 98% of all identified specimens. Sheep/goat are the most commonly found, with both sheep and goat being positively identified within the assemblage. The prevalence of sheep/goat is even greater when Minimum Number of Individuals (MNI) is taken into account, as they collectively make up a total of six individual animals on site. Cattle were of secondary importance, followed by pig, horse and dog. The remainder of the assemblage were two specimens identified as red deer and wild boar.

Taxon	NISP	NISP%	MNI
Cow	33	35.8	2
Sheep/goat	31	33.7	3
Sheep	3	3.3	2
Goat	2	2.2	1
Pig	9	10	3
Horse	6	6.5	1
Dog	6	6.5	1
Red deer	1	1	1
Wild boar	1	1	1
Total identified to species	92	100	
Cattle-sized	34	.	.
Sheep-sized	30	.	.
Bird n.f.i.	3	.	.
Total	159	.	

Table 16. Arbury in-track site: Number of Identified Specimens (NISP) and Minimum Number of Individuals (MNI).

Calculations of available meat indicate that the majority of consumed meat would have come from cattle. The importance of these calculations lies not so much in the absolute amount of meat available on the site, but rather on the relative importance of the meat producing species (Table 17). Calculations of available meat were based on the number of individuals identified. The identified individuals were

grouped into age groups and carcass and dressed weights were estimated on the basis of figures quoted by Legge (1981, 99) with some adjustments to suit the age groups. Although the metrical data is insufficient to allow realistic calculations of the size and weight of the domestic species, it is possible to assess the relative meat output of each member of the domestic fauna.

The available age data for domestic species is insufficient for discussions about the site's economic practices; however, based on evidence derived from the mandibular toothwear, suggestions can be made regarding animal exploitation. Five sheep/goat mandibles were ageable, all showing different wear stages (2–6 months, 9–12 months, 1–2 years, 4–6 years and 6–8 years of age). Three pig mandibles, however, all gave the age at death at the end of their second year. A single cow mandible was aged as an old adult. Mandibular tooth wear for cattle and sheep/goat indicates that the animals were maintained into adulthood; however, two juvenile specimens are also present.

The scope of this study can be widened by plotting the relative frequency of the specimens of the main livestock species by NISP (see Table 18) on the triangular graph presented by King (1988, 54; Fig. 6.4). The slightly higher percentage of sheep/goat at 45%, followed by cattle at 42% and relatively low pig at 13% (the ratios of the three main species calculated out of 100%) placed the Arbury in-track assemblage within the polygon indicating un-Romanised settlements. Based on the arguments offered by King (1991, 18), the Arbury faunal record has on the one hand the characteristics of an un-Romanised settlement (a high sheep count), whilst, on the other hand displays some features of a villa economy (wild species and birds). Given the fact that hunted species are commonly interpreted as a sign of prosperity (*ibid.*), it could be suggested that the two wild specimens recovered from Arbury are an indication of an increased variety of meat in the diet.

In addition to mammal remains, a large quantity of oyster shell was recovered from the site, of which the majority came from substantial ditch on the south edge. It appears that all of the shell fish had been prised opened and consumed (see Timberlake in Collins and Dickens 2009). Shellfish was a popular delicacy in the Roman period, frequently found on a number of sites across Britain, especially those populated by the Roman Army (Davies 1971). D'Arms' study of the culinary practices in Roman upper-class convivia listed some of the foodstuffs consumed at banquets and these include notable quantities of fresh shellfish ('as many oysters as the guest desired') and 'haunches of venison and wild boar' (D'Arms 2004, 431).

	Age	Average weight (kg)	No. of Individuals	Total carcass weight	Total dressed weight
Cow	>4y	450	2	900	540*
Total			2	900	540*
Sheep	<1y	10	2	20	12*
Goat	1-2y	17.5	1	17.5	10.5*
Sheep/goat	>2y	25	3	75	45*
Total			6	112.5	67.5*
Pig	>18m	57	3	171	102.6**
Total			3	171	102.6**

Table 17. Arbury in-track site: Age structure of the domestic species and available meat. * indicates Total dressed weight is 60% of carcass weight; ** indicates Total dressed weight is 75% of carcass weight.

	NISP %			Date	Reference
	Cow	Sheep/goat	Pig		
Arbury in-track site (159)	42	46	12	2nd-4th century	this publication
Stonea Grange (6530)	43	45	12	2nd-4th century	Stalibrass 1996
Puckeridge-Braughing (2264)	39	46	15	2nd-4th century	Fifield 1988
Haddon (846)	42	53	5	3rd-4th century	Baxter 2003
New Hall, Cambridge (813)	38	47	15	2nd-4th century	Yannouli 1996
Cambourne (4471)	57	39	4	2nd-4th century	Hamilton-Dyer 2009
Vicars Farm, Cambridge (1849)	72	24	4	3rd-4th century	Clarke forthcoming
Summersfield, Papworth Everard (654)	73	24	3	Romano-British	Rajkovača forthcoming
Orton Hall Farm (1661)	67	30	3	2nd-4th century	King 1996

Table 18. Percentage of cattle, sheep/goat and pig on Romano-British sites from the region (sample size in brackets).

As the other categories of finds recovered from the Arbury in-track site (pottery, building material and coins) showed the site was occupied throughout and towards the end of the Romano-British period, it is necessary to investigate the somewhat irregular economy pattern suggested by the faunal record. The collection of faunal remains from the site forms an interesting comparison with assemblages from other sites in the region, with the dominant sheep/goat cohort being particularly important. Despite King's arguments about high cattle numbers on Romanised sites, regional patterns of animal husbandry noted here seem to reflect a sheep-based economy. Although small the Arbury faunal record shows almost identical ratios of the main species as four comparable sites. This steadiness in percentages potentially highlights the importance of sheep in this area; however, cattle would have provided a solid contribution of meat even without being the most numerous species.

Some of the sites used in comparison represent local Iron Age farmsteads that continued into the Romano-British period with only minor changes in their economic practices (Puckeridge-Braughing, Haddon, New Hall and Cambourne). The slight prevalence of sheep on Romano-British sites in the region could imply that certain sites were less Romanised in dietary terms (Stonea Grange, Puckeridge-Braughing, Haddon, New Hall and Arbury in-track), while other sites followed the pattern of increasing Romanisation towards the end of the Roman period (Cambourne, Vicar's Farm and Orton Hall Farm). King's emphasis on the prevalence of sheep at un-Romanised settlements appears to be an over-simplification that does not take into account regional factors (King 1996).

The site's later Roman component (third to fourth century AD; see Anderson above) puts even greater emphasis on the argument presented here, as the effects of Romanization in the form of higher cattle numbers should have been visible by the third century AD. An alternative explanation for the patterns observed here perhaps lies in the site's topographical position on Third Terrace river gravels with patches of clay at 12.5m OD (Collins and Dickens 2009). Given that sheep tend to occur in higher numbers on better-drained soils, while cattle numbers are higher on the riverside sites, the animal husbandry of sites at relatively high topographic positions could, therefore, be predicated on the existence of a sheep economy irrespective of whether or not the sites were Romanised in cultural terms.

Discussion

Discussion of the findings at Arbury, particularly those from the in-track site, need not be concerned with questions of period transition or change, as this is a site with its peak of activity during the third/fourth century AD. Determining the nature and status of the site, given the small exposure and recovered assemblages, however, is more problematic.

The Roman rural landscape to the north of Cambridge remains only partially understood. It is clear that it is a relatively 'busy' area in that, as noted above, there have been finds of a possible villa, other buildings, some of stone, stone coffin burials, earthworks, coins and pottery (Alexander *et al.* 1966, 1967, 1968, 1969, Frend 1955, 1956, 1959). The Roman road called Akeman Street runs through the area on a southwest-northeast alignment immediately adjacent to the Arbury Park site and about 285m east of the in-track site. Plotting the known Roman elements in this landscape, however, shows that most of it lies on the east side of Akeman Street (Fig. 16). To the west are finds of earthworks, kiln waste, coins and inhumations but, at least as far as the CHER record is concerned, no buildings. There are, however, elusive references to the possible presence of buildings. In his 1995 paper on the Arbury Iron Age ringwork some 900m to the southwest, Evans notes a description given by Professor McKenny Hughes in 1904 (Evans and Knight 2002, 26). Detailed reading of McKenny Hughes gives the following account:

I learned also from Mr Unwin that when a drain was being cut across *the field south of the railway, and north-east of Arbury*, a thick wall built of bricks and large stones was crossed. These stones shown to me by Mr Unwin as similar to those of which the wall was constructed were fragments of oolite, chalk rock etc., out of the drift. The mortar was so strong that the workmen had much difficulty in cutting through it. The wall was about six feet in thickness and ran from south-east to north-west crossing the drain obliquely. It was only seen where the drain passed through, and, as it does not appear anywhere near the surface, there are no indications from which we can infer how far it ran either way.
(Hughes 1907, 211–212, emphasis added)

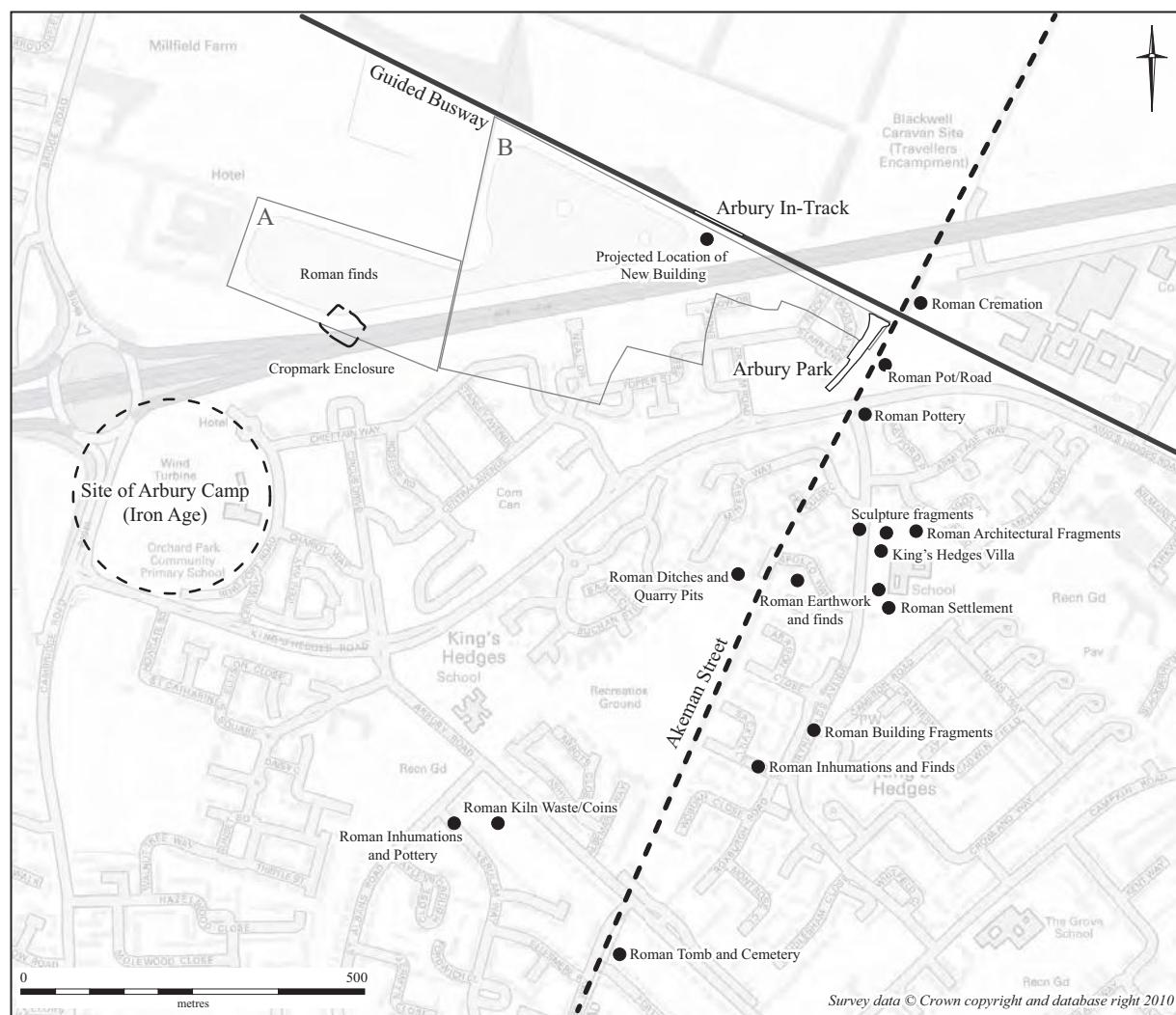


Figure 16. Arbury Sites: Known sites and finds in the wider area. A: “the next field but one on the north, to the east of Cawcutts Farm”, B: “the field south of the railway, and north-east of Arbury”.

He also refers to finds of Roman coins and pottery near to the ringwork most of which “were found in the next field but one on the north, to the east of Cawcutts Farm” (*ibid*, 211, emphasis added).

Examination of a pre A45/A14 map shows that “the field south of the railway, and north-east of Arbury” is the one now largely taken up by the north arm of Impington Lake, and “the next field but one on the north, to the east of Cawcutts Farm” is the field occupied by the southern arm of the same lake. The lake was created in 1977 during construction of the A45 (now A14) and unfortunately, no archaeological work was carried out at that time. The finds reports, the “wall” and Evans’ reporting of a rectangular enclosure on the southern edge of the Cawcutts Farm field (Evans and Knight 2002, fig. 1) suggests that there is also a significant Roman component in the landscape west of Akeman Street. This is much enhanced by the discovery of the building debris, coins and pottery at the in-track site. Casual observation of the lake edges during low water levels in early 2008 showed that

there is archaeological material evident in the ‘shores’, including pottery and tile (D. Webb pers. comm.). It is likely, therefore, that building remains survive beneath the small patch of woodland immediately to the south of the in-track site and around the eastern shore of the lake. The nature of such a building can at present only be hinted at, but the quantity of material from such a small area suggests it may have been substantial. The precise location of Mr Unwin’s wall cannot now be determined, but it must be considered to be either part of the building indicated by the in-track site finds or a component of a larger complex of which the in-track site structure also forms a part.

The pattern of settlement east of Akeman Street demonstrates that, even with a villa present (the King’s Hedges structure is interpreted as being a villa, although the 1995 excavations have not yet been published) there are other buildings, some substantial, in the vicinity as well. The pattern of British villas in the later part of the Roman period does vary, both regionally and through time. In some areas villas are

associated with what Millett describes as "villages" (though not by a Medieval definition). Catsgore in Somerset, for example, reached its peak in the third and fourth centuries when a group of 12 farms, each in their individual enclosures, were probably subject to a villa located some way away (Millett 1990: 208). Catsgore cannot provide a direct analogy for what is happening in a similar period near Cambridge, but does serve to demonstrate that a simplistic "Country House" model of the villa economy does not suffice.

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Middle to Late Iron Age settlement and a Roman palisade at HMP Littlehey, West Perry, Cambridgeshire

Jim Brown

With contributions by Dana Challinor, Andy Chapman, Pat Chapman, Karen Deighton, Tora Hylton and Yvonne Wolfram-Murray

Excavations in advance of development for the new young offenders' institution identified Iron Age and Roman remains. A possible watering hole was established for livestock on unenclosed upland pasture, dated by AMS radiocarbon dating of maple wood to the third century BC. A sinuous ditch had partitioned the areas to either side of the watering hole by the second century BC forming an axial boundary upon which subsequent developments were aligned. There was an increase in pottery deposition and by the first century BC an enclosure, subdivided by a fence and containing scattered internal pits, lay east of the boundary. The fragmentary remains of two possible roundhouses lay to the west. A pond and a well provided water until the early first century AD when straight boundaries replaced the sinuous ditches of the Iron Age but retained the site orientation. By the late first century AD a palisade enclosure was established and smaller utilitarian enclosures lay nearby. Early Roman domestic occupation may have been present within the palisade. Scattered pottery probably accumulated until the late second century and comprised mainly utilitarian jars and bowls in mundane fabrics. Abandonment took place before the mid-third century when the land probably reverted to rough grazing.

Introduction

Northamptonshire Archaeology carried out an archaeological excavation on the former sports fields at HMP Littlehey, West Perry, Cambridgeshire (NGR TL 1500 6595, Fig 1). The work was carried out for Wates Construction acting on behalf of the Ministry of Justice and was co-ordinated by CgMs Consulting Ltd. Excavation was required by Cambridgeshire Archaeological Planning and Countryside Advice (CAPCA) and followed a specification prepared by CgMs Consulting Ltd (Thomas 2008; Gajos 2009). The results of the excavation were assessed and a further program of analytical work was recommended (Field and Yates 2009, 18–19). This article is based upon the planning report that was submitted to CAPCA and will be available digitally on the Archaeology Data Service (ADS) website <http://ads.ahds.ac.uk/catalogue/library/greylit>

The site comprised 0.89ha of relatively flat enclosed

playing field at c. 50m above Ordnance Datum. It lies upon a low ridge between the valleys of the River Kym and Diddington Brook, the latter now dammed to create Grafham Water reservoir. Both are tributary valleys of the River Great Ouse with gently rolling low valley sides and fairly broad floodplains. West Perry lies to the north and the village of Great Staughton lies to the south-west. The parish boundary between the two follows the southern perimeter of the site (Fig 1).

The underlying geology of the site comprises Oxford Clay and Kellaways Beds (British Geological Survey 2001). The soils are of Hanslope Association which tends to be calcareous clayey soils with some risk of water erosion (Lawes Agricultural Trust 1983).

CgMs Consulting Ltd undertook an archaeological desk-based assessment that consulted the Huntingdonshire Archives (CRO), Huntingdon Local Studies Library and Cambridgeshire Historic Environment Record (HER) (Gajos 2008, 4). An undated flint scatter was located 600m to the northeast (HER00485) associated with a former earthwork (HER00485a). A Roman road lay 1.2km to the northeast (HER00506). A mixed cremation/inhumation cemetery, a pottery kiln and various metal-detecting finds were also fairly distant. West Perry was recorded in the 1086 Domesday Survey (Harvey 1975). Saxon brooches and strap ends have been found in the parish by metal detector. Gaynes Hall in West Perry was a medieval moated manor (HER00477) and another was located at Manor Farm (HER00478). Traces of the open fields survive at Manor Farm (HER11366), Crow Spinney (HER11603) and Gaynes Lodge Farm (HER11604). HMP Littlehey lies within a thirteenth-century park that belonged to the Gaynes Estate (Way 1997). Documentary evidence of the thirteenth-fourteenth centuries refers to 'Littlehey Park', although its exact location is speculative.

The current Gaynes Hall is a Grade II* Listed Building redesigned by George Byfield, c. 1800, incorporating elements of seventeenth century date (Pevsner 1968). Gaynes Park was recorded in the seventeenth century, covering 256 acres, east of the hall. In the nineteenth century this was extended further to the west (Way 1997). An estate map of 1801 shows the north part of the development named sheepwalks

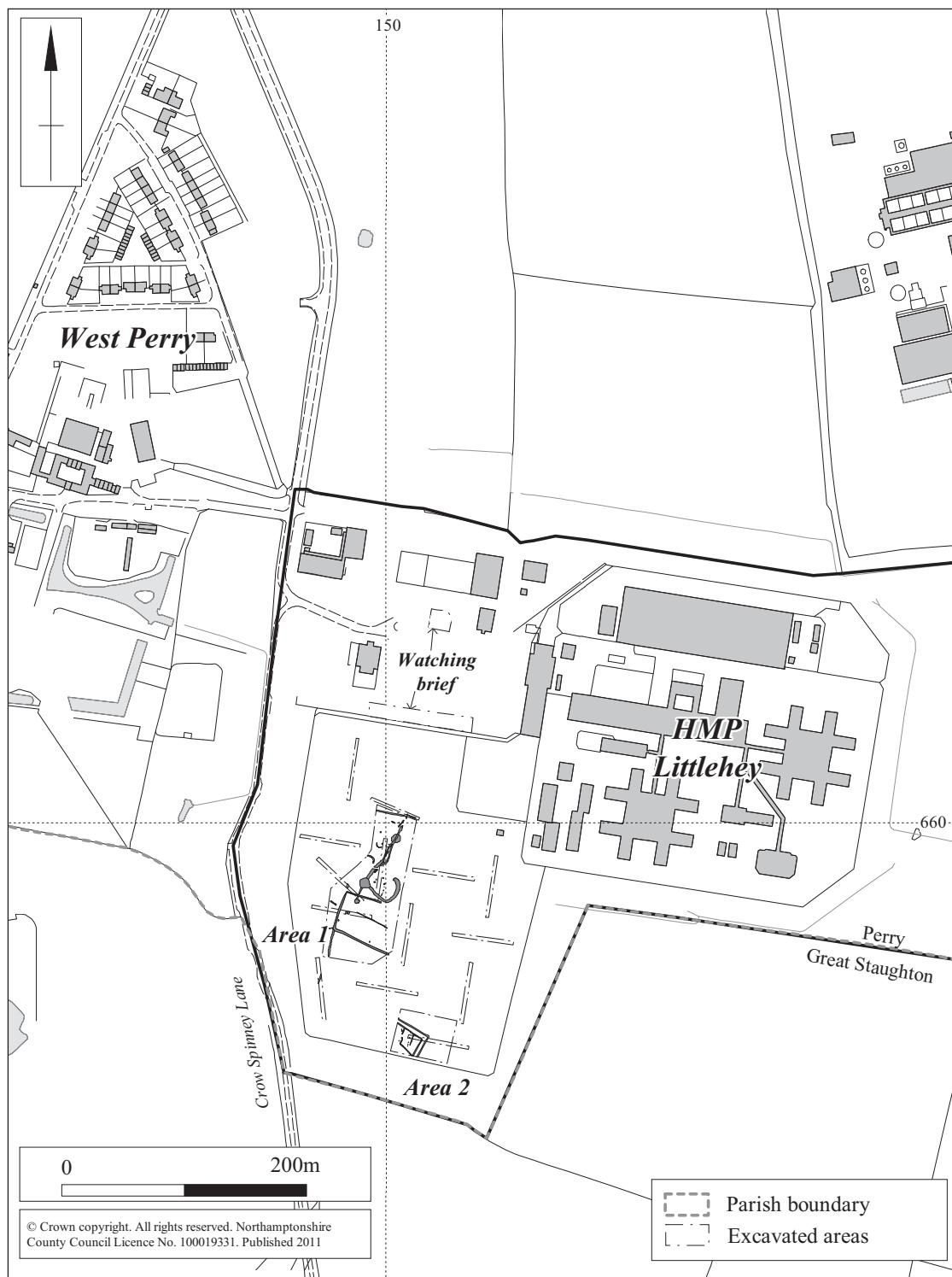


Figure 1. Site location.

(CRO38/22). The Inclosure map of 1807 shows a disused duck decoy pond at Crow Spinney (HER0487). Ordnance Survey maps since 1835 depict the progressive development of enclosed parkland, used for agriculture, up until the Second World War. Gaynes Hall was requisitioned during the war for use by the Special Operations Executive, Station 61. It functioned

as headquarters and billet for air liaison officers and agents. After the war the hall became the administrative office and residence of the governor for Gaynes Hall borstal. Ordnance Survey maps show the borstal layout from 1952 onwards, and minor extensions between 1970 and 1980. The borstal was replaced by the current Category C men's prison in 1988.

Disturbance from the construction of the borstal in the 1950s and subsequent levelling for the sports field was anticipated (Gajos 2008, 14). There had been no archaeological work prior to the watching brief during a survey seeking unexploded ordnance (Fig 1). This was followed by trial excavations which revealed Iron Age and Roman remains likely to be affected by the construction works (Northamptonshire Archaeology 2009).

The excavation of Area 1, 0.57ha in extent, was targeted upon features associated with a principal boundary of Iron Age date, with overlying Roman occupation, and Area 2 examined an area of 0.17ha, containing an ancillary Roman enclosure. Topsoil, subsoil and modern overburden were removed by a tracked excavator, fitted with a toothless ditching bucket, working to the surface of the archaeology or, where this was absent, the natural substrate (Fig 2).

The archaeological remains fell into four periods, grouped by character and date, summarised in Table 1.

Table 1. Summary of site chronology.

Period (date)	Nature of activity
Neolithic to Early Bronze Age	Residual flint in Iron Age contexts
Middle to Late Iron Age (third century BC – early first century AD)	An enclosure and two possible roundhouses with domestic pottery and quern fragments lay adjacent to a pond and axial ditch, colonised with field maple and blackthorn
Roman (late first – second centuries AD)	Straight ditches replaced existing overgrown or silted boundaries, a palisade enclosure and scattered pottery formed the focus of occupation supported by ancillary enclosure nearby
Roman disuse (mid-second – third centuries AD)	The site was abandoned and left to regenerate, ditches silted naturally and the land probably reverted to rough grassland

Residual Neolithic to Early Bronze Age worked flint

The worked flint was examined by Yvonne Wolfram Murray. There are six flint flakes, of which two are broken, recovered from Iron Age contexts. The flint is in good condition with little post-depositional edge damage. The source of the raw material is the local gravel. Technologically, the artefacts do not conform to a particular period and date from the Neolithic to the Early Bronze Age.

Middle to late Iron Age settlement

Initially the land was probably unenclosed and was occupied by a single large pond during the third century BC, which may have served as a watering hole for livestock (Fig 3, watering hole 3077). By the second century BC a ditch aligned on the watering hole formed an axial division, north-east to south-west.

Enclosure E1 was added to the south-eastern side of the boundary, surrounding an area that contained scattered pits. To the north-west lay the fragmentary remains of two roundhouses, R1 and R2.

Study of animal bone, by Karen Deighton, indicated that fragmentation and abrasion were fairly high, together with canid gnawing. Butchery knife marks appeared on a single cattle bone. The site supported a small range of common domesticates with the dominance of cattle in the late Iron Age, together with some sheep/goats. Moderate preservation, fragmentation and little ageing or metrical data made further interpretation impossible.

The pottery, examined by Andy Chapman, comprises 691 sherds, weighing 5.27kg, from hand-built vessels dating to the middle to late Iron Age. The average sherd weight is 7.6g, typical of assemblages from smaller Iron Age settlements in the South Midlands that contain a high proportion of shelly ware, which is typically soft, prone to leaching, and usually highly fragmented and abraded. The coarse shelly fabric makes up over a half of the assemblage and these sherds often derive from thick-walled jars. The fine shelly wares make up a further 15% of the assemblage. The sandy fabrics form 20.4% of the total and occur in small numbers in a wide range of contexts. The grog ware is only 5.6% of the assemblage by sherd count, and has a limited distribution, which is discussed below in relation to the site chronology.

The assemblage is dominated by body and base sherds. There are a limited number of rims, and when present these are usually very fragmentary. They are typically simple upright rounded or flattened rims. There are few joining sherds and many small groups. It is not possible to define vessel forms, but the likely range can be inferred by reference to other contemporary assemblages. It is suggested that the assemblage was dominated by medium and large jars with the presence of some smaller jar or bowl forms in fabrics containing either fine crushed shell, sand or a mixture of the two.

Possible watering hole

Watering hole 3077 was 7.2m wide and 2.55m deep. The profile showed a gradual slope along its east side that may have allowed animals to drink (Fig 4). The slope steepened towards the deepest part and had a flattish slightly concave base. The west side was too steep to serve a similar purpose, a difference that may relate to the land use on either side of the watering hole. Merging gleyed layers of mottled grey to greyish-brown clay silt filled the watering hole representing sequential deposition of waterborne sediment.

The watering hole lay at a low point of the site and was a natural collection point, made more efficient by the subsequent addition of ditches. It received some maintenance during its use as the uppermost fills were contemporary with ditch fills and recutting of the ditches had clearly necessitated cleaning out and digging at the edges of the watering hole on more than one occasion.



Figure 2. Area 1 excavations facing north-west.

The lowest sediments were waterlogged and contained dark grey silt 3076 from which four large pieces of roundwood were recovered, together with six sherds of pottery, weighing 21g. The wood was identified by Dana Challinor as boughs from a mature field maple. A sample of wood from this fast growing species was submitted for radiocarbon dating and has given a date of 400–200 cal BC (98% confidence, 2250 ± 40 BP, Beta-270497). As with all radiocarbon dates in the middle Iron Age there are two possible date ranges at the 68% confidence level, 390–350 cal BC and 290–220 cal BC, with the third century option having the higher probability at over 40%.

The combined sediment layers produced 62 pottery sherds, weighing 417g, spanning the middle to late Iron Age with distinctive later sherds from the highest levels. These mainly comprised plain body sherds, with several sherds from scored ware vessels, typically large, thick-walled jars, up to 13mm thick. These are characteristic of middle Iron Age assemblages in the South Midlands. A rim sherd has fingertip decoration immediately below the rim, which is characteristic of the early part of the middle Iron Age, while the presence of smaller, finer, bowls that are typically black throughout and often with smoothed or burnished surfaces, would suggest a date late in the use of scored ware. The scoring comprises crudely executed lines running obliquely down the vessels in roughly parallel lines.

Principal boundary

This axial boundary comprised a series of discontinuous elements along a north-east to south-west align-

ment (Fig 3). The initial cut was probably ditch 3069, subsequently recut in an eastward progression by ditch 3054 at a time after the water hole had already substantially silted up. The alignment of the boundary continued to the north of the pond as a series of short lengths of gully.

To the south-west a single sinuous ditch formed the boundary, somewhat irregular in plan, showing considerable variation in both size and shape. The original ditch was less substantial than later recuts. Ditch 3069 was 0.45m wide by 0.20m deep with a barely perceptible break of slope that dropped into a rounded base. Ditch 3054 was 0.87m wide by 0.23m deep with fairly shallow rounded sides. The ditches had been heavily truncated in the 1950s. Towards the south both ditches were deeper but suffered badly from vertical truncation, making them hard to trace. Ditch 609 was 1.2m wide by 0.50m deep and ditch 611 was 1.0m wide by 0.55m deep, both exhibited slightly eroded 45–50° sloping sides but had generally flattish bases. The fills suggested gradual silting, rather than deliberate infill with only seven pottery sherds in total, weighing 40g.

Settlement

The principal boundary was broadest in its central section where ditch 3204 was 1.9m wide and 1.1m deep with a steep-sided profile and broad rounded base. These larger dimensions were a result of the addition of Enclosure E1, which was open to the north and abutted the south-east side of the boundary (Fig 3). Internally, the enclosure was 23m by 16m, an area of 0.04ha. Ditch 3240 was 1.75m wide to the south and

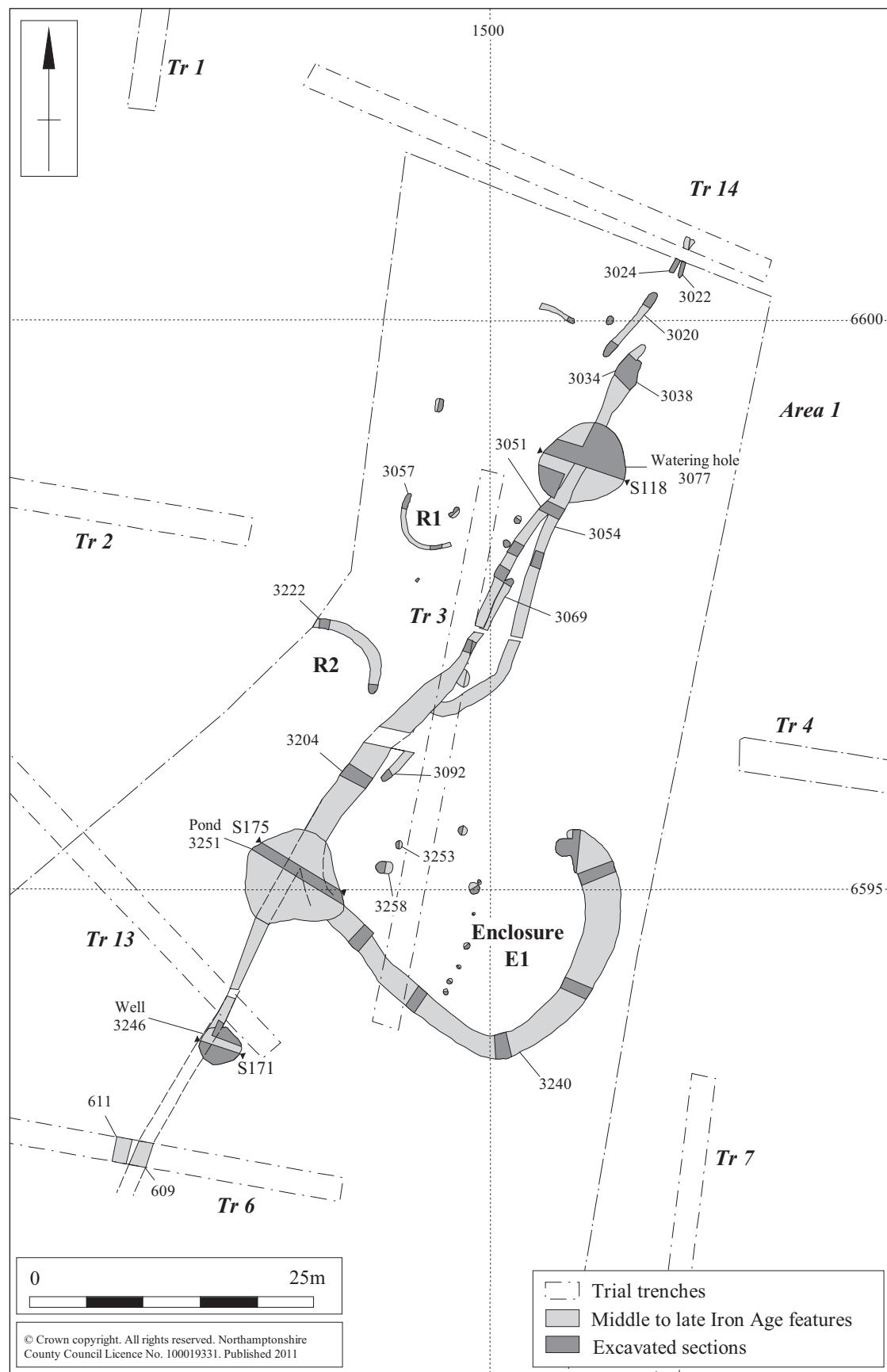


Figure 3. Middle to late Iron Age features.

widened to 3.50m to the east, with a typical depth of 1.0m throughout. The orange-grey silty clay fills, probably derived from material washed into the ditch combined with sporadic dumping of domestic waste in ditch 3204 that included a total 141 later Iron Age pottery sherds, weighing 2,124g, almost half the weight of the total assemblage. The group includes two large thick-walled scored ware jars, a small burnished bowl and a scored ware jar with latticework decoration on the body and regular finger-tip impressions around the rim (Fig 5). This more regular form of scored decoration has been seen at other South Midland sites in contexts dating to the first century BC.

Cattle, sheep or goat bone, and a possible coarse millstone grit quern fragment comprised the other finds. Seeds were preserved by charring and waterlogging and were examined by Karen Deighton. Fat hen (*Chenopodium album*) was the only wild/weed plant taxa present, there were four possible spelt grains (*Triticum aestivum*) which were fragmented and heavily abraded. A single pea (*Pisum sativum*) was also identified. The charcoal from enclosure E1 was examined by Dana Challinor and is likely to have derived from domestic fires deposited alongside other rubbish. The wood used for fuel is of hedgerow or scrub species. Ash and blackthorn are light-demanding, but buckthorn is shade-tolerant, so a range of habitats were represented consistent with the evidence from other Iron Age settlement sites where the use of scrub for fuel resources has been noted (Smith 2002).

Little can be said of the local environment of the site. The mollusca present indicate the presence of standing water, as does the presence of waterlogged wood in watering hole 3077. The amount of charred plant material is of a fairly ordinary level comprising material blown or washed into the features from activities elsewhere.

A line of six postholes partitioned the enclosure. The postholes were unevenly spaced, 1.0–2.7m apart, generally rounded, with steep near vertical sides and narrow rounded bases. Their dimensions were in the range of 0.25–0.5m wide by 0.11–0.18m deep. None of the postholes produced finds.

To the north-west of this partition were four discrete pits. The largest pit, 3258, was oval, 1.5m long by 1.0m wide by 0.28m deep. It had curving sloped sides that met in a rounded bowl-like base. The fill contained a slab of fired clay which is hard, cracked and easily fragments, 110mm by 90mm by 30mm thick, orange on one side and purple to black on the other. Pat Chapman examined the fired clay and considered it to be the lining from around a hearth or other heated surface that has survived in a clump rather than as fragments. The pit also produced 12 pottery sherds, weighing 49g. The other three pits were generally smaller, but of similar rounded forms and contained variations on the same mid- to dark brownish-grey charcoal-stained sandy clay, none of them produced finds. Pit 3253, which was adjacent to pit 3258, contained a moderate concentration of burnt flint. Together, these pits give a general impression of activities that may have involved heating water.

Two curvilinear gullies lay west of the principal boundary (Fig 3). They may have been the remnants of ditches that had surrounded the roundhouses, R1 and R2, but were badly truncated.

Semi-circular gully 3057, R1, was open to the north-east; the arc was 6.5m long and 5.0m across, which would have encircled an area 8–9m in diameter. The gully was 0.6m wide by 0.23m deep and its profile had gently curving sides and a flattish base. To the south-west a more substantial semi-circular gully, 3222, would probably have encircled an area of 10–11m diameter. A shallow curved profile survived, 0.5m wide by 0.16m deep. The fill of both features produced Iron Age pottery. Six shallow pits in the vicinity of Roundhouse R1, contained dumps of burnt stone. Two of these were adjacent to the boundary ditch and two intercutting pits lay within the roundhouse perimeter, perhaps the remnants of a former hearth. None of the pits produced datable finds and it would seem that the roundhouses were occupied for a very short space of time. The presence of smaller, finer, bowls with smoothed or burnished surfaces may suggest that domestic activity was concentrated within the first century BC.

Late Iron Age water sources

Two substantial rounded pits produced pottery dating from the later Iron Age, well 3246 and pond 3251 (Fig 3). They were probably successors to the water hole 3077, but appeared to function in slightly different ways.

Pond 3251 lay at the junction of the Iron Age ditches 3204 and 3240, where the surviving depression would have been likely to pool water. The pond was the larger of the two water sources, but was far too steep-sided to allow cattle to drink without risk of plunging in (Fig 4). It was 4.9m wide and was hand excavated to a depth of 1.1m. The basal fill comprised dark greyish-brown clay silt 3265 containing infrequent white flecks and it had a clear horizon with the greyish-orange clay silt 3264 that was above it. Above this, variants of orange-grey silty clay 3263 comprised gradual accumulations of material washed in from the surrounding area that merged towards bluish-grey and yellow mottled silty clay 3250. The pond was deliberately filled at the surface with mid- to dark greyish-orange silty clay 3249.

Well 3246 lay at the southern terminal of the ditches and was 4.3m wide by 1.3m deep, somewhat smaller than pond 3251 and lay outside Enclosure E1. It had very steep edges, although one side was stepped and could have allowed water collection from the sink-hole by means of a bucket, waterskin or other receptacle (Fig 4). The upper edges of the profile were heavily eroded and extremely uneven where disturbed in antiquity. Sedimentation towards the base was fairly minimal, comprising firm grey silty clay 3245 with charcoal flecks. The overlying dump of material was grey silty clay 3244 mottled with russet iron salt streaks and a similar, slightly more yellowish-brown silty clay 3243 was dumped in the north-west side of

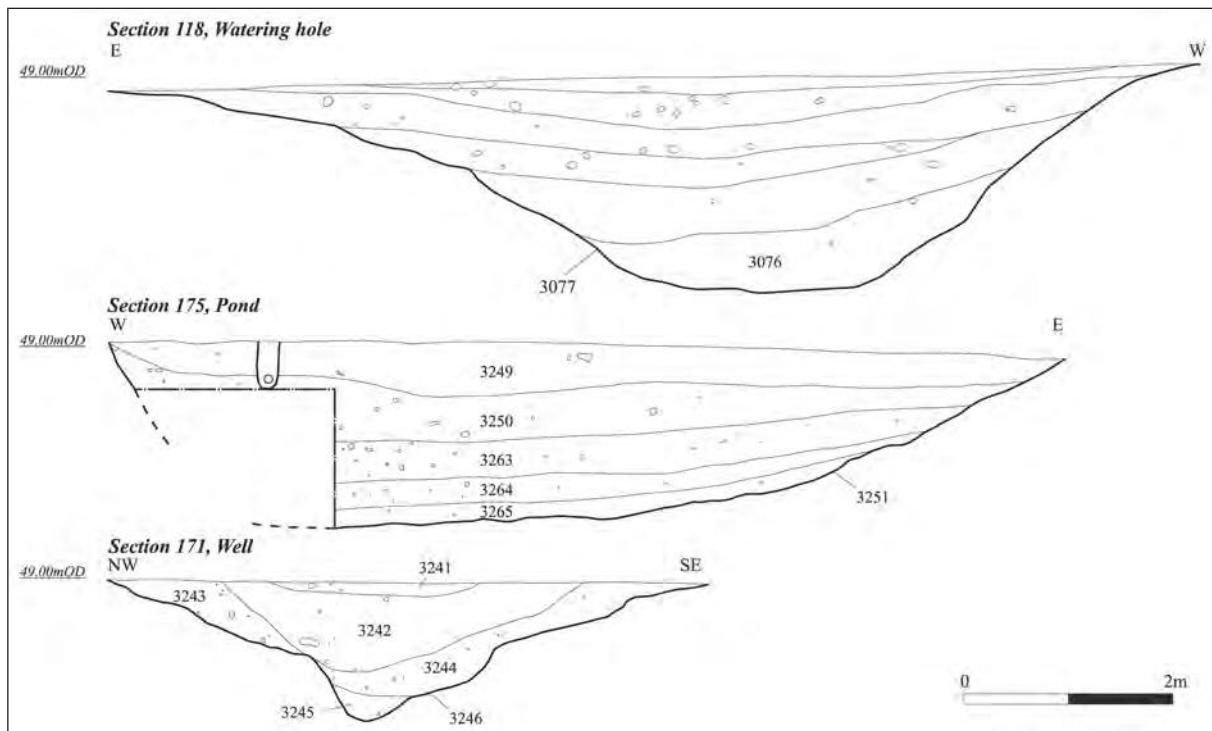


Figure 4. Iron Age water sources.



Figure 5. Iron Age jar with semi-regular latticework scoring (Scale 50mm).

the fill. Both deposits were overlain by dark greyish-brown silty clay 3242 that merged towards a slightly darker, charcoal smeared patch, at the surface.

Planorbid molluscs, identified by Karen Deighton, included freshwater taxa, indicating the feature was open longer than other pits. Terrestrial taxa are a mixture of grassland and shade loving species, commonly found in most temperate environments where cultivated land, grassland, low ground cover shrubs or hedgerows and scattered trees are found in combination. Their deposition in the upper portions of fill suggests deliberate infill. The quantity of molluscs

is moderate, indicating a healthy environment that could easily have included both good quality grazing and arable land.

Late Iron Age reorganisation

The irregular arrangement of middle Iron Age boundaries were replaced by a more regular arrangement that was probably created in the early first century AD and were in need of maintenance by the end of that century. These features extended beyond the middle Iron Age settlement (Figs 3 and 6). The ditches

retained the general orientation of site. There was an overall extension of enclosure that parcelled land into smaller units.

Initially the alignment of the Iron Age principal boundary was respected by ditch 3108 (Fig 6). This was shallow with an eroded U-shaped profile and was 1.6m wide by 0.4m deep. The silty grey fill was indicative of gradual sedimentary wash accumulated from the sides. The ditch may have continued to the north, into an area obscured by extensive modern disturbances. The presence of pottery containing grog suggests it was laid out in the early decades of the first century AD.

To the north ditch 3046 was aligned east-west and may have formed part of the reorganisation. Ditch 3046 was 0.84m wide by 0.41m deep; it had fairly steep sides that sloped sharply towards a flattish base. In parts the ditch showed signs of water erosion, creating more curved sides. Its fill was characterised by sedimentary wash.

Another ditch, 3126, extended westward from ditch 3108. This was 0.44m wide by 0.22m deep with a rounded U-shaped profile and is likely to have been contemporary with ditch 3108.

Discussion

The radiocarbon date was useful in support of artefactual assemblage studies. There was a broad correlation between the date of the initial sedimentation of the watering hole and the first middle Iron Age pottery in its fill, which placed this event at the end of third century BC and the beginning of the second century BC. Occupation was therefore from the middle Iron Age and into the Roman period, with no evidence for early Iron Age occupation.

It was generally clear from the study of stratigraphic relationships and artefact deposition that initial development focused around a possible watering hole. In an unenclosed landscape this feature was the first evidence of human management practice and may have served livestock grazing upland pasture. The watering hole probably existed as the sole landscape feature for a period of time, as little pottery occurred in its basal sediments until it had accumulated a fair proportion of other non-domestic materials such as hill wash, dead wood and leaf litter.

The watering hole was subsequently developed with an axial boundary ditch as pottery and animal bone deposition gradually began to increase. The ditch probably served a dual purpose; it channelled water and divided the land. This increased investment in the management of previously unenclosed land remained more or less consistent for a period of time, with the boundary occasionally receiving maintenance. Artefacts accumulated through casual losses and discards, rather than by dumping. Such activity lay slightly further from domestic areas and was the state of affairs for the larger part of the second century BC.

The situation changed by the first century BC and

it is possible that at least two roundhouses (R1 and R2) stood to the west of the boundary and an enclosure (E1) lay to the east of the boundary, perhaps for animals. Animal bone as a whole remained infrequent at a time when its accretion might be expected to be most prominent, suggesting that preservation conditions probably distort their contribution to the study. The axial ditch may simply have marked a divide between farmland and the area of human habitation, but it is uncertain how soon the domestic occupation took place due to modern truncation.

Pottery was the principal domestic artefactual component of the site. Thirty-nine out of sixty contexts producing pottery contained less than ten sherds, and only eight contained more than 100g. The larger groups include two sections through watering hole 3077, producing 417g and 269g respectively. The major group is the assemblage of 2134g from ditch 3204. This group contains larger sherds that are evidently from a small number of vessels, with the 141 sherds forming nine sherd families. The small groups contain little diagnostic material but the presence of scored ware and the dearth of other forms of decoration define the overall balance of the assemblage as middle Iron Age in character.

Pottery containing grog forms 5.6% of the assemblage by weight and these were present in only seven of 60 contexts that contained Iron Age pottery. Three of these, ditches 3108, 3126 and 3145, are closely associated with enclosure E2. Pond 3251 and well 3246 also contained grog ware. The distribution and associations indicate that the pottery containing grog dates to the final phase of Iron Age activity, probably the early first century AD. This suggests that the reorganisation of the site took place in the early decades of the first century AD and was retained in that form until its abandonment.

Enclosure E1 appeared to have been created to care for valuable livestock in close proximity to the settlement, perhaps milking cows, goats or sheep. There were no pig bones, perhaps an indicator of generally low affluence or a largely cleared landscape lacking in mast and unsuitable for pannage which is generally associated with woodland. A quern fragment in coarse sandstone was recovered. The only cereal grains from the site were recovered from ditch 3204 they included a small quantity of wild/weed seeds and some possible spelt wheat, there was no chaff and the seeds do not represent a primary dump or processing waste. A subsistence-based household economy, perhaps for a single family unit, seems to have been present within a short space of time. Roundhouses R1 and R2 may represent gradual migration of settlement towards the boundary from the west. In this instance a good place to look for earlier structures might be to the west of Crow Spinney Lane (Fig 1). However, it is very probable that given the general scarcity of remains, there may be no wider settlement at all.

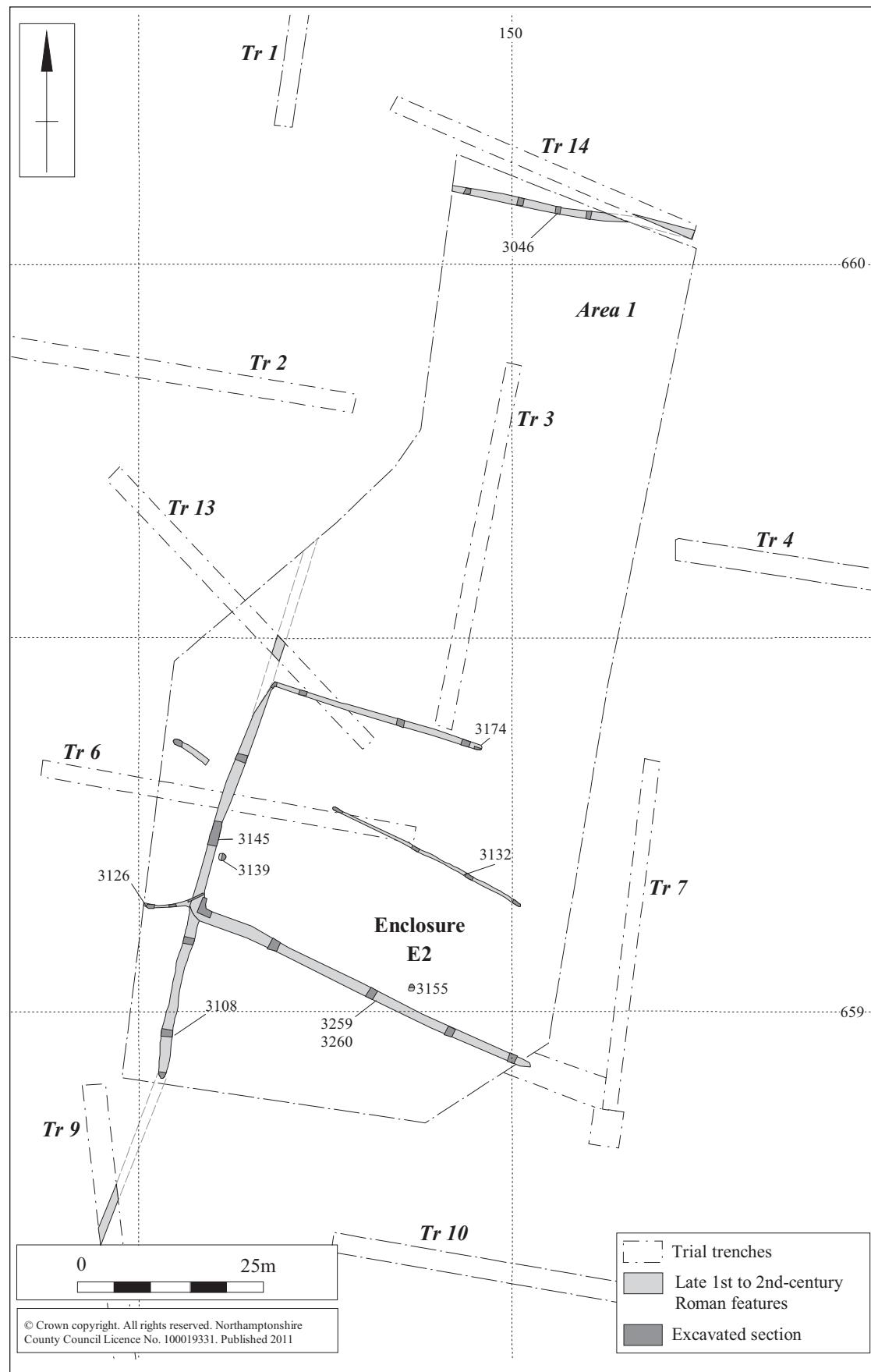


Figure 6. Late Iron Age to early Roman features, Area 1.

Late first to second century Roman occupation

Changes to the arrangement of land boundaries enacted in the early first century AD were the basis for the Roman enclosures. A wider distribution of boundaries was established, within which were smaller utilitarian enclosures, possibly with structures (Figs 6–8, E2–E3). Evidence for Roman domestic occupation immediately nearby was generally poor but did not exclude the possibility of some less substantial buildings. Whilst cattle bone continued to be present alongside goat or sheep, its incidence was significantly lower and noticeable mainly in areas expected to disturb Iron Age contexts in enclosure E2, indicating the probable residual nature. However, one sixth of the animal bone assemblage by count comprised horse bones, almost entirely from enclosure E2. Dog bones were noted for the first time and pigs were absent. Enclosure E3 by contrast produced no animal bone, cattle or otherwise. A quern, examined by Andy Chapman, indicated processing of cereals. This upper grinding stone fragment, recovered from ditch 2065, is 23–37mm thick and from a stone in millstone grit that would have been 450–500mm in diameter. The thinness of the stone, the minimal curvature of the grinding surface and the dimpled tool marks upon it, are all characteristic of Roman flat rotary querns. However, there was a lack of primary cereal processing waste, either a result of preservation conditions or because such activities did not take place at this location. Scattered Roman pottery, examined by Tora Hylton, comprised mainly utilitarian jars and bowls in mundane fabrics and there were no primary domestic waste dumps or ceramic building materials and only one metal find, an iron nail from enclosure E3.

There are 146 sherds of Roman pottery with a combined weight of 1.29kg from 30 contexts. The distribution was roughly equal between the excavated areas. The condition of the pottery is good, fragmentary, with few diagnostic sherds. The overall average sherd weight is 8.3g. Some of the sherds display signs of abrasion. The assemblage is dominated by locally-produced coarse wares in greyware (52% by weight) and shell-gritted fabrics (33%), together with a small group of undiagnostic sand-tempered wares (12%). The range of forms suggests a late first to mid-second century date. A single sherd of Lower Nene Valley colour-coated ware extends the date range to c. AD250.

Greyware forms, some originating from the Lower Nene Valley industry, comprise necked and neckless jars, a shallow bowl/dish (Howe *et al.* 1980, fig 2, 18) and a wide mouthed bowl. Shell-gritted wares are represented by a jar with lid-seating (channel rim), necked jars and a storage jar. A single sherd of Samian ware, from a drag 36 dish, dates to the late second century (Webster 1996, 46).

Palisade enclosure E2

An almost uniform rectangular enclosure (E2) was attached to the eastern side of ditch 3108, in the same way that the earlier enclosure (E1) had been added to

its antecedent (Fig 6). The palisade area was 40m by 35m, an area of c. 0.14ha. Domestic waste was sparse and the open eastern side is probably the result of truncation given their varied depths.

The boundary ditches or slots were narrow, no more than 0.5m wide, with near vertical sides and flat bases (Fig 7). The south side, slot 3259, was 0.5m deeper than its north counterpart, slot 3174, which was only 0.3m deep. Slot 3145, cut through ditch 3108 on the west side of enclosure E2, and exhibited the same characteristics. It was 1.0m wide by 0.84m deep with sharp near vertical sides and a broad flat base. The profiles were atypical of enclosure drainage ditches and were more characteristic of a slot to hold a timber palisade. The south and west sides of enclosure E2 indicated later disturbance to the upper profile of the sides, increasing the apparent width at the top, perhaps a by-product of removing the palisade timbers and filled in thereafter. The cut was near vertical, up to 0.75 wide by 0.50m deep along the south side and up to 1.05m wide by 0.90m deep along the west side.

A narrow gully, 3132, formed a central partition along the length of the enclosure. It was no more than 0.44m wide by 0.25m deep, rounded with a flattish base. The fill was mid-bluish-orange and grey speckled silty clay and its function was not clear. If associated with a structure, then nothing else survived. Its position marked a partition of enclosure E2.

Two small circular pits, 3139 and 3155, lay within the enclosure. Both pits lay close to the palisade but were distant from one another. Pit 3139 was 0.46m wide by 0.18m deep and pit 3155 was 0.6m wide by 0.4m deep. Both contained darkish grey silty clay stained with charcoal.

Enclosure E3

Enclosure E3 lay to the south (Fig 8). It comprised two small paddocks separated by an internal partition, positioned at the north-east corner of an enclosure that extended beyond the excavated area. This sub-enclosure was bounded by a double ditch on the north and east sides. Enclosure E3 was c. 16m long by c. 14m wide and encompassed an area of 0.02ha with an entrance in the centre of the north-west side. Finds from the enclosure indicated abandonment by the mid-second century.

The outer ditch, 2034, was 0.95m wide by 0.45m deep. It had distinctive steep sloping sides that met towards a V-shaped base with a slight rounded curvature of the sides indicative of erosion. It was filled with light to dark greyish-brown silty clay with black and orangey-yellow mottled variations produced through sedimentation with occasional episodes of silt wash. The inner ditch formed the north and east sides of enclosure E3, ditch 2065. The two ditches were c. 6m apart; the ground between them contained no other substantial features. Ditch 2065 was 0.5–0.6m wide by 0.25–0.30m deep, and was similar to ditch 2034. The fill demonstrated a clear difference between silting at the base and deliberate infill towards the surface.

The ditches that defined the perimeter of enclosure

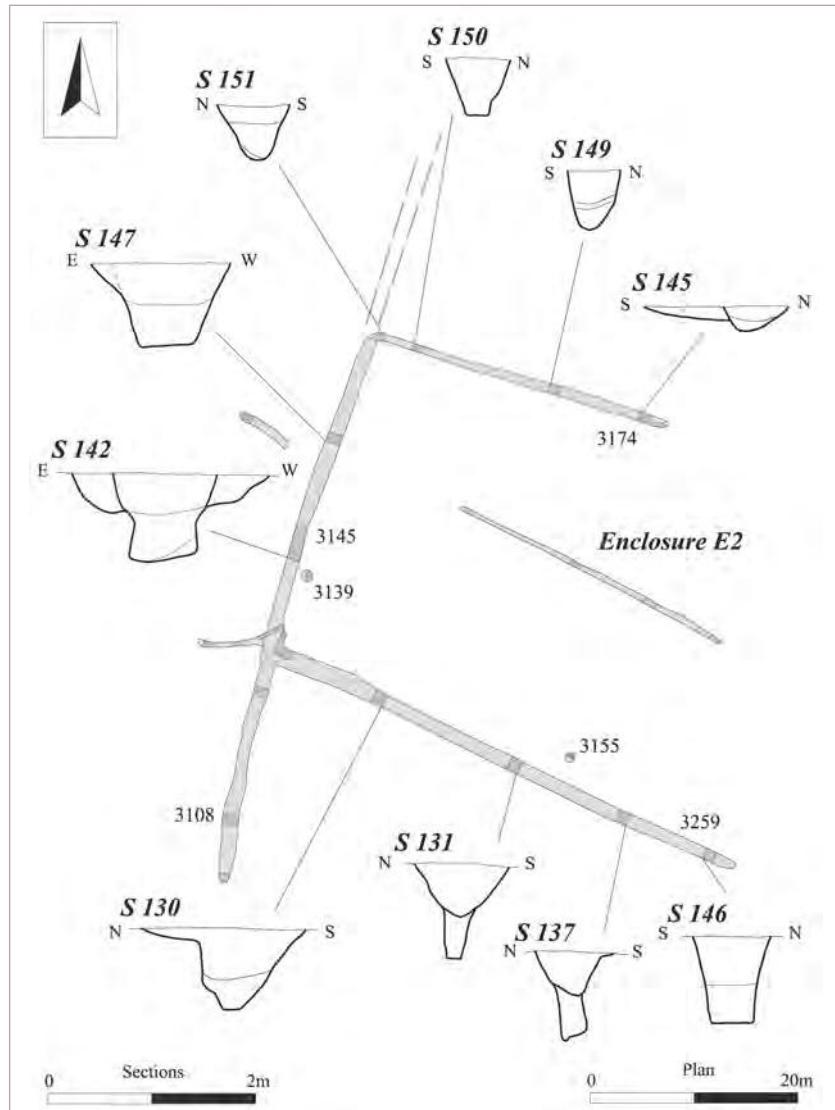


Figure 7. Palisade sections, Enclosure E2.

E3 were 2014 and 2046, to either side of the entrance, and ditch 2065 around its north and east sides. The entrance was 3.5m wide. The surrounding ditches were generally 0.60–0.86m wide by 0.25–0.38m deep, steeply angled curving sides met in narrow rounded bases. Fill material was mainly light greyish- and orangey-brown sandy clay, speckled with moderate chalky flecks.

The enclosure was divided into front (west) and rear (east) segments relative to the position of the entrance. Ditch 2077, 0.5m wide by 0.3m deep, created this partition with a terminal end towards the south, leaving a crossing between the two segments. Sharp sloping sides met in a V-shaped base. Three fragments of white mortar from this ditch, examined by Pat Chapman, are the only Roman building materials from the site.

A line of four postholes lay parallel to ditch 2077. The postholes were unevenly spaced at 2.0m, 3.5m and 7.5m intervals. They were consistently circular,

less than 0.5m in diameter and up to 0.28m deep, which would have housed substantial timber posts. A few packing stones were evident. A single posthole 2070 was present in the north-eastern angle of the enclosure that was 0.18m wide by 0.10m deep.

Features outside enclosure E3

Pit 2049 lay within the entrance; it was rounded, 0.9m wide by 0.30m deep and filled with firm orangey-brown silty clay. The pit contained a single sherd of Roman shell-gritted pottery and an iron nail, identified by Tora Hylton, with a T-shaped head, representing a Manning type 3 (1985, fig 32). Pit 2028 lay further to the south, outside the enclosure and away from the entrance. It was 0.40m wide by 0.13m deep with gently curving sides and a rounded base, containing dark grey charcoal stained silty clay and another sherd of shell-gritted pottery.

A further group of seven pits or postholes (P1) were

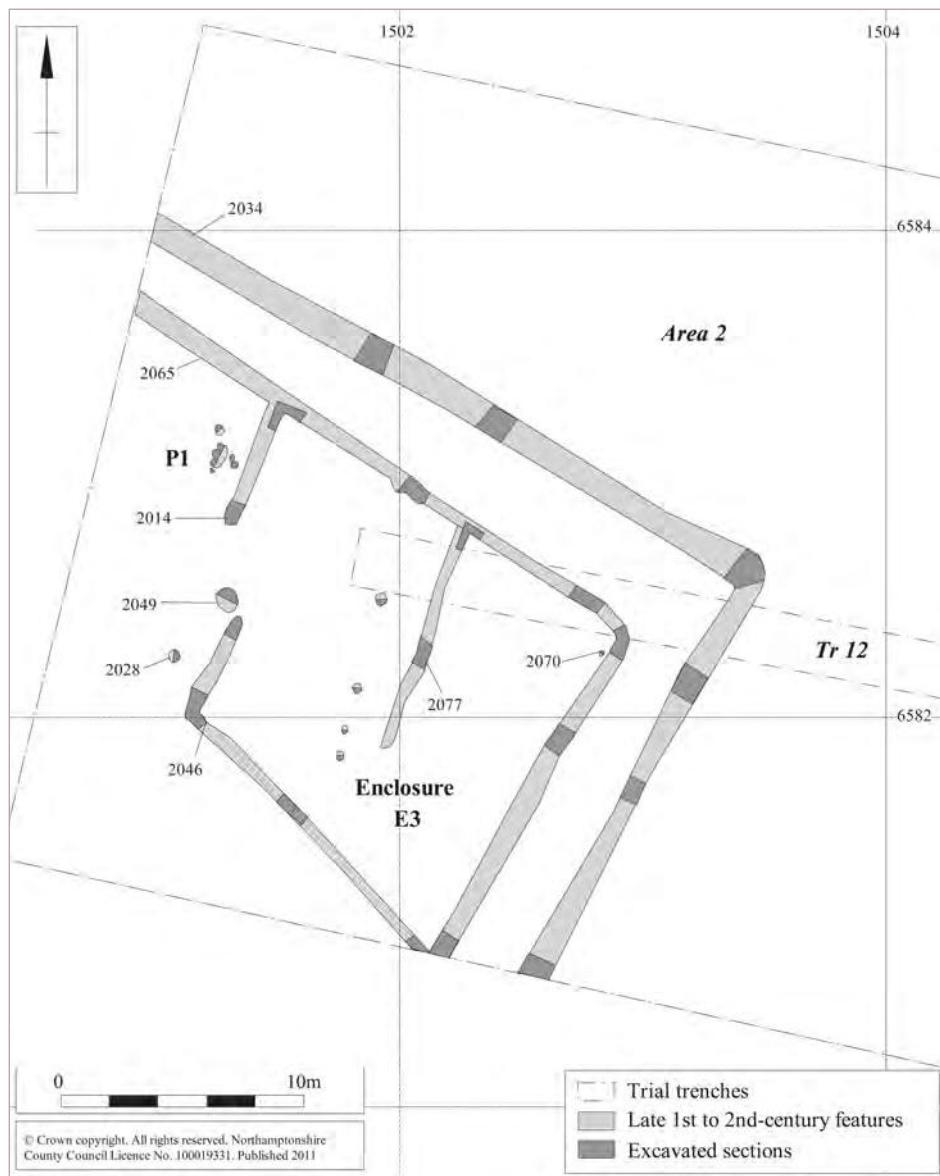


Figure 8. Late Iron Age to early Roman features, Area 2.

clustered together on the north side of the entrance. The features were all generally rounded, but they had no distinctive distribution to suggest a structure. The largest was 0.65m wide by 0.30m deep, but most were c. 0.22m wide by 0.20m deep. In general they had fairly sharp, sometimes steep, sloping sides and rounded bowl-like bases more like postholes than pits. None of them contained finds.

Discussion

The palisade (E2) was constructed subsequent to the wider ditch system being reorganised, probably within a fairly short space of time, as it seemed to be the successor of enclosure E1. A palisade was inferred by the shape and dimensions of the slots that

remained (Fig 7). The sharp, narrow, profiles were similar to the steep profiles observed in a continuous trench along one side of a large ditch at Manor Farm, Silchester (Fulford 1984, 40). The principal difference was their context; the palisade at Silchester was probably part of the defences, whilst the example at Littlehey appeared to be non-military. Pottery obtained from the fills indicated that the palisade was probably removed in the late second century. A palisade is an unusual feature on a rural site and would tend to suggest a great measure of value attached to its function. There was, unfortunately, a general lack of evidence to expand upon this. Less substantial features, such as sill beam buildings, may have been lost to modern truncation, like the south-east side of the palisade slots, and no postholes survived. The association with horse bones may be significant, but the

loss of the well and the larger pond before the late first century AD, suggested that any animals were not kept here permanently or that other water sources were available outside of the excavated area. The period of use bridged the first to second centuries AD and may have continued until the late second century AD when all of the Roman features were filled in or had been abandoned.

Enclosure E3 was clearly part of a wider Roman ditch system and much of its pottery is of the mid-to late second century AD into the early third century AD, perhaps surviving slightly later than the palisade. It produced the single example of Lower Nene Valley colour-coated ware providing the likely date of abandonment before the mid-third century. A complete absence of other artefacts or environmental data, including animal bone, made this enclosure extremely difficult to interpret, although it probably contained a small post-built structure, there is no evidence for its specific function. A double ditch around its north-east side was spaced at c. 6m width, which perhaps bounded it within the corner of a larger enclosure and flanked a bank or hedgerow. Attempts to identify its continuation beyond Area 2 were unsuccessful.

Roman disuse

The frequency of late second and early third-century pottery dropped significantly. A single piece of Lower Nene Valley colour-coated ware from ditch 2065 tends to support an early abandonment before the mid-third century. This particular Roman fabric was prevalent in the Cambridgeshire region, replacing other finewares as the favoured pottery type (Jackson and Potter 1996, 474–475). A near absence of the fabric suggested that the enclosures were probably abandoned by the third century and Roman domestic activity ceased. Finewares were generally used for domestic purposes such as tableware, drinking vessels and decorative ceramics, its near absence also indicates a low level of affluence in which more mundane utilitarian pottery types such as coarsewares and greywares are typical.

Late land use

There was no further activity evident until the modern period. This tends to suggest an end to agricultural land use, although low intensity grazing may have continued leaving no discernable archaeological trace (Liddle 1994). The area of West Perry was a significant late Saxon settlement recorded in the Domesday Survey of 1086 (Harvey 1975). The absence of medieval cultivation suggests that severe truncation may be a root cause. Extensive modern disturbance was dated to the construction of the modern prison sports field in 1988. The impact of truncation was a major inhibition towards retrieving a complete plan.

Conclusion

Occupation of the site from the middle Iron Age appeared to have been fairly limited and there was a generally low level of material such as domestic waste within the more substantial features. A total of 6.56kg of pottery, most of which is heavily fragmented, was low for the size of the area and the number of sections excavated, regardless of the vagaries of archaeological sampling. Only one prehistoric site was previously known locally, a flint scatter, and there were no recorded instances of Iron Age enclosures within 1km. It is hard therefore to be certain if the low intensity occupation evidence is the result of truncation or the result of a marginal location.

The occurrence of fabrics containing grog amongst the pottery suggested that the characteristically native Iron Age roundhouse occupation, with associated non-uniform enclosure (E1), irregular meandering ditch lines and scattered features, continued until the early first century AD. As the boundary accumulated sediment it would also have become colonised by small shrubs and may have become a broken hedge-row. Typical of many native settlements around this time, the arrangement of its features were radically reorganised. Cropmark and fieldwalking evidence from Iron Age and Roman sites at Raunds Road (Parry 2006, 243–4), Red House (*ibid*, 251–4), Napleton Lodge (*ibid*, 254), New England Farm (*ibid*, 255–6), Keyston Road (*ibid*, 258–261) and Laundes (*ibid*, 266–8), all in Northamptonshire, compare favourably but have not been tested by excavation. The reorganisation of features excavated at Broadway Fields, Yaxley, Cambridgeshire (Brown 2008, 53–55) demonstrated that fundamental elements such as the axial boundary were retained, but the overall reorganisation was planned in a uniform arrangement to enclose the landscape. Similarities have been observed at other Iron Age to Roman transitional sites.

Formalisation of the landscape over large areas is generally a good indication for a greater level of organisation. In this case it may represent adaption to changing social and economic trends from the first century AD. Indicators of domestic occupation in terms of structures or artefacts were extremely few for this period onwards. Most evidence was attuned towards enclosure based activities, perhaps cultivation. Pottery quantities, forms and fragmentation were low and did not include early finewares. There were no ceramic building materials, fixtures, fittings, general ironwork, personal artefacts, coins or other items that are usually associated with substantial domestic buildings. Less substantial buildings may have been present, the remains of which did not survive, if this was the case they were probably short-lived structures. A single hand rotary quern fragment attested to food preparation. The instances of animal bone deposition remained at a consistent level, cattle and sheep were still present, but the instances of horse bones were significantly greater and generally associated with the palisade enclosure (E2).

The site as a whole appears somewhat marginal.

The reorganisation of boundaries and enclosures for agriculture was extensive and indicated a substantial investiture of time and effort. The scale of this endeavour over a wider area is not known, so it is not certain whether there was a small scale farmstead nearby or if these enclosures were a fragment of a larger villa enterprise. It is also problematic to determine whether the late Iron Age and early Roman development of the site remained at a subsistence level, or whether it had grown to meet a market economy. Despite being c. 10km south-west of the Roman town of *Durovigutum* (Godmanchester), its early demise indicates a low value site. Several Roman sites have been studied over an area of four parishes around Raunds, Northamptonshire, within 12–15km to the north-west of HMP Littlehey and south of the Roman town at Ashton (Parry 2006, 76–81). These studies indicate that there was disparity in the periods of disuse and abandonment between rural settlements within the same area. Most early Roman enclosures followed Iron Age antecedents. However, in the later Roman period there was a sharp decline in settlement activity amongst sites upon the boulder clay plateau. The trend was accompanied by increased activity at Laundes, Hargrave, to the north-west (Parry 2006, 273). It seemed to gain its momentum at the expense of surrounding, perhaps less successful or desirable sites, giving an overall pattern of late Roman nucleation. This trend may explain the early abandonment at Littlehey, which is typical of some of the upland sites in the region. At Medbourne, Leicestershire, the lack of pottery deposited in manure scatters indicated the end of upland cultivation in the late Roman period was accompanied by a change in land use to woodland and pasture, reducing deposition to small casual losses representative of shepherding activity (Liddle 1994, 35). A similar situation may have occurred here.

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Multi-period archaeology on land at Church Street, St Neots, Cambridgeshire

Andrew A. S. Newton

In 2007, Archaeological Solutions Ltd conducted an excavation at this site, which lies immediately adjacent to the areas in which CF Tebbutt, and later PV Addyman, recorded Anglo-Saxon settlement. The excavation identified features and finds ranging in date from the late Neolithic/early Bronze Age to the early modern period. The results help to further characterise the late Anglo-Saxon settlement at St Neots and identified further portions of the seventeenth to eighteenth century mansion, Hall Place, previously excavated by PV Addyman in 1961. In addition, small scale Romano-British activity and evidence demonstrating the shift in focus from this area to the core of St Neots, to the west, during the medieval period was recorded.

Introduction

Between August and December 2007, Archaeological Solutions Ltd. (AS) conducted an archaeological excavation, in advance of proposals for residential redevelopment, on land at Church Street, opposite 15 Church View, St Neots, Cambridgeshire (NGR TL 186 620; Fig. 1).

The site is located in the historic town of St Neots and is situated approximately 150m south-east of St Mary's, the parish church. The area is generally flat, but slopes towards the Fox Brook, a tributary of the River Ouse which lies just south of the site. The elevation of Fox Brook is approximately 16m OD. Prior to excavation, much of the site consisted of gardens, parkland, or areas used for quarrying. It is surrounded by modern residential developments. The site was located within the area of the late Saxon Settlement, as identified by Tebbutt (Lethbridge and Tebbutt 1933) and Addyman (1973) and immediately adjacent to the areas previously investigated by these individuals.

Archaeology at Church Street; the work of Tebbutt and Addyman

Much archaeological work has been undertaken in the urban centre of St Neots. Since the 1930s (Table 1), archaeological investigations have been undertaken within the bounds of the Church Street site and in the area to the immediate east and north-east. CF Tebbutt

(Lethbridge and Tebbutt 1933) undertook investigations during gravel quarrying at Hall Place to the north-east of the current site between 1929 and 1932, revealing eight pits of late Saxon date. This work was of great importance to the archaeological world as the 'pit dwellings' that he discovered were amongst the first grubenhäuser to be recognised in England. This was also the site at which St Neots ware pottery was first identified (Taylor 1978, 17). In the early 1960s, PV Addyman excavated an area within and slightly to the east of the current site, to the south of the area investigated by Tebbutt; in this area he recorded further evidence of Anglo-Saxon settlement which included evidence of the structural remains of a complex timber building (Addyman 1973).

Addyman also investigated the foundations, walled garden and mortared yard of Hall Place, in the central northern part of the site, which was the premier residence in St Neots during the post-medieval period, and observed that this lay adjacent to the site of a medieval fish pond (Addyman and Marjoram 1972).

Romano-British

During excavation work, Addyman (1973) noted that many of the late Saxon features that he was recording contained residual third to fourth century Romano-British pottery. Near the western edge of his excavation area, lying above the natural 'hogging' was a layer of dark gravelly soil containing a large quantity of Romano-British pottery. Close to this was a ditch, set out in two straight lengths meeting at right angles. This feature, and a series of postholes and an oval pit that lay near by, were dated as Roman. Addyman (1973, 60) interpreted these features as the structural remains of buildings.

Anglo-Saxon

Tebbutt (Lethbridge and Tebbutt 1933) undertook investigations during gravel quarrying at Hall Place to the north-east of the current development site in 1929–32 and recorded eight pits of late Saxon date. He identified three distinct types of pit: four pits were sub-rectangular with bulging sides, rounded corners and vertical walls; three were sub-circular or oval; and

Description of fieldwork	Published reference
1929–32. CF Tebbutt's investigations during gravel digging in the grounds of Hall Place, St Neots identify Saxon settlement.	Lethbridge and Tebbutt 1933
1961. Excavation by PV Addyman of the area to the south of the area previously investigated by Tebbutt and to the east of the site excavated by AS. Further evidence of Saxon settlement recorded.	Addyman 1973
1961. During work here Addyman also recorded the remains of the seventeenth to eighteenth century Hall Place and associated features and a possible medieval fishpond.	Addyman and Marjoram 1972
1964. Observations by CF Tebbutt and GT Rudd indicate that the Saxon settlement was surrounded by a substantial enclosure ditch.	Tebbutt and Rudd 1966; Rudd and Tebbutt 1973

Table 1. Previous fieldwork in this area.

a single trapezoidal pit was recorded. The five largest were interpreted as 'pit dwellings', the three smaller as rubbish pits. The meagre finds included animal bone and domestic debris, Romano-British and later Saxon St Neots Ware pottery, clay loomweights, quernstones, a bone comb, a pin beater and iron objects.

Addyman's investigation, in 1961–2, of a narrow strip to the south of the area investigated by Tebbutt, revealed late Saxon structures (Addyman 1973). The features were thought to be contemporary with Tebbutt's findings (Lethbridge and Tebbutt 1933). Amongst the features recorded during this phase of work were the remains of a large late Saxon timber building. These remains consisted of a series of parallel trenches and a posthole, which were interpreted as sill beams with an upright post. Approximately 4m east of the structure was a small boundary ditch. Further structures and associated features were also recorded, in particular to the north. In the central area of the excavation a 'boat-shaped' or 'barrel-shaped' structure and associated features, including evidence for pottery making, were identified. The results from the eastern area of Addyman's (1973) excavations were not as coherent, but showed that the late Saxon features continued eastwards and comprised further structures, pits, ditches and a possible house platform, representing several phases of occupation.

Demolition of houses at the south-east corner of the crossroads to the north-west of the current Church Street site allowed excavation by CF Tebbutt and GT Rudd in 1964 (Tebbutt and Rudd 1966). This revealed traces of a deep defensive ditch running parallel with Cambridge Street and sweeping round the corner to follow Church Street. It was noted that it had been deliberately filled, in one operation, with soil containing pottery of twelfth and thirteenth century date. Immediately following the filling in of the ditch, buildings were erected over it, following the building lines of the present streets, suggesting that it was at this time that the street plan was laid out (Rudd and Tebbutt 1973). Consistent evidence relating to the ditch has been obtained from three sites, showing that it was a substantial (c. 2.4m wide, 2.1m deep) wet ditch, in places revetted with stakes, possibly with a bank on the east side (Rudd and Tebbutt 1973).

Medieval and post-medieval

During excavation by Addyman in 1961, an area within and adjacent to the northern part of the current site was subject to a resistivity survey. Two parallel anomalies, one of high resistance and one of low resistance, were identified and these were subject to intrusive investigation with nine 10ft (3.048m) squares excavated to provide a complete east to west cross section (Addyman and Marjoram 1972, 72).

Within the westernmost square, part of the structural remains of Hall Place, a seventeenth to eighteenth century house, which at one time was the premier dwelling within the town, were revealed. Further to the east, a continuous mortar floor was found and was considered to represent a yard surface behind the house (Addyman and Marjoram 1972, 72). Even further to the east, an area of low resistance proved to have been caused by a deep excavation which cut through the natural gravel into the underlying Oxford Clay. The sides of the feature were revetted and wicker retaining walls were identified. Water-laid clayey silts, rich in organic material and containing leather objects and bone were present in the lower reaches of the feature and aided its identification as a pond. Finds recovered were mostly dated to the second quarter of the sixteenth century (Addyman and Marjoram 1972, 78).

The Excavation

The excavation carried out by Archaeological Solutions Ltd comprised two areas (see Fig. 2). The first was located to the west of, and partly re-investigated, the area of Addyman's excavation of the Saxon settlement (Addyman 1973). The second was located to the west of the part of the post-medieval house, Hall Place, investigated by Addyman in 1961 (Addyman and Marjoram 1972). The excavated areas covered approximately 0.45 ha.

In excess of 400 archaeological features were recorded during the excavation; detailed archaeological descriptions and discussion of these features can be found in the Research Archive Report produced for this project (Newton *et al.* 2009). These features represented eight phases of archaeological activity dat-

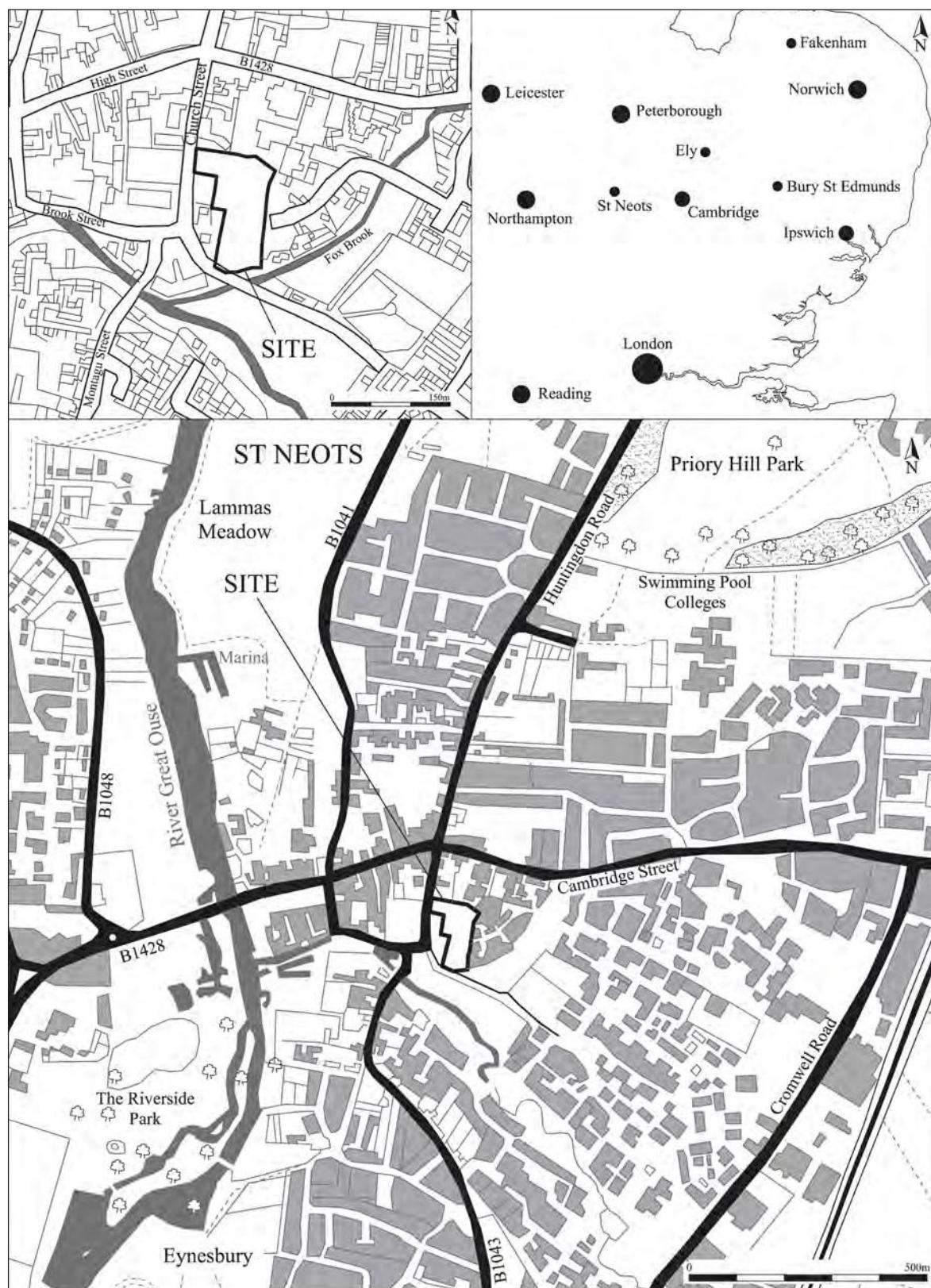


Figure 1. Site location.

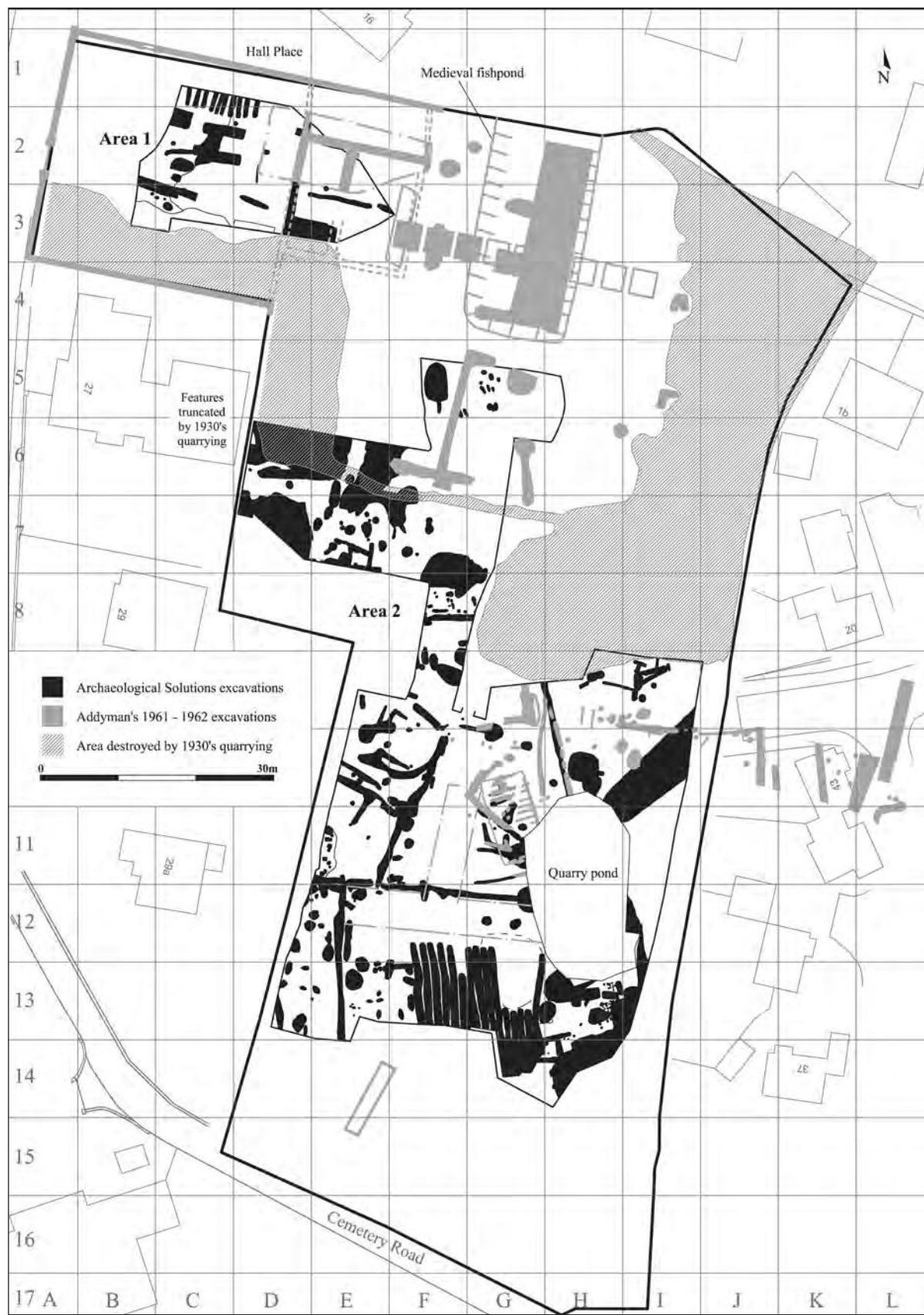


Figure 2. All features plan.

ing from the late Neolithic/early Bronze Age to the modern period (Figs. 3 and 4).

The Results

Phase 1: Late Neolithic/early Bronze Age

Phase 1 activity was represented by a single, small ovoid-shaped pit (F1810; see Fig. 4). Placed on the base of this pit was a near complete grog- and sand-tempered ware collared urn. Collared urns date between c. 2,200 and 1,200 BC, and were used for both funerary and domestic purposes (Gibson 2002, 96 and 101). The presence of what was probably a complete vessel, in the absence of any other ceramics, suggests that this vessel was a ritual deposit (Thompson 2009). No cremated remains were present either within the vessel or within the pit itself but the presence of charcoal flecks within the fill of the pit might suggest that burning took place in this location. Gibson (2002, 97) asserts that when collared urns are used for burial, the cremated bones are found inside the pot and the pot is usually found upside down. The upright position of the vessel may indicate that the lack of cremated remains was not a result of degradation but rather that none ever existed. The rationale for the deposition of this vessel, therefore, remains open to interpretation but given its suggested 'ritual' nature may in some way be connected to the prehistoric ritual complex recorded c. 2km to the south, in Eynesbury (Ellis 2004).

Phase 2: Romano-British

The first activity of any real intensity attested at the site dated to the Romano-British period. Phase 2 features yielded pottery stretching in date from the late first century AD to the fourth century. However, the core date for the assemblage would appear to be the second century AD.

Following his earlier investigations on land forming part of the current site, Addyman (1973) reported evidence of Romano-British activity, which he dated to the third to fourth centuries AD. This included a ditch and a possible timber structure (Addyman 1973, 58–60).

During the 2007 excavation, a series of ditches and gullies at the western side of the site (Grid Squares (GS) E9–F11; Fig. 4) appeared to form a series of small enclosures. These ditches were not all contemporary with one another and it would appear that a series of boundaries were created, possibly representing remodelling of the enclosure system over time. The overall character of this group of features is suggestive of small enclosures or pens, possibly for stock management or other agricultural purposes.

A small cluster of Phase 2 features lay to the east of the group of enclosure ditches and associated pits that represented the main body of Phase 2 activity. The northern-most features in this group were the

north-west to south-east aligned elongated Pit F1284 and Ditch F1253 (GS G11; see Figs. 4 and 5). These features corresponded exactly to a Roman feature identified by Addyman (1973, 58–59; fig. 6; see Fig. 5) during excavations here in the 1960s. Addyman recorded it as feature number 25; a "shallow ditch or trench... set out in two straight lengths meeting at right angles" (1973, 58–59). Addyman (1973, 60) also noted that within the angle formed by the two lengths of Ditch 25 were a number of postholes and an oval pit also of Romano-British date. He postulated that the presence of the postholes indicated that there were timber buildings and that the clay patches present in Ditch 25 may have been packing material for posts set into it. The 2007 excavation did not produce any further evidence to prove Addyman's (1973) assertion that there were Roman period buildings at the site, though features to the south of F1284 and F1253 may provide some tenuous evidence for associated structures of Roman date. Two linear features lay at right angles to one another hinting at the presence of a structure.

Despite the inconclusive evidence for structures, the artefactual evidence indicates that people were living, rather than just working at this site. The pottery that was recovered would appear to suggest a modest level of domestic activity that primarily utilised products from central/northern Cambridgeshire and was affluent enough for low to moderate consumption of southern and central Gaulish samian ware. The animal remains from Phase 2 features appear to be the result of small scale butchery and domestic waste. Other Roman finds included a fourth century coin of the Trier mint, a sandstone hone, and part of a clenched bolt.

As far as can be stated with any certainty, there was no Roman period settlement cohesive or large-scale enough to be referred to as a town in the St Neots area. Instead, the evidence indicates an agricultural area of farms, hamlets and a villa lying between the small market towns at Godmanchester, to the north, and Sandy, to the south (Cambridgeshire County Council (CCC) 2002). The evidence recorded at Church Street fits comfortably into this pattern.

Phase 3: Early to Middle Saxon

The early to middle Saxon period was represented by a single ditch (F1062: GS E9, F9; Fig. 4). Saxon pottery dating to between AD 450 and AD 850, and an iron knife (SF1) were recovered from this feature. The majority of the pottery was organic-tempered and from the same vessel, probably a globular bowl. Organic temper appears in the early Saxon period, and continues in certain areas throughout the middle Saxon period (Hurst 1976, 309).

This paucity of evidence for early Anglo-Saxon activity at the Church Street site reflects the general picture of this period for the St Neots area. Four locations of pagan Saxon burials are known around St Neots and Eynesbury but these show evidence for only occasional burials rather than being the cemeteries of a

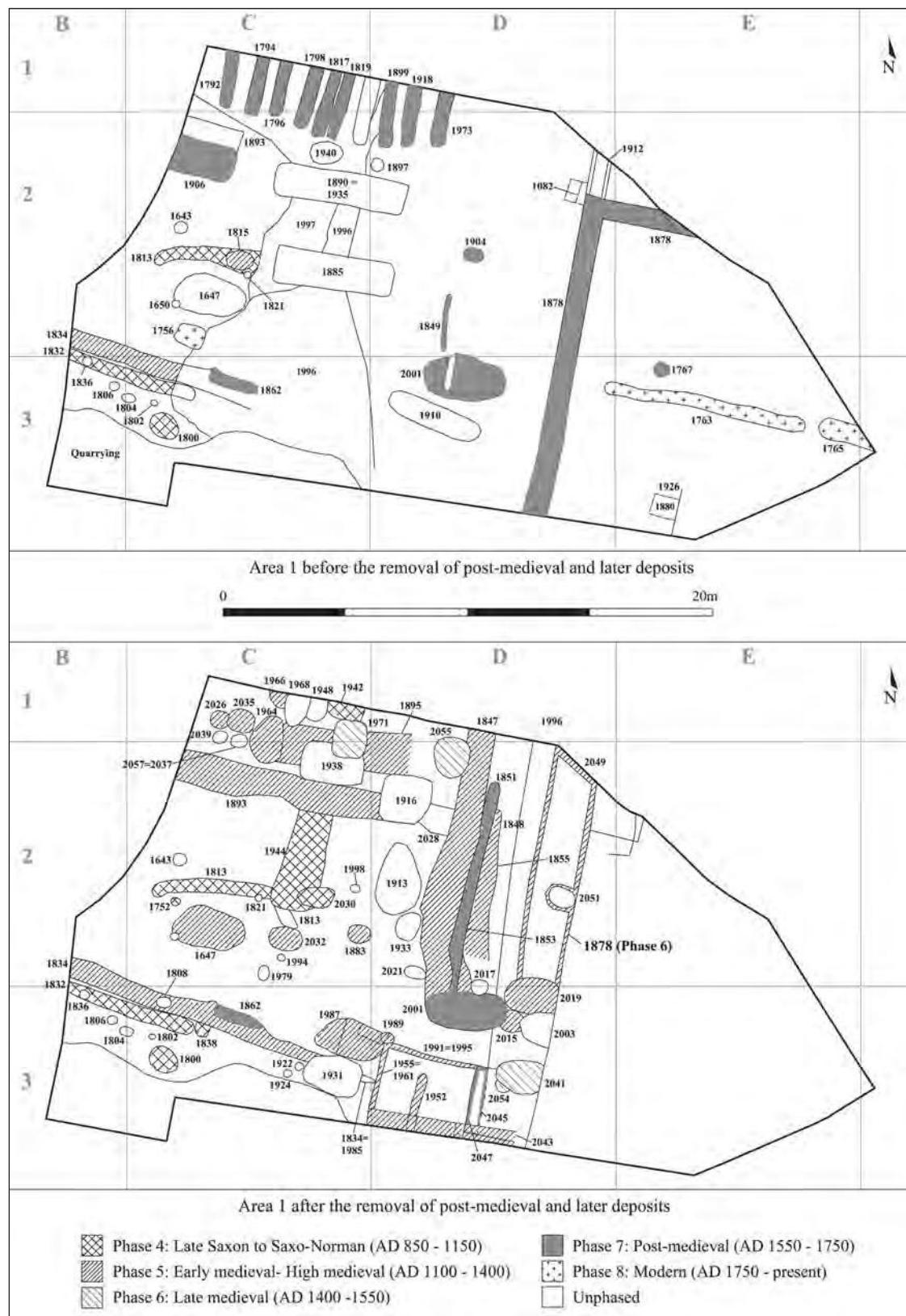
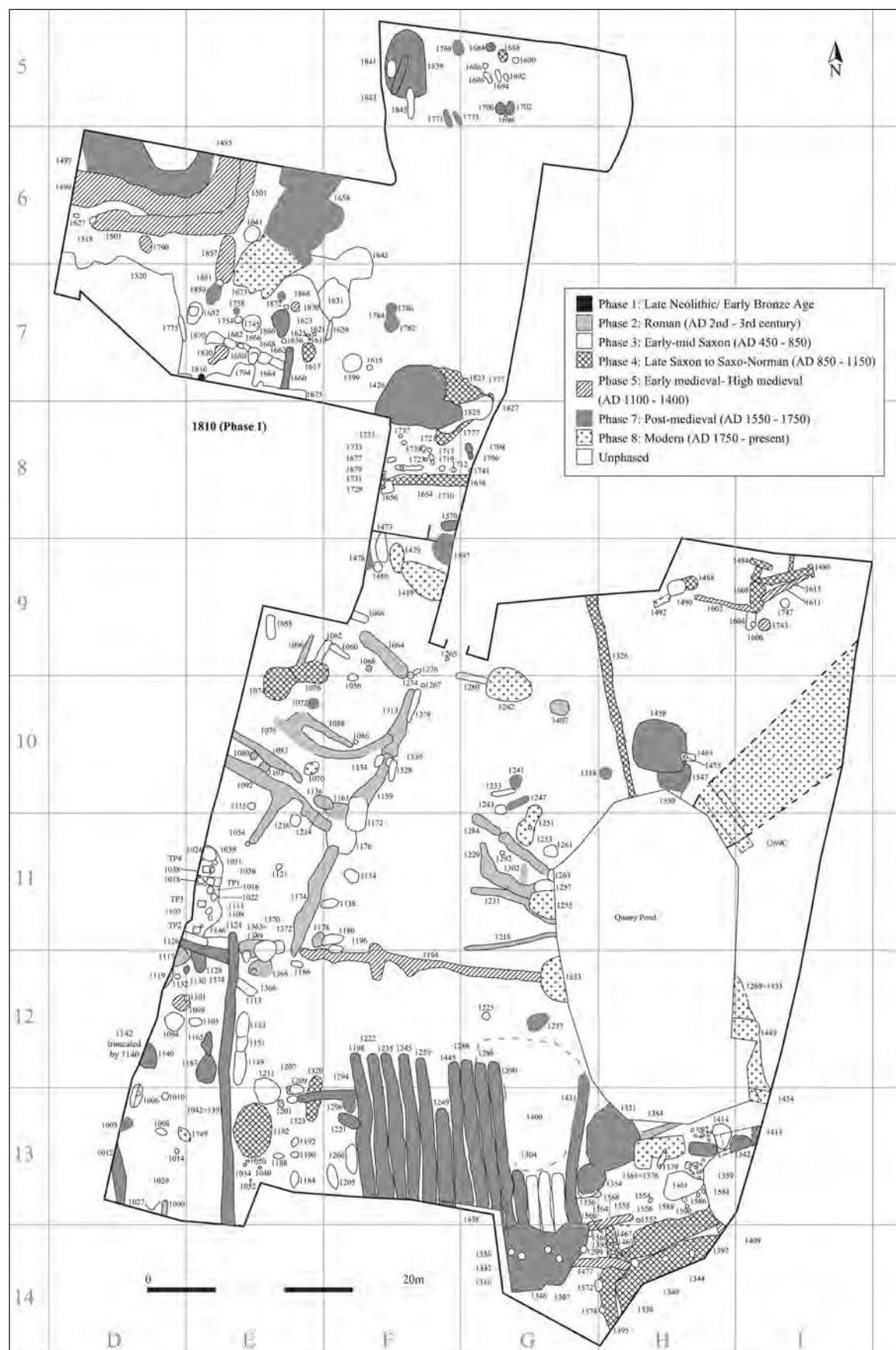


Figure 3. Area 1 phase plan.



large settlement (Spoerry 2000, 150). Recent work at Love's Farm has revealed brief early Saxon settlement following Iron Age to Romano-British settlement activity. It is of note that Tebbutt's excavation in the late 1920s and early 1930s adjacent to the current site, identified amongst what is considered to be a middle to late Saxon settlement site, an inhumation which is considered to be early Saxon (Lethbridge and Tebbutt 1933; Cambridgeshire Historic Environment Record (CHER) MCB17661).

Phase 4: Late Saxon/Saxo-Norman

The various settlements that form the modern urban area of St Neots area all have Anglo-Saxon period origins. Eynesbury and Eaton Socon are referred to as manorial estates in the Domesday Book and the priory of St Neots was founded on land belonging to the then Lord of Eynesbury in the 970s (CCC 2002, 9). Taylor (1978, 17) states that Anglo-Saxon St Neots is scarcely mentioned in the historic record but that the archaeological work of Tebbutt between 1929 and 1932 and Addyman in the 1960s has shown that there was a sizeable, well laid out settlement with evidence for domestic industries in the late Saxon period. The areas investigated by Tebbutt and by Addyman were, of course, immediately adjacent to and, in the case of Addyman, partially within the site at Church Street excavated by AS.

Phase 4 (Figs. 3 and 4) activity is represented by features dated as ninth to twelfth century. The dateable artefactual evidence clearly placed Phase 4 activity in the immediate pre- and post-conquest period; many features assigned to this phase were found to contain St Neots Ware pottery (dateable to AD 850–1150).

Residual pottery of Romano-British and earlier Saxon date was recovered from some features assigned to Phase 4 and some later, intrusive material was also present; this is considered unsurprising given the density of archaeological features present and later disturbances at the site (see Newton *et al.* 2009). However, the evidence accords with Addyman's (1973) observation that the ceramic sequence from the site commenced around the ninth century, and continued without a break until the fourteenth century. This is probably demonstrative of the transition between Phases 4 and 5.

The north-western corner of the site, within Area 1 (see Fig. 3), contained what may be considered to be the most concentrated Anglo-Saxon/Saxo-Norman activity. This activity is represented mainly by ditches, with some features that may represent portions of truncated ditches and pits and postholes. Ditch F1944 (Grid Square C2), a large feature measuring 4.80m in length, 1.90m in width and 0.62m in depth, was perhaps the most prominent Phase 4 feature in this part of the site. Its position in relation to Church Street suggests that it may have been related to the defensive ditch recorded by GT Rudd and CF Tebbutt in 1964 (Tebbutt and Rudd 1966; Rudd and Tebbutt 1973) which ran along Cambridge Street and Church Street

and possibly joined up with the Fox Brook (Taylor 1978, 18). It is reasonable to postulate that this ditch represents one boundary of a small enclosure situated up against the settlement's main enclosure ditch. It ran parallel to Phase 5 Ditch F1847, which lay further to the east but which may have been a later version of the same boundary. Other Phase 4 ditches in this area may represent complementary boundaries; certainly the alignment of Ditches F1813 and F1832 suggests that they could have formed the third side of an enclosure with F1944, though the former of these was stratigraphically earlier than the large ditch.

Evidence for late Saxon/Saxo-Norman activity across the rest of the site was much more dispersed than that present in the north-west, within Area 1. Ditch F1326 (Grid Squares G9, H9, H10) was traced for over 10 metres, but was cut to the north by modern quarrying activity, and to the south by a modern quarry pond, preventing a full appreciation of its dimensions. It was possible to identify Ditch F1326 as Addyman's (1973, fig. 4) Ditch 97, only portions of which were excavated during the previous excavation at the site in the 1960s. To the north-west (Grid Squares F8, G8) lay Ditch F1638. It was aligned east to west, at a right angle to F1326, and extended beyond the excavated area in both directions. Ditch F1638 was strikingly similar in profile and dimensions to Ditch F1326, strongly suggesting that the two represent the same feature, possibly some kind of boundary.

To the immediate north of Ditch F1638 there was a concentration of small undated postholes. Although they showed no clear structural configuration, their proximity to Ditch F1638 suggests that they may have been in some way associated with the ditch, possibly as part of a fence line augmenting the boundary. To the north of this concentration of postholes lay five intercutting irregularly shaped pits. The three stratigraphically earliest pits in this group were all of Phase 4 date. Their function remains unknown. Activity to the north of these irregular features was limited to two isolated pits (F1617 and F1688). Each of these features contained sufficient artefactual evidence to confirm its assignment to Phase 4 but was of indeterminate function.

Pits to the south of Ditch F1638 and to the west of Ditch F1326 lay on the inside of the right angle created by these ditches and so may be considered to have been located within the possible enclosure. Some of these pits may have been created for the disposal of refuse material, while F1076 was of a depth sufficient to tentatively suggest that it represents an early attempt to utilise the underlying gravels that were quarried in close proximity to the site in the more recent past.

To the east of the possible Saxo-Norman enclosure, and just north of the extent of Addyman's excavation in 1961–2 (Addyman 1973), were Ditch F1486, Pit F1608 and Grave F1484 (Fig. 6; Grid Square I9). Ditch F1486 was an amorphous feature; for the most part it was a linear (aligned north-east to south-west), however, after c. 1m, a narrow arm branched off directly northward. At its south-western end, Ditch F1486 turned

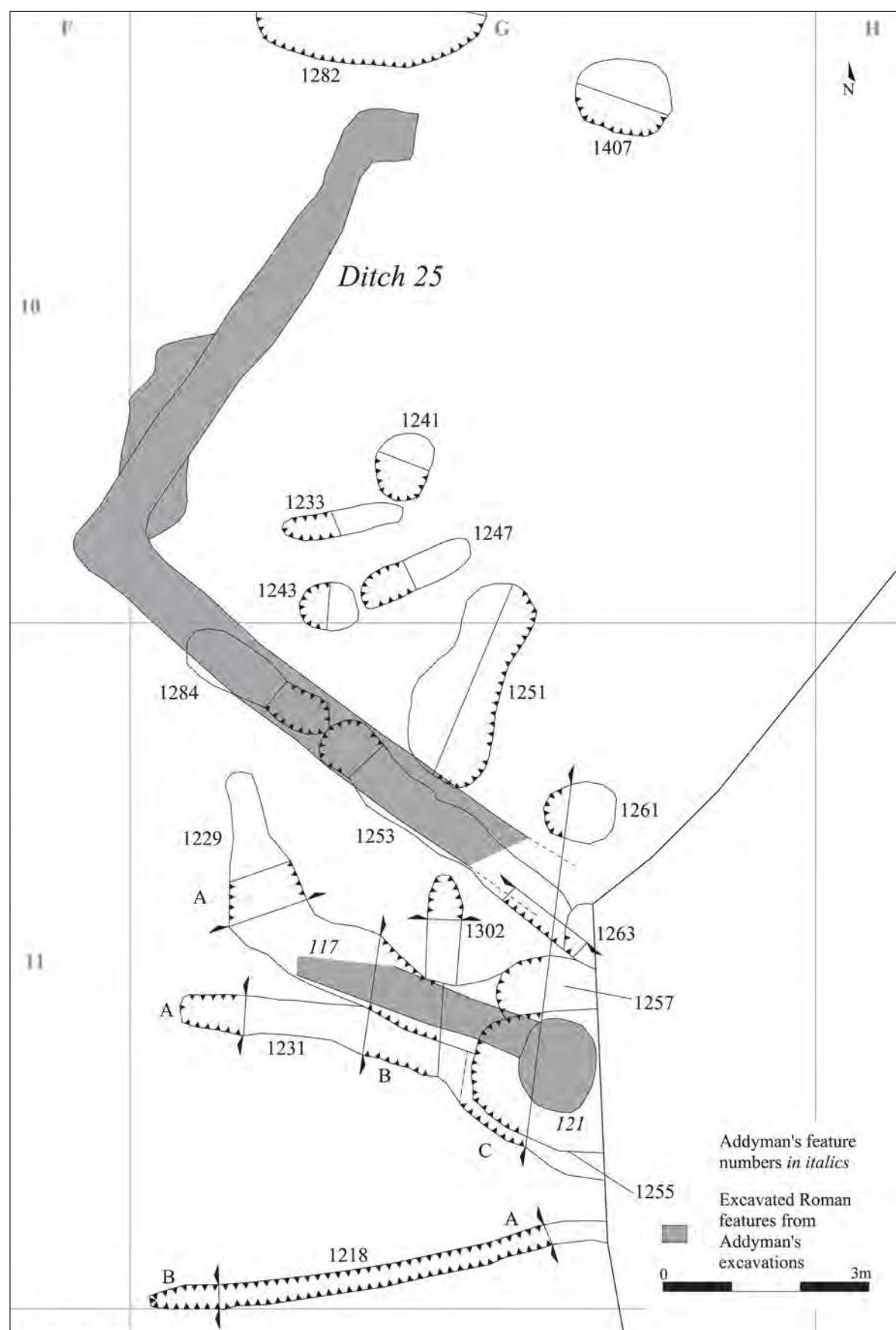


Figure 5. Plan showing Addyman's 'Ditch 25'.

through 90° or more and continued in a northerly direction for 1m before being directly truncated by Grave F1484.

The proximity of this grave to the inhumation recorded by Tebbutt (Lethbridge and Tebbutt 1933, 144–145) suggests that it may have formed part of the same group of burials; human remains were found during gravel extraction following Tebbutt's work here. However, the pottery recovered from Ditch F1486 is late in date for the Saxo-Norman period and is most likely to be of post-Conquest date. As Grave F1484 is clearly later than this ditch it seems that it is a later burial than that recorded by Tebbutt (Lethbridge and Tebbutt 1933) which is recorded on the Cambridgeshire HER database as being of early to middle Saxon date. The grave contained the semi-articulated Skeleton SK1483. The individual, a young adult female (20–35 years), was only 25–50% complete. Preservation was generally moderate although the upper limb bones were poorly preserved. SK1483 was buried in a supine extended position, which is the most common position for burial during the Anglo-Saxon period in Britain (Lucy 2000). The

east-west alignment of the burial, with the head to the west, may suggest a Christian burial (Taylor 2001, 138). This is consistent with the late Saxon date of the grave and the lack of grave goods.

Two large amorphous features in the south-eastern corner of the site, F1395 and F1397, may represent some kind of boundary. Ditch F1395 was clearly a linear feature with north and south projecting arms extending from its western end. F1397 was considerably wider; much of the southern extent of the feature extended past the southern boundary of excavation and, as it was not possible to investigate it any further to the south, it is possible that it was a large pit.

Addyman (1973) noted that the pottery from his excavations at Church Street contained the full developmental range of St Neots ware, in a considerable variety of forms, with anything other than St Neots ware being rare (Addyman 1973, 78). The Church Street pottery assemblage follows this pattern and also parallels Addyman's (1973) description as it contains predominantly wheel-thrown forms comprising cooking pots and bowls.

The animal remains from Phase 4 appear to be the

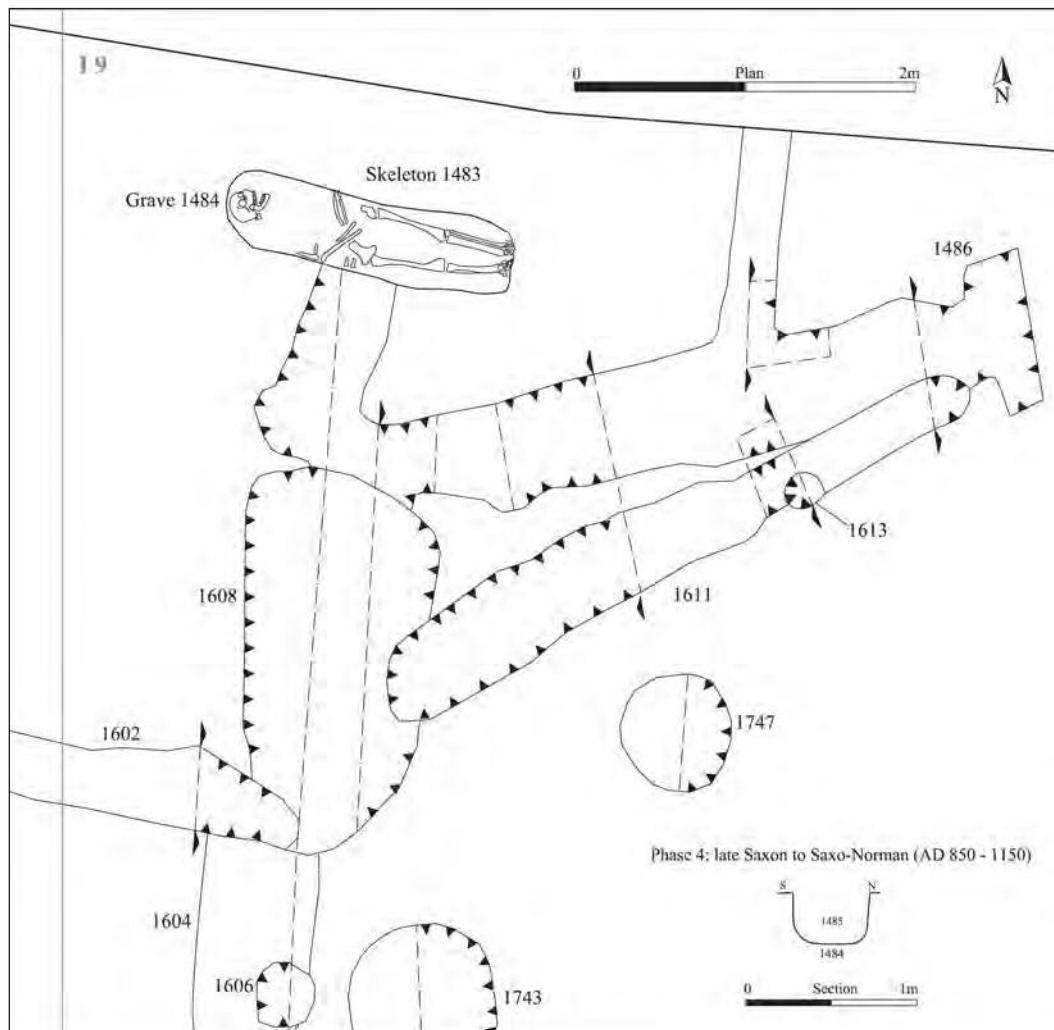


Figure 6. Grave F1484 plan and section.

result of small scale butchery and domestic waste. This is unsurprising as they were recovered from an area identified by Lethbridge and Tebbutt (1933) and Addyman (1973) as a settlement site. The recovery of the remains of pulses and cereals, including oats, from environmental samples taken from Phase 4 contexts provides further evidence suggestive of domestic activity.

Phase 5: Early medieval to high medieval

A search of the Cambridgeshire Historic Environment Record suggests that the medieval period is possibly the best attested archaeologically in the area surrounding the site. It would seem that by c. 1500, the burgeoning settlement at St Neots had grown into a market town. The earliest portions of St Mary's church (which is situated c. 150m from the site), have been dated to the thirteenth century (Jamison 1932). As well as being a market town, there is also evidence of a growing industrial economy at St Neots during the medieval period (c.f. Addyman 1973, 83; Tebbutt and Rudd 1966, 159).

The majority of evidence for medieval activity recorded by the Cambridgeshire Historic Environment Record within a 500m radius of the site at Church Street lies to the west. This would appear to support the notion that settlement activity moved away from the area of the late Saxon settlement identified by Tebbutt (Lethbridge and Tebbutt 1933) and Addyman (1973) to the area around the Priory. Evidence for medieval activity does exist in fairly close proximity to the site, although, with the exception of the Church of St Mary, St Neots, this is mostly of an industrial nature with the evidence for metal working from the site of the Church Street ditch and the possible evidence for malting, parching or grain drying and for tanning recorded at St Mary's Street (Jones 2000, 23). This would appear to confirm that this area of the town was peripheral to the medieval town to the west.

The densest concentration of Phase 5 features occurred in the northern part (Area 1) of the site (Fig. 3). As was the case in Phase 4, the most prominent Phase 5 features in this part of the site were several ditches aligned either broadly north to south or east to west. These features lay to the west of the area described by Addyman as containing a medieval fishpond (Addyman and Marjoram 1972). The form and character of many of the features in this part of the site would suggest that they represent boundaries. Ditch F1834 (GS B2, B3, C3) was located immediately to the north of Phase 4 Ditch F1832 and followed the same alignment, though the later feature extended considerably further to the east. It seems possible that Ditch F1834 was a replacement for F1832, indicating that the same, or a similar, division of land that was employed in the late Anglo-Saxon/Saxo-Norman period remained in place in the medieval period. Similarly, Ditch F1847 ran parallel to Phase 4 Ditch F1944, suggesting that it may have been a more easterly replacement for the Saxon feature. The spatial relationships of some of the possible boundary features

in this part of the site indicates that they are unlikely to all have been immediately contemporary with one another, suggesting that the system of land division in this part of the site was modified, possibly more than once, during the period represented by Phase 5. The proximity of the medieval fishpond identified by Addyman and Marjoram (1972) may indicate that some of the other features recorded in this part of the site had a function associated with this feature. For instance, the large, rectangular, vertical-sided, flat-based Pit F1991=F1955=F1961 (Grid Square D3) has tentatively been suggested to represent a feature such as a stewpond, which commonly occurred in chains of two or three adjacent to ponds for the raising of young fish (Muir 2004, 212). This feature, however, lacked the organic and waterlogged deposits that Addyman and Marjoram (1972, 78–79) recorded in the fishpond.

It is possible that part of the system of boundaries/enclosures represented by the concentration of Phase 5 features in the north-western part of the site continued to the south-east in to the north-western part of Area 2. Ditch F1501 was aligned east to west for much of its recordable extent but turned through 90° to the north after a distance of c. 10m (Grid Squares D6, E6). This indicates that had it continued further to the north, Ditch F1501 would have passed the concentration of Phase 5 features recorded in Area 2, c. 2.5m to the east of them. Ditch F1499, which cut the northern edge, or the inside angle, of F1501 clearly represents a recut of this feature. The area in which these features lay is understood to have been heavily disturbed by 20th century quarrying activity (see Fig. 2) but the evidence revealed during excavation would appear to suggest otherwise.

Further away from the north-west corner, evidence of Phase 5 activity became increasingly sparse (see Figs. 3 and 4). In the area to the immediate south of Ditches F1499 and F1501 were a series of pits dateable to Phase 5. Further to the south-east, three features of Phase 5 date (Gully F1602, Gully F1611 and Pit F1743; GS H9, I9) lay in close proximity to, and two cut, features forming the Phase 4 group associated with Grave F1484. Their position in such close proximity to Phase 4 Grave F1484 and its associated features might be of significance, especially given the sparse distribution of other features of this phase across the majority of Area 2 of the site. The remaining evidence for Phase 5 activity comprised a narrow ditch (F1194; GS E12, F12, G12), running east to west which may have represented a boundary or part of an enclosure, a pair of shallow ditches in the south-east corner of the site and five scattered pits.

While the pottery and animal bone assemblages recovered from Phase 5 features seemed to be suggestive of domestic activity the metalwork recovered from them appears to indicate otherwise. The ratio of iron to other metalwork is typical of rural or urban industrial sites, an interpretation supported by the absence of medieval or early post-medieval dress accessories such as buckles, strap-ends or wire pins, which occur frequently on both secular and monastic sites of the period.

Tebbutt and Rudd (1966, 159) recorded a probable wooden-framed building in the area to the immediate north of the Church Street site and to the south of Cambridge Street, with the remains of a second building overlying it. A building containing the furnaces associated with the known metal working activity in this area was recorded running parallel to Church Street along the present building line. Based on this evidence Spoerry (2000, fig. 12.6) has suggested that the 'built up area' of the medieval town, although focussed on the market square area to the west, extended a short way to the east of Church Street. The direction of several of the Phase 5 boundary ditches recorded in Area 1 of the Church Street site, especially F1847 and F2049, appears to suggest that they may have been associated with the rear plots of the buildings recorded by Tebbutt and Rudd (1966) while others may be associated with structures formerly located in the area between the excavated site and Church Street itself.

Phase 6: Late medieval

Three features (Fig. 3) in the northern part of the site (Area 1), where the concentration of medieval features was densest, were assigned very late medieval dates. These features were also observed to be clearly stratigraphically later than those of Phase 5. None of these features displayed any evidence from which their function could be determined. Their location in an area understood to be in close proximity to buildings of medieval date would suggest that they were directly related to those buildings.

Phase 7: Post-medieval

A large proportion of the features recorded at the Church Street site were found to date to the post-medieval period. Features belonging to this phase were present across the site but appeared to form three main concentrations. The first of these was at the northern end of the site (within Area 1); the second was located slightly to the north of the central part of the site (at the northern end of Area 2); the third concentration was located at the very southern end of the excavation site (Figs. 3 and 4).

Much of the activity during this phase would appear to have been related to the post-medieval Hall Place, recorded during Addyman's excavations at the site in 1961–62 (Addyman and Marjoram 1972), and which was further represented by features recorded during the current excavation. This archaeology includes both structural remains and features which would appear to have formed part of the gardens or grounds. Hall Place was a late seventeenth or early eighteenth century house described in the will of John Eayre, who died in 1772, as 'the capital messuage in St Neots' (Addyman and Marjoram 1972, 71–72). The building is understood to have been demolished by the 19th century and the name Hall Place transferred to a property on Cambridge Street.

A length of wall footing, aligned south-south-west

to north-north-east and turning through 90 degrees at its northern end, was recorded within the north-western part of the site. It was constructed of bricks of varying colour, ranging from pale orangey-pink to purplish-blue and was rendered and plastered on its internal side indicating that it was probably a wall of the main part of the Hall Place dwelling. Within the area bounded by this wall was a bedding layer for a tiled floor; a single tile remained *in situ* mortared to the material comprising this surface. Abutting the outer corner of this first wall was a second, which would appear to represent a later addition to the building. A third wall lay within what would have been the interior of the building, this overlay the floor surface suggesting that it too was a later addition.

The walls recorded during the excavation represent the western half of the building recorded by Addyman and Marjoram (1972, fig. 33) (see Fig. 7). They predicted the presence of an internal wall in the approximate location of that recorded during the 2007 excavation and the wall abutting the corner of the main wall appears to represent part of the wall belonging to the enclosed garden that lay to the west of Hall Place.

To the west of the structural remains of Hall Place were a number of features that, due to their location, must relate to garden activity. One of these comprised a rectangular feature with steep sides and a flat base (F1906). Two similar but undated features lay to the east. It has been suggested that these features represented planting trenches or some other aspect of garden design. To the north of these features, extending beyond the limit of the excavated area, were a group of ten linear features (of which nine were excavated; F1792, F1794, F1796, F1798, F1817, F1819, F1899, F1918 and F1973; GS C1–D2) aligned north-east to south-west. These features have been identified as bedding trenches for plant cultivation. Their character, closely set parallel to one another, would suggest that they were not ornamental and did not contain flowers, but instead were used for the cultivation of some crop plant; possibly soft fruit, carrots or onions. This suggests that a degree of market or kitchen gardening was being carried out in the grounds of the post-medieval Hall Place. A similar group of features, comprising fifteen gullies (of which 12 were excavated; F1198, F1222, F1235, F1245, F1259, F1249, F1445, F1286, F1288, F1290, F1304 and F1431) was recorded at the very southern end of the excavated area (GS F12–G13). These features would have lain outside of the walled garden. This may indicate some degree of differentiation in what was grown in the two sets of bedding trenches; those within the walled garden may have contained more visually attractive, more fragrant or more delicate plants while those at the southern end of the site may have been used for the cultivation of harder crops.

Three features, identified as possible ponds, were recorded close to the eastern side of the southern group of bedding trenches. From one of these ponds, in addition to the post-medieval finds from which its Phase 7 date was established, a small quantity of

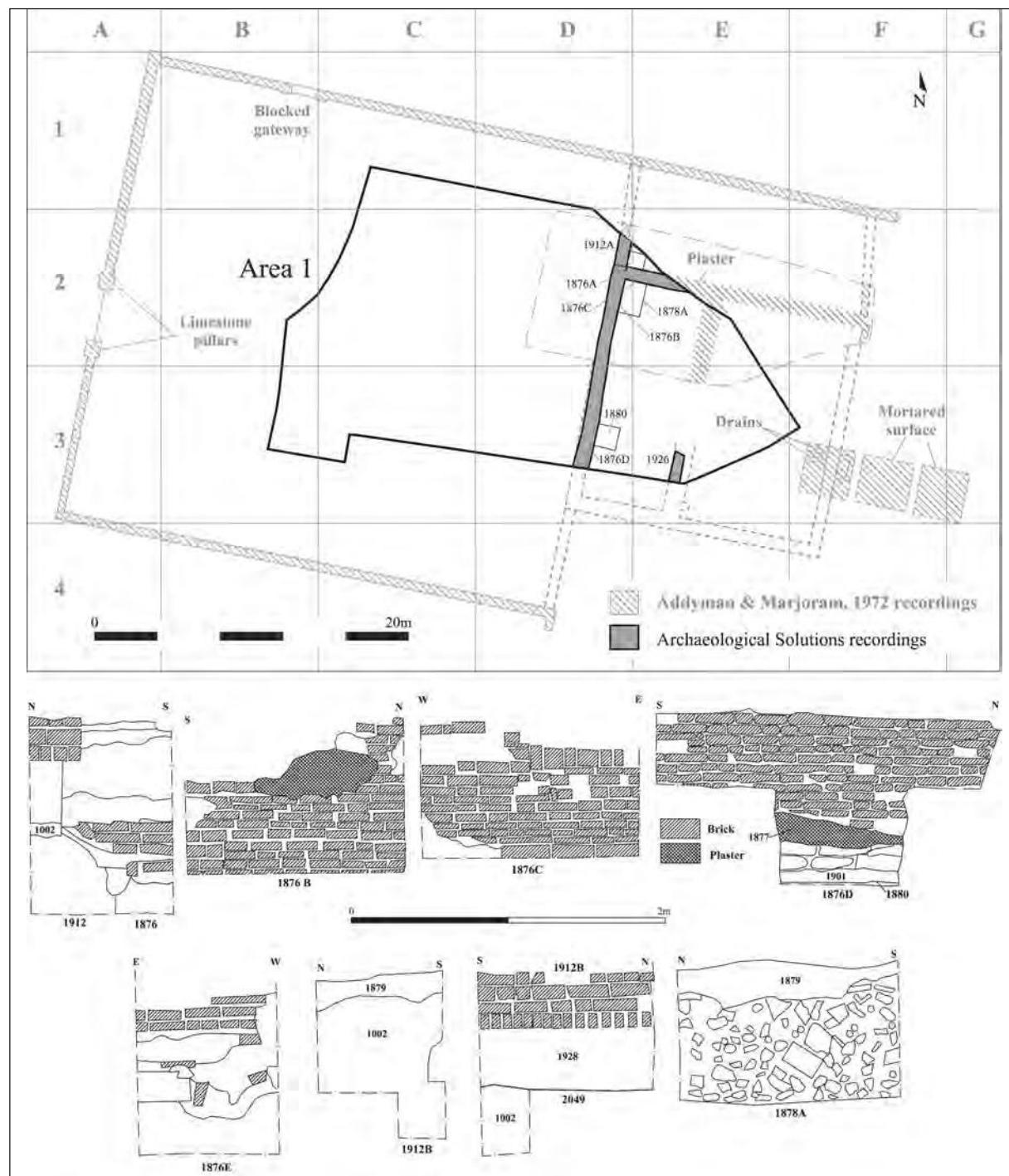


Figure 7 Phase 7 Structural remains of Hall Place.

early high medieval pottery was recovered. This may indicate that the pond was a long established feature possibly associated with the large medieval pond recorded to the north by Addyman and Marjoram (1972).

At the northern end of Area 2, and therefore at the approximate centre of the entire area investigated, Phase 7 was represented by a number of medium to large sized amorphous features. Some of these may represent deliberate infilling of naturally occurring

features while others could feasibly represent attempts to utilise the underlying river terrace gravels that were quarried extensively in the 1930s allowing Tebbutt (Lethbridge and Tebbutt 1933) to identify the Saxon settlement.

The excavation recovered a total of 3458 fragments (168,788g) of Ceramic Building Materials (CBM), the bulk of which is comprised of post-medieval peg tile with sparse fragments of contemporary brick and floor tile. This pattern of presence and distribution

is directly the result of the location of Hall Place, the demolition of which by the nineteenth century, can be ascribed as the source for nearly all of the CBM recovered. The animal bone assemblage recovered from Phase 7 features contained high numbers of sheep/goat metapodials and this appears not to be ordinary domestic waste. High frequencies of foot bones have been interpreted as tannery waste, as, prior to the modern era, the bones of the feet would often be left on the skins (Serjeantson 1989, 136; Thomson 1981, 162). Excavations at nearby St Mary's Street, St Neots revealed tanning pits and a substantial assemblage of animal bone (Jones 2000; Pinter-Bellows 2000).

The presence of features representing possible small scale quarrying activity and large quantities of animal bone that may represent tanning waste do not fit with the picture of the site in the post-medieval period as the gardens of one of the most well-appointed houses in St Neots. The possible quarry pits could conceivably have been created during the building of the mansion in 1678, for Robert Pulley, steward to the Earl of Sandwich, or during its rebuilding in 1712, in order to supply material used in its construction. They could also have been created following the sale of Hall Place in 1770 to one John Broughton of Kettering, when it may, according to Tebbutt (1978, 162), have been demolished so that Broughton could use or sell the materials elsewhere. Small-scale quarrying may have allowed John Broughton to yield further gains from his investment. This suggestion may explain why quite large quantities of CBM were recovered from these features; broken bricks and tiles from the recently demolished Hall Place may have been incorporated in to the back fill material as these pits were closed up following the extraction of gravel. It is interesting to note that there were no whole examples of bricks or tiles in the post-medieval CBM assemblage recovered from the site. This may be a result of damage in the burial environment but it may alternatively indicate that any whole bricks or tiles from the demolition of Hall Place were salvaged for use or sale elsewhere. The apparent tanning waste may have been imported on to the site, possibly from the St Mary's Street tannery as a convenient dumping ground following the demolition of Hall Place.

Phase 8: Early Modern

Five ditches and 11 pits were assigned to this phase on the basis of the finds recovered from their fills and their stratigraphic relationships (Figs. 3 and 4). Features of this period were identified across the site but were slightly more concentrated in the south-east corner of the site.

Two features (Ditches F1763 and F1765; both Grid Square E3) were cut into a layer of demolition material that lay within structural remains of Hall Place and appeared to be aligned with drains identified by Addyman and Marjoram (1972, fig. 33) at the eastern side of the building. This may represent an attempt to relocate the line of the drains, possibly to gain access to the materials from which they were construct-

ed. It is clear that these features are not the result of Addyman and Marjoram's (1972) investigation of the remains of Hall Place as they did not excavate (see Addyman and Marjoram 1972, fig. 33) this far to the west.

F1269, a large curvilinear feature (GS H10–I12), at the eastern side of the site, does not appear on any of the early Ordnance Survey maps of the area and it is, therefore, possible that it was created during the earlier part of the early modern period. This may suggest that it was created during the ownership of the Hall Place site by one of the subsequent owners to John Broughton, who sold it in 1770, the same year that he bought it, to Joseph Eayre, a bellfounder. The size and depth of the feature and its location in close proximity to the areas in which quarrying was carried out during the 1930s, suggests that it may represent earlier quarrying activity. Several other features that were identified as being of Phase 8 date were recorded in this part of the site. Although much smaller in size than F1269 some of these features were of a depth sufficient to reach into the underlying gravel deposits and possibly represent further quarrying activity.

Discussion

The Prehistoric presence at Church Street

The Ouse valley and its gravel terraces are known to be a major area of prehistoric activity (CCC 2002, 28). Indeed, prehistory is well attested in the St Neots area. On this basis it may be considered unsurprising that evidence for prehistoric activity was discovered at the Church Street site, in the form of late Neolithic to early Bronze Age Pit F1810. In fact, it is perhaps surprising that more prehistoric activity was not recorded, given the wealth of prehistoric activity on the gravel terraces of the Ouse as a whole. It may be that later activity at the site has masked or destroyed any further prehistoric evidence that may have existed.

Romano-British activity

Addyman (1973, 60) interpreted the Roman features that he recorded as the remains of timber buildings, though he admitted that too little of the site had been excavated to produce any useful conclusions. Certain features recorded during AS's excavation at the site represent re-examination of Addyman's Ditch 25, a feature which he suggested may have represented a timber building (see Figs. 5 and 8). Other features, however, were not in anyway suggestive of the presence of buildings. The Phase 2 features on the western side of the site especially, appeared to represent some form of enclosure or boundary system that may have been repeatedly remodelled or rearranged.

Existing evidence in the vicinity of St Neots indicates that it was an agricultural area of farms, hamlets and a villa lying between the small market towns at Godmanchester, to the north, and Sandy, to the south



Figure 8. Plan of area of Addyman's excavation.

(CCC 2002, 7). Roman activity in the St Neots area appears to be concentrated in the vicinity of Eynesbury. The number of Roman finds from the area between Eynesbury and the Great Ouse indicates extensive settlement from around the third century (Ellis 2004, 107). It has been suggested that this may represent a Roman small town, especially because of the presence of a possible river crossing point (Bigmore 1979). However, the distribution of finds could equally indicate a villa estate (Spoerry 2000, 148) and this appears a much more likely explanation.

Agricultural exploitation of the landscape in the Romano-British period existed on two levels. Firstly, the peasant settlements, villages or single farmsteads, continued and developed in the same kind of way as they had in the pre-Roman period. It is to this type of settlement that the possible farmstead excavated at Little Paxton (Greenfield 1969), to the west, probably belongs. Secondly, is the Romanised villa estate. These became more frequent as time went on and can be seen to be a new system growing beside, and out of, the old one (Frere 1967, 265). It may be that the features recorded at Church Street represent part of a native-style farm that would have been fairly indistinguishable from a similar settlement of the Iron Age with the exception that some Roman-style corn drying kilns, pottery and other objects are likely to have been present (Wacher 1978, 128). Occasionally at such sites rectangular buildings are found instead of roundhouses (Frere 1967, 265). This may account for the presence of the rectangular building postulated by Addyman. Alternatively, it is possible that the fea-

tures represent an outlying set of enclosures within and forming part of a wider agricultural landscape focussed on the villa at Eynesbury. In some areas stock enclosures in large open spaces across which animals are allowed to roam and graze with a large amount of freedom are known. These stock enclosures would have been used for animal round-ups or for lambing and calving (Wacher 1978, 111). The size and form of the enclosures at Church Street may suggest that the site may have functioned in this way. However, the artefactual evidence suggests that a modest level of domestic activity occurred at this location in the Roman period. It would appear, therefore, that even if the features do represent a site forming an outlier of the villa estate, there must have been people living at this location, clearly reinforcing Addyman's (1973) assertion that buildings must have been present.

The Anglo-Saxon and Saxo-Norman periods

Despite a clear correlation between some of the features recorded by AS at the Church Street site and those recorded by Addyman (1973), the area was comparatively lacking in features of an Anglo-Saxon date. Gully F1062, which was found to contain pottery of an early Anglo-Saxon date, is suggestive of longevity of settlement in this area but the function of the feature itself is not entirely apparent and no other features of a similar date were recorded. All of the other Saxon features that were present were of a late Saxon or Saxo-Norman date indicating that they were most likely to belong to the same phase of occupation

as those recorded by Addyman (1973) and Tebbutt (Lethbridge and Tebbutt 1933).

The majority of the Anglo-Saxon features recorded are suggestive of boundaries. Ditch F1326, which was previously recorded by Addyman (1973), appeared, along with Ditch F1638, to form two sides of an enclosure. Two short linear, one undated and one which yielded post-medieval finds, appeared to be the only surviving evidence of the late Saxon structure recorded by Addyman (1973) as 'Structure A' (Fig.

9). These features lay on the inner side of the angle formed by Ditches F1326 and F1638 suggesting that Addyman's 'Structure A' lay within an enclosed area. At Cowdrey's Down in Hampshire, several major buildings were seen to be contained within fenced compounds and similar layouts have been observed at Chalton, also in Hampshire, and at Thirlings in Northumberland (Arnold 1988, 161). These sites would appear to compare well with the enclosure around 'Structure A' and may indicate that it was a

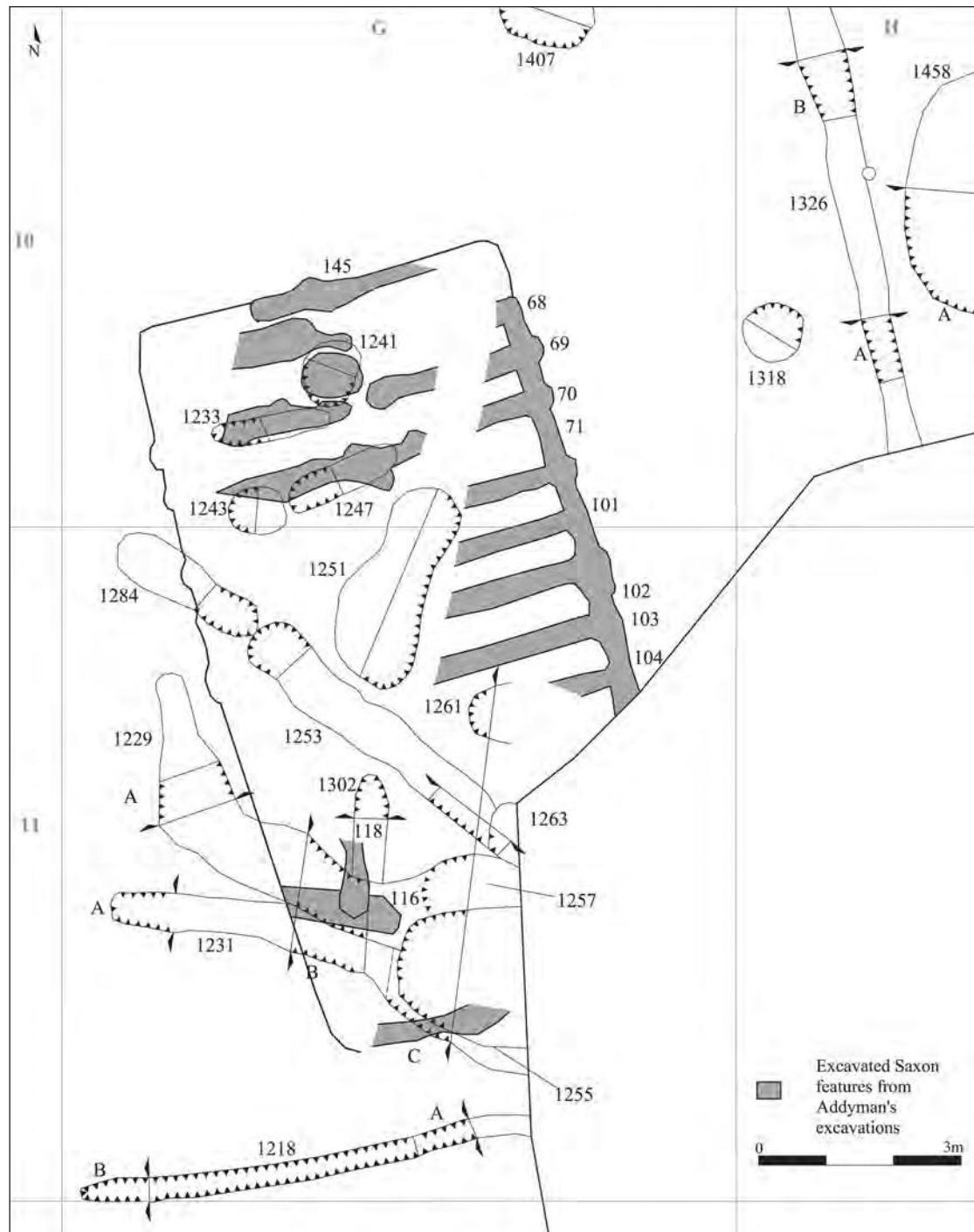


Figure 9. Addyman's Structure A in relation to features recorded during As' excavation.

building of some importance.

It appears possible that some, if not all, of the ditches in the far north-west of the site were boundary or enclosure ditches. Ditch F1944 ran approximately parallel with the line of the Church Street ditch and may indicate the presence of enclosures in this area aligned with the enclosing ditch of the Saxon settlement (Tebbutt and Rudd 1966; Rudd and Tebbutt 1973). Although a small number of pits were recorded in this area, no features indicative of structures were present.

Addyman (1973, 45) predicted that the settlement recorded by himself and Tebbutt extended to the west. The evidence from this excavation would appear to suggest that occupational activity within the late Saxon settlement extended no further west than Addyman's 'Structure A'. The features recorded to the west of 'Structure A' did, however, lie within the area understood to have been surrounded by the large ditch running along Cambridge Street and Church Street (Tebbutt and Rudd 1966; Rudd and Tebbutt 1973) and as such lay within the settlement enclosure. It seems reasonable to suggest that part of the enclosed settlement would have been set aside for the overwintering of animals or for their safekeeping during periods in which their safety or security might have been threatened. Oval 'infield' enclosures have been recorded at the late Saxon site at Puxton on the North Somerset Levels (Reynolds 2003, 117). This may accord with Addyman's (1973) suggestion that different parts of the Saxon settlement had differing specialised functions.

Although no further evidence for late Saxon habitation and domestic activity was recorded during the excavation at the Church Street site, it has helped to further characterise the late Saxon settlement at St Neots. The evidence recovered during this excavation is best understood in conjunction with the work conducted by Tebbutt (Lethbridge and Tebbutt 1933), Addyman (1973) and Rudd and Tebbutt (Tebbutt and Rudd 1966; Rudd and Tebbutt 1973). The sum of all of these pieces of work is a picture of an enclosed settlement within which habitation appears to be located in the central part of the enclosed area and may extend to the east. The nature of this habitation may be slightly unusual as in the northern part of the site it appears to comprise sunken-featured buildings, an architectural style that is generally understood to have been phased out by the seventh century, yet at this site appears to be associated with occupational debris of a late Saxon date. Further to the south within the area of habitation these somewhat archaic buildings give way to a later style of architecture that may be considered more contemporary with the artefactual material recovered from across the area of the settlement. These apparent architectural inconsistencies may be a result of the fact that settlement at this site occurred in a prolonged phase of activity which allowed for little or no clear differentiation in the archaeological record between the early and late parts of the Anglo-Saxon period. However, Tipper (2004, 160) argues that the buildings recorded by Tebbutt (Lethbridge and

Tebbutt 1933) were merely pits, based on their late Saxon date and small size.

Medieval activity

Much like the Anglo-Saxon activity, medieval features were fairly sparsely distributed across the majority of the site with a concentration in the far north-west. This apparent lack of evidence of activity is perhaps unsurprising, as by the beginning of this period settlement had already begun to shift to the area around the Priory, to the west. Medieval evidence recorded on the Cambridgeshire Historic Environment Record reflects this new focus. During the medieval period, the Church Street site lay on the periphery of the settlement.

The concentration of ditches in the north-western part of the site may represent a medieval re-working of the enclosure ditches that were present in this part of the site in the Anglo-Saxon period. These ditches would appear to have been aligned with the Church Street ditch or, when it was filled in, the line of Church Street, which like much of the street plan of St Neots, is understood to have come into being in the thirteenth century following the infilling of the ditch surrounding the area of the Anglo-Saxon settlement. As such, they may represent rear plots or enclosures associated with the buildings constructed on the line of the former ditch. Equally, they may have been associated with the metal working site that lay to the north and which was constructed following the infilling of the Church Street ditch (Tebbutt and Rudd 1966, 159).

Scattered features across the site indicate that activity was still occurring in the area of the Saxon-Norman settlement during the medieval period. None of these features could be considered to represent dwellings. The suggestion that much of the artefactual assemblage for Phase 5 is of an apparently domestic nature would, however, suggest that people were living within, or in very close proximity to, the site in the medieval period. Hibbert (1989, 103) states that the poorest medieval workers had to be content with small, insanitary dwellings in the suburbs of towns. It may be that the poorest members of the population of medieval St Neots, or those on the lowest rungs of the social ladder, remained living in and around the old Saxon-Norman settlement as they could not afford, or were not permitted, to live in the newer part of the town closer to the priory.

The proximity of the Fox and Hen Brooks may have meant that the southern part of the site was wet or prone to flooding and therefore unsuitable for habitation; other sites nearby have yielded evidence to indicate that the area was marshy in the medieval period (Jones 2000). It may be that the medieval features within the southern part of the site, which mostly comprise ditches of varying size, represent nothing more than land division or small enclosures associated with pastoral agriculture on this land which, although possibly wet, may have been suitable for summer grazing. Overall, the picture of this

part of medieval St Neots that may be drawn from the excavated evidence conforms to what has been previously understood about the townscape. Spoerry (2000, fig. 12.6) indicates that Church Street site lay on the periphery of the medieval town, close to, but not within, the built up area. There was no evidence of anything other than activity peripheral to an urbanised area.

Hall Place and the post-medieval period

Excavation at the Church Street site revealed more of the structural remains of Hall Place previously recorded by Addyman (Addyman and Marjoram 1972). They (see Fig. 7) indicate that Addyman's predictions regarding the layout of the building were mostly accurate (see Addyman and Marjoram 1972, fig. 33).

It can be seen that much of the post-medieval archaeology recorded at the Church Street site relates directly to the presence of the important dwelling, Hall Place, at the northern end of the site during this period. In addition to the structural remains of the building itself elements that must represent grounds have been identified. Hall Place was constructed during the period which Dyer (2002, 54) describes as the 'golden age' of small towns; the point at which the English small town was at the height of its development. During the eighteenth century, towns in Britain experienced both quantitative and qualitative urbanisation (Borsay 2003, 291). Small towns in this period had a variety of functions which allowed them to exist and flourish; they served the surrounding countryside as market centres but also worked in a symbiotic relationship with the large towns in whose hinterland they lay (Dyer 2002, 56). This is the role that St Neots filled, acting as a market town serving the immediately surrounding area and acting as a gateway for regional trade. The town had already successfully made the transition to a trade town following the loss of the priory during the Dissolution (CCC 2002, 32). It is from this period of economic expansion that the large merchants' houses, of which Hall Place may be considered one, can be dated (CCC 2002, 32). The presence of post-medieval garden features within the land understood to have been the property of Hall Place indicates that sufficient land was available in this post-medieval urban or sub-urban setting for the inhabitants to enjoy the benefits of their own garden; the fact that such land was available within the town at this time implies a certain level of wealth.

Certain other elements of the post-medieval archaeology, however, appear to be at odds with this picture. The large features which have been interpreted as gravel pits would appear to be contradictory to the residential nature of the area suggested by Addyman and Marjoram (1972, 71). It seems reasonable to suggest that these may have been dug following the demolition of Hall Place for the use or resale of its constituent materials by John Broughton, the Kettering carpenter. Broughton, to maximise the returns on his investment, may have quarried the underlying river terrace gravels or one of the subsequent

owners may have purchased the site for this specific purpose.

The presence of faunal remains, mainly sheep/goat metapodials, suggestive of tannery waste in features of this period, is less easily explained. However, evidence for tanning activity was recorded at St Mary's Street, c. 100m to the south-west, where tanning pits and a substantial assemblage of animal bone were recorded (Jones 2000; Pinter-Bellows 2000). In the later eighteenth century tanning may have also taken place at a brick 'tanning factory' constructed between Church Street and Hen Brook (Tebbutts Ltd. 1949, 2). The metapodials may have had a further use after removal from the skin by the tanner and may have been acquired for a specific purpose at Hall Place. This has been suggested for a similar assemblage from eighteenth-early nineteenth century deposits at Grove House, Fenstanton, Cambridgeshire (Phillips 2006). Phillips (2006) cites examples of the use of cattle metapodials in construction and gardening. Alternatively, this waste may have been imported to the site following the demolition of the building, in or around 1770, possibly deliberately to aid in the filling in of pits and other disturbances or possibly as opportunistic dumping of waste material by the workers at the tannery site on an abandoned piece of land.

Conclusion

As a multi-period site, it can be seen that activity has occurred in this location since the late Neolithic or early Bronze Age. This may be due to the site's position adjacent to the Hen and Fox Brooks and the Ouse, suitable for the supply of water and for communication, and its light and fertile soils of the Efford 1 Association (Soil Survey of England and Wales 1983). These factors may certainly have been important factors in the presence of Roman activity and the siting of the late Saxon settlement in this location. They would also presumably have made the site and its surrounding area attractive to the local Iron Age population, though no evidence for activity in this period was recorded during the excavation work. These factors may also explain why there still appears to have been activity in the area in which the site lies even after the focus of the settlement shifted to the west in the medieval period, although there is evidence from other sites to suggest that this area became less desirable for habitation at around this time. Topography and soils are likely to have had less influence over the development of the site and the surrounding area in the post-medieval period when development in the town is far more likely to have been influenced by what was happening in the rest of the townscape.

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The medieval network of navigable Fenland waterways II: Barnack stone transport

Michael Chisholm

Barnack stone was used for medieval ecclesiastical building throughout the Fens but scholars have been puzzled about the waterway route or routes used for transport. The conventional wisdom is that the stone was taken from Barnack south overland to the Nene for transhipment to barges. However, the quarries were substantially nearer the Welland and this river was connected to the Nene and Ouse river systems at Crowland, a fact that has not been given adequate recognition. Some stone clearly did move southwards, and the actual transhipment site on the Nene is identified for the first time. The Welland site for transhipment is also identified. Examination of relative land and water transport distances and costs shows that it would have been cheaper for much if not most of the stone to have been taken to the Welland, the longer water journeys being more than compensated by shorter land haulage.

It is well known that Barnack stone was used in large quantities throughout the Fens and as far afield as Thetford and Bury St Edmunds, for the construction of abbeys, cathedrals and churches. The stone reached Cambridge, probably as early as the second quarter of the eleventh century, for inclusion in the foundations of part of St Bene't church (Royal Commission for Historic Monuments [England] 1959, 264); but most of the stone was used after 1066 until the fifteenth century, by which time the quarries were largely exhausted and the great period of ecclesiastical building had ended. Despite the widespread use of the stone, scholars have been puzzled about the route or routes used for transporting it across the Fens. This puzzlement seems to stem from the fact no author identified has explicitly accepted that there was a water link from Crowland on the Welland and thus to the Nene and Ouse river systems, as demonstrated in Part 1 (Chisholm 2010) and shown in Figure 1.

Two contributions in a recent volume illustrate the problem:

In the 1110s stone from Barnack – next to Stamford – was freighted down the Nene [Old Nene] to its confluence with the Ouse, up the Ouse ... to its tributary the Lark ... (Blair 2007, 15).

The most likely route for the carriage of the Barnack stone would have been down the River Welland to Deeping and then

southwards along Car Dyke to Peterborough, and thence by the River Nene to Ramsey (Bond 2007, 176–177).

Blair implies that the stone was first carried south to the Nene, whereas Bond indicates northward movement to the Welland. In both cases, some dubious ‘evidence’ is cited. Blair claims that his view can be inferred from two writs by Henry I, protecting Bury St Edmunds and Ramsey from attempts by the Peterborough monks to levy tolls for passage along the Nene. Neither writ can be construed to say this:

Writ of 1105

Precept by Henry I to William de Cahaines the sheriff [of Northamptonshire] and the monks of Peterborough: That no toll is to be taken from the stone which is being conveyed to make the church of St Edmund. They are to restore without delay the ships which they have seized. (Johnson and Cronne 1956, item 694, 42).

Charter of 1116–23

Precept by Henry I to the Abbot of Peterborough: That the Abbot of Ramsey have stone [from Barnack] for the building of his church as Alwin, his predecessor, had it. If the Abbot of Peterborough does not do this Hugh of Leicester is to do so. (Johnson and Cronne 1956, item 1410, 189).

The first document does not specify tolls by land or water, or the route in question. Furthermore, the jurisdiction of the sheriff and the monks was bounded by the Welland to the north, almost as far as Crowland, and the Nene to the south; therefore, the tolls in question could have applied whichever of the two routes was used, and the impounded vessels could have been on the Welland as readily as on the Nene. No inference can be drawn regarding the direction in which stone was taken. The only clear conclusion from this writ and the other cited by Blair is that Henry I was protecting Bury St Edmunds and Ramsey against impediments and charges imposed by the abbot of Peterborough for the acquisition of stone, whether these were tolls for land or water carriage.

There is an equivalent difficulty about the suggestion that Car Dyke was used to transfer stone from the Welland to the Nene system of waterways. Bond (following Alexander 1995) cites a lost load of Barnack stone on the Lincolnshire Car Dyke, west of the Welland (Phillips 1931, 106; Trollope 1872, 65), but this

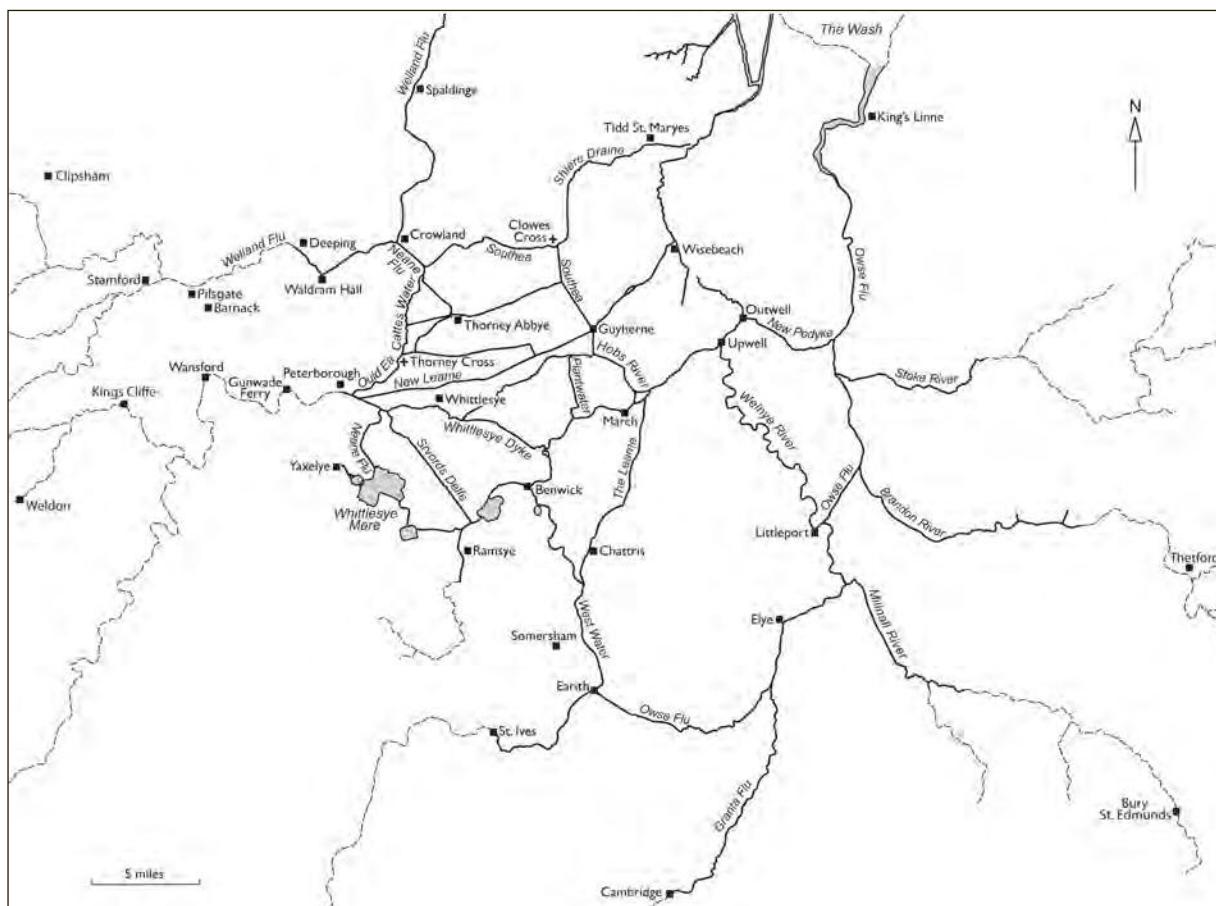


Figure 1. The main elements of the waterway system in 1604 as portrayed by William Hayward.
Copied by Payler Smyth in 1727. The pecked lines show rivers extended beyond the compass of Hayward's map. Hayward's spelling is used for the names shown on his map. The partial outline of The Wash shows the modern coastline. The channel between Cats Water and Clowes Cross does not carry a name on Hayward's map but there is no doubt that it was South Ea, as shown in the Figure.
Sources: Facsimile copy of Cambridgeshire Archives R59/31/40/1, and Ordnance Survey.
Reproduced from Part I (Chisholm 2010).

provides no evidence that the Northamptonshire section of the Dyke was usable; so far as is known, there is no documentary evidence for this Roman channel being open in medieval times, and no archaeological finds have been reported indicating medieval use (Hall 1987, 28).

Southward movement of stone to the Nene

This route has attracted the attention of scholars on the basis of physical evidence in the form of abandoned blocks of stone and some limited documentary evidence. In the present context, the sizeable stones found in Whittlesey Mere (Astbury 1957, 44; Hall 1992, 32) can be discounted because, as will be shown below, they could have reached the Mere via the Welland with equal if not greater ease than along the Nene past Peterborough. Seemingly much more solid evidence is provided by the stones known as Robin Hood and Little John (TL 138 983) illustrated

by Purcell (1967, Plate 37a), thought to mark a rood of land granted to Bury St Edmunds, near Gunwade Ferry (in recent times, Gunwade Ferry has been referred to as Milton Ferry but for the present purpose it is less confusing to retain the older usage). The two stones stand about 125 metres (410 feet) from the Nene, well above the river and close to the old road that now ends as Ferry Hill. In addition, there are the hitherto unreported stone nearby on the bank of the Nene (TL 142 983), and two stones at Southorpe (TF 082 033), shown to the author by Alan Dawn in 2009. Robin Hood and Little John are reputed to carry the insignia of Bury St Edmunds (Astbury 1957, 157; Gover *et al.* 1933, 233), in the form of three arrows, but inspection shows no evidence that they were marked in this way; however, the stone on the river bank is so blazoned.

The firmest documentary evidence identified for southward movement of Barnack stone to the Nene is a charter from 1222–26, by which the Abbot of Peterborough confirmed the grant to Bury St

Edmunds of one rood of land in Castor field, near Gunwade Ferry, previously made by William son of Reginald. In addition, the Abbot and monks of Bury St Edmunds were granted:

Free carriage by the public road from Barnack to the water, and of the right to transport marble and any other stone or anything else bought for their own use by the river Nene between Alwalton and Peterborough ... for an annual rent of 6s (Brooke and Postan 1960, 193. See also Gransden 2007, p 230–32; Purcell 1967, 71–2).

William son of Reginald was active in the late twelfth century or early in the thirteenth (Tim Halliday pers. comm.), suggesting that the original grant of the rood of land had occurred not long before 1222–26.

That there had been a long history of trouble between Peterborough and Bury St Edmunds is shown by an order to Peterborough issued by William the Conqueror, that Abbot Baldwin of Bury (1065–97) be permitted to have as much stone as he needed for the monastic church ‘as he has had up till now and not to make any further hindrance for him in bringing stone to the water which you have formerly done’ (Battely 1745, 50). The church was consecrated in 1095.

Care is needed interpreting the material presented above. Tidal rivers were regarded as free navigations and legally exempt from tolls (Willan 1964, 22), and the Nene was tidal to Gunwade Ferry (Dawn 2009, 2). The exemption for traffic between Alwalton and Peterborough applied to carriage over the non-tidal river, particularly relevant for Alwalton marble, used in small quantities for decorative effects, which stone could only be moved along the Nene. However, this quarry apparently had a short life, approximately from 1180 to 1230 (Purcell 1967, 74), and Bury St Edmunds may have received only one shipment (Alexander 1995, 120). The exemption did not apply to Barnack stone loaded at Gunwade Ferry because the river was legally free from that point downstream.

It seems clear that some Barnack stone did indeed move south to the Nene, but there are unresolved issues. The stone was taken to a very large number of final destinations in and around the Fens and one would expect that some large blocks would have been lost or abandoned at a number of places while in transit. However, the only ones reported in the Fens are all located in Whittlesey Mere and near Gunwade Ferry. Therefore, is it the case that other stones were salvaged, and that the known stones are the few surviving pieces of evidence? If so, their utility in marking the stone route is questionable.

Assuming that Robin Hood and Little John do mark the access route to the Nene granted to Bury St Edmunds, how did other users obtain their Barnack stone? Was a right of passage over the same land granted to other abbeys and users of Barnack stone, or were rights granted separately? Sandra Raban has drawn attention to rights granted to Thorney in 1296. The church and monks of Thorney Abbey received the benefit of a wayleave over three roods of land at Gunwade, lying between the King’s highway and the Nene, a right that suggests the movement of

stone to the river. But the land in question was arable and meadow, over which the clergy and their tenants were given:

Free authority and power ... at any time of year for walking, riding, carting, fetching, depositing and meeting in groups, having under its control stone and timber and whatever else touches the uses of the aforesaid monastery or its manors ... (Raban pers. comm. Translation of text from vol. 2 of the Red Book of Thorney, Cambridge University Library Add MS 3021, f. 2270).

The grant does not mention a hythe, nor does it specify the origin of the stone. Of equal interest is the fact that by 1296 most of the buildings at Thorney requiring new stone had been completed. Part of the abbey church had been finished and was in use by 1098, the remainder being completed in 1109. From 1238, a period of prosperity saw much new building, followed by almost twenty years from 1305 during which there was extensive re-building (Ellis and Salzman 1967, 213–14). Therefore, the wayleave was granted at the very end of the new build phase, and the following period of re-building would presumably have seen the re-use of stone already on site, implying relatively little need for new material from quarries. Therefore, for somewhat over two hundred years, Thorney apparently obtained its stone without any problem, as appears also to have been the case for five of the seven other abbeys (not counting Peterborough) identified by Alexander (1995, 115) as having quarrying rights at Barnack. Consequently, it would seem that Bury St Edmunds and Ramsey had particular problems that were not shared by others who used Barnack stone, and therefore it may be that the route used by Bury was not the only one employed.

There is a further complication noted by Raban (pers. comm., translation from the *Abbot of Peterborough's Receiver's Accounts*, Northamptonshire Record Office F(M) ff. 232 and 233). There was a hythe known as Woodhythe from which stone was shipped down the Nene to Thorney Cross and thence to Eye. A small quantity of this stone was carted from Barnack in 1307–08. In 1303–04, four and a half pits were dug near Woodhythe, and 851 loads were carted therefrom to Woodhythe, destined for the new grange at Eye. This hythe is identified by Bridges (1791, 538) as being near Burgberry, the home farm of Peterborough Abbey, less than half a mile northwest of the church (Steane 1974, fig. 10). There were two other hythes at Peterborough – Bolhythe (with Bolhythe Gate) and another immediately to the west known as The Hythe, both opening onto the river immediately south of Peterborough (King 1980–81, fig. 1).

So far as is known, no author has previously identified the Gunwade site at which stone was loaded onto barges. For the moment, let us assume that Robin Hood and Little John do mark the rood of land granted to Bury St Edmunds. Figure 2 reproduces information from the first edition of the OS six inch series, surveyed in 1885–7 and published in 1892 with the stones named at the northern end of a narrow strip

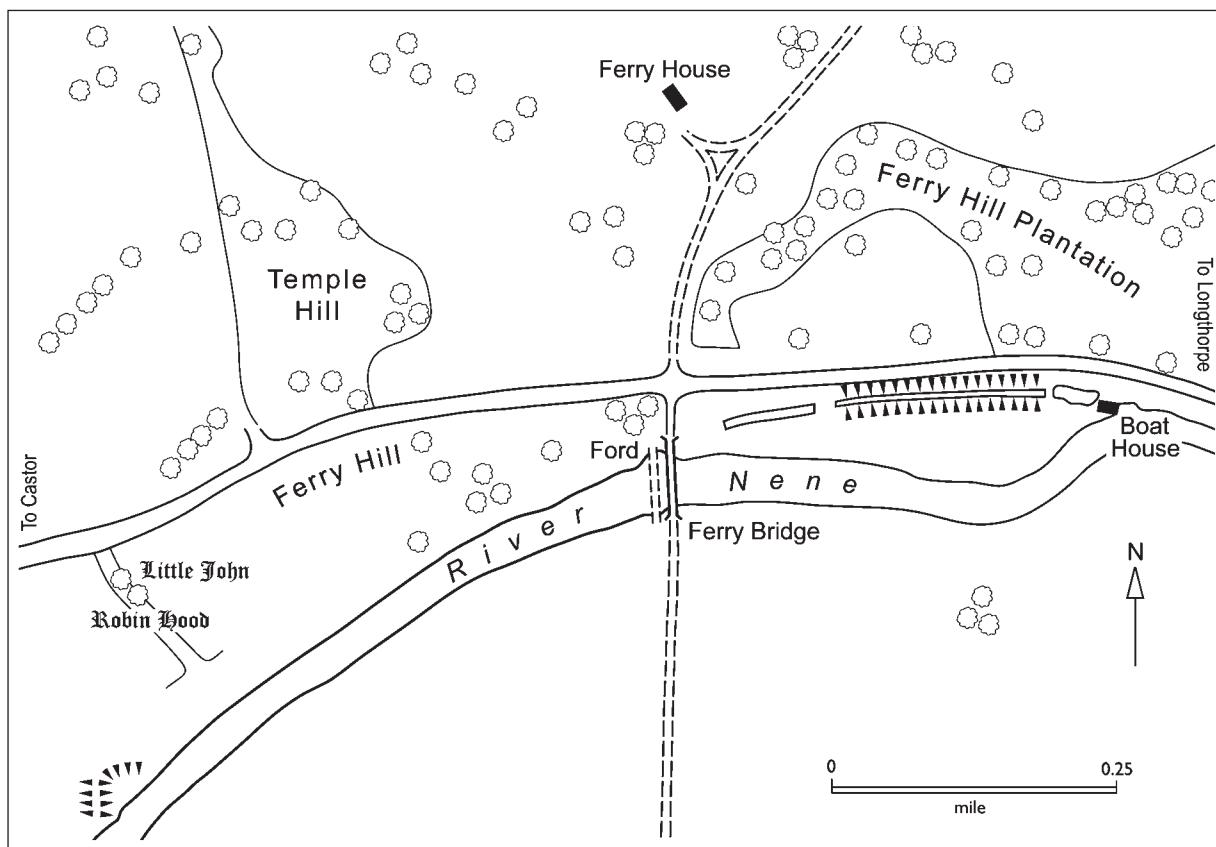


Figure 2. Gunwade Ferry and environs 1885-7.

Source: OS six inch sheet Northamptonshire 8 SW, published 1892.

of trees and scrub that might originally have reached the river. According to the *Oxford English Dictionary* (1933), a linear rood varied from six to eight yards, and a rood as an areal unit was forty square rods. If we take the upper figure for a linear rood, then the distance from the road to the river of 480 feet implies that the strip of land would have been 48 feet wide. Alternatively, if the rood was six yards, the original grant could have been 27 feet wide extending to the river. So although the strip shown in Figure 2, as portrayed by the first edition of the twenty-five inch series (1885), was about 70 feet wide, it may be that the land associated with the two stones in the nineteenth century was that granted to Bury St Edmunds in the thirteenth century, with subsequent enlargement.

However, even if Figure 2 is taken to show the location of the land grant, it is unlikely stone was actually moved that way to the river, for three reasons. First, the relative relief from the road to the river is about 60 feet over a horizontal distance of 480 feet, a direct average gradient of one in eight, or just over 7° – a steep hill. Second, the bank to which the land points is innocent of any apparent evidence for loading boats. Somewhat further upstream, there is a point where the bank has been visibly modified, creating a riverside platform backed by a steep slope topped by a bank (Figure 2), but it is unlikely this

was reached from Robin Hood and Little John. Third, the two stones are upstream of the ford recorded by the OS, a feature that would have made navigation difficult at times of low flow and maybe more generally. Topographically, the point of loading would have been below the ford, not above, giving an approach gradient about one third of that past the two stones.

Milton estate records provide some useful evidence. The manor was acquired by the William Fitzwilliam family in 1502, the property being granted:

Together with the fishing and wharfage at Gunwade on the River Nene (Vellacott 1970, 476).

Although the location of the wharfage is not specified, it must have been the channel parallel with the river just downstream of the ford and bridge, shown in Figure 2 as it existed at the end of the nineteenth century. Examined on the ground, the channel is still plainly visible, cut into the hill on the landward side and with a raised and clearly artificial embankment toward the river. At the western end, a substantial area of low damp ground can be seen; the narrow channel had some shallow standing water at mid-summer 2010 (25 July); and the eastern pond remains, cut off from the river by the foundations of the defunct boat house. The channel would have been readily accessible at the western end from the old public

highway adjacent to the river crossing.

This channel is recorded on a plan of the Milton Lordship dated 1582 held by the Northamptonshire Record Office (Map 1202). On the back of the plan two dates have been written in different hands – 1532 and 1582. Northamptonshire RO officers are satisfied that it is 1582 on the basis of independent evidence in the form of a letter from Thoby Houghton dated 5 October 1583 (Fitz Corr 82). The plan was evidently a hasty piece of work, which explains why it falls below the standard one might have expected for 1582. (Eleanor Winyard pers. comm.) The channel is shown as being uniform in width for its whole length, having no connection with the river upstream but being apparently connected downstream. Starting immediately below Gunwade Ferry, it was graced with a small bridge over, and provided with what appears to be direct access onto the public road from Peterborough to the Great North Road (A1) at Wansford. Immediately upstream of the Ferry, two water mills occupied the north bank of the Nene, supplied by a leat from spring-fed storage ponds on the higher land. No link is shown between the leat and the artificial cut. There can be no doubt that this channel is artificial. The configuration and location suggest that it was not a fish pond, and in any case the 1582 plan records fish ponds elsewhere on the estate. The only possible conclusion is that the feature records the site of the wharfage referred to in 1502, and therefore to the site where stone was loaded, including, no doubt, Barnack stone.

First recorded about 1150 (Gover *et al.* 1933, 232), Gunwade as a place-name signifies the ford or ferry of Gunn, a name of Scandinavian origin. Local place-name evidence suggests very strongly that the ferry was much more important than the ford. Ferry House (TF 143 987) has been identified as corresponding in location to Gonewade in the twelfth century (Gover *et al.* 1933, 232). Ordnance Survey maps of various dates record Gunwade Ferry beside Ferry Bridge, approached along the road known as Ferry Hill, the Bridge today leading to Ferry Meadows Country Park. The rising land north of the river downstream from the crossing is known as Ferry Hill. In striking contrast, there appears to be no surviving local place-name element such as 'hythe' denoting a place for river commerce. The clear implication is that although stone – and not just Barnack stone – was loaded onto barges at Gunwade, the main significance of the locality was the river crossing.

With some degree of certainty, we may conclude that stone was loaded onto barges in the artificial cut just downstream from the ford and ferry, today marked by Ferry Bridge (built in 1716). Located below the ford, the site had direct access from the public highway, approached from the west down a hill of reasonable declivity. It seems clear that the documentary and other evidence relating to the southward movement of Barnack stone needs to be reconsidered, and that too much credence has hitherto been given to Robin Hood and Little John as the point of access to the river.

Northward movement of stone to the Welland

We know that Barnack stone was extensively used in Stamford (Briston and Halliday 2009, xvii; Alan Dawn pers. comm; Purcell 1967, 31). It is difficult to believe that this stone went south and then all the way round by Crowland, but we do not know whether it was taken to the Welland and then upstream, or directly overland to Stamford. We do know that the abbeys at Crowland and Spalding were both constructed of Barnack stone, and that some was purchased for Norwich Cathedral in 1301 (Purcell 1967, 31). For these three destinations, the Welland was the obvious river to use, being navigable to Stamford (see Part I); some stone must have moved northwards from Barnack. In addition, and hitherto not specifically noted in this context, the water link from Crowland to Cat's Water/South Eau would have allowed stone to reach destinations across the Fens.

The following account was first published in 1906:

There seems to have been a tradition of the existence of a haven at the foot of Pilsgate Hill ... Whether the 'portecros' in a Pilsgate rental ... refers to this it may be impossible to decide. In any case there would seem to exist even at the present time [1906] traces of wharves on the Welland near at hand
(Vellacott 1970, 293 fn.)

This tradition is ascribed to Morton (1712, 110), who says:

The tradition that ... there was formerly a haven, that came up to Pilsgate Hill Foot, is so far true, that a great quantity of the stone dug up at Barneck quarry was in former times brought hither to be carried off by water; so that as long as that quarry, or the occasion for it lasted, it was a considerable fresh water haven.

Morton does not give a source for this information and elsewhere in the volume he records unlikely matters in an uncritical manner. Therefore, in the absence of corroborating evidence, it is easy to discount his text on the ground that he is an unreliable witness and modern scholars have apparently assumed that his information about Pilsgate cannot be accepted.

However, Morton's account is supported by Francis Peck, a notable Stamford antiquarian whose major work has hitherto been unremarked in the present context. His volume was first published in 1727 and at one point he takes issue with Morton about the point at which a Roman road, a branch of Ermine Street, enters Lincolnshire from the south. Peck points out that this road (King Street, see Figure 3) reaches Lincolnshire at a point further north than the Lolham Bridges noted by Morton, nearer to West Deeping, observing:

However the great pit, over which the biggest bridge is now erected, in my judgment seems formerly to have communicated with some other pits both above and below it, but particularly that towards Stamford, now called Pilsgate haven.
(Peck 1979, I.10).

Peck does not repeat Morton's observations about a haven at Pilsgate, implicitly accepting that account but adding detail of his own – recording the contemporary currency of the term Pilsgate haven and not-

ing that formerly it went by another name. There is no suggestion by Peck that the hythe was still used in the early eighteenth century.

Use of the term 'pit' is revealing. According to the *Oxford English Dictionary* (1933), this word has the basic meaning of an artificial construction, one variant being 'A hole dug or sunk in the ground for water; a well, a water-hole; a pond, pool', with the earliest cited reference being 890–901, but now obsolete. Consequently, the pits to which Peck referred may be regarded as artificial enlargements in the watercourse(s), an interpretation supported by other evidence considered below.

Pilsgate place-name evidence for a hythe

Additional evidence lies in local names identifying topographical features. The single reference to *port-tetros* noted by Vellacott (1970 293 fn.) considered on its own is ambiguous for the following reason. In Old English, the prefix 'port' carried two meanings relevant in the present context: that of harbour or haven; and of town, burgh or city. More precisely, the latter meaning was that of a place where trade was conducted, which in Saxon times meant an urban area, usually fortified (e.g. Stenton 1971, 525–36). Surviving documents show that roads were often used by the Saxons for the identification of parcels of land and other properties:

These references are all simple descriptions of the roads thus mentioned, and they never indicate the towns or villages between which these roads ran ... A port stræt, that is a road leading to a town or market, a cynges ferdstræt, along which the local militia could move, a herestraet, suitable for the passage of an army, if only a primitive Saxon army of thirty-five men and upwards, were obviously regarded as more important than roads known locally as the foul way, the stubby way or the clay way. (Stenton 1936, p 2–3; emphasis in the original.)

Pilsgate Manor included Barnack and a recently published study translates and annotates documents from the Sacrist of Peterborough pertaining to the thirteenth to fifteenth centuries (Briston and Halliday 2009). The material allows one to examine the post-Norman significance of the 'port' prefix in some detail. Figure 3 reproduces the main features of the Briston and Halliday end piece map relevant in the present context, omitting, for example, property boundaries.

The Sacrist's documents relate primarily to the ownership of, or rights and obligations relating to, parcels of land, which are identified by reference to neighbouring properties and also other features, including roads. Two Roman roads run through Pilsgate Manor, one being Ermine Street, which is shown in the records as Langdike; the other is Mikeldike (or King Street, still preserved on modern Ordnance Survey maps), and the text also contains some references to the royal road or way. These two roads aside, some of the local roads bore names of locally descriptive significance, such as Littledykegate and Saltersgate, but otherwise the large number of

roads included in the text but mostly not identified cartographically were named by reference to the place of origin or destination, with but one exception, Portgate/Portway (Figure 3).

There are five place-names recorded by Briston and Halliday with the prefix 'port', some of which are in documents that can be dated:

Portgate, both shortly before and after 1290
Portcross, 1340/41 to 1408/09
Portcross balk, 1340/41 to 1364/65
Portway, 1408/09
Porthill, all un-dated

Collectively, these five local names account for 8% of the space occupied by the place name index, recording the relative frequency with which they occur in the documents included in the volume, indicating that 'port' was probably very significant for the manor from an early date.

Portgate, which appears to have been superseded by Portway as a name, ran from east to west, to the foot of Pilsgate Hill. One undated document (no. 290), probably 1364–5, defines a number of words used in the Pilsgate documents relating to rights and obligations, including some land from which the hay crop was sold:

Portegate is a certain way in le Dunfeld of Badyngton by which one goes from Makeseye [Maxey] to Staunford [Stamford], the grass of which way is sold annually ... (Briston and Halliday 2009, 341).

The need for this clarification implies a degree of uncertainty about Portgate, which could reflect one of two possible situations. It may be that Portgate retained 'port' in the ancient but by then unfamiliar meaning of a town or burgh, i.e. Stamford. Alternatively, Dunfeld being some distance from the possible site of a hythe at the foot of Pilsgate Hill, it may have been necessary to explain that the local name derived therefrom happened to be the route from Maxey to Stamford.

There are several reasons for thinking that 'port' did not mean Stamford. As already noted, the great majority of local roads were identified by the place of origin or destination. Furthermore, as Figure 3 shows, the road leading southeast from Ufford was known as Burgate, Burg or Burgh being an abbreviation of St Peter's Burg the monastery and, by extension, Peterborough. The earliest Pilsgate reference to Peterborough is early in the thirteenth century but the burgh usage for the town had been locally established long before then (Peck 1979). The Pilsgate documents record Walcote gate, Burlegate (leading to Burghley) and also the Way from Stamford. In some cases, the place of origin/destination is signified by its function – the way to the stonemill, the way from the windmill and the path to the watermill.

The Briston and Halliday study shows Stamfordgate as recorded twice prior to 1290, and a single undated document in the volume (no. 299k) records the following references: Stanfordweye, Burlegate and Walcote gate as roads associated with named places, plus Portweye, Portcros and Porthull. Local usage

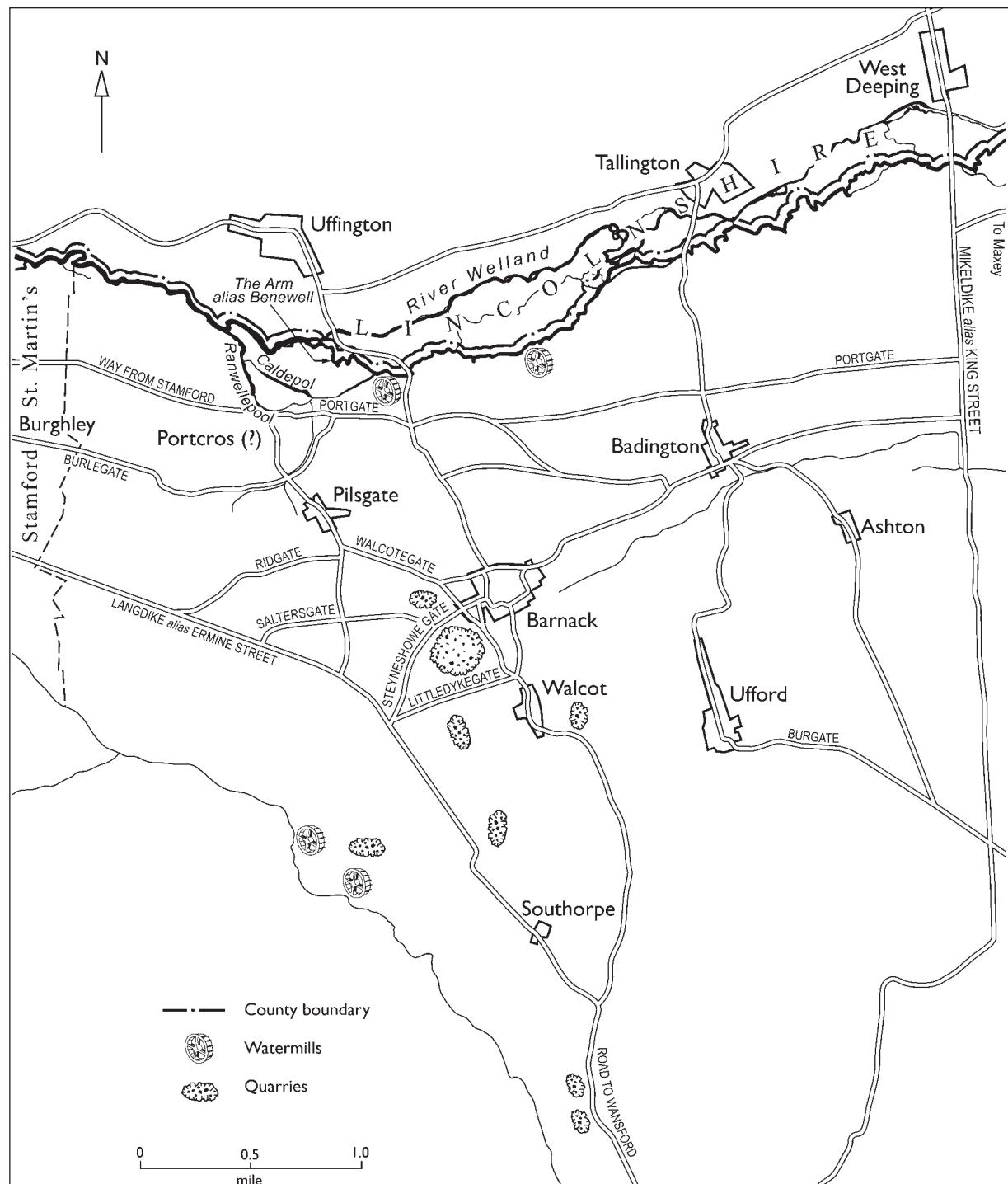


Figure 3. Medieval Pilsgate Manor drawn to emphasise the roads, places and watercourses. Note that the county boundary has been added; for the sake of clarity, it is offset from the centre of the watercourses.

Source: Briston and Halliday 2009, end piece map.

clearly differentiated Stamfordweye from Portweye, indicating that the 'port' prefix cannot have referred to Stamford. Furthermore, Peterborough and Stamford as places are mentioned in several documents, including a grant of rent, confirmed to the Abbot of Burgh St Peter, 'from the church of St Michael for two church-

yards in Staunford', dated before April 1274 (Briston and Halliday 2009, no. 77); Stamford was named, not identified by the general term 'port'.

Several crosses are recorded, including Pilsgatecross and Walcotecross, both local places, and White Cross, conveying the impression that the

crosses were locally significant. There appears to be no Burghcross recorded on the way to Peterborough, notwithstanding that the Manor belonged to the monastery there. Several natural hills were locally recognised and used for identification purposes, including Clayhill, Green Hill and le Caldepol Hill, meaning that Porthill would be consistent with local usage if it stood above a hythe or port. It is difficult to visualise how Porthill could refer to Stamford, since the road to that town follows the valley, precluding reference to a hill within Pilsgate on the way to and fro, other than the hill north of Pilsgate, which does not bear any identified name. Although some Stamford interests owned land in Pilsgate, there is no suggestion that a particular hill slope became identified with that town, other than by interpreting 'port' in that way.

Viewed in context, it seems that the place-name element 'port', including Portcross, cannot have meant Stamford but in fact signified the presence of a hythe. The nearest point on the Welland accessible from Barnack by road is at the foot of Pilsgate Hill, so although there are now no visible remnants of wharves, the local topography makes it certain that if there were a hythe or port it would have been there. The configuration of medieval watercourses identified by Briston and Halliday suggests that a port did in fact exist, for the following reasons. It is well known that rivers formed convenient county boundaries, the southern boundary of Lincolnshire being an example. For the area covered by Figure 3, the county boundary to this day follows the single channel in the northwest, 'The Arm alias Benewell', and then the southernmost of the two channels towards the east and Tallington. The channel thus identified therefore represents either the sole or main course of the river in pre-Norman times, and not the channel identified as the Welland by Briston and Halliday. South of 'The Arm' is the watercourse that forms a loop, hugging the upland that rises from the floodplain. Ranwellepool is part of this loop, which may have originated as a meander but, given the terrain, it is extremely unlikely that the channel would have narrowed suddenly southwards for natural reasons. Caldepool, cutting off part of the main loop, does not follow a natural line. These watercourses have every appearance of being, at least in part, deliberately engineered.

The first datable record in the Pilsgate documents for Ranwellepool is the end of the twelfth century or early in the next, perhaps a century before the first dated place-name with 'port' as the prefix, and Caldepol is known to have existed before 1280. These channels are clearly distinguished from the Welland, for which the earliest Pilsgate reference is either the last quarter of the thirteenth century or before 1280. Manifestly, these landscape features were early regarded as locally important.

The Ranwellepool loop is clearly visible in the landscape today, as a ditch line with trees, at the foot of the rising ground. Ranwellepool itself is now a shallow but substantial depression, consistent with a pool up to 30 metres wide. According to the *Oxford*

English Dictionary (1933), the word pool is mainly, but not exclusively, applied to natural features; the second definition of 'a deep or still place in a river or stream', can be traced back to about 1000, with The Pool on the Thames in London cited as an undated example. It is a reasonable inference that the remnants of Ranwellpool mark the site of Pilsgate haven, identified by Peck as a pit, created as an enlarged channel alongside permanently dry land, and it seems clear that this had been done some considerable time before the thirteenth century ended.

Figure 3 shows two 'Welland' watermills, one reasonably firmly located beside the road to Uffington and the other less confidently placed by Briston and Halliday somewhat to the east, both on the county boundary watercourse. These mill locations are consistent with the use of Ranwellpool as a hythe, the water being held up above the western mill to give a head of water. Ranwellpool had access to the northern channel of the Welland, known to have been navigable in medieval times to Stamford (see Part I). This interpretation is consistent with the fact that medieval water mills did not necessarily impede navigation (Hooke 2007, 43).

Given the evidence cited above, it seems to be clear beyond reasonable doubt that a hythe did exist at the foot of Pilsgate hill, known as Ranwellpool in the Pilsgate Manor records and subsequently as Pilsgate haven. Two reasons may be offered for the existence of a hythe on the navigable Welland. First, within and around the Fens in the medieval period, manors, villages and towns went to considerable lengths to secure access to navigable waterways and there is no reason to suppose that Pilsgate Manor was any different in this regard (see Cole 2007; Gardiner 2007). Second, there was the specific matter of evacuating stone from the Barnack quarries to Stamford, Crowland and Spalding if nowhere else. The existence of a hythe at Pilsgate deserves to be accepted until or unless conclusive proof to the contrary should be forthcoming.

Further considerations

This conclusion poses a problem – why is Pilsgate haven not mentioned in the Sacrist's documents published by Briston and Halliday? It may be that Ranwellpool was the locally accepted name that everyone recognised as a hythe. Or it may be that there are records other than the Sacrist's that have not been examined, or which contain unreported references. Or again it may be that no relevant ecclesiastical records have survived. Meantime, the apparent absence of medieval documentary evidence for a hythe cannot be construed as proof for its non-existence.

The Sacrist's documents for Pilsgate include some references to quarries at various dates from 1340/41 to 1408/09 but the ownership is not identified, although there is an undated mention of a plot of land owned by Crowland Abbey in a location suggesting it was a quarry. A small number of other religious houses held land but these holdings were not quarries, and there is no mention of quarries owned by

major religious houses such as Bury St Edmunds, Ely and Ramsey (Briston and Halliday 2009, xxiv–xxvi). However, we do know that Prior John of Spalding (1253–1274 – see Dugdale 1846, 209) received from Sir Hugh Faunel of Walcote two quarries at Barnack, ‘to hold freely, with free access’ (Spalding Gentlemen’s Society, manuscript *Translation of Spalding Register* vol. 3, Fo.316d, 351–2). Both these plots were within his desmesne ‘in the territory of Walcote’, and therefore presumably south of Barnack. One of the plots is located by reference to adjoining plots at all four points of the compass, the one to the south being owned by the Abbot of Crowland – and therefore probably also a stone quarry, likely to be the land identified by Briston and Halliday.

Two routes for the transport of Barnack stone

Only two authors have been identified who view the Welland via Crowland as a route for transporting stone into the Fens alternative to the Nene, though neither author explicitly mentions Crowland Cut to Nene Terrace (see Part I). Barley (1938, 17) states, without citing evidence, that Peterborough and the other abbeys obtained their stone this way, but Gransden (2007, 232) is more circumspect. She is also the only author identified who explicitly notes the complex nature of the agreements needed for moving any stone through the Fens. We may visualise that those who wished to obtain the stone had two major issues to resolve – the ‘politics’ of control over quarrying rights and movement overland and by water, and the economics of so doing. We will examine the economics of transport but before that a brief comment is in order about the politics involved.

The complexity of the ‘political’ dimension may be illustrated by the following observations. The relevant volume of the Victoria County History contains a map of the Isle of Ely after the creation of the Ely Bishopric in 1109 (Miller 1967, map facing 2). With the exception of three comparatively small areas of commons, the entire Isle was held as manors of five religious houses, forming a complicated jigsaw. Elsewhere in the Fens, it is well known that Sawtry Abbey had major problems with Ramsey Abbey over access to Whittlesey Mere in the twelfth century (Astbury 1957, 155–6), but less familiar are the general problems that Abbey had into the 1440s (Inskip Ladds 1914, 356–62). Thorney was also embroiled in ‘continual disputes over boundaries, rights of way by land and water’ with the abbeys at Crowland, Ely, Peterborough and Ramsey (Ellis and Salzman, 1967, 213).

The economics of stone transport

In strictly economic terms, would it have made sense to send Barnack stone to Bury St Edmunds and elsewhere along the Welland and through Crowland Cut instead of southwards to the Nene? The answer depends upon the relative distances by land and water, and the relative costs of transport thereby. Therefore,

the first matter to consider is where stone was loaded onto barges. The thirteenth century land grant to Bury St Edmunds mentioned above points to the vicinity of Gunwade Ferry as the point of transhipment for Barnack stone; though Purcell says that transhipment for Weldon, Kings’s Cliffe and Ketton stone moved upriver to Wansford over time, he counters that observation by citing two cases of these stones being loaded at Gunwade Ferry in the sixteenth century (Purcell 1967, 41 and 98–9). Jenkins (1992–93) appears to be mistaken in assuming that Wansford was the loading point for Barnack stone destined for Peterborough Abbey and for our purpose it will be assumed that Gunwade Ferry was used, some six or seven miles from the main Barnack quarries (Purcell 1967, 98). The equivalent site on the Welland at the foot of Pilsgate Hill was less than two miles north of the quarries. Therefore, on a conservative estimate, use of the Welland would save about four miles of overland haulage. Note that part of the village of Barnack is built on land formerly quarried (Alan Dawn pers. comm.). The village is north of the Hills and Holes that are generally taken to mark the area of quarrying, and therefore closer to the Welland, implying that the relative advantage of the Welland would have been somewhat greater in the early years of quarrying than has been assumed. Note also that Alexander (1995, 27) is mistaken in saying that the quarries were nearer the Nene than the Welland.

Water distances have been measured from Gunwade Ferry and Pilsgate haven using the author’s facsimile copy of Hayward’s 1604 one inch map, used to compile Figure 1, supplemented by the Cassini Old Series reproduction (at 1:50,000) of the first Ordnance Survey maps, originally published at the same scale Hayward used. Shipment from Pilsgate haven to Bury St Edmunds would add about nine statute miles of water transport compared with the distance from Gunwade Ferry. The question to be asked, therefore, is whether saving four miles of overland transport would have warranted the extra nine miles of water carriage.

It is generally reckoned that land transport costs in Saxon and Norman England were considerably greater than for water carriage, especially for bulky goods, and that there was little change in the relative costs until the seventeenth century. Jones (2000, 61) says that land transport was ten times more costly than by water; he probably derived this figure from Thorold Rogers (1866, Chap. XXVII). Dealing with the period from 1259–1400, Rogers cites a considerable number of land carriage costs, tentatively concluding that the average was somewhat less than 2d. per ton mile; Salzman (1964, 206) accepts 2d. Some authors have estimated that the cost of carting twelve miles would double or more than double the medieval *ex quarry* cost of stone (Knoop and Jones 1967, pp. 45–48; Salzman 1967, 119–122).

For river carriage, Rogers has only two observations for circumstances comparable to the Fens, both for the Thames in the early fourteenth century, showing costs at 0.2d. per ton mile – land carriage was ten

times more costly than by water. This is near the top of the range in relativities identified by Jackman (1962, 208) for the seventeenth century, the range being from three to eleven times. Even as late as 1583–4, Corpus Christi College found that carting stone about twelve miles from Kingscliffe to Gunwade Ferry cost three shillings a ton, the same cost as for onward shipment to Cambridge by water (Willis and Clarke 1886, 293), a distance in excess of about 62 miles; in this case, land transport was about five times as costly as by water. The cost of this stone *ex quarry* was 4s. a ton. The estimates noted above are consistent with the experience of the Exchequer removing from London to York in 1322. Twenty three carts, each drawn by five horses, carried the records etc. to Torksey, whence four boats took all the baggage plus the main body of men, who previously walked, to their destination (Broome 1925, 296), indicating that water transport was considerably more efficient than by cart.

This conventional view about relative costs has been challenged by Masschaele (1993), using evidence for 1296 to 1352. To provision armies for conflicts with the French and the Scots, the king needed to obtain provisions, including foodstuffs from rural areas. A form of requisitioning took place, recorded in purveyance accounts, listing quantities and carriage costs overland and by inland waterways – 362 and 69 observations respectively. From these observations, he calculated that carting overland cost 1.5d. per ton mile, and the figure by water was half that, 0.7d. Masschaele goes to considerable lengths to argue that the food purchases and freight arrangements were made at market rates, implicitly claiming that the requisitioning process had no material impact on market prices for transport, a view undermined by the accounts given by Prestwich (1996, 254–257) and Willard (1926); purveyance was deeply unpopular precisely because there was requisitioning in the name of the Crown, with arbitrary payments and ‘requests’ for loans – of both goods and transport. For these reasons, the purveyance documents cannot provide useful information about normal costs of land and water transport, either absolutely or relatively (see Rogers 1866, 659).

Something very similar occurred early in the sixteenth century, tersely noted by Purcell (1967, 39 and 99–100) as an emergency. King’s College suddenly received a large sum of money from Henry VII, enabling work to resume on the chapel in 1508. The emergency was the need to stockpile stone so that masons could be kept employed during the forthcoming winter, and the impossibility of finding enough watermen to bring all that was needed in the time available. With its history of royal patronage, radical steps were taken by the College to bring 150–160 tons of stone from Clipsham and Weldon overland:

The great number of different carters who took part – more than a hundred all told – and the variety in the size of the loads they carried, suggest that although this was the busy harvest season, carts, teams and labour were ruthlessly commandeered (J. Saltmarsh undated, King’s College MS JS 1/74, V.ii.22).

By way of example, we may now return to the balance of advantage in moving Barnack stone to Bury St Edmunds via the Welland or taking it south to the Nene. Using the Welland would have saved about four miles of overland haulage but involved nine extra miles of water carriage. If land haulage was only twice the cost of water carriage, then the extra miles by water would have been marginally more expensive than the saving on land carriage; the overall difference in transport cost moving the stone north or south from the quarries would have been very small. However, the evidence is persuasive that land haulage was substantially more than twice as costly as land carriage. Assuming a 10:1 ratio, 2d. per ton mile for land transport and 0.2d. by water, use of the longer water route would have been 6.2d. cheaper for every ton.

The significance of this saving may be gauged in the following way. Early in the sixteenth century, Weldon and Clipsham stone (sources more distant than Barnack, see Figure 1) for King’s College chapel was received at delivered prices of 64d. and 66d. per ton respectively (J. Saltmarsh undated, King’s College MS JS 1/64, 3). A saving of just over 6d. would be about 10% of the delivered price. Even if water transport had been only five times more costly than land transport, the longer route by the Welland would have saved about 5% of the delivered price. Savings of this magnitude would not have been ignored.

Similar calculations can be made for getting stone to Whittlesey Mere, about nineteen more miles by water from Pilsgate haven than from Gunwade Ferry but saving four miles of land carriage. If land transport was 4.75 times more costly than by water, the two routes would have been equally competitive but on the evidence above it is virtually certain that the ratio was nearer 10:1 than 4.75:1; transport cost considerations point very strongly to the Welland as the preferred route to Whittlesey Mere. This does not prove that stones found there were taken down the Welland but it does show that their presence is not conclusive proof that Barnack stone was always taken south to Gunwade Ferry. There was a viable alternative route through Crowland that, in strictly economic terms, would have been preferred except, perhaps, for quarries south of the modern Hills and Holes adjacent to Barnack.

These estimates may be put in perspective by the fact that just over 6,000 tons of Clipsham and Weldon stone were purchased for King’s College chapel in Cambridge in the two years 1509/10 and 1510/11 (Woodman 1986, 233). This figure for part of one building implies that tens of thousands of tons of Barnack stone had previously been used across the Fens. In a situation where total transport costs – by land and water – increased the quarry price of stone by at least 50%, even 100%, there would have been a strong incentive to minimise haulage costs and therefore to use the cheaper of the two available routes, determined primarily by the location of the originating quarry and the destination to which consignments were shipped.

Trinity Bridge, Crowland, and the size of craft used

It might be objected that Trinity Bridge in Crowland would not have permitted craft of a size adequate for carrying Barnack stone to pass from the Welland into Crowland Cut. This stone bridge, built 1360–90 and replacing a pre-existing wooden bridge (see Part I), has three arches, set at about 120° to each other, making a tight turn for vessels. To see whether this objection has merit, we need first to consider the dimensions of medieval river craft, and for this purpose we need to convert differing measures of weight and volume to a common metric, the ton of 2,240 pounds. Consequently, figures expressed in long tons must be treated with care.

Available information suggests that there was little change during the medieval period in the size of vessel navigating the Fenland rivers. Table 1 shows that, in 1294–1348, vessels ranged from 4.8 tons to 17.1 on the Ouse/Cam/Nene, whereas in 1566 the largest vessel documented was 12 tons (Table 2). When construction of King's College chapel resumed in 1508, accounts for stone delivered by boat were generally aggregated over a period of time for payment but three individual boatloads are recorded, respectively seven, eight and nine tons of stone (J. Saltmarsh undated, King's College MS JS 1/64, 5), and another of 14 tons originating from a quarry at either Weldon or Clipsham.

Table 1. Cargo capacity of river vessels 1294–1348.

	No. of voyages	Tons		
		Mean	Median	Range
Witham (Lincoln-Boston)	1	13.4		
Great Ouse/Cam/Nene etc.	17	9.4	9.5	4.8–17.1
Nene (Yaxley-Lynn)	6	9.5		
Little Ouse (Lakenheath-Lynn)	1	7.2		
Cam/Ouse (Cambridge or St Ives-Lynn)	9	9.7		

N.B. The original records use quarters as the unit of measurement. Langdon (2007 table 4) shows the tonnage equivalent of quarters, at 5.83 quarters for a long ton and this ratio has been used to obtain the tonnage figures. Capacity is based on the cargo actually carried.

Source: Langdon 2007, table 3 and Appendix.

Table 2. Cargo capacity of river vessels 1566.

Based at	No. of craft	Capacity range, tons
Ely	3	6–8
March	8	1–2
Wisbech	14	3–12

N.B. Capacity based on the vessels' capabilities, not tonnage actually carried.

Source: Elye et al. 1909.

Other information is consistent with the figures given above. According to Masschaele (1993, 272), for the purveyance of grain in the early fourteenth century, the normal vessel, used nationally, was the *battelum*, able to carry close to 50 quarters; he uses 48 lbs for a bushel, implying a vessel capacity of close to 8.6 tons. When Ramsey abbey was being built, Spoerry *et al.* (2008, 202) infer that vessels carrying more than seven metric tonnes were employed. As for the Ouse, which was the best Fenland navigation, archaeological investigations at Ely have revealed cuts perpendicular to the river that served as docks, the earliest of which probably date from the late fourteenth century or early in the fifteenth, and the latest to the sixteenth century. These cuts would have accommodated craft capable of carrying 15 to 25 tons (Cessford *et al.* 2006; Chisholm 2008, 157), but that does not prove vessels of this size were actually in use. Such tonnages would be well in excess of the figure cited in a seventeenth pamphlet extolling the virtues of Vermuyden's drainage works, in which the author states that previously an Ely-based lighterman commonly had gone to Lynn with five-ton cargoes (Anon. 1654, 22).

It seems clear that vessels carrying in the order of ten tons and even larger would have been common on the main Fenland waterways throughout the period we are considering: on the Ouse in particular there were probably larger craft; on the other hand, vessels using the upper reaches of rivers are likely to have been smaller. Spoerry *et al.* (2008, 202) estimate that vessels carrying cargoes in excess of seven tonnes to Ramsey would have been nine metres long and three in the beam, drawing less than one metre of water. As a flat bottomed, snub-nosed barge, such a vessel drawing half a metre would displace somewhat more than twelve cubic metres of water when loaded. Jenkins (1992–93) estimates that such a barge would itself weigh four tons and could therefore carry eight tons.

Trinity Bridge in Crowland would have permitted vessels of this size to pass. The three arches each span almost 5.1 metres at present-day ground level, with intervening buttresses of 2.3, 2.4 and 3.0 metres. Below ground level, the buttresses descend to about 1.7 metres before the stonework begins to encroach upon the currently visible channel space. Only the assumed footings go below two metres from the ground (Waters 2005, fig. 3), indicating that the waterways were quite shallow and the surface not far below the present land surface. Therefore, the present-day ground level dimensions provide a close approximation to the medieval navigable space. Drawn to scale, this footprint allows a simple rectangle measuring 9×3 metres to pass through the Bridge in any direction. However, the clearance would have been limited and there was the river's current with which to contend, so it would have been necessary to warp the vessels, i.e., control their passage through the Bridge by the use of ropes. A bridge with the dimensions of Trinity Bridge would have permitted vessels to enter Crowland Cut with Barnack stone and therefore to reach the whole of the Fens from the Welland. That

the Bridge did accommodate such vessels is strongly suggested by the grant made by James I (1603–25) for the restoration of navigation on the Welland between Stamford and the Deepings. The specification was for vessels carrying ten tons (Harrod 1785, pages following 534), implying that this had been the traditional carrying capacity of vessels plying through Crowland to Stamford, a figure consistent with what we know about the size of craft able to reach the head of navigation on other Fenland rivers (Chisholm 2007).

Conclusion

In the past, it has been widely assumed that Barnack stone was carried south to the Nene for onward shipment across the Fens, and it is clear that some did follow this route. However, there are persuasive reasons for believing that stone also moved northward for shipment down the Welland, and that this route would have been cheaper than by the Nene for many cargoes across the Fens. We can only guess whether the southward or northward route was the more important, and whether the balance of advantage changed over time. It may be that documentary and/or archaeological evidence will be found in future that will shed further light on the matter. There is no doubt that both Bury St Edmunds and Ramsey had major difficulties with Peterborough but it appears that disputes with other religious houses have not been reported by scholars, were not ever recorded or did not occur. Did they really have no difficulties with Peterborough? Meantime, one can confidently say that the Welland did provide a viable route through Crowland for distributing Barnack stone across the Fens, with the probability that it was the favoured route for many destinations.

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Archaeological investigations at the Old Schools, University of Cambridge

Richard Newman and Christopher Evans

With contributions by David Hall, Vida Rajkovača and Anne de Vareilles

The Old Schools of the University of Cambridge, which houses its central administrative offices, stands prominently in the heart of the historic town core (TL 4474 5846; Fig. 1). Today the building complex is of double-quadrangular form: the original, *Cobble Court* (with which this paper is concerned) and, in the west, *Old Court*, originally part of King's College until its ownership was transferred in the mid-nineteenth century.

The irregular layout of Schools' constituent components reflects its piecemeal development, spanning the fourteenth to the early twentieth centuries (Fig. 1). The architectural history of its original Cobble Court core was detailed (and 'problematised') through a conversion-related recording programme conducted in 1995. With its results, and an appraisal of relevant source-material, fully published in *The Antiquaries Journal* in 1999 (Evans and Pollard 1999), for our immediate purposes only its key themes need concern us at this time. The first, relates to the counter-clockwise progression of its construction, starting in c. 1370 with the construction of the Divinity School in the north and which arguably first stood as an independent hall. Thereafter, construction of its other three ranges continued over the next century and was only completed with its eastern front – as depicted on the Loggan print of 1668 (Fig. 1) – in c. 1480. Following prevailing later Medieval courtyard-type spatial models, the Schools were effectively hidden behind the domestic properties fronting onto King's Parade (Fig. 1). This only changed in the mid-eighteenth century with the construction of Wright's neo-classical façade. Appreciation of its grand public face required an appropriate 'display space' and led to the demolition of the street-front properties to provide a suitable lawn-vista; the long process of the University's architectural/institutional 'realisation' and the establishment of its readily visible core facilities being the other main theme of the 1999 paper.

A decade on, in June and July of 2009, the proposed installation of a new lift-shaft in the northeast corner of the former Divinity School-range resulted in the excavation, by the Cambridge Archaeological Unit (CAU), of a c. 2 x 2.70m trench (Figs. 1 and 2; Newman 2009). Not only did this allow for the investigation of its original east-front foundations, but also pro-

vided a 1.40 x 2.70m exposure of the Medieval strata of the properties preceding it. This, accordingly, adds an earlier strand to this remarkable building's town/gown-interaction 'story'

Excavation Results

Second terrace river gravels were encountered at 7.45m OD; overlain by friable pale brown sandy silt subsoil horizon ([059]; 0.28m thick; Figs. 2 and 3), its excavation yielded a single abraded sherd of Roman greyware. Six further sherds of Roman pottery (including two samian), plus a fragment of *opus signinum* mortar, also occurred residually within subsequent-phase features. No cut features of Roman date were identified, however, implying that the material was probably introduced through manuring associated with arable cultivation.

Above this horizon, three phases of activity were distinguished, with the first two being the most significant:

- 1) Domestic settlement activity (eleventh century to c. 1370)
- 2) The establishment of the University's Divinity School (c. 1370)
- 3) Post-Medieval/Modern alterations to the Divinity School (1754 to the present).

Note that for our immediate purposes, full specialist reports will only be presented for selected finds categories and economic data from the first phase, with other material only fully described and discussed within the site's archives.

Domestic Settlement (Phase 1)

Settlement commenced within the immediate site-area some time during the eleventh century, when a timber-framed structure was erected. The building remains were represented by beam-slot F.15 and banded floor layers [062] (Figs. 2 and 3); eleventh century pottery was recovered from an ash- and charcoal-rich trample deposit that had accumulated above one of its compacted clay floor surfaces. Yet, despite having

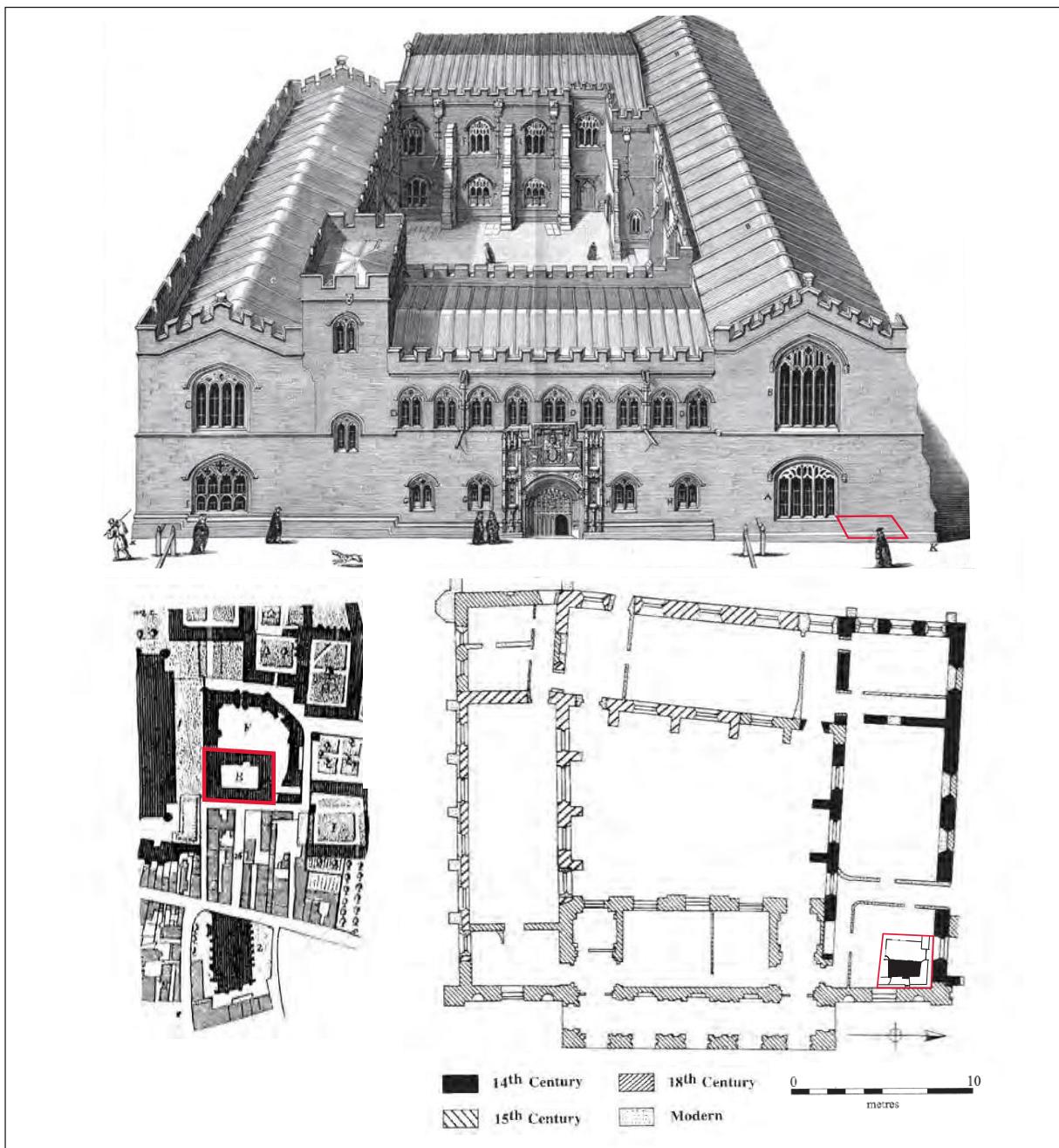


Figure 1. The Old Schools, with Loggan's 1668 print above and map, lower left (with Schools complex red-outlined; '2' indicates Great St Mary's); lower right, Royal Commission's 1959 plan showing the complex's construction phases and with the 2009 area of excavation indicated in red (as it is also been projected upon the façade of the print-view above).

had its floor re-laid at least twice, the use of the structure appears to have been relatively short-lived (suggesting that it may have played only an ancillary role within the initial property plot).

A series of refuse pits were subsequently inserted to the north of the building, one of the earliest of which, F.14, truncated the then robbed-out and backfilled beam-slot. This feature contained twelfth-century pottery, along with a dog burial. Further pits were then created, including (in broad stratigraphic order) F.13, F.12, F.11 and F.10. Of these, F.12 and F.11

are of particular interest. The former was vertically-sided and, judging by the profile of its fills, appears originally to have been revetted (most probably with wattle). Unfortunately, it could not be bottomed due to its proximity to the foundation of the standing structure within which the excavation took place; however, from the excavated sample it can be seen that it is very likely to have comprised a well or cesspit. The feature was deliberately backfilled during the twelfth century with deposits of domestic waste, which included a large quantity of charred cereal re-



Figure 2. The 2009 Lift-shaft Excavations: Upper left, total area of investigation and, otherwise, the eleventh–fourteenth century Phase 1 sequence as it survived west of the main, F.18 foundation.

mains, along with the bones of cattle, fish, rabbit and frog/toad. F.11, in contrast, was much smaller in size, but contained a near-complete St Neots-type ware jar. It is, thus, clear that domestic occupation remained ongoing throughout this period.

Towards the close of the twelfth century, the area became sealed beneath layer [035]. This most probably represents a short-lived phase of backyard horticultural activity, although it may alternatively have originated as the upcast material generated by the digging of a series of pits located beyond the boundary of the investigation. During the thirteenth century, the layer became sealed, in turn, beneath a second timber-framed structure. Notably, this building – which

is represented archaeologically by beam-slot F.7 and posthole F.17 – precisely re-establishes the location of the former eleventh century structure, thus implying a direct continuity of layout in the property. Few remains of the succeeding structure survived, however, due to the extent of later pitting. By the end of the thirteenth century, the replacement building had itself been abandoned. It was subsequently overlain by [034], a layer which represents a second phase of upcast/cultivation activity.

In the late thirteenth or early fourteenth century, two pits (F.5 and F.8), both containing domestic refuse, were inserted into the area of the former building, thereby removing all trace of any associ-

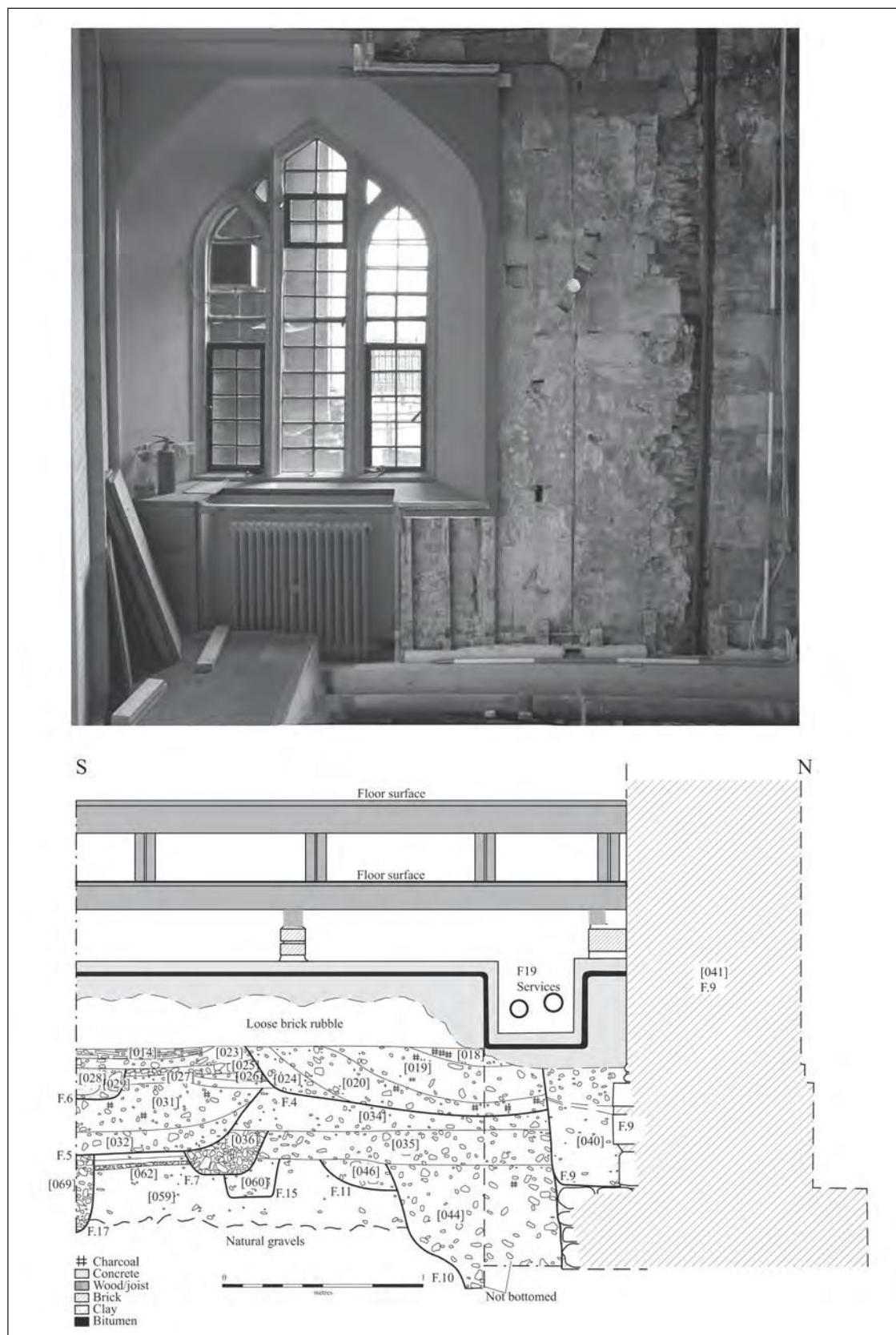


Figure 3. Top, photograph showing the north wall (F.9; note, rebuild-line marking the insertion of the eighteenth century façade wall, left; photograph D Webb) and, below, main east-facing section (see Fig. 2 for location).

ated floor surfaces. These were subsequently overlain by trample/foundation layers [027] and [026], which were themselves sealed beneath a metalled surface ([025]). A small posthole, F.6, also appears to have been associated with this activity. Given the nature of these deposits, it is unlikely that they represent the re-establishment of a third successive structure in this location, although it is notable that they appear to have respected very closely the northern limit of their precursors' extent (suggesting that elements of the earlier structure still survived as an otherwise undemarcated boundary). Instead, they are much more likely to have been associated with an external yard surface or working area. At around the same time that this area was being established, during the early to mid-fourteenth century, an additional rubbish pit – F.4 – was also inserted a little way to the north.

The final episode of activity undertaken during this phase, which occurred in the mid to late fourteenth century, was markedly different to those that had preceded it. Although it was comprised of feature-types that had occurred frequently in earlier centuries – including postholes F.2 and F.3, and layers [023] and [014] – in this particular case the features were either composed of, or had been backfilled with, large quantities of demolition debris (including flat-laid Collyweston roof tile fragments and quantities of render/plaster). Two possible explanations for this exist. On the one hand, the features may have been associated with the demolition of a nearby structure, one which, given the nature of the material involved, would have been relatively large and prestigious; on the other, they may alternatively have been associated with initial construction of such a structure, and been discarded during the building process. In either case, their creation appears to have been directly associated with the structure which was subsequently constructed on the site during Phase 2.

Material Culture

In addition to the pottery presented below, also recovered was a pierced, rectangular copper alloy sheet (from [035]), possibly either a furniture/box- or belt-mount, and 14 iron fragments (94g). The majority of the latter was associated with the mid to late fourteenth century demolition horizon, but also included five nails that had been pressed into the surface of early fourteenth century layer [025].

Clearly deriving from a single source, 30 fragments of render/plaster (297g) were recovered from the backfilled post-pipes of contemporary mid to late fourteenth century postholes F.2 and F.3 and trample/foundation layer [023]. Five fragments of ceramic building material (143g) were also recovered from mid to late fourteenth century post-

hole F.3. These consisted of a green-glazed ridge tile of Ely manufacture, three unglazed tile pieces and a brick fragment; the latter is perhaps the most unusual in a fourteenth century context, as brick was an expensive and relatively prestigious building material at this time.

Of the worked stone, pieces from a single limestone mortar were recovered from the mid-late fourteenth century layer, [014], with a fragment of lava quern also coming from the thirteenth century layer [034]. The mid-late fourteenth century layers, [023] and [014], were almost entirely composed of flat-laid Collyweston roof tiles. Of the 137 fragments retrieved, 11 had peg-holes; no complete tiles were present.

Pottery

Richard Newman and David Hall

Excluding residual Roman material, a total of 286 sherds of pottery, weighing 5209g, were recovered from Phase 1 deposits; this assemblage has been subdivided on a chronological basis. In total, 96 sherds of Saxon-Norman pottery (3359g) were recovered. The material is exclusively comprised of the three fabrics – St Neots-, Thetford-type and Stamford Wares – that are found ubiquitously on sites of this period throughout southern Cambridgeshire (see Table 1).

As is typical across the region, St Neots-type Ware is the most common fabric by count (62.5%), Thetford-type Ware is a substantial component of the assemblage (34.4%) and Stamford Ware is only a minor element (3.1%). Somewhat unusually, St Neots-type Ware is also the most frequent fabric by weight (75.9%). If, however, the presence of near complete St Neots-type Ware jar from F.11 (Fig. 5.1) is discounted (removing 1690g), this disparity is less apparent (with St Neots-type Ware comprising 52% and Thetford-type Ware 46% of the total). The earliest diagnostic material to be recovered consists of fragments of a small St Neots-type Ware jar and an open bowl that are tenth, or more probably eleventh, century in date and were recovered from floor layer [062] (Figs. 4 and 5.2). Several sherds of Thetford-type Ware also bore rouletted decoration, which is generally indicative of a tenth or eleventh century origin (P. Blinkhorn pers. comm.), although this is a less reliable indicator of date than vessel-form.

In total, 115 sherds of thirteenth–fourteenth century pottery (1.79kg) were recovered. In terms of composition, the material consists of the usual range of coarsewares, fine-wares and material that is intermediate between the two (see Table 2, below). Much the most common of these categories were the coarsewares (74.8% of the assemblage by count and 74.4% by weight), whilst the finewares were less common (16.5% by count; 17%, weight) and the intermediate wares relatively infrequent (8.7% by count; 8.6%, weight). The range of fabrics identified is typical of those present at other contemporary sites in Cambridge (Edwards and Hall 1997; Cessford and Hall 2007; Newman and Hall 2008) and southern Cambridgeshire generally (e.g. Cessford *et al.* 2006). The Medieval coarsewares consisted of utilitarian brown, buff, grey, pink, and red fabrics, often containing large grit inclusions. By far the most common of these was grey coarseware,

Table 1. Saxon-Norman pottery from the Old Schools Site by ware (MSW = mean sherd weight).

Ware	Count	Weight (g)	MSW (g)	Date range	Source
St Neots-type	60	2551	42.5	9th–12th century	Oxfordshire and Cambridgeshire
Stamford	3	41	13.7	10th–12th century	Stamford
Thetford-type	33	767	23.2	9th–12th century	Across East Anglia
Total	96	3359	35.0		

which accounts for 60% of the coarseware assemblage by count and 63.9% by weight. A number of sherds of intermediate Medieval Ely Ware were also present, including a fragmentary lamp base recovered from a late thirteenth or early fourteenth century pit (F.5; Fig. 5.5); fragments derived from a Grimston Ware face-jug, including its handle, were also present in the same feature (Fig. 5.3).

Perhaps the most notable aspect of the Medieval fineware assemblage, however, is the presence of Siegburg stoneware and Essex Redware sherds in sealed contexts which stratigraphically predate the construction of the Phase 2 structure in c. 1370. Although the former fabric has previously been recorded in fourteenth century archaeological deposits in London (Gaimster 1997, 84), this evidence provides solid confirmation of its importation into Cambridge at least a century earlier than has previously been identified. Similarly, whilst Essex Redware has been identified in contexts provisionally dated to the fourteenth century at Grand Arcade (Cessford 2007), the new finding provides a *terminus ante quem* that securely corroborates this result. This again accords with the earliest date that this particular fabric is known to have been imported into London (Pearce *et al.* 1982). The presence of Siegburg stoneware and Essex Redware in fourteenth century contexts at the Old Schools Site, therefore, suggests that a relatively high status-pattern of consumption occurred during the latter part of Phase 2.

Economic Data

In addition to the contributions that follow, 33 oyster shell fragments (264g) were recovered. Although these derived from 13 separate contexts, none of the deposits contained more than six individual items. This stands in contrast to other contemporary Cambridge sites, where groups of over 100 individuals have been regularly recorded. Also somewhat unusual is the fact that no mussel or cockle shells were identified.

Animal Bone

Vida Rajkovača

Of the 347 specimens in this site/phase sub-set, 118 (or 34%) were identified to family or species. Livestock make up more than all of the other species combined, with ovicaprids being much the most dominant (see Table 3). This dominance may possibly reflect the economic prevalence

of the Medieval wool industry in this part of East Anglia (Dobney *et al.* 1996). Both sheep and goat were positively identified based on several complete specimens. These are followed in frequency by cattle, pig and chicken and geese. Red deer are represented by the remains of loose teeth and phalanges which demonstrated the use of wild resources. (In addition, small quantities of fish, rabbit, unidentified small mammal and frog/toad were present in the environmental sample residues). Signs of butchery were observed on 48 bones (c. 14%), with the actions performed including carcass dismemberment and bone splitting for marrow removal. A number of ribs and vertebrae have also been chopped, possibly to separate left and right portions while the carcass was hung. In addition, ribs were cut to 'pot-sizes' in several instances, thus representing typical residues of domestic food waste. One cattle metacarpal was sawn, and this is likely to represent bone that was being prepared for working as the use of a saw is unusual in other contexts. Eleven ageable specimens were noted, which is insufficient to create kill-off profiles for each of the species; however, some suggestions could be made based on the data obtained. It seems that both cattle and pigs were killed around their first year and that sheep/goats were slaughtered much later, as evidenced by some specimens aged up to eight years. Some of the elements of the latter from fourteenth century contexts were noticeably smaller in size, which might imply malnutrition. Withers estimates derived for ovicaprids based on a complete calcaneum produced the height of 60cm, however, which is in the middle of the size range (Von den Driesch & Boessneck 1974, 329).

Perhaps of greatest individual note is the articulated dog skeleton recovered from F.14 (eleventh/twelfth century; Fig. 2). Obviously deliberately buried, all body parts were present with the exception of the hind limbs (femora, tibiae and metatarsals) that had been truncated by the foundation of a later building. Shoulder height estimates were derived from a complete humerus (following Harcourt 1974, 154) and provides a height of around 61cm (24 inches). Harcourt cites the height range for Anglo-Saxon dogs as being c. 9–28 inches (*ibid.* 171, table 14), and based on that, this specimen could be considered to be towards the top end of the size range.

In addition, a fragment of a tibio-tarsus belonging to the Accipitriinae (hawk/eagle family) was recovered from F.5 (thirteenth/fourteenth century). Judging by its size, this specimen is likely to represent the remains of a hawk, such

Table 2. Medieval pottery from the Old Schools Site by Ware (MSW = mean sherd weight).

Ware	Count	Weight (g)	MSW (g)	Date range	Source
Brill	3	126	42	13th–15th century, with a 13th century floruit	Buckinghamshire
Coarsewares	86	1331	15.5	13th–15th century	Cambridgeshire
Ely Ware	9	150	16.7	12th–15th century	Cambridgeshire
Ely-Grimston	1	4	4	13–15th century	Cambridgeshire
Essex Redware	5	36	7.2	Late 13th–15th century, with a 15th century floruit	Essex
Grimston	5	83	16.6	12th–15th century, with a 14th century floruit	Norfolk
Hertfordshire Fineware	1	12	12	13th–15th century	Hertfordshire
Lyveden/Stanion	1	16	16	13th–14th century, with a 13th century floruit	Northamptonshire
Siegburg	1	6	6	14th–15th century	Germany
Surrey Borders	3	26	8.7	14th–15th century, with a 14th century floruit	Surrey
Total	115	1790	15.6		

TAXON	NISP	%NISP	MNI
Ovicaprids	52	44.1	4
Sheep	4	3.4	1
Goat	2	1.7	1
Cow	28	23.7	2
Pig	14	11.9	2
Chicken	6	5.1	1
Domestic goose	2	1.7	1
Horse	2	1.7	1
Dog	2	1.7	2
Red deer	4	3.4	1
Deer (sp.)	1	0.8	1
Accipitriinae (Hawk family)	1	0.8	1
Identified to family/ species	118	100	.
Cattle-sized	62	.	.
Sheep-sized	125	.	.
Rodent-sized	1	.	.
Mammal n.f.i.	23	.	.
Bird n.f.i.	15	.	.
Fish n.f.i.	3	.	.
Total	347	.	.

Table 3. Number of Identified Specimens (NISP) and Minimum Number of Individuals (MNI) for all species. The abbreviation n.f.i. denotes that a specimen could not be further identified.

as a sparrowhawk, rather than an eagle. Birds of prey such as this are not uncommon finds on Medieval urban sites.

Environmental Remains

Anne de Vareilles

Two eleventh/twelfth century-feature soil samples were chosen for analysis. These were processed using an Ankara-type flotation machine, with 300µm aperture meshes for collecting the floats and a 1mm mesh for the heavy residues.

All plant macro remains were preserved through carbonisation. The sample from pit F.12, was very rich in cereal grains, which, though quite heavily burnt, retained enough of their form to be identifiable to species. There was less organic material in the sample derived from pit F.11, but it was also more heavily burnt, with quite a few bits of amorphous parenchyma that are probably fragments of grains. Very few intrusive modern rootlets were found and blind burrowing snails only occurred sporadically in F.11.

Both pits both had a similar composition of plant remains, although these occurred in much higher quantities in F.12. The latter contained over 230 barley (*Hordeum vulgare* sl.), 75 oat (*Avena* sp.) and 57 wheat (*Triticum aestivum* sl. and *Triticum* sp.) grains. Oat chaff was absent and so the caryopses could not be distinguished into wild or cultivated types. Nevertheless, it is likely they were intentionally grown as oats were a common crop by this period (Greig 1991). Compared to the number of cereal grains the samples had few wild plant seeds, mainly arable weeds as well as some fragments of hazel nut shell (*Corylus avellana*). Field gromwell (*Lithospermum arvense*), appearing as one seed in F.12, is a loam indicator (Hanf 1983) and suggests that one of these crops (if not all) was grown on good agricultural soil. In conclusion, samples as rich in hulled barley as the one from F.12 are uncommon in twelfth century Cambridge. The absence of chaff and the relatively low numbers of wild plant seeds are intriguing, as one would expect high concentrations of such items if the assemblage represented ani-

mal feed or cereal processing waste. The remains therefore appear to represent burnt, partially processed stored crops; this was clearly introduced into the features as domestic refuse.

The Divinity School (Phase 2)

Obviously associated with the late fourteenth century Divinity School, large wall foundations were exposed, with three distinct builds identified. The earliest was the standing east-west aligned wall F.9 (Figs. 2, 3 and 4). Its foundation was composed of seven courses of lime-mortared clunch fragments, averaging 0.25m by 0.12m in size. The three uppermost courses comprised well-worked rectangular blocks, whilst the lower four had been incorporated into a 0.43m deep step that projected out 0.3m from the wall's face. Above the clunch were at least two courses of rough Barnack limestone, which appear to have been used to retain a mortared clunch core. The foundation was approximately 1m deep and 1m wide, expanding to 1.6m wide at its base. Two principal reasons may exist to explain its step. Firstly, F.9 supported a main load-bearing wall and secondly, in this location it directly overlay the Phase 1 wicker-lined pit/well, F.12, and it may, therefore, have been felt that it required additional support.

Feature 9 had been abutted by a partially truncated, north-south foundation, F.18, which was composed of identical materials (Figs. 2, 3 and 4). Between five and seven courses of lime-mortared clunch were present, surmounted by two courses of Barnack limestone. F.18 was 0.98m+ deep by 1.05m wide (without a step) and

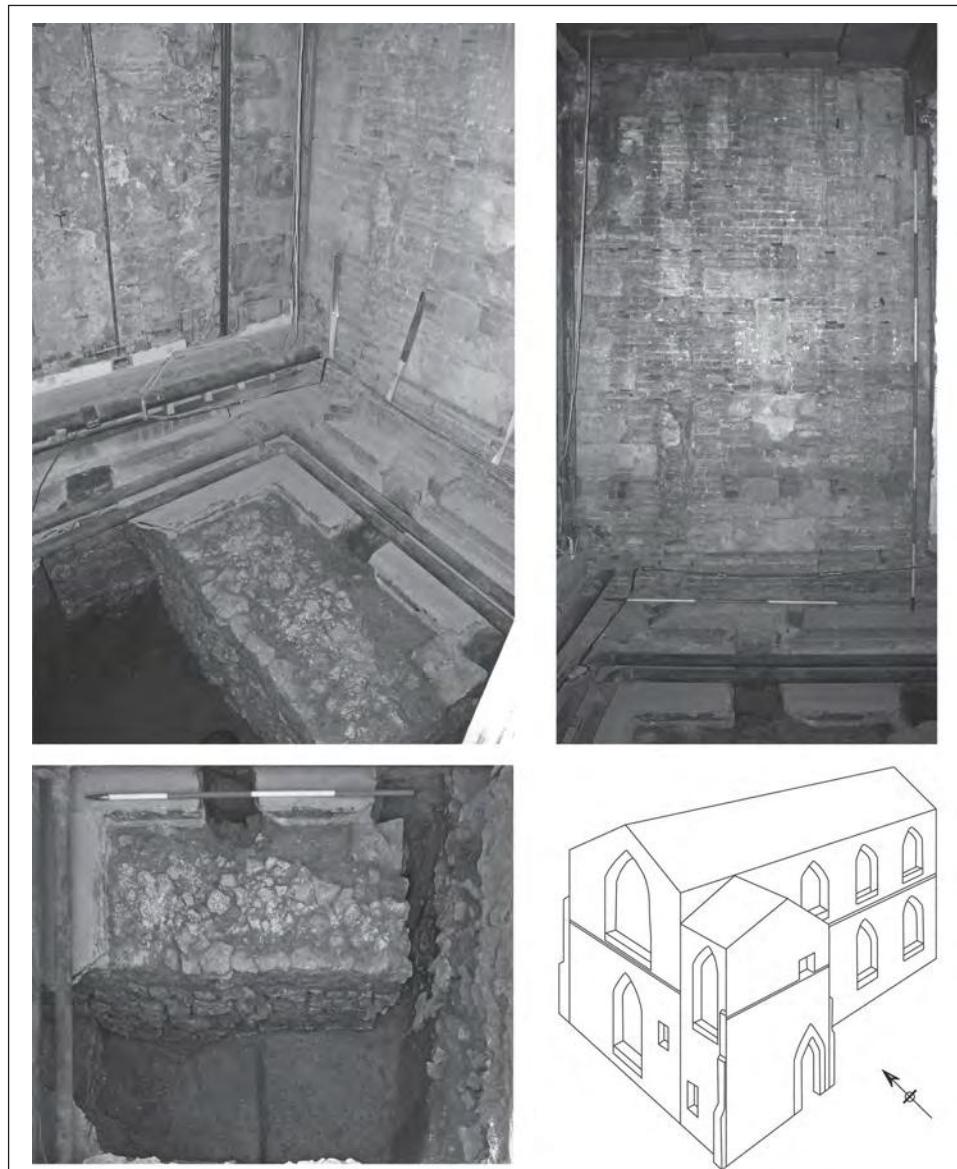


Figure 4. Upper left, showing northeast corner junction of original F.9 north wall and eighteenth century façade (see also upper right for the latter) with detail of F.18 foundation; lower left, detail of F.18 foundation; lower right, isometric reconstruction of the fourteenth century Divinity School as a free-standing hall (C Begg; photographs by D Webb).

2.32m long; as with all of the foundations that comprised this phase, it had clearly been trench-built.

F.18 had, in turn, had been abutted by F.1 (the latter extending F.18's north-south axis further to the south; Fig. 2). With a depth of 0.99m+ and 1.17m+ wide (its length could not be determined as it was only partially present within the trench), although this latter foundation was also composed of at least four courses of clunch blocks: the lower two were divided by trampled horizons of dark greyish brown silt, whilst the upper two were bonded with sandy yellow mortar.

The most significant difference between the various builds was the presence of a lower step in F.9, which was not replicated in either F.18 or F.1. In addition, although F.9 and F.18 were built in a similar fashion and utilised near identical materials, F.1 was

notably much more crude in construction, its lower courses not even having been bonded with mortar.

The phase's remains were all directly associated with the standing building and, for reasons of structural stability, were not excavated but left in situ. A small slot was, however, inserted into F.1 in order to gain access to the foundation of the eighteenth century façade (see further Phase 3). A quantity of moulded clunch blocks was encountered. The majority were roughly shaped blocks and had been only very crudely trimmed. At least four finished blocks were also employed. These were more finely squared and varied between by 0.22m by 0.48m in length, although no clear tool marks were visible. Notably, at least one face on each of these bore traces of weathering, indicating that they may previously have been

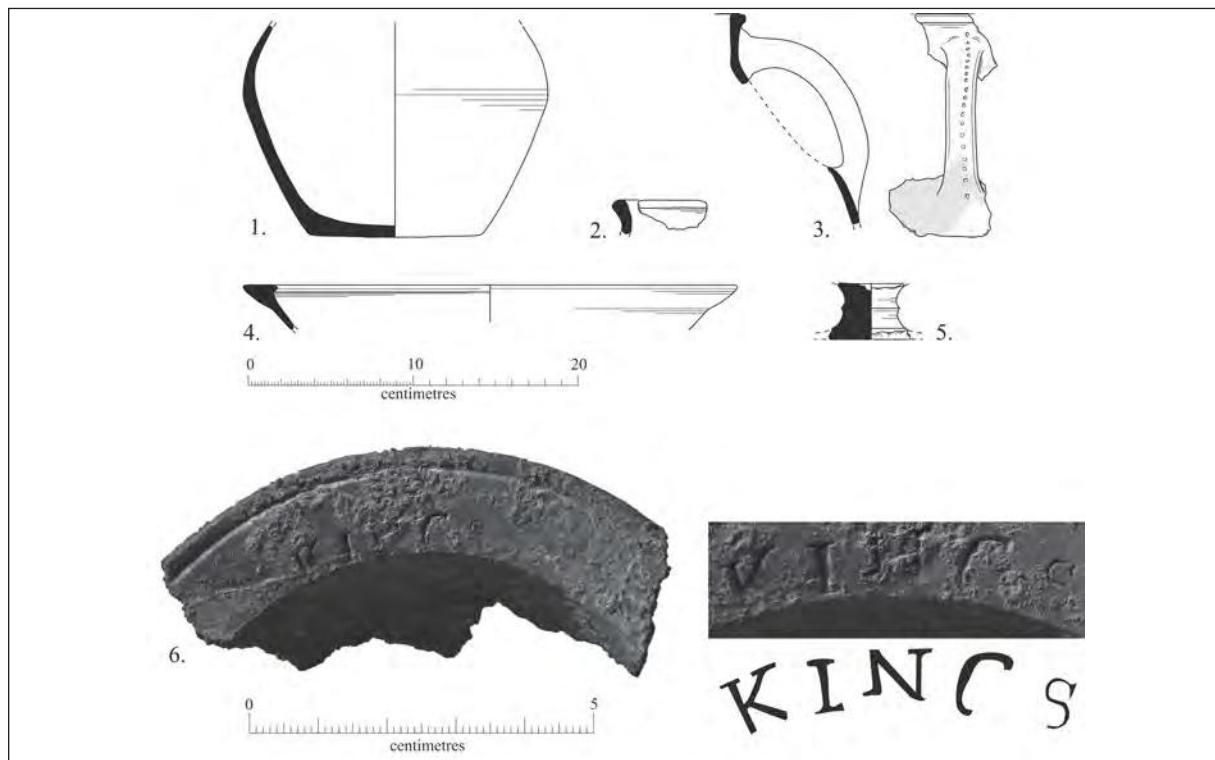


Figure 5. Selected Artefacts. 1) St Neots-type Ware jar (F.11, [46]); 2) Small St Neots-type Ware jar ([062]); 3) handle from Grimston Ware face-jug (F.5, [31]); 4) St Neots-type Ware open bowl ([62]); 5) Ely Ware lamp base (F.5, [31]); 6) Pewter vessel rim-section stamped with 'KINGS' (with close-up, left).

incorporated into the wall of an above-ground structure such as that which was potentially demolished at the end of Phase 1 (although it is also possible that they may simply have been abandoned on site for several years prior to their incorporation into the foundation). Note, although a number of well-finished clunch blocks had also been incorporated into foundation F.9, these could not be investigated as they remained bonded into the extant fabric.

Building Alterations (Phase 3)

This phase solely consisted of significant alterations made to the fabric of the standing building; two such episodes have been identified, both of which took place within the last three centuries. The first of these, which consisted of the addition of a neoclassical façade to the eastern frontage of the Old Schools complex, is represented archaeologically by wall F.16 (Figs. 2 and 4). This was composed of handmade unfrogged red bricks bonded with white lime mortar and interspersed with vertical courses of squared ashlar blocks. Its foundation, which could not be bottomed, extends down at least 1.7m (or 2.53m below the present floor-height) and consists of roughly coursed red bricks. The foundation trench was back-filled with a deposit of loose mid-greyish brown silty sand, which contained frequent fragments of ceramic building material, mortar and domestic refuse.

This eastern façade-wall was appended during the mid-eighteenth century, at which time the original eastern wall of the Divinity School (which included Phase 2 foundations, F.18 and F.1) was demolished to below floor-height in order to allow the new frontage to extend at right angles to the eighteenth century Senate House to the east.

The second major alteration took place during the early twentieth century. At this time, the building was extensively remodelled and new service pipes were inserted (F.19); a timber floor was also constructed. Later in the century, a second floor was added, resting directly upon its predecessor (see Fig. 3).

Relatively little archaeological material was recovered from Phase 3 deposits. With the exception of a stamped brick recovered from F.19 ('E.J. & J. PEARSON [Ltd?] STOURBRIDGE'), this was exclusively recovered from mid-eighteenth century wall foundation F.16. Its included three sherds of utilitarian tin-glazed earthenware that appear to have been derived from a single chamber pot, a small rim sherd derived from a polychromatic tin-glazed earthenware bowl that may well be Netherlandish or Anglo-Netherlandish in origin (Crossley 1990, 259–60) and, finally, a base sherd derived from a green-glazed fine-ware vessel of unidentified origin. Three shards of glass from eighteenth century 'utility bottles', eight clay tobacco stem fragments (plus a heel fragment), four animal bones and some 30 oyster shell pieces were also recovered.

As reported upon by Andrew Hall, perhaps the most significant find from this phase was a rim-section of a lead alloy (pewter) vessel dating to the first half of the eighteenth century or possibly late seventeenth century (Fig. 5.6). This appears to be a fragment of a small bowl (c. 10cm dia.) with a flared rim, possibly a small condiment vessel; alternately, this could be the lid of a pint tankard, the latter made either in pewter or ceramic. The flange is indistinctly stamped with the word 'KI?Gs', in capitals with serifs, most likely 'KINGs'. Its attests to the fact that Cambridge's colleges would have had large services of utilitarian pewter wares, often engraved with the college arms or simply stamped in this manner.

Discussion

The probable Roman agricultural activity identified at the Old Schools Site corresponds closely with evidence from a number of other nearby excavations. A Roman-attributed ploughsoil was encountered during work within the Bateman Building, Gonville & Caius College, situated only a short distance to the northwest (Alexander 1995, 3–4) and, in residual status, Romano-British pottery was recovered during investigations conducted across King's College front lawn (Cessford in prep. b); further to the north, Late Roman quarries and a possible riverside hard-standing were found during excavations at St John's College (Dickens 1996, 6–10).

The site's Phase 1 domestic occupation was evidently established some time during the eleventh century, and this agrees closely with the general pattern of early settlement activity that is now beginning to emerge in Cambridge. So far, the earliest Medieval settlement evidence (mid-late tenth century date) identified south of the River Cam was encountered close to Bridge Street at the St John's Triangle Site (Newman 2008, 74–94). It has, however, long been noted that a series of eleventh century churches were scattered along the length of the Medieval High Street, latter-day King's Parade (Cam 1959, 123–32; Addyman & Biddle 1965, 94–6; Lobel 1975, 4). This routeway follows the spine of a gravel ridge flanking the course of the River Cam, and indicates the primary direction in which the newly emerging settlement was to expand.

Few documentary sources relating to the early history of the immediate Schools Site-area have survived. Despite this, it is known that much of the land immediately to the south was donated to the University by one Nigel de Thornton in 1278, when it was occupied by a number of messuages (dwellings). Unfortunately, it is not entirely clear whether these include the Schools' plot itself (Willis & Clark 1886, III, 7). Nevertheless, it is apparent that, in the late thirteenth century, much of the area was occupied by domestic tenants. During the early fourteenth century this pattern, however, began to change; by 1328, at least three schools were situated at the eastern end of North School Lane, although these do not necessarily

appear to have been associated with the University itself (*ibid.* 2). By 1349 the School of St Margaret had, moreover, been established immediately to the north, and it is likely that a number of additional schools also then existed in the vicinity (*ibid.*). These developments provide a context for the potential demolition of a relatively prestigious building at the Old Schools Site in the later fourteenth century, which may well have been stone-built, with stone roof tiles and fine quality plaster rendering. Other indicators of status present at the site at this time include imported German Siegburg Stoneware, which has not previously been identified in a fourteenth century context in Cambridge and, also, the relatively high percentage of red deer amongst its animal bones.

The acquisition of properties such as that at the Old Schools Site for the University, and the differential legal and economic treatments accorded to members of the 'gown', as opposed to the 'town', caused bitter local resentment. Indeed, during the late fourteenth century – only around a decade after construction of the Phase 2 building began – this was to receive its bloodiest expression: "the distinctive feature of the Cambridgeshire rising [part of the Peasants' Revolt of 1381] was the attitude of the rebels to the University of Cambridge ... This was not just anti-ecclesiastical resentment by the poorer inhabitants of Cambridge, but a general hatred of the University that united all, including the mayor" (Dunn 2004, 157). Over the course of a few days in June 1381 the chancellor, John Cavendish, was murdered and the properties of several senior members of the University hierarchy were destroyed; Corpus Christi College was ransacked, many of the University's archives were destroyed and the contents of the University Library were consigned to a bonfire in the market square (*ibid.* 158).

The Phase 2 foundations clearly formed part of the fabric of the Old Schools' northern Divinity School range. The building, which housed the faculty of theology from the end of the fourteenth century until 1879 (Willis & Clark 1886, III, 229), played a key role in the early history of the University. This significance is reflected in the incorporation of the Senate House (the University's official meeting chamber) into the Divinity School's upper storey, along with a small private chapel (Royal Commission on the Historical Monuments of England 1959 (RCHM[E]), I, 12). It comprised one of the most prestigious structures in the burgeoning town, a fact reflected in both the scale and the quality of its construction.

The 2009 investigation revealed that the process of its construction was not, however, seamless; instead, at least two (and probably three) successive phases of work were identified within its eastern wall-foundation. Whilst these could, of course, have occurred within a brief time-frame, representing seasons or perhaps even only different weeks of stop/start labour, historical accounts indicate that a more prolonged gestation and that its construction was, in fact, interrupted: hence why it took twenty years to complete (*ibid.* 11–18; Roach 1959, 312–21; Willis & Clark 1886, III, 1–14). As regards the wall's builds, one other

possibility needs, at least theoretically, to be entertained and that relates to potential alterations arising from the completion of the Schools' eastern range in c. 1480. While on the Logan print no build-line is visible separating the end of the Divinity School range from the larger complex's eastern front (Fig. 1), which might imply extensive modification had occurred of the north range's end, the portrayed architectural detail rather indicates that the integrity of the Divinity School's fabric was largely maintained. It is, therefore, unlikely that its foundation would then have been subject to any significant rebuilding.

The first of the two episodes of major alterations that comprised Phase 3 was undertaken in 1754–58. Part of a wider programme of redevelopment (much never realised), the architect, Stephen Wright, designed a neoclassical façade for the Old Schools complex to complement Gibbs' earlier Senate House (Fig. 6; RCHM(E) 1959, I, 12). The latter, which had been

completed in 1730, had, in part, been constructed to release space within the Divinity School itself, as the preceding Senate House situated on its first floor could then be adapted to hold books from the ever-expanding University Library (Roach 1959, 318–19). The remodelling that took place during the mid-eighteenth century was, however, extensive and it can also be seen as a physical manifestation of the growing confidence and display by the University at that time. Allied with the demolition of many of the domestic buildings that had formerly obscured the Old Schools from general view, they represent the institution's donning a well-ordered 'public face' (Evans and Pollard 1999, 235).

The second phase of major rebuilding work identified was undertaken in 1935, when the University Library was transferred to a new, purpose-built building (Roach 1959, 297; RCHM(E) 1959, I, 12). Following the move, the Old Schools complex (which had up



Figure 6. The Institutional Façade; top, Wright's mid-eighteenth century Schools' face with Gibbs' new-build Senate House of 1730, right; below, looking down onto the Schools from atop King's College Chapel roof and showing Wright's neo-classical façade masking the Schools' Medieval fabric (photographs, C Evans).

until then had been exclusively occupied by the library) was converted to house the University's administrative offices, with the upper floor of the Divinity School transformed into a Combination Room (*ibid.*). At this time the original floor surface(s) of the fourteenth century school were evidently destroyed. These are likely to have lain at c. 8.5–8.7m OD, as the surface height in the centre of Cobble Court, (which is unlikely to have risen significantly since the fifteenth century) lies at the latter level; this is markedly lower than the floor-height in the Schools' eighteenth century wing, c. 9.90m OD. Unfortunately, as part of the remodelling, the archaeological sequence within the area of excavation appears to have then been reduced to around 8.4m OD.

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Northborough Manor: A re-appraisal

Nick Hill

Detailed investigation and analysis at Northborough Manor, including a new survey of the gatehouse, have given clarification and a fresh understanding of the development of the site. The view that the house was built in c. 1320–40 by Roger de Norburgh, bishop of Lichfield and Coventry, rather than the de la Mare family, is supported by this study. Analysis of the hall shows that the fine masonry was constructed for a different type of roof structure than the rather old-fashioned common rafter roof actually built. Much more survives of the service wing than has generally been thought, with considerable evidence for a good quality chamber over the service rooms. The main chamber, however, was in a cross-wing at the opposite end of the hall, the evidence indicating that this was lost in the eighteenth century when the house declined in status. This solar was approached by an unusually advanced stairway of rectangular form, instead of the more usual spiral stair. The impressive gatehouse was probably built shortly after the house. Its unusual, skewed plan is no accident but a deliberate attempt to stage-manage the approach from the highway to the house to best advantage. A major later phase of work, including flooring over of the open hall and construction of a large stable block, is attributed to the Claypole family in c. 1620–40.

Introduction

Northborough Manor, situated about six miles north of Peterborough, is well-known as one of the most attractive of medieval English manor houses (Figs. 1 & 2). It was probably built in c. 1320–40 for Roger de Norburgh, a local man who had risen to become bishop of Lichfield and Coventry. Its distinctive features received early attention from antiquarians, with drawings by Parker (1853) in his major work on medieval domestic architecture and fine engravings by Dollman in 1863. As a classic example of an early manor house, Northborough has continued to be included in major studies of medieval houses, such as those by Faulkner (1958), Wood (1965), Mercer (1975) and Emery (2000). However, the treatment of the house in all of these works has been quite brief, and apart from a locally-published study (Woodger, 1976)

it has never received a fully detailed investigation and analysis, until the current initiative. This new study has involved close examination of all of the accessible building fabric of the house, together with the adjoining gatehouse.

The original house

Northborough Manor is located on the western edge of the village, at the opposite end of the settlement to the parish church. The plan form of the house is of classic tripartite type (Figs. 3 & 4), with a central hall range, a principal solar cross-wing (now missing) at the high end of the hall, and a service cross-wing at the low end. The early fourteenth-century hall is distinguished by two tall windows on both the north front and south sides of very fine design, with transoms and reticulated tracery in the heads, and separated by buttresses. The windows have flat heads, with moulded rere arches inside, so were not intended to be surmounted by gables, as Wood (1965, 5) conjectured. Running along under the eaves is a moulded cornice with ballflower decoration, not often found in a domestic context. Inside the later porch, the front door is heavily moulded and leads into a cross entry, with a similar door to the rear. Both doorways are set tightly against the service end cross wall, where a set of three service doorways (Fig. 5) in ornate Decorated style make a fine display, with ogee-shaped arches, ballflower ornament and finials. All of these decorative elements, in spite of some awkward jointing to the inner hood moulds, are clearly original (*contra* Emery 2000, 287). Although a cross passage partition was subsequently inserted (and removed again in the 1970s), the row of service doorways were clearly designed, as Wood says (1965, 128) to be 'visible from the high table'. The tall and deeply-splayed window jambs had attached circular shafts with turned capitals, but this carved detail was all cut away to the ground floor after the insertion of a first floor in the seventeenth century. The roof survives in almost complete condition and is original, not a seventeenth century replacement as Emery (2000, 287) claims. It is of coupled



Figure 1. The north front.



Figure 2 and Plate 4. View from the south.

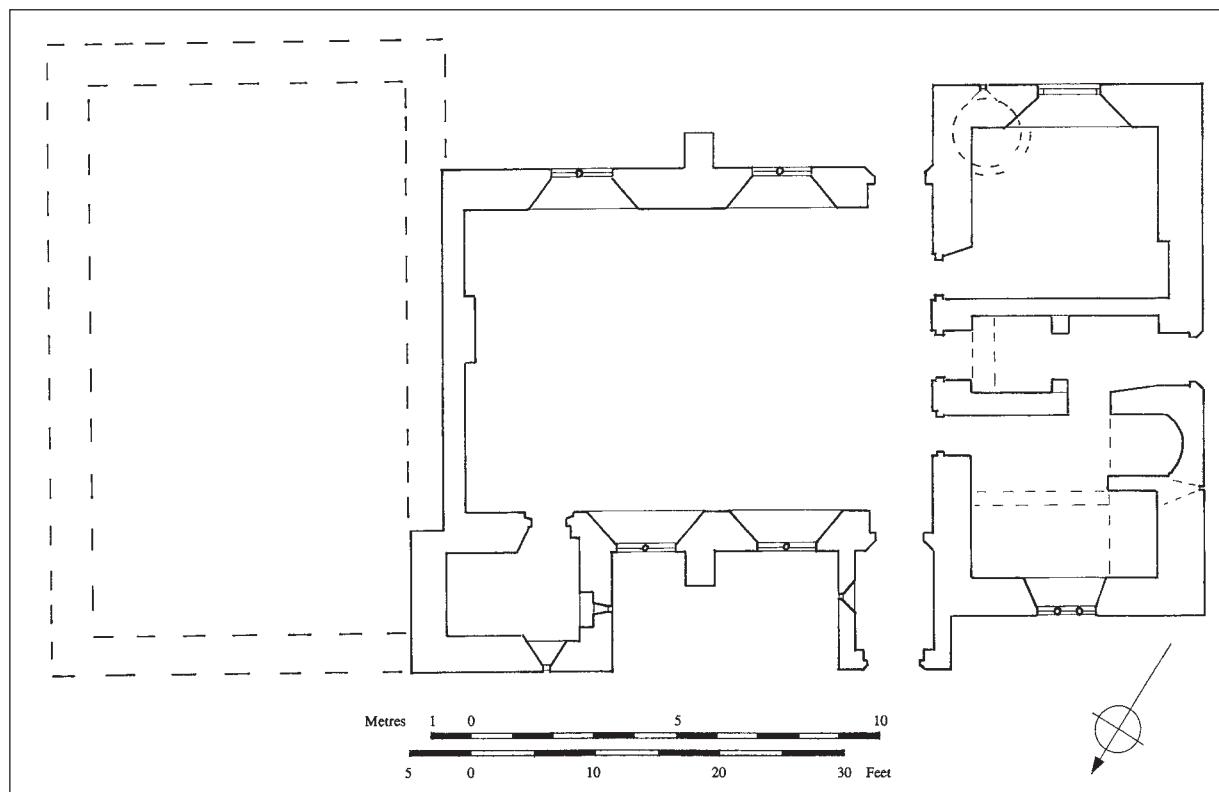


Figure 3. Ground floor plan.

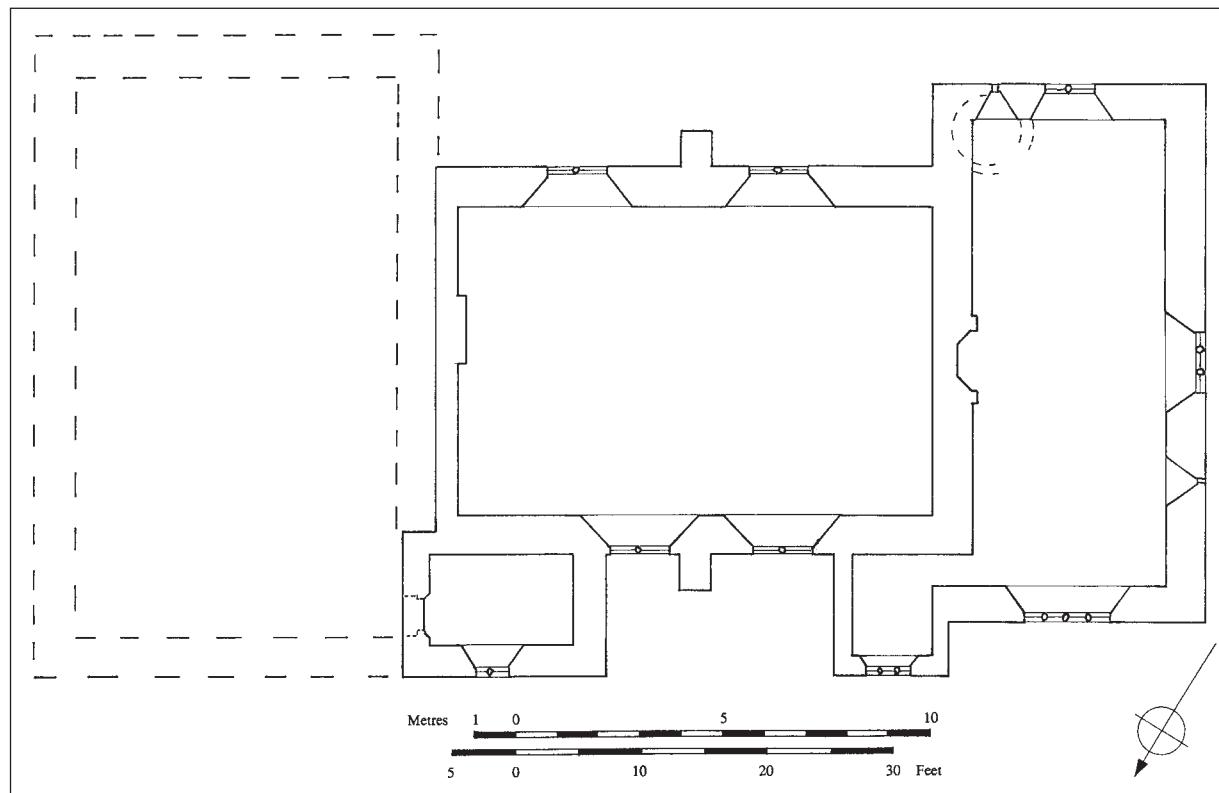


Figure 4. First floor plan.



Figure 5. The interior of the hall, looking west.

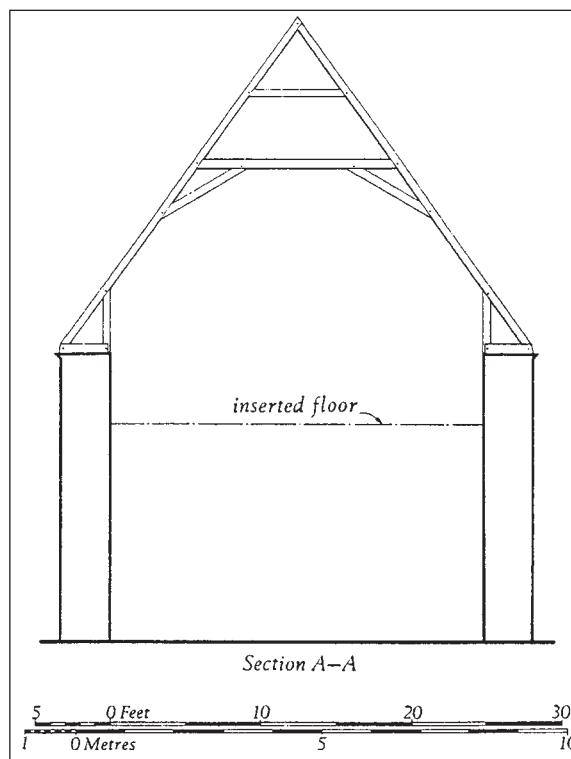


Figure 6. Cross-section of the hall, with coupled rafter roof (Mercer, 1975:191).

rafter type, the collar braced by soulaces and with an additional collar at higher level (Fig. 6). There are no longitudinal timbers, even the rafter feet being set on transverse pads rather than a wallplate. This type of structure is usually found in the thirteenth century, and is unusual for the fourteenth century. The timbers have a fairly continuous set of carpenter's marks, and are reported to retain smoke-blackening.

The awkward, asymmetrical placing of the windows and buttresses to the front and rear elevations was commented on by Emery (2000, 287), who thought it showed a lack of coordination. The north buttress has been off-set to the east and is uncomfortably squeezed up against the east window, while the south buttress is pushed off-centre to the west. Closer study reveals that there is in fact a clear rationale for the asymmetry. It is evident that the original designer of the hall went to considerable efforts to ensure that the two buttresses on the north and south sides were aligned with each other across the building. The reason for this must be that a central truss was intended for the hall roof, and the buttresses were placed at either side of the planned location, to counteract the outward thrust from the roof truss. In the early fourteenth century, one would expect a hall of this type to have a central truss. Other examples in the region are frequently of base cruck or short-principal type, whose open-arched form does exert an outward thrust on the side walls, though buttresses are not always provided. At Northborough, there must have been a change of plan when it came to fitting the roof, and a simple coupled rafter structure was built, with no central truss. The buttresses could more suitably have been placed centrally between the windows if

this had been the intention from the start.

Close analysis indicates that more survives of the fourteenth-century service cross-wing than has been generally thought. Although there has been some rebuilding or re-facing to the south-west and there are many later windows, the main walls survive in fairly complete form, preserving quite a number of original features.

The ground floor plan is a classic arrangement with the buttery and pantry to either side and the wider central service doorway leading via a passage to a detached kitchen. The passage walls are clearly still the original walls *in situ*, as they support an arch at their east end for the chamber fireplace on the first floor above. The external doorway from the kitchen passage, of plain-chamfered design, is also the original *in situ*, a rare survival. The cross loop window towards the north end of the west wall, blocked by a fireplace inserted in the seventeenth century, is probably *in situ*, and presumably provided ventilation and low-level lighting to the buttery or pantry here.

It seems there was a spiral stone stair set into the south-east corner which led up to the chamber on the first floor, lit by two slit windows to the ground and first floor. This is an unusual location for stairs, as one had to pass through a service room to gain access to the first floor chamber, but there is no other better location, and the two surviving slits provide fairly sound evidence, even if the remaining fabric of the stair itself is hidden or destroyed. As the east cross-wing presumably contained the best solar, the stair arrangement may have been considered quite acceptable for the secondary chamber.

The east wall of the solar forms the end gable of the

hall and is clearly largely intact, as it is crowned by the highly ornate chimneystack of the chamber fireplace, together with the complete run of decorated gable coping. The chimneystack is hexagonal with decorative applied trefoiled gables, and the gable coping has a continuous fleuron cresting, terminating in gables (Fig 7). Like the service doorways and hall windows, these features are amongst the best surviving English examples of the period. An earlier off-set on the west face of this wall indicates that the linking roof from the hall gable to the cross-wing ridge was originally at a slightly higher level than the present one.

The front north gable of the cross-wing also has a fine moulded gable parapet of early fourteenth century date, complete with an ornate finial. The windows here have been replaced, but part of the arched head of the main chamber window survives, with a later second floor window inserted into the top of it. This shows that the main gable is the original masonry, and that the chamber had a tall, impressive window to this gable, probably with a pointed arch and decorative tracery. High in the gable is a small quatrefoil window opening, also dating from the fourteenth century. The west side wall of the cross-wing is probably original, as it retains its medieval hollow-moulded cornice along the whole length of the walltop. A

slit window at first floor level towards the north end also appears to be *in situ*.

The chamber would have had a good fireplace, set centrally on the east wall below the stack, though this has been renewed in the earlier seventeenth century. The south wall would also have been gabled originally, probably with another large window. The original chamber would have been open to the roof apex with no attic over, probably with a fine roof structure, though this has been lost. A remnant of the original roof was noted by the Royal Commission on the Historical Monuments of England (RCHME) inspectors in 1971. The evidence has now disappeared, but can be seen on the RCHME photographs. Several rafter ends survived, oddly trapped in the cross-wing east wall, and visible in the end gable of the hall. This suggests that the solar roof had rafters of the same type as the hall, set on transverse pads, though one might expect there also to have been a more decorative structure for the cross-wing, such as a crown post. One would expect the whole of the first floor to have formed a single space for the chamber, lit by large windows in both gable ends, though the slit window to the north-west implies there may have been some smaller subdivision or closet here, in an unusual location.



Figure 7. Decorative gable coping and chimneystack at the junction of the hall and west crosswing.

The stair block projecting to the north-east is clearly integral to the main build, as the hall windows are designed to accommodate it, and it contains fine moulded stone doorways at the foot and head of the stair. The ground floor walls retain two slit windows to light the stair, and there is a moulded plinth line at first floor level. Much of the first floor walling may also be original, as the doorway to the east survives, and a sixteenth century window has been inserted in the north wall at mid-floor height, still clearly serving the original stairs. The stairs themselves were probably of stone and of rectangular plan, rising first against the west wall and then across the north wall. The whole arrangement, with a rectangular stair housed in its own spacious compartment, is highly developed for this date, when most stairs were still of spiral 'vice' type. The doorway at the head of the stair indicates the alignment of the former east cross-wing wall, set a little further east than the current gable end of the hall.

The solar block was demolished in the eighteenth century, but Bridges, who was gathering material around 1720, refers to a large window 'at the east end, now almost filled up, where probably was formerly a chapel'. This was no doubt a major window in the gable wall of the solar. Site investigations have suggested that the solar block was around 44 feet (13.5m) long and 25 feet (7.6m) wide internally, as indicated on Figures 1–2 (Mac Dowdy, pers. comm.). If this is correct, the east cross-wing was much larger than the service end cross-wing to the west, whose comparable internal dimensions are only 36ft 5in (11.1m) by 14ft 9in (4.5m). The missing solar block would have been very impressive, slightly larger than the hall itself, and approached by a very fine stair. The solar chamber would have had a large fireplace on the west or east lateral walls. The ground floor at this date probably

had storage rooms rather than a parlour, with one or more doorways leading off from the 'high' end of the hall. In assessing the significance of Northborough, it is important to keep in mind this missing cross-wing, which would have made the fine house as it survives today one of very considerable grandeur.

The stone used for the original construction of both the main house and the gatehouse is from the famous quarries of Barnack, only a few miles away to the west. Besides the architectural dressings of quoins, window surrounds etc., Barnack is used as ashlar for the front and rear walls of the hall, and also the south-east face of the cross-wing. Elsewhere, for the remainder of the cross-wing and the stair block, squared and coursed rubble is used, probably also from Barnack. It might be thought that the original walling was all of ashlar, with later re-facing in rubble, but various sections of clearly original work, such as the ground floor of the stair block, show that this is not the case. It seems ashlar, a very high status treatment at this date, was reserved for the principal parts, with coursed rubble used on the lesser elevations. The gatehouse similarly uses ashlar work for most of the principal front and rear elevations, with coursed rubble to the less visible east gable.

The gatehouse

The gatehouse is of similar, or slightly later, date to the main house. The front elevation facing the road has a large and imposing archway, clearly built to impress, though with no serious defensive intent (Fig. 8). Set back behind the entrance arch are a pair of doorways, a large one for vehicles and a smaller one for pedestrians. At the rear is another large, open archway, the same as the front arch. The whole archway formerly had quadripartite vaulting over it, but this



Figure 8 and Plate 5. The north front of the gatehouse and stables.

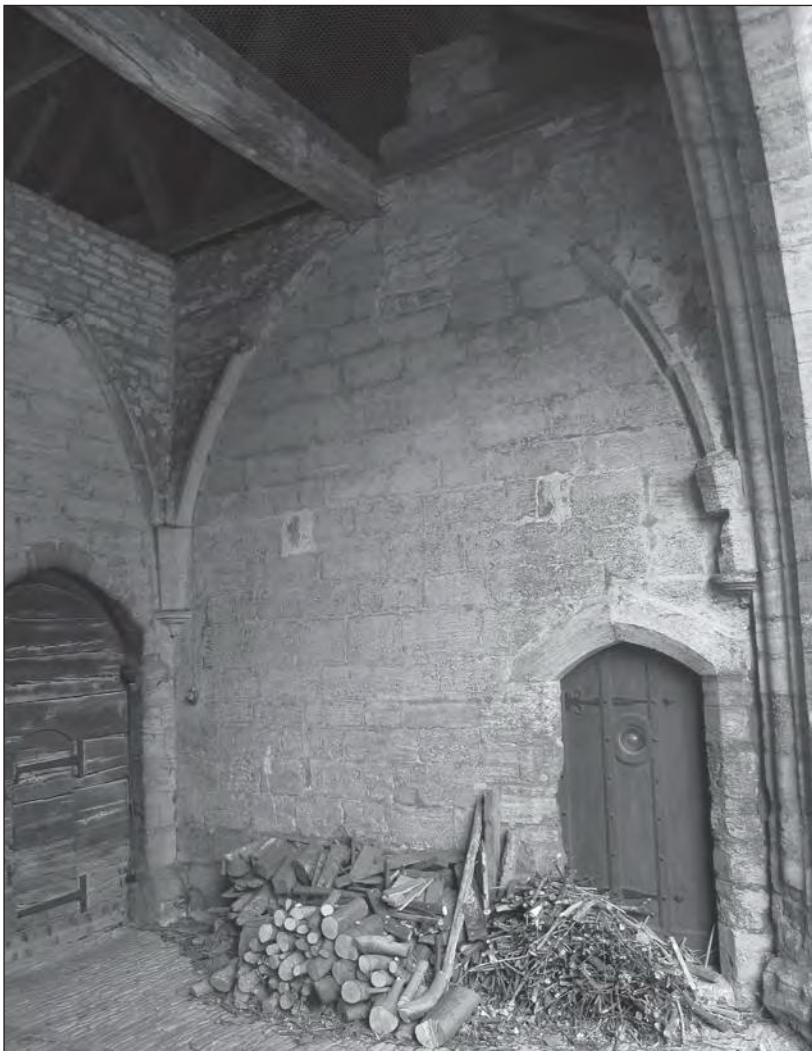


Figure 9 The gatehouse entrance, with evidence of former vaulting.

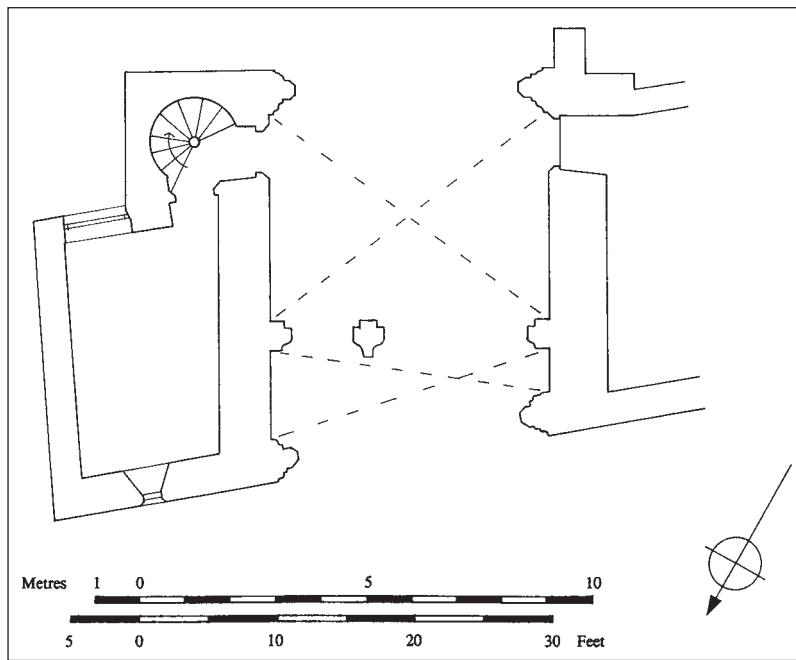


Figure 10. Plan of the gatehouse.

has been lost, with only the wall ribs and corbels surviving (Fig. 9). Integral with the original gatehouse is a small chamber, presumably for a porter, to the east side, together with a stair turret. The stair rises to an intermediate chamber over the porter's chamber, and continued upwards, but the upper parts have been lost. Above the level of the vaulting, there would formerly have been a fine chamber, which would probably have had a fireplace. Evidence of the offset for the upper walls remains on the front, east and west sides, and part of the upper west wall survives, now forming the gable-end junction to the seventeenth century stable block, and preserving a small plain window at high level. A buttress at the south-west corner, now partly embedded in the later stable block, served to counteract the thrust from the stone vaulting. (This area is now shrouded in ivy, but is clearly visible on RCHME photographs of 1971). One would expect that the main upper chamber had a flat, leaded roof, probably surrounded by crenellations, with the stair turret rising above the roof line to allow access onto it. A boundary wall was attached to the west side of the gatehouse, which ran along the road frontage and turned south at the end of the current stable block, though construction of the stables involved replacement of the whole central section of the original wall. The manor house no doubt stood in a sizeable enclosure, with a remaining ha-ha to the south of the house suggestive of a surrounding moat or ditch. There would have been a detached kitchen to the west of the house, and the dovecote, dating now from around the early seventeenth century, may well replicate an earlier dovecote on the site. No doubt there was a further substantial set of ancillary buildings to support the manor, but no obvious traces of this remain.

The plan form and alignment of the gatehouse (Fig. 10) are very odd. While the main inner area of the vaulted archway is built square, the outer section is set at a very skewed angle, which must have made the construction of the quadripartite vaulting very awkward. The porter's chamber block to the east is also built to a skewed plan. The rear elevation of the gatehouse (and later stables) is also set at a slight angle to the main house. The unusual plan form is not the result of any later alteration or addition, as the original gatehouse is certainly a single-phase building. Nor does it seem likely that the alignment was dictated by the foundations of a previous building, as it would be perverse to follow the remains of so poor a model in the construction of such a fine structure. Medieval masons of this calibre were perfectly able to construct a square building if they wished, so the skewed plan form must therefore be a deliberate decision. How is this to be explained?

The front wall of the gatehouse, together with the former boundary wall, is clearly set parallel to the road frontage. It must have been an important requirement that the gatehouse and wall were taken right up to the highway, leaving no vacant space between. Interestingly, Serjeantson *et al.* (1906) refer to a licence which was obtained by Michael de Northburgh in 1349 'to enlarge his mansions at Northburgh and

Tyborn by 12 ft towards the king's highway'. This suggests that new land was specifically acquired to allow construction of the gatehouse at a suitable distance away from the manor house. If this interpretation is correct, it indicates that the gatehouse was constructed somewhat later than the main house.

Consideration of the gatehouse alignments suggests that the skewed angle was built to allow a better, straight-on view of the house as one approached it through the gateway arch, instead of the view being at a more oblique angle. Of course, if the gatehouse had been located further west, a better approach view of the house would also have been obtained. However, the front of the gatehouse would not then have dominated the view as one approaches it from the north, down the 'king's highway'. All this indicates that the approach to the house and the siting of the gatehouse, far from being accidental, are all carefully stage-managed.

Date and ownership

All the architectural details of the house, including the use of a highly developed Decorated gothic style, suggest a date of c. 1320–40. The ballflower ornament used on the cornice, chimneystack and service doorways is particularly characteristic of this period. The architecture of the gatehouse suggests it dates from a similar period, though the documentary evidence noted above suggests it is slightly later, dating from c. 1349.

The de la Mare family held the manor of Northborough from the twelfth century. Geoffrey de la Mare inherited the manor in 1282 and was granted free warren (hunting rights) in 1295. Geoffrey was imprisoned several times in the 1320s for rebellion against Edward II. He died in 1327, passing on the manor to his son, also Geoffrey, who was then only a few months old. The building of Northborough Manor was attributed by Bridges (1791) and Serjeantson *et al.* (1906) to the elder Geoffrey, but Woodger (1976) makes a strong case that the builder was in fact Roger de Norburgh. Roger, as his name implies, was a local man who rose to great importance. As Emery (2000) says, he was 'a royal clerk appointed comptroller of the wardrobe (1316), chancellor of Cambridge University (1321–6), twice treasurer for short periods (1327, 1340), and bishop of Lichfield and Coventry (1322–c. 1359).' Woodger (1976) shows that Roger's family probably owned the land around the site of Northborough Manor, and that the attribution to Geoffrey de la Mare rests on an assumption that, as lord of the manor, the building must be his. Part of the evidence previously cited for de la Mare as builder is that the younger Geoffrey de la Mare forfeited his estates to Bishop Roger in 1351 as he was unable to pay a debt due. Serjeantson *et al.* (1906) and others assumed that this included the transfer of Northborough Manor. However, as Woodger points out, the debt was only for 100 marks, which would represent only a small fraction of the value of the house. As Woodger (1976) and Emery (2000) state, the exceptionally high qual-

ity of the architecture surely points towards Bishop Roger as the much more likely builder. Roger would have been a very much wealthier man, with a position of high status to uphold. Although it was not within his own see, but that of the bishop of Lincoln, Northborough would have been established as the equivalent of a bishop's palace, providing a useful base during Roger's business travels and convenient to his local estate interests in the area. Having established the connection with Roger, bishop of Lichfield and Coventry, Woodger went on to attribute the building of Northborough to William de Eyton, master mason of Lichfield cathedral. This idea does not stand up to examination. The comparable features he refers to at Northborough and Lichfield are all typical of the Decorated style, and the details at Lichfield are also unreliable, as the whole fabric was heavily restored by Scott from 1857 onwards.

It seems likely that Bishop Roger (rather than the de la Mare family, *contra Pevsner (1968)*) was also responsible for the very ambitious programme of work which was started at the church of Northborough in the fourteenth century. The south transept of the church was rebuilt in a very lavish Decorated style, completely dwarfing the earlier church. Clearly, a comprehensive programme of rebuilding was planned, but not carried out. As Pevsner says, the enlargement was 'so bold that it would have given Northborough one of the biggest parish churches in the county.' The south transept has two large, empty tomb recesses at the south end, indicating that the transept was built as a family burial place, and there is a very unusual original ossuary crypt below. Parker (1853) thought that the tomb recesses were built to house the two fourteenth century effigies now in the porch of nearby Clinton church. One of these effigies carries a hunting horn, the badge of a forester, and it is thought that Geoffrey de la Mare (d.1327) may have been a Forester of Kesteven. However, Bridges says that Geoffrey was 'buried amongst his ancestors, in St Mary's chapel, in Peterborough'. Measurement of the Clinton effigies also shows that they are rather too large ever to have fitted into the Northborough recesses. Furthermore, the style of the south transept is very advanced Decorated work, closer to 1350 than 1320. (As Serjeantson *et al.* (1906) say, 'The lines of the tracery generally are flowing, but vertical lines occur, marking the impending change of style'.) The evidence thus seems to point towards Bishop Roger as the initiator of the grand new design for the church.

Bishop Roger was appointed Lord High Treasurer in 1340 by Edward III. However, he failed to collect taxes successfully for the King's war in France, and was arrested and disgraced in the same year. He retired to his diocese and never again held government office. By 1347 it seems he was incapacitated, as a suffragan Bishop had to be appointed. He died in late 1359 or early 1360. It seems likely that Northborough Manor was built during the period when Roger was at the height of his powers, around 1320 to 1340. With the manor house completed, Roger may have moved on to rebuilding the church, but the programme there

was curtailed by his disgrace in 1340 and subsequent incapacity.

Roger must also have made arrangements for the occupation of Northborough Manor, as in 1349 Michael de Norburgh obtained licence (as above) to enlarge his mansion at Northborough by 12 feet towards the king's highway. As Woodger (1976, 7) notes, Michael was a protégé, perhaps the nephew, of Roger. Roger procured for him the position of King's Clerk in 1349, with further appointments at Lichfield. Michael was Bishop of London in 1354–1361, so Northborough Manor continued to act as a bishop's house. It seems likely, as noted above, that it was Michael rather than Roger who built the gatehouse. Michael died of the plague in 1361. He probably only held Northborough Manor as a deed for life, as on Michael's death (or perhaps Bishop Roger's) the manor reverted to another relative of Roger, Hugh de Northborough.

Later development

The later history of the manor was traced in some detail by Woodger (1976), with a briefer account given by Serjeantson *et al.* (1906). Roger de Northborough's family continued to own the manor of Northborough, which became combined with the manor of Etton, through the late fourteenth and early fifteenth century. In 1502 Northborough was bought by Sir William Fitzwilliam, together with a number of other manors, including Milton, where the Fitzwilliam family continue to reside. William's second son, Thomas Fitzwilliam, inherited in 1534 but sold the manor in 1546 to John Browne, whose family came from Walcot. Northborough was then bought in 1572 for £500 by James Claypole, a yeoman from King's Cliffe, according to Woodger's more detailed research, though Serjeantson *et al.* (1906) give the date of the purchase as 1563. James Claypole clearly prospered at Northborough, as he was able to buy up various other lands in the area in 1572–1598 and was knighted in 1583. He died in 1599, leaving a large monument in the church. The building evidence indicates, however, that James Claypole undertook only rather limited work to the manor house. The manor passed to his son, John, who was knighted in 1605, and then to John's brother Adam, who married a niece of William Cecil, Lord Burghley.

Adam's fourth son John inherited in 1630. John was an acquaintance of Oliver Cromwell, and his eldest son John fought for the Parliamentary army at the siege of Newark in 1645–1646. In 1646 he married Elizabeth Cromwell, Oliver's favourite daughter. He was elected an M.P. in 1654 and was appointed Lord of the Bedchamber and Master of the Horse by Cromwell. His wife Elizabeth died in 1658, shortly before Oliver himself. John gave shelter to the Protector's widow, taking her back to Northborough Manor, where she lived until her death in 1665 and was buried in the church. In 1681 John sold the manor and estate, valued at £5,600 but heavily mortgaged, to Lord Fitzwilliam of Milton, and died in 1688. The

Fitzwilliams continued to own the manor but it declined in status, becoming a farmhouse. By the 1970s, it was in very poor repair and was restored by Roy Genders, who removed the inserted floor in the hall. In 1988 the current owners, John and Jane Trevor, successfully managed to reunite the two buildings, buying both the manor house and gatehouse.

Very little alteration seems to have taken place at Northborough until the later sixteenth century. The only element which seems to date from this intervening period is the front porch. Rubble stone walling to the east side of the ground floor suggests that a single-storey porch may have been added first, but this was rebuilt as a two-storey structure around 1500, perhaps after the manor was bought by William Fitzwilliam in 1502. The front doorway arch is typical of this period. Unusually for the area, the upper storey of the porch originally had a timber-framed wall to the east side, with close-studding, presumably used for decorative effect. The top wallplate of this timber-framing still survives, but the rest has been replaced in stone. The room over the porch was accessed by a doorway cut through the north-east corner of the cross-wing.

At some point around the fifteenth or sixteenth century, perhaps at the same time as the addition of the porch, a gallery was inserted over the cross passage, accessed from the first floor of the cross-wing by a doorway (now blocked) at the north end. The finial decoration over the service wing doors was truncated by the floor of the inserted gallery. A screens partition would also have been necessary at this stage, though this could have been inserted prior to installation of a gallery.

The next phase of alterations which can be detected is the insertion of quite a number of new windows, of cavetto-moulded or plain chamfered type and made of a characteristic fine-grained, yellowish stone. There are two of these windows in the stair block and one on the front gable of the cross-wing (though two of these have been later re-set), with two more on the front of the gatehouse. All are fairly short in proportion and either of a single light or of two lights with a mullion. The moulding and window proportions suggest a date of the later sixteenth century, so this work was probably undertaken by James Claypole soon after he bought the manor around 1570.

Major remodelling of the house was undertaken in the earlier seventeenth century, probably around 1620-40 by Adam or John Claypole. A first floor was inserted into the open hall, set fairly high to avoid obstructing the main lights of the hall windows, but with the higher level tracery, now at knee-height, blocked up. Three large lateral chimneystacks were added, one to the south wall of the hall and two to the west wall of the service wing. Only one of these now remains, the hall stack and the north stack to the service wing having been removed in the late twentieth century. The remaining stack shows that all three were of brick, with stone dressings. New dormer windows with characteristic ovolo moulding were added to the hall range to light the inserted first

floor, two to the rear and a larger one at the front. The stair block also had a floor added, providing a further room at the same level as those over the hall, lit by a new three-light ovolo-moulded window. Inside the hall, the plan and photographs in the RCHME inspectors' report (1971) show that the ground floor was divided up, with a stair inserted against the centre of the north wall and the room in the west part of the hall heated by a slightly splayed fireplace, cut into the south-east corner. The eastern ground floor room may have been heated by a stack against the east cross-wing, now lost. On the first floor, the hall was probably also divided into at least two rooms, though it is unclear if these were heated.

The service wing was also remodelled. Large fireplaces were inserted into the former buttery and pantry, making the original detached kitchen redundant. The fireplace to the north room had an oven or similar structure beside it. The original spiral stair to the south-east corner of the cross-wing was also probably removed at this time, as its slit window is blocked with bricks of same type as those used in other seventeenth century work. Access to the first floor of the wing must now have been from the new stair in the hall range, via a new doorway cut through the southwest corner of the hall. The first floor was retained as a fine chamber, lit by a large new four-light mullion and transom window in the north gable, and a further three-light window to the west. The earlier fireplace was replaced with an impressive new fireplace of fashionable design, with sophisticated mouldings. No doubt the principal first floor chamber was still in the east cross-wing, approached by the original stair.

The other major addition of this period was the stables, a fine block of considerable size (Fig 8). The principal doorway for horses is near the centre of the south front, of sophisticated design with a moulded round arch and impost blocks. There are two other doorways of typical earlier seventeenth century design with four-centred heads, one at the west end and another cut through the west side wall of the gatehouse. The internal arrangements of the stables have been lost, but must have followed a typical pattern. The stable stalls would have filled most of the ground floor space, with the stall heads against the blind north wall, in the normal manner. Extensive space was provided on the first floor and attic, well lit on both sides by ovolo-moulded and dormer windows. These floors would have provided rooms for grooms or other servants, as well as storage space, with two fireplaces at each end, on the first floor and attic. The chimneystacks, fireplaces and the cheeks of the dormer windows are constructed of brick, of the same type as that seen in the surviving lateral stack to the service wing. The upper part of the gatehouse was taken down at the same time, with the stables roof extended over it and a new gable built at the east end. The vaulting over the gatehouse passage may also have been removed at this time. The row of circular holes in the north wall of the stables are roughly cut and clearly a later addition, for ventilation.

The rectangular dovecote to the south-west of

the manor house, filled with nesting boxes, probably also dates from the earlier seventeenth century. With the major upgrading of the manor house and addition of a very large stable block, the manor house clearly formed a very considerable establishment for the prosperous Claypole family. Woodger (1976, 20, though with no reference) quotes a document of 1648, when the manor was seized and a sale was attempted, with the description, '*All that manor house or Capitall messuage commonly knowne by the name of the mannor howse lying and being in Norborrow in the County of Northampton with the appurtenance and all houses, dove houses, edifices, buildings, outhouses, barnes, stables, malthouses, kilnes, orchard, gardens, yards, back-side courtyards and curtilage ...'*

The fortunes of the Claypole family seem to have declined with the Restoration in 1660, and John Claypole, who had become heavily indebted, sold Northborough manor in 1681. The property subsequently declined in status, becoming a tenanted farmhouse of the Fitzwilliam estate. As a result, relatively little work was done in later centuries, and the early buildings survived into the modern period in an unusually intact state.

The south end of the service wing has seen considerable rebuilding, with new stonework and the presumed original gable end cut back to form a hipped roof. The first floor timber window, of cross type with an iron casement, suggests that this work was done around the end of the seventeenth or early eighteenth century. It seems likely that the tall south gable had become unstable, and was taken down, with a cheap repair substituted.

The east cross-wing housing the main solar was demolished during the eighteenth century. Presumably the manor house had become larger than required for an ordinary farmhouse, and expenditure on maintenance of the cross-wing was no longer sensible. The gable end of the hall was completely rebuilt, with fireplaces on the ground and first floor. The masonry of the new chimney stack confirms an eighteenth century date for the new gable, probably not long after Bridges' visit of c. 1720.

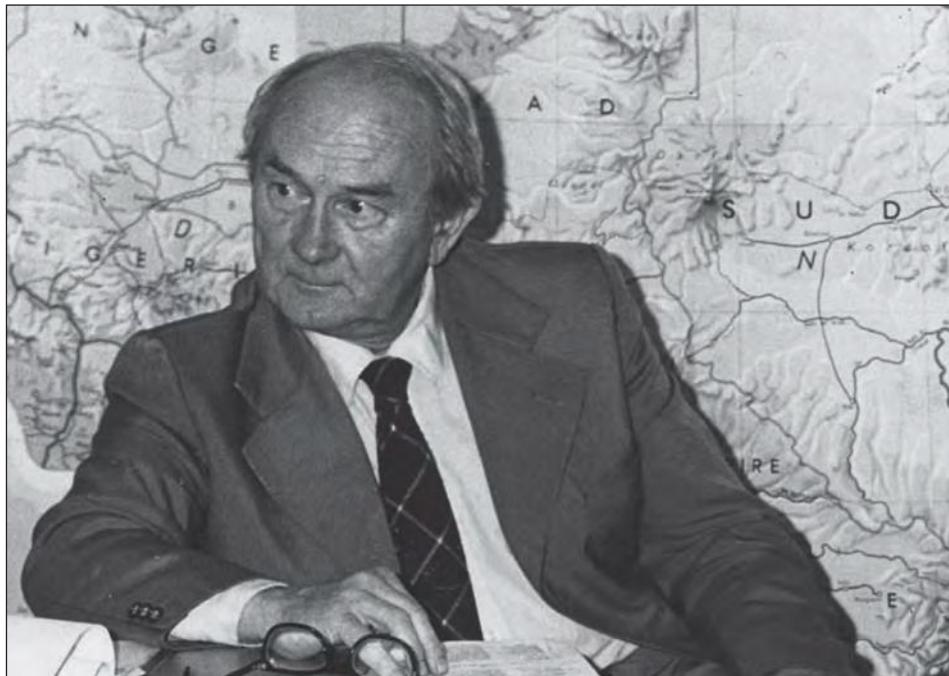
Acknowledgements

I am very grateful to John and Jane Trevor, the owners of Northborough Manor, for allowing access and for their generous hospitality. Thanks are also due to English Heritage for permission to use the RCHME drawing at Figure 6.

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Dr John Amyas Alexander: 27/01/1922 – 17/08/2010



Professor Graeme Barker's comprehensive obituary notice for John Alexander, published in *The Times* (18/12/2010) fully describes John's war service, his contributions to teaching and archaeology in Africa, and his many important activities in British archaeology. Our collective obituary here provides but a brief synopsis of this remarkable life, but concentrates more on some personal views of those who knew him well, who gained from his teaching, and who shared his local fieldwork.

Many readers of the *Proceedings* will be familiar with at least some of John Alexander's activities. An Honorary Member of the Society he was its Director of Excavations in the 1970s and 1980s and the Society acknowledged the value of his work in the *Proceedings* Volume LXXXVIII, for 1999, which was a monograph 'Roman Cambridge: Excavations on Castle Hill 1956-1988' by Alexander and Joyce Pullinger.

Just after the war, John read history at Pembroke College Cambridge. Thereafter teaching history in the Sudan Education Service, he became active in archaeology, excavating with Peter Shinnie, and writing a textbook on the archaeology of the Sudan. Returning to Britain, John studied the postgraduate diploma in European Prehistory at the Institute of Archaeology in London, under Gordon Childe. Returning to Pembroke College, his PhD thesis was completed on the Yugoslav Iron Age. In 1958 he was appointed Staff Tutor in Archaeology at Cambridge University's Department of Extra-Mural Studies where he remained until 1965, after which he became Staff Lecturer in Archaeology, and the first full time lecturer in archaeology, in the Department of Extra-Mural Studies at the University of London. There he developed a highly successful range of Certificate and Diploma courses that encompassed all aspects



of British and world archaeology, a programme far wider than found in any 'intra-mural' department of archaeology at that time.

John was active in his excavations of threatened sites in and around Cambridge, notably Arbury Camp, Castle Hill/Mount Pleasant, Clopton, Grantchester, Great Chesterford, and Great Shelford. With a general shortage of dedicated funds, many of these excavations were done as training digs, involving generations of extra-mural students from both Cambridge and London, among whom a goodly number went on to work within archaeology.

In 1974, John returned to Cambridge as a University lecturer teaching European prehistory, becoming a Fellow of St John's College in 1976. During that period he also undertook major excavation campaigns at Qasr Ibrim in Nubia; his landmark contributions to African Archaeology and visiting professorships in Africa.

Tony Legge writes:

I first met John in 1962. Archaeology had been a long standing but unsystematic interest of mine, and I felt that this needed putting into order, so I joined a Cambridge University Extra-Mural class, taught by John. Our course ranged widely, with the emphasis on a comparative understanding of human physical and social evolution. In his classes we journeyed from the Olduvai Gorge of East Africa to the hand-axes in the Traveller's Rest gravel pit at Girton, and from the Roman Camp at Arbury Road to the widest reaches of the Roman world. John's archaeology was of immense humanity, presented as a vital route to human knowledge and understanding. Implicit in his teaching was that all in the group were part of the process of discovery. The entire proceedings were suffused with the quiet expectation that each of his audience would do what had to be done – and it invariably was.

With John's encouragement, I applied for admis-

sion to Churchill College, where I arrived as a mature student in 1966, and always had his support in the following years. John was now at the University of London Extra-Mural Department. His Certificates and Diplomas there offered a great choice to his adult students. These were conducted and marked with academic rigour, drawing on the expertise of teachers from the British Museum, the Institute of Archaeology, and other like organisations. The sum of teaching hours probably exceeded all other university archaeology departments in Britain when combined. All of this fulfilled John's vision that archaeology must serve the public or it was nothing. Few outside the Adult Education system can grasp how innovative and important his approach was, and this system was copied throughout Britain and, indeed, elsewhere in the world. In 1974, by a curious stroke of fate, I replaced John at Extra-Mural Studies in London, a situation he viewed with delight. During my time as Head of Department there, I met delegations from many European and Asian countries who came to learn how this worked, and who carried John's ideas away with them.

I worked with John in the field over many years, organising training excavations jointly with the Cambridge Extra-Mural Department as did others of his friends who have contributed to this obituary. This did not always go smoothly, as is the nature of excavation anywhere, and John's fieldwork sometimes met unexpected problems. Even so, John's wry sense of humour always carried him through. Everyone has their favourite John Alexander story from fieldwork, remembered with fond affection. As an inexperienced volunteer in 1963, I worked briefly with John at the Clopton Deserted Medieval Village in Cambridgeshire, where John had planned to dig a Medieval peasant's house, an ephemeral structure, then largely unknown. He selected a suitably smooth terrace on the Clopton hillside on which to place his trenches, but found instead the robbed-out church



footings, and the graveyard. Within a very few days there were human skeletons in great multitude, at all levels, some laying not far below the turf. John was quite unperturbed by this change of direction, and he encouraged visits and participation from all in the locality, and many came up the hill to see what we were doing. His well-intentioned efforts soon, however, resulted in a delegation who demanded an end to excavation. He had uncovered a death pit! The plague would be released among them! John soon placated the delegation with the voice of sweet reason, though another problem soon followed. The deserted village is really Clopton with Croydon, the two parishes amalgamated following depopulation at the enclosures of the mid 17th century. The churchyard was, of course, still consecrated, and the Vicar of Croydon politely explained Again, John's patient charm and negotiation soon resolved the problem, proper permission was obtained, and work was allowed to continue.

John was also active in the support of those with an amateur interest in archaeology, always dear to him, especially the Cambridge Antiquarian Society and the Cambridge Archaeology Field Group, where there will be many among the members who will have their own memories of John.

Tony Legge was formerly Lecturer in Archaeology, Head of Centre, and then Professor of Environmental Archaeology at the University of London Department of Extra-Mural Studies, latterly the Birkbeck College Centre for Continuing Education, from 1974 to 2005. He is now a Senior Fellow at the McDonald Institute for Archaeological Research, University of Cambridge.

Harvey Sheldon writes:

Through the educational programmes he pioneered and delivered, John Alexander became one of the most influential figures in post-war British archae-

ology. The Diploma programme that he created and managed at the University of London created unprecedented educational opportunities for a generation or more of adult learners. Experience in fieldwork was always an important aspect of studies for the Diploma and – as early as the summer of 1954 – John had carried out a training excavation on Wye Down in Kent, as part of the London University Extra-Mural summer school. The students even had the benefit of a site visit from Mortimer Wheeler, with whom I think John dug, as a schoolboy at Maiden Castle in the 1930s!

During his time as the Staff Tutor in Archaeology in the Cambridge Adult Education Department John developed an annual programme of residential summer training excavations. These became a magnet for other amateur archaeologists seeking training in excavation and a resource for youngsters, often still at school, who were considering reading the subject as undergraduates.

John's awareness of the actual and potential threat to archaeological sites led him to become a leading member of the group campaigning to alert the public and to bring pressure on government to provide resources to meet the challenge. One major step in this campaign, for which John worked tirelessly, was the foundation of 'RESCUE' in early 1971 as an independent body established to keep the issues, the challenges, the successes and the failures in the open for public debate.

John was a remarkable man, anchored by his devotion to Yvonne and his children.

Harvey Sheldon is a former Director of the Southwark and Lambeth Archaeological Excavation Committee, Head of London Archaeology at the Museum of London, and Lecturer in Archaeology at Birkbeck College.

Morag Woudhuysen writes:

I met John when I first applied to the Cambridge Extra-Mural Board, to join an excavation. Despite being slightly puzzled by the instructions, which suggested I might bring a hat 'for the garden party' and a tennis racquet, I joined a dig on what turned out to be a Medieval brickworks. The first part of my archaeological education, as for so many us, came within minutes of going on-site when John informed me, 'you've bought the wrong sort of trowel!'

On site the atmosphere was quite formal as we were addressed by name and title, with the site notebook (which could only be written up by those of sufficient experience) recording the happenings in terms of, 'Mr Brown continued removing layer A' and 'Miss Smith did X ...'. But looking back, I realise that I had come into archaeology just at the point where it was about to shed old ways of working and become a much more mainstream subject.

Much of the credit for those changes must go to John. He set up courses which were of a high academic quality and which brought into archaeology a far wider spectrum of students, and their talents, than universities could. He also anticipated the archaeological consequences of the rapid redevelopment of land and town centres which were starting to be apparent in the late '50s and the need – which could not be met by university-trained students – for skilled, local amateur archaeologists who could watch, excavate and record at a local level.

In Cambridge the excavations on Castle Hill and elsewhere, reflected these changes. The Phoenix Garden excavations of 1962 took place on the last open space on the hilltop. There, John excavated a grid of trenches with a large and diverse labour force made up of paid labourers from the Labour Exchange, about-to-be-released prisoners, undergraduates, extra-mural students, school students, paid volunteers (we each got £1 a day), local people who became intrigued by the dig, members of archaeological societies, and anyone else who expressed the slightest interest.

This was a teaching excavation of its time, and John followed Mortimer Wheeler's dictums about on-site management and protocol. But while some of this would remain, the practice of archaeology was poised to change and the Cambridge excavations soon began to use open-plan excavation in place of small trenches, earthmoving machinery to clear top-soil and new technologies to better recover remains. John readily took to any new technology, technique or piece of equipment that would 'do the job better'.

Behind the on-site work there was a well thought-out structure to the training which meant students were rotated through different areas of work – digging, surveying, pottery washing and identification, section and plan drawing, and so on. A book-box provided relevant background material. On one afternoon a week John would do the 'milkround' when students were taken off-site to look at local archaeological monuments and their landscapes – annoying golfers as we visited the barrows at Royston Heath, admiring the grave of the Godolphin after doing the

banks of Wandlebury and then scrambling up the Devil's Dyke at Reach. Work did not stop at the end of day as there was a full set of evening lectures. While some were delivered by John and other on-site directors, academics also came in from the University and Museum of Archaeology which gave students immediate access to well known names, fresh ideas and a sense of being part of a body of people all engaged, at whatever level, in a common venture.

John continued to work on excavations in and around Cambridge for over thirty years. Often the urban areas available for excavation were small, but the continuity of his direction and knowledge allowed even tiny sites to contribute to the larger whole. It was also due to his encouragement that much of the later excavation was done under the auspices of the Cambridge Antiquarian Society – a triumphant justification of John's belief that local people could and *would* undertake the care of their local archaeology. The eventual publication of all the years of excavation, by the CAS, gave him great pleasure.

On moving back to Cambridge in 1974, John soon acquired a reputation amongst students for his disorganised study and his forgetfulness. Yet, above all else he was known for his care and consideration. Many benefited from numerous acts of kindness and generosity. He was generous with lending books and offprints, and philosophical when they did not come back. I can remember him smiling and saying that as long as the book was being well used somewhere, that was what really counted. He had a talent to do gentle kindnesses in such a way that one did not feel burdened by accepting them – a rare gift.

For all his life John worked in so many ways with a gentle but determined zeal to promote archaeology. He had a deep conviction that we are all first and foremost defined by being human beings. He believed that archaeology, with its concern for the human past, was the only medium where all peoples could meet on the common ground of humanity and through which they could come to understand themselves, our human history and the interrelationship of us all. Those of us who knew him will remember a man who lived his life by this conviction and whose work bears witness to it.

Morag Woudhuysen worked with John for many years at his excavations around Cambridge, acting as Finds Officer.

Christopher Evans writes:

I first got to know John through the Cambridgeshire Archaeological Committee (CAC) during the course of Haddenham's fieldwork in the early 1980s. Always generous with his vast local knowledge, over the years he steadfastly supported the development of professional fieldwork within the County and, particularly, the formation of the University's Unit in 1990. He would regularly visit our excavations, dispensing both brilliant bits of insight and reminiscence. Often he would use this as an opportunity to deliver boxes of his site archives relevant to the immediate work at hand. As a result, working with him we wrote up a

number of his sites for publication (Great Wilbraham, Arbury Camp and Shelford). Although such exercises can often prove personally trying, this was never the case with John and, accordingly, this was why we dedicated our 2008 South Cambridge Archaeology/*Borderlands* volume to him.

Let's not though beat around the bush, John could be terrifically disorganised, misplacing lecture slides and site plans with equal measure. It always seemed a little ironic that, with his Indian Army background (and well-expressed in his *How to Direct Archaeological Sites* of 1970), in his University fieldwork teaching John thought of himself as training archaeology's officer corps. (When he delivered Wilbraham's archives, quite a lot of Sudanese material had got mixed in with it and I like to think that, by the same token, that someone someday in Khartoum will stumble upon the still missing bits of Wilbraham's). Here I'll indulge in an anecdote. The first time I meet John was when driving him back from a CAC meeting with Ian Hodder in 1982. The late summer afternoon was beautiful and John duly invited us into his garden for drinks. Laying on a tremendous spread, the hours passed pleasantly. At one point when Hodder was taking nuts from a bowl and, just about to pass these into his mouth, a glint had obviously caught John's eye and he deftly lent over and pluck something from Ian's lip-poised hand, remarking (as he saved Hodder's life) 'Ah, my cuff-link, I wondered where I put that'. With his generosity, perpetual good-nature and deep charm, you could forgive John anything – he was simply one of the nicest people you could hope to know and his company was always a pleasure.

His achievements were many. The quality of his early Castle Hill excavations (once you get over his use of Wheeler boxes) was very high. Aside from his key role in the CAC, he was a uniquely inspiring teacher. Indeed, however much he supported the County's archaeology, this pales in relationship to what he did in Africa and, over the decades in the University's Department of Archaeology, he fostered generations of young African archaeologists; that's a truly great thing and something he did right until the end.

John was simply a lovely man and a staunch colleague, and we shall certainly miss him.

Christopher Evans is the Executive Director of the University's Cambridge Archaeological Unit.

John Alexander: Supplementary Bibliography **John Pickles**

The bibliography of John's publications in his *Azania Festschrift* (No. 39/2004, 337–41), is thorough and largely accurate. It omits, however all but one of his numerous reviews after 1953. The list below is in two parts: his further original articles and notes, including a few missed by the compilers of the previous bibliography and an account (for the record) of reviews of his two books by others.

Articles

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Editor's note

Regrettably, principally for reasons of economy, contributions from all the authors were edited for length. Their original contributions are to be posted on the Cambridge Antiquarian Society's website.

Proceedings of the Cambridge Antiquarian Society Volume C (PCAS 100)

Richard Halliday (Editor) and John Pickles (Librarian)

This issue is the 100th Volume of the *Proceedings*. Our publications have been issued since the *Report presented to the Cambridge Antiquarian Society at its first General meeting of 1841*, and from our earliest days publication has been an important aspect of the Society's activities. In the 1840s and for long afterwards printing, paper, and labour were comparatively cheap, and *Communications* developed into the *Proceedings of the Cambridge Antiquarian Society* from 1890, a quarto series (1840 to 1849 and 1908 to 1951) and octavo series (1851 to 1942) besides 'extra' and 'occasional' books. In some periods the output was decidedly thin (e.g. the early 1950s), yet the *Proceedings* were maintained even during the two world wars. They remain the public face of the Society beyond Cambridge and are exchanged annually with the publications of scores of learned bodies at home and round the world. By their quality, CAS will be widely judged.

Laws in the report of the 1841 AGM note the Society's aims: to encourage the study of the history and antiquities of the university, county and town of Cambridge. The Council at that time was dominated by clergymen, and the *Communications* were part of the subscription (an expensive ten shillings each term). By 1894, the 18 council members included only two clergymen and incorporated the University Librarian, three professors (two were Fellows of the Royal Society), two LLDs, one ScD, one LittD and only two entitled simply 'Esq'. At this time women were admitted as members of the Society and soon brought distinction to it, most notably Mary Bateson, the medieval historian. For all except the last two years of the past half century a succession of able women editors, beginning with Mary Cra'ster, has edited PCAS, seven have been Presidents, and women have occupied the office of Secretary for over 55 years.

MW Thompson, in *The Cambridge Antiquarian Society 1840–1990* (1990) notes that the rule restricting activities to those connected with the county, town and university was later relaxed. Over the years, the journal has included an eclectic mix, often addressing topics far removed from Cambridge, although of late we have tended to concentrate on town and county. Anthropological subjects, genealogy, and substantial

primary sources have been diverted into more specialised journals or publications by other societies, and Cambridgeshire Records Society, which has just issued its twentieth volume, was founded and for some time supported financially by CAS in order to publish detailed historical records. In recent years an important concern has been to balance excavation reports and local history. The two tend to have different audiences, and one is currently better funded.

The range of topics addressed in PCAS runs from the 'Lament of Eleanor Cobham Duchess of Gloucester when convicted of sorcery' edited by the Rev C Hardwick in Volume I, to 'The Morning Star Ceremony of the Pawnee' by Alfred Cort Haddon, FRS (the notable anthropologist, ethnologist, biologist and pioneer of the study of anthropology at Cambridge University for whom the Faculty library is named) in VI of the New Series (1906–1907), and from 'On an early Runic calendar found in Lapland in 1862' (E Magnusson in IV (1876–1877)) to 'Recent excavations in the Market Place, Cambridge' by Professor Hughes in the New Series IV (1898–1903). Hughes' inspections of excavations for construction of public lavatories were a forerunner of modern archaeological watching briefs. Thomas McKenny Hughes (d.1917), who held the chair of geology for over forty years, was an officer or Council member of the CAS for much of that time. Dozens of his papers were published and he gave as much time and expertise to local excavations as to his own subject. A 'British point of view' was the basis of a communication 'On the Ancient Earthworks between the mouth of the Tyne and the Solway' by Hughes in 1887. The New Series II (1894), by now '*The Proceedings of the Cambridge Antiquarian Society with communications made to the Society*' included two reports from Professor Hughes, one 'On the Castle Hill, Cambridge', the other 'Exhibition of a Welsh wooden half-penny'.

Although the first communications were unadorned, illustrations appeared in 1859, and a striking set of 12 colour plates illustrating beads, urns, bucket fittings, amber and glass accompanied the 'Account of the excavation of an Anglo-Saxon cemetery at Barrington Cambridgeshire' communicated

by Walter K Foster Esq FSA (V 1880–1881). Colour returned to the cover and inside of PCAS in 2004. The wide geographical scope of those earlier issues is also illustrated by Volume I of the New Series (1893) which includes a contribution, 'On a Roman refuse pit in Alderney', by Baron Anatole von Hügel, Curator of the Museum which was established by the gift of the CAS collections to Cambridge University in 1884. In the volume for 1900–1901, Dr Haddon reported on 'Stone implements from Sarawak'. Communications from notable archaeologists include Flinders Petrie's 'Recent excavations in Sinai' (New Series V).

New Series XVII for 1920–1921 (pre-dating his seminal and pivotal work) includes 'Anglo-Saxon monumental Sculpture in the Cambridge District' by (Sir) Cyril Fox. Fox served briefly as the Society's Director of Excavations before moving to the National Museum of Wales and national distinction. He is best remembered here for taking the first of the new-fangled Cambridge PhD degrees in archaeology and transforming it into the classic *Archaeology of the Cambridge Region* (1923), which exemplifies his study of landscape and settlement. Another writer on the archaeology of the region was Tom (TC) Lethbridge, who appears in 1922–23 (age 22) as the joint author of a paper on an Upper Palaeolithic site near Fen Ditton. This was the first of many papers or reports, including three quarto volumes, which increased when he succeeded Fox as Director of Excavations. He was an important figure in the archaeology of the region for many years.

Some papers had originally been presented at meetings of the Society. Volume XXIX, 1926–1927, records that Gordon Childe, professor of archaeology at Edinburgh, noted for his promotion of the concepts of the 'Neolithic Revolution' and the 'Urban Revolution', had spoken on 'The Development of Bronze Age art in Hungary'. Other meetings that year included OGS Crawford, a pioneer in the use of aerial landscape photography, speaking on 'Air Photographs and Archaeology', and J Reid Moir on 'Ancient Man at Hoxne, Suffolk. JGD Clark (later Sir Grahame Clark, Disney professor from 1952–1974, editor of the *Proceedings of the Prehistoric Society* and well known for his excavation at Star Carr), then still only a BA, provided a paper on 'A Stone Age site of Swaffham Prior' in XXXII, 1930–1931. Issues in the 1930s recorded the work of the Fenland Research Committee.

The 1940s saw reports of contributions by well known names such as Dorothy Garrod (Disney professor of archaeology at Cambridge, the first woman to hold a chair at Oxford or Cambridge) who 'communicated' in 1940 on 'The Cave paintings of Lascaux'. In 1946 Glyn Daniel (later Disney professor and broadcaster, chair of the TV programme *Animal, Vegetable and Mineral*) had spoken on 'The Long Barrow in Western Europe', Stuart Piggott (professor of archaeology at Edinburgh and one of the excavators at Sutton Hoo) communicated on 'Prehistoric India and the West' and 'Seal hunting in the Stone Age', and Mortimer Wheeler, archaeologist and broadcaster, populariser of archaeology and excavator of

Verulamium and Maiden Castle, reported on excavations at Verulamium.

As already noted, the journal reflected a decline in activity, or even interest, in the late 1940s and the 1950s, but the Society's incorporation of the Cambridgeshire and Huntingdonshire Archaeological Society, a breakaway body with its own *Transactions* from 1900 to 1950, marks a gradual resurgence in contributions and some changes in their nature.

The journal includes early contributions of those still active in studies of the archaeology and the landscape of the region, such as Christopher Evans, David Hall, Sue Oosthuizen, Francis Pryor, Alison Taylor (County Archaeologist from 1974 to 1997) and Christopher Taylor (whose first contribution was over 30 years ago). The 1970s and 1980s in particular reflect the appliance of science in archaeology, and papers were published with titles incorporating terms such as 'radiocarbon' and 'resistivity'. The re-emergence and importance of the 'amateur' archaeologist, always a lively part of archaeology in Cambridgeshire, was marked more than 30 years ago with articles relating to the Cambridge Archaeology Field Group (which is still very active).

Changes in technology and the way in which information is accessed impacted on how the journal is prepared ('cut and paste' of manuscripts is now executed with a computer rather than scissors and glue) and will no doubt affect how it is published in future. It is now clear that some societies like ours intend to digitise their past publications and so put thousands of pages on the internet for easy reference. Thanks to camera-ready hard copy or machine-readable documents and 'pdf' formats, both paper and electronic versions of material *should* be as cheap (in relative terms) as they were in Victorian days and that long era of moveable metal type that ended a generation ago. But this should not threaten a well-designed printed version. If the printed *Proceedings* cost a large part of the Society's resources in future, it is surely proper that they do. May our successors have in the second hundred volumes of PCAS the same confidence and pleasure that we have in looking at the first.

Fieldwork in Cambridgeshire 2010

Sally Croft, Hazel White and Elizabeth Popescu

The work outlined below was conducted for a variety of reasons, including development control derived projects, emergency recording and research. All reports cited are available in the Cambridgeshire Historic Environment Record, Cambridge, for public consultation. Many of the reports are available in digital format from:

The Grey Literature Library at the Archaeology Data Service

<http://ads.ahds.ac.uk/catalogue/library/greylit>

Heritage Gateway

<http://www.heritagegateway.org.uk>

Reference numbers for Scheduled Ancient Monuments and Listed Buildings are taken from the National Heritage List for England

<http://list.english-heritage.org.uk>

Abbreviations

ALBION Albion Archaeology

ALL Allen Archaeology

AOC AOC Archaeology Group

APS Archaeological Project Services

ASC Archaeological Services and Consultancy

AS Archaeological Solutions

BUFAU Birmingham University Field Archaeology Unit

CgMs CgMs Consulting

CAP Cambrian Archaeological Projects

CAU Cambridge Archaeological Unit

ECC FAU Essex County Council Field Archaeology Unit

HN Heritage Network

NAU NAU Archaeology

NPA North Pennines Archaeology

NHA Northamptonshire Archaeology

OA East Oxford Archaeology East

WITHAM Witham Archaeology

Barrington, Orwell Road

TL 3864 4968 (CAU report 917)

S Hogan

An archaeological evaluation prior to development revealed evidence of 19th century quarrying in Hooper's Field, north of Barrington village.

Babraham, Rowley Lane

TL 4952 5142 (CAU report 962)

A Slater and S Timberlake

A series of test pits were excavated within the footprint of a proposed ford and access road through the River Granta at Babraham. A Romano-British riverside track or riverbank consolidation deposit was identified as well as a full alluvial and colluvial sequence for the formation of the site.

Bassingbourn cum Kneesworth, Kneesworth House Hospital

TL 3499 4413 (AOC report 30595)

C Edwards

Further to evaluation in 2009, an archaeological excavation was carried out revealing a ring of postholes, a group of small pits and a large line of postholes, possibly forming a palisade-like structure of probable prehistoric date. A possible Roman field system and evidence of animal husbandry were also encountered along with episodes of chalk quarrying within a large enclosure. Medieval features included a series of quarry pits and a possible rectilinear structure. The most notable post medieval feature excavated was a large curvilinear feature interpreted as remains of the ornamental lake dating from the building's previous usage as a country house by Lord Knutsford and his family.

Bottisham, Bendyshe Farm, High Street

TL 5441 6042 (CgMs Consulting report GLA-032)

R Lewis

The farm buildings stand within the former cartilage of Bendyshe Farm, although now divorced from the main property with which they were historically associated. They form a linear range of narrow structures adjacent to the northern site boundary, and comprise an open-fronted cart shed, two brick stables

and a further structure of similar brick construction at the eastern end, arranged at 90 degrees to the main range. The structures, all single storey, are constructed of cream coloured Cambridgeshire bricks laid in Flemish bond. The roofs are for the most part covered with Welsh slate and the cart shed with cream pantiles. Apart from the eastern building, which is in separate ownership, all of the buildings were unused and in poor condition. The range is typical of a mid 19th century range of stable buildings.

Buckden, 21 High Street

TL 1906 6743 (AS report 3678)

G Barlow

An archaeological evaluation comprising two trial trenches totalling 20m revealed modern and undated features, including furrows, pits, postholes and a gully. Artefacts recovered from the fill of the gully included fragments of clay pipe, glass and a small iron fragment, all of post medieval date.

Burwell, 118 Low Road

TL 5851 6668 (CAU report 926)

M Collins

During archaeological evaluation of the site at Low Road, Burwell, the foundations of a 19th–20th century wall were located. Artefacts recovered included a quantity of 19th–20th century items such as a shovel head and a door knocker. The site was heavily disturbed during the 19th and 20th centuries, evidenced by a thin topsoil layer across much of the site. The lack of a subsoil suggests it may have been stripped down to the underlying chalk during the modern period and also account for the lack of earlier features or artefacts despite the proximity to the area of known activity at Parsonage Farm to the south.

Burwell, Adventurers' Fen

TL 5640 6901 to TL 5568 6781 (APS report 55/10)

M Peachey

An evaluation consisting of eleven trenches revealed a palaeochannel, a possible buried soil and several probable ancient tree throws, sealed by peat, two of which contained Neolithic flint flakes. Several marlting trenches of 20th century date were also revealed. Finds consisted of Neolithic flint flakes and modern material. A subsequent monitoring and recording investigation involved excavating a further trench adjacent to trench 6 and extensions to both ends of trench 11; however no further flints were retrieved. The environmental evidence collected subsequently indicated past marsh, open water and wooded environments.

Burwell, Burwell Fen Hundred Acres

TL 554 686 (APS report 96/10)

M Peachey

An archaeological evaluation was undertaken at Burwell Fen Hundred Acres in order to assess the impact upon archaeological remains of development undertaken as part of the Wicken Fen Vision Strategy. Comprising 19 trenches, the evaluation stage revealed a Mesolithic flint scatter suggestive of a short episode

of flint working by a mobile population, involving repair and maintenance of hunting equipment. The scatter reflects previous evidence of a prehistoric presence on the low sand and gravel knolls in the vicinity, lying close to a large palaeochannel, a tributary of the River Cam. A further undated palaeochannel was also revealed. Several undated tree throws were identified while part of a late post medieval to early modern drainage system was also revealed. A mitigation phase comprising a programme of excavation, test pitting and sieving for artefacts was also undertaken, revealing further struck flints of Mesolithic date, animal bone and late medieval to post medieval ceramic building material.

Cambridge, Addenbrooke's Hospital, Cambridge

Centre for Applied Learning

TL 4324 6041 (CAU report 977)

S Timberlake

An archaeological excavation was carried out at Addenbrooke's Hospital in advance of the construction of the new Cambridge Centre for Applied Learning (CCAL) building. This examination of the site involved the re-exposure of the Iron Age enclosure ditch first dug by Mary Cra'ster in 1967. A well preserved 12m section of this ditch and part of the north-western corner of this enclosure were exposed. The location of this feature would appear to confirm the accuracy of Cra'ster's survey and also her plotted projection of this enclosure. At the same time it was possible to re-examine one of the original 1967 excavation trenches. Further evidence relating to the density and distribution of artefacts, the sequence of ditch construction and infilling, plus new evidence of a re-cut were found, which may correlate with re-occupation or re-use of this enclosure during the Middle-Late Iron Age. Further examination of the ditch fill accumulation suggests this site may well have been a banked enclosure surrounded by a ditch.

Cambridge, Botanic House

TL 4576 5730 (CAU report 973)

M Collins

Phase one of an archaeological evaluation; prior to the redevelopment of the site of Botanic House was undertaken in May 2010. Of four test pits excavated, two exposed Victorian basements.

Cambridge, CB1 development, Hills Road

TL 4597 5706 (CAU report 933)

A Slater

A small archaeological evaluation was undertaken and identified a low density of prehistoric activity, as well as Romano-British and medieval quarrying, medieval and post medieval agricultural practices and 19th century industrial activity.

Cambridge, Jesus College

TL 4523 5890 (CAU report 991)

R Newman, D Webb, C Evans and DAH Richmond Archaeological monitoring was undertaken during refurbishment works within the former eastern

clastral range of the Benedictine Nunnery of St Mary and St Rhadegund and externally across the western portion of Chapel Court at Jesus College, Cambridge. Although limited in scale, the investigations contributed new information with regard to the original architectural form of the northern end of the range (formerly the nuns' dayroom). The lower portions of two *in situ* wall shafts – which appear to have comprised part of a colonnade or a wider scheme of arcing / vaulting were revealed. Further to the south, partial elevations of the extant medieval fabric of the chapter house and sacristy/vestry, previously recorded in 1995, were also re-examined. During the course of the external service works, the southern wall of the demolished east end of the chapter house was identified, and the remnants of an ancillary timber-framed structure of probable monastic date uncovered. Finally, deposits associated with the late 15th century conversion of the nunnery for collegiate use along with three 17th century refuse pits were encountered.

Cambridge, 30 Long Road

TL 4617 5549 (CAU report 965)

L James

An open area excavation was undertaken at 30 Long Road, north of a series of previous archaeological investigations which revealed Iron Age and Romano-British enclosures and field systems. A single linear feature that followed the same alignment as the Late Iron Age/early Roman features from the previous excavations was encountered.

Cambridge, Clay Farm House, Long Road

TL 4500 5564 (CAU report 945)

M Collins

Evaluation carried out in advance of the construction of six dwellings found a single modern linear ditch feature containing the articulated remains of a cow, but no earlier archaeological activity.

Cambridge, Harris Road

TL 4476 6054 (OA East reports 1167 and 1181)

J Fairbairn and J House

Two slots were excavated across a Bronze Age ditch which probably formed part of a much larger enclosure. The ditch fills were dated both by pottery and the radiocarbon dating of a Bos tibia fragment to a calibrated date of 1460–1260 BC 95.4% probability (SUERC 29309:1360±100 BP). No other features of this period are known in the immediate vicinity.

Cambridge, High Cross (Newnham Ward)

TL 4252 5894 (CAU report 942)

S Timberlake and C Evans

An open-area excavation was undertaken in late 2009 – early 2010 on University land at the High Cross Site, West Cambridge. This excavation was undertaken prior to the development of these plots, which lay to the south of Charles Babbage Road; the latter to include the building of a University Sports Centre, accommodation and car parking facilities. Signs of Early Iron Age occupation including a substantial

Iron Age ditch, a number of Middle Iron Age pits and evidence of metalworking plus a large number of quern stones, Mesolithic/ Neolithic pits and a Late Bronze Age/ Early Iron Age rubbish pit and pit/well were revealed. A field system likely of Roman date was also identified.

Cambridge, Parkside Fire and Rescue Station

TL 4569 5828 (CAU report 955)

R Newman

A single test pit excavated in the car park of the Parkside Fire and Rescue station during its redevelopment revealed a relatively well preserved archaeological sequence, at the base of which a large quarry pit of medieval or earlier date was identified. This was overlain by ploughsoil containing post medieval material, which was in turn sealed beneath the remnants of a 19th century formal garden. The sequence was capped by modern overburden including material derived from the demolition of a prestigious 19th century villa that occupied the site prior to the Fire and Rescue Station.

Cambridge, Former Regional College Site

TL46045894 (OA East report 1159)

R Atkins

Evaluation including test pits at the former Regional College Site identified medieval cultivation soil containing a mixture of 12th–13th century refuse near the river which could possibly have been derived from middens associated with Barnwell Priory. Residual Neolithic worked flint was also recovered. Five late post medieval quarry pits were located to the north-east of the site, and a possible World War II air raid shelter was identified in the northern part of the site.

Cambridge, 7 Severn Place

TL46035860 (AS reports 1318 and 3576)

L Smith; P Thompson

An historical building appraisal and a trial trench evaluation were undertaken in advance of development prior to the demolition of a World War II Nissen hut. The structure was in good condition and a robust example of the Nissen hut construction technique of brick encased in semi-circular metal framework. The original interior fixtures and fittings had been removed to make way for its modern use as a garage. The trial trench evaluation revealed modern features including a wall and two post pads. The features may relate to a late 19th/early 20th century building which existed prior to the Nissen hut.

Glebe Farm, Cambridge

TL 4445 5401 (CAU report 1002)

M Collins

Two adjacent areas at Glebe Farm, located south of Trumpington on the outskirts of Cambridge, were subject to archaeological excavation prior to residential development. Both areas and the surrounding landscape had been subject to evaluation as part of wider scheme of works in 2005. The excavations revealed a dispersed scatter of features including a small group

of Early Neolithic pits, postholes and utilised tree throws, Early and Middle Iron Age pits and a continuation of a previously identified Early-Middle Iron Age boundary ditch system were also found. Also present were an undated ring-gully with a central inhumation, and a further, smaller, undated ring-gully with a central posthole. The Early Neolithic cluster of features, together with other scattered pits probably represent episodic, temporary/seasonal occupation of the area, although the size of the recovered pottery and flint assemblages (two pits, circular in plan with near vertical sides, contained 178 sherds of pottery and 187 worked flints between them) from such a relatively small number of features is significant.

Cambridge, Great Eastern House, Station Road
TL 5460 2573 (CAU report 979)

A Slater

A small evaluation and a watching brief of geotechnical investigations were undertaken concurrently, on land to the north of Great Eastern House at the corner of Station Road and Tenison Road, Cambridge. Trenching identified a post medieval agricultural soil horizon along with a full sequence of late 19th and early 20th century railway activity.

Cambridge, 103 High Street, Trumpington
TL 4460 5477 (CAU report 920)

M Collins

Two trenches and four test pits excavated in the grounds revealed two late 19th or early 20th century wells and a modern rubbish pit. A small quantity of Victorian and modern finds were also recovered from within the topsoil and subsoil.

Cambridge, Little St Mary's Church, Trumpington Street
TL 4482 5797 (OA East report 1156)

T Fletcher

A watching brief found human skeletal remains from burials disturbed by later activities within the churchyard. The remains were collected, bagged and returned to the church for appropriate reburial. Two brick-lined graves with vaulted brick tops were revealed, both being aligned northwest to southeast and less than 1m apart: both were broken open by the contractors to establish the date, content and depth of the features. Brickwork encountered above one tomb during machining suggests that there may have been a large grave marker or table tomb located above it, perhaps on a brick plinth. To the immediate west lies a repositioned table tomb which appears to have been moved when the extension to the Vestry was added in the 1990s. It seems probable that the names listed on the tomb top relate to those buried within the investigated tomb: Ann Watts (d. 1804), William Haughton (d. 1807), Elizabeth Haughton (d. 1819), William Watts (d. 1814) and Mary Watts (d. 1857).

Cambridge, Veterinary School, Madingley Road
TL 4280 5917 (CAU report 948)

J Hutton

Trial trenching produced evidence of furrows aligned north-south in the northern portion of the site which correlate with cropmarks of medieval ridge and furrow further north. These furrows lie in an area called "Le long furlong in le clay" as depicted on the Corpus Terrier (or *Terrarium Cantabrigiae*) compiled c. 1360.

Cambridge, 5 Wellington Court

TL 4602 5875 (AS report 3536)

G Barlow, P Thompson and C Davies

An archaeological evaluation prior to development identified the remains of a 19th century building including a herringbone brick tile floor along with modern rubbish pits. Fragments of post medieval clay pipe and 19th century pottery and glass were recovered. Large fragments of three 'Codd' bottles from the nearby Star Brewery were recovered, the largest fragment clearly displaying the embossed trading motif of the brewery, a five pointed star.

Cambridge, Whittle Jet Propulsion Laboratories

TL 54315 25905 (CAU report 939)

A Slater

Evaluation trenching and small open area excavation was undertaken prior to redevelopment. A Romano-British enclosure/ boundary ditch as well as post medieval brick manufacturing/ dump site and post medieval field boundaries were excavated.

Caxton, Caxton Hall

TL 3009 5830 (OA East report 1229)

T Fletcher

Excavation in advance of development revealed a shallow north-west to south-east orientated ditch. Pottery from its fill dates to the 12th-14th centuries.

Chatteris, Furrowfields

TL 3947 8657 (OA East report 1195)

T Fletcher

This site lay within the Furrowfields playing ground which is an area of significant surviving ridge and furrow. The evaluation was conducted with pupils from Cromwell Community College who assisted in the excavation of test pits. Children from nearby Kingsfield Primary School visited the excavations and took part in activities throughout the day. An archaeologist also visited classrooms, providing lessons about archaeology and opportunities to handle artefacts.

Cottenham, 1 Oakington Road

TL 4457 6708 (OA East reports 1193 and 1206)

J Fairbairn

Excavation revealed a wide shallow ditch and possible associated bank, both of which may date to the medieval period. These features perhaps relate to the nearby manor of Burdeleys, later called Harlestons.

Cottenham, Girton and Great Shelford HEFA Test pits

Cottenham, Girton and Great Shelford

A series of test pits were excavated in Cottenham, Girton and Great Shelford in 2010 by school chil-

dren, teachers and members of the general public as part of the University of Cambridge Archaeology Department Higher Education Field Academies Programme. Pottery sherds dating from the Roman to post medieval periods were recorded.

Covington, 13 Church Lane
TL 0544 7086 (ALBION report 2010/13)
D Ingham

Prior to residential development, an evaluation consisting of two 5m-long trenches revealed a medieval or post medieval furrow containing a small quantity of animal bone and two sherds of abraded late medieval or early post medieval roof tile.

Coveney, Ouse Washes
TL 4500 8390 (OA East report 1236)
C Heisterman

A watching brief took place on geotechnical boreholes and test pits associated with a 200ha Habitat Creation Scheme adjacent to the Ouse Washes, near Coveney. The purpose of the work was to provide base-line data regarding the character, extent and archaeological potential of the alluvial and peat stratigraphy that may be affected by the Scheme. The sedimentary sequences recorded broadly comprised a relatively shallow Holocene peat of probable Bronze Age and later date, overlying a complex sequence of late Devensian deposits. Although no archaeological features or artefacts were observed, a number of archaeological sites are known to be present within the Study Area and in the immediate vicinity. These include artefact scatters of Mesolithic and Neolithic date, probably associated with a relict dryland ground surface at the interface between the peat and late Devensian deposits. In the interventions observed, this interface lies on average within 0.5m and 1.0m below the current ground surface, although it locally reaches depths of up to 1.45m.

Doddington, 50 Benwick Road
TL 3957 9087 (AS report 3679)
M Adams

Prior to development of the site for a new cemetery and associated access and parking, an archaeological evaluation consisting of four trial trenches was undertaken. An undated gully and a ditch tentatively dated to the medieval period by pottery dating to 13th–15th centuries were recorded.

Ellington, Woolley Hill Wind Farm
TL 1575 7301 (NA report 10/172)
J Burke and A Yates

A trial trench evaluation was undertaken on land at Woolley Hill, Ellington in advance of a proposed wind farm development. Archaeological remains were discovered in three of the nineteen trenches excavated. Part of an Iron Age square enclosure was identified on the lower lying land. On the crest of the ridge above an area of Middle Iron Age to Late Iron Age/early Roman settlement was present. Remnant furrows from areas of former medieval cultivation were seen.

Elm, land at Waldersea House, Friday Bridge
TF 45329 04122 (ALL report 2010055)

M Allen, C Clay and K Trott

An archaeological evaluation by trial trenching was undertaken within the former gardens of Waldersea House prior to development in Friday Bridge. The site was situated in an area where aerial photography has identified an extensive complex of cropmarks indicating field systems, watercourses, trackways and settlements. The evaluation and excavation works exposed a large natural palaeochannel aligned broadly west-north-west to east-south-east, through the southern part of the site, which influenced the layout of the medieval and later landscape in the area. The earliest activity was represented by a small group of residual 2nd century AD Roman pottery, probably from a disturbed feature or deposit of Roman date. Medieval features interpreted as possible animal water troughs of 12th to 14th century date were excavated in the eastern half of the proposed building footprint. Towards the north end of the site were two medieval boundary ditches, of 12th to 14th century date and 14th to 16th century date, both running parallel to the natural channel. The natural channel had silted up by the late 18th/early 19th century, and was recut by a wide shallow drainage dyke. Historic maps of the area show that this was disused and replaced by an orchard, which was also used for the burial of household waste and farm animals well into the 20th century.

Ely, Carey Close
TL 5507 8133 (OA East report 1183)
R Atkins

Evaluation found sparse shallow ditches, probably forming part of a field system belonging to a known Middle Iron Age to Late Roman settlement just to the north of the subject site. A single sherd of Roman pottery came from one of the ditches. Two pits lying close to a stream flowing along the western boundary of the site contained large quantities of shattered burnt flint and sandstone pieces, along with fired clay and debitage flint flakes. These features were probably pre-Roman and may relate to cooking, a sauna or the production of temper for pottery manufacture.

Ely, Walsingham Way
TL 5318 8061 (CAU reports 927 and 993)
J Hutton and A Slater
G Appleby

Evaluation was undertaken at the corner of West Fen Road and Walsingham Way prior to demolition and proposed development. Archaeological features were recorded in all of the trenches representing a multi-phased occupational site that correlates with the previously excavated adjacent Ashwell Site. The main focus of activity spans from the Saxon period, through to the 14th century with a prehistoric background presence; the archaeological features consisted of linear features, pits, postholes, a metalled surface and evidence of a buried soil.

Following on from the evaluation, further excavation revealed that the density of archaeological ac-

tivity known to the west of the site, extended to the east, providing further evidence for the Saxon and medieval settlement in the area. The earliest activity was represented by a single prehistoric or Romano-British boundary ditch. A very low quantity of residual Romano-British material culture indicated the presence of Roman-British activity near to the site. A strong Middle Saxon presence was identified with an organised system of land/property division aligned with a probable road/droveway. Reorganisation was evident during the Late Saxon/Conquest period with a notable re-alignment of boundary ditches respecting the alignment of the modern West Fen Road, with distinct properties and structural elements contained within the boundaries. Evidence of later, medieval occupation comprising house platforms and quarry pits was also identified as well as a continuation of boundary alignments up to the post medieval period.

Fen Ditton, 66-74 Ditton Walk

TL 4742 5957 (AS report 3548)

W McCall and P Thompson

An evaluation undertaken in advance of residential development on land occupying the rear gardens of houses 66 to 74 Ditton Walk revealed 31 postholes or stake holes in Trench 2. Their form and associated finds indicated a relatively modern date. An isolated, undated posthole was located in Trench 1. The nearby terraced houses were constructed on the site by 1903 and the site was fully developed between c. 1930 and 1950. The postholes and stakeholes revealed in Trench 2 correspond with the boundary depicted on the OS map of 1903, and the evidence suggests that they were regularly renewed by successive rows of standing posts.

Godmanchester, Wood Green Animal Shelter, London Road

TL 2619 6847 (AS report 3714)

P Thompson and L Smith

An archaeological trial trench evaluation at Wood Green Animal Shelter revealed nine features comprising two wall foundations, two possible ponds, three gullies and two ditches. The alignments of the linear features did not respect the modern site boundaries or those recorded on the cartographic sources dating back to 1885. The wall foundations could not be confidently dated however they may represent the remains of out-buildings relating to the adjacent King's Bush Farm. It is also possible that the ponds may be associated with the Farm too.

Haslingfield, 30 New Road

TL 4085 5249 (OA East report 1235)

R Atkins

Evaluation identified part of an Iron Age and early Roman farmstead. Elements of a droveway and adjacent fields were found, with two small structures lying in the fields. Related domestic occupation evidently lay beyond the site to the west. Moderate quantities of pottery, animal bone and other items were found, including a Late Iron Age coin and a copper alloy bead.

The site was re-occupied in the Late Saxon period and settlement continued into the medieval period with backplot features of former house(s) fronting onto New Road. Stone structures were present during the late medieval or early post medieval period. From at least 1665 most of the land within the excavation area was owned by Trinity College, Cambridge and was recorded as a farm. In 1928 the college sold the farm to its present owners, the Watson family.

Haslingfield, Cantalupe Farm

TL 4189 5440 (ALBION report 2010/90)

B Barker

An archaeological evaluation of an electricity cable trench diversion comprising a total of 280 metres of trenching identified archaeological features associated with a nearby Late Iron Age/Roman settlement complex. The majority of these correspond with cropmarks identified in an earlier aerial photographic study, although additional ditches and some possible pits and a posthole were also identified. The only dating evidence was six sherds of Early-Middle Iron Age pottery, although it is assumed that the majority of the features were Late Iron Age in date.

Hauxton, 33 High Street

TL 4424 5209 (NAU report 2474a)

P Crawley

Further to geophysical survey undertaken by North Pennines Archaeology in 2009, NAU Archaeology conducted an evaluation and further excavation in 2010 on land adjacent to 33 High Street, Hauxton. The development plot was situated on the north side of the High Street surrounded by extensive cropmark complexes thought to represent activity from the prehistoric to Roman period. Five trenches were excavated during the evaluation phase which revealed several irregular gullies, ditches and a collection of shallow pits. The excavation results consisted of additional linear features and shallow pits. The western half of the site contained two wide ditches previously noted during the evaluation which were of possible Iron Age and medieval date. A curving ditch at the north end of the site may also have been of Iron Age date. There were a further two small gullies of unknown date in the centre of the site. To the east were a large number of probable quarry pits, which may have been of medieval or later date (They had also been observed during the evaluation and medieval sandy ware was found within one of the fills during the evaluation). One sherd of Iron Age pottery and 17 sherds of Later Iron Age/Roman pottery were found during the excavation.

Hemingford Grey, Galley Hill Farm

TL 300 690 (CAU report 985)

J Hutton

An archaeological evaluation was undertaken at Galley Hill Farm revealing archaeological remains that consisted of two phases of post medieval quarrying. The first concentration was to the north-west of the investigation area and consisted of strip quarry

trenches, whilst the remaining bulk of the features related to a more extensive quarry of more recent date.

Hemingford Grey, 19 The Thorpe

TL 2885 7027 (AS report 3632)

M Adams

Archaeological trial trench evaluation in advance of residential development found a dense concentration of medieval features on the western side of the site including ditches, gullies, pits and a possible boundary ditch; dated by pottery to the 12th–4th century AD.

Horningssea, Eye Hall Farm

TL 499 636 (CAU report 953)

K Anderson

A series of ditches dating from the medieval to post medieval period were recorded during archaeological evaluation. Two of the ditches formed an enclosure. A small quantity of medieval pottery was recovered, alongside a small assemblage of animal bone. Despite the location of the site in close proximity to the well established area of Roman pottery production, no evidence for this was encountered.

Linton, Village College

TL 5565 4696 (OA East report 1209)

N Gilmour

A further phase of archaeological excavation and watching briefs took place at Linton Village College, revealing activity of prehistoric to post medieval date. A later Neolithic pit containing grooved ware pottery and substantial quantities of flint was found, along with probable Early Bronze Age ring ditch. Iron Age field boundary ditches and two pits containing burnt stone were also identified. A series of Roman ditches and several structural features were recorded, along with the burial of a neonate. A post medieval brick built building had a rammed chalk floor. These finds add to those identified in previous phases of work in 2004–5 and 2008, producing a more complete picture of past land use in Linton.

Little Paxton, Riversfield

TL 1814 6191 (ALBION report 2010/30)

D Ingham

Following a geophysical survey in 2009, an evaluation was undertaken comprising twenty trenches. A moderate concentration of pits, ditches and possible postholes was identified in the southern half of the site. The features could not confidently be dated due to paucity of artefactual evidence; however they are most probably of prehistoric date.

Littleport, 1 Grange Lane

TL 5620 8592 (APS report 102/10)

V Mellor

An archaeological evaluation in advance of development comprising 110 metres of trenching revealed prehistoric buried soil layers to the north of the site along with almost 100 sherds of Iron Age pottery, animal bone and a small collection of other finds. A single linear ditch feature was of probable Iron Age date

but this could not be confirmed by material evidence. Several undated features were identified to the south east of the site. Numerous 19th and 20th century refuse pits were also recorded in the north of the site.

Littleport, 40–42 Wisbech Road

TL 5649 8717 (APS report 129/09)

A Failes

Archaeological evaluation in advance of proposed development identified evidence for a body of water at the northern end of the site and a scatter of burnt stone near the water's edge. An ovoid or 'egg' shaped feature close to the burnt deposit contained a small amount of fire debris. A single sherd of Roman pottery was recovered.

Lode, Anglesey Abbey

TL 529 622 (OA East report 1158)

T Fletcher

Investigations took place within the dining room at Anglesey Abbey House, which was converted from the remains of an Augustinian Priory. The present dining room lies in the medieval undercroft, the vaulting for which is supported on two pillars. In recent years some spalling of these pillars has been observed which may be caused by rising damp. The purpose of the archaeological work was to help identify the cause of spalling which may result from a raised water table. Excavation only proved possible to a depth of 0.60m, since space was restricted once the original 13th century foundations were encountered and exposed. Subsequently, a hand-operated auger was used to bore into the soils for a further 0.40m. The water table was not encountered and no other evidence for the cause of the spalling was identified.

Longstanton, Phase 3, Field 11

TL 3919 6733 (BUFAU report 2069)

B Burrows

Following geophysical survey that confirmed the presence of archaeological features, further evaluation was undertaken prior to residential development at Longstanton (phase 3/ field 11). The evaluation provided evidence for archaeological remains dating from the Neolithic through to the post medieval period. Isolated features containing both Neolithic and Bronze Age pottery were uncovered and the upper fill of a crouched inhumation contained several sherds of Bronze Age pottery. Flints tools reminiscent of the Neolithic or possibly Mesolithic periods were also recovered from the site and although these finds may be residual they do serve to highlight the continued occupation or use of the site perhaps from the Neolithic period. Sections through the enclosure ditch visible on the geophysics results were excavated and pottery retrieved indicated Middle to Late Iron Age date. Several gullies were excavated, possibly representing internal divisions, perhaps defining space within the enclosure, demarcating stock boundaries from human habitation. However, they may be evidence for settlement along the gravel ridge which predates the enclosure. A previous excavation to the immediate east

of the site established the presence of a second enclosure dated to the Romano-British period, the southwest corner of which can be seen on the geophysics slightly over lapping with the Iron Age enclosure. The site therefore provides evidence for an apparent transition from one area to another during the Late Iron Age to Romano-British period. The evaluation illustrated that the site was reoccupied during the Late Saxon period. The geophysical survey exposed a network of linear features on the east side of the site generally aligned northwest-southeast and northeast-southwest. The ditches and gullies which were excavated may have represented the layout of Saxon field systems which are directly comparable to a Saxon field system recorded during excavations to the south of the site. With the exception of the plough furrows, the evidence relating to the medieval period was entirely confined to the southern area of the site, in the lower lying ground. A number of northeast-southwest aligned linear features proved to represent a series of ditches and plough furrows. The finds retrieved from these features indicated that the southern area of the site had been utilised for agricultural activity during the medieval period.

Manea, 10-12 School Road
TL 4780 8970 (NAU report 2496)

PE Crawley

Five trenches were excavated ahead of proposed residential development revealing several boundary ditches, gullies and pits; all of post medieval date.

Manea, land west of 28 School Lane
TL 4753 8996 (OA East report 1190)

J House

Two trenches opened during archaeological evaluation revealed ditches of post medieval date most likely to represent boundary ditches or be associated with drainage. Post medieval pottery was found in all of the ditches.

March, 122-124 Creek Road
TL 4207 9715 (NHA report 10/128)

T Upson-Smith

A single 10m long trial trench was excavated prior to development on the site. The evaluation identified an undated ditch and a late 19th century brick-lined sump, probably for a two-hole toilet.

March, land south of Eastwood Cemetery
TL 422 958 (APS report 74/10)

An archaeological evaluation was undertaken on land to the south of Eastwood Cemetery in advance of a proposed cemetery extension revealing a series of parallel ditches forming field boundaries and drains relating to previous agricultural use of the land.

March, The Hundred
TL 4075 9848 (OA East report 1180)

C Thatcher

Excavation uncovered the remains of a Bronze Age cemetery with an associated pyre structure, appar-

ently centered on a well or springhead. This was truncated by Middle Iron Age activity that included the excavation of a series of large watering holes. One of the earliest phases of this sequence was revetted with wattle paneling. The pollen samples taken from the watering holes revealed a changing floral sequence during the Middle to Late Iron Age with episodes of cultivation followed by periods of relative inactivity. A Roman phase of occupation was also recorded that suggested the site lay in the agricultural hinterland of a nearby settlement dating to the 1st and 2nd centuries AD.

March, Neale Wade Community College

TL 4164 9524 (OA East report 1186)

A Pickstone

Excavation uncovered evidence of a series of Late Bronze Age wells dug into a modified natural hollow and a single possible Iron Age ditch. Preserved timber and an antler pick were recovered from the wells along with rich environmental samples. Three phases of medieval activity were identified dating from the mid-12th to mid-16th centuries. Preliminary results suggest a series of boundary ditches with small internal sub-divisions with a later phase of large and perhaps industrial pits dug along the largest of the boundary ditches.

March, Neale-Wade Community College, Eastwood House
TL 4164 9524 (OA East report 1199)

T Fletcher

An historic building survey at Eastwood House, part of the Neale-Wade Community College, formed part of an ongoing series of archaeological investigations which are expected to continue into 2011. Two main phases of development were identified: construction of the original Eastwood House in the mid-19th century and internal and external alterations during the 1950s when redeveloped to accommodate March Grammar School. Few early records relate to Eastwood House, the earliest mention coming from Kelly's Post Office Directory of Cambridgeshire where under 'gentry' a John Pope Esq. is listed as the occupant, providing an approximate construction date in the early 1850s.

Since the building had been used as a school, many of the original features had been removed. All of the original windows had been replaced and internal partition walls inserted to create smaller rooms. Despite these alterations, numerous original features survived, including moulded door frames and original doors on the first floor, an impressive tiled front entrance, hinged window boxes, moulded ceiling cornices and an imposing dog-leg staircase with half landing, elegant turned balusters and carved brackets under each tread-end. The cellar was inspected and proved to contain the original wine store with vaulted brick ceiling and lime-washed walls. Parts of the cellars had also been blocked off and brick support pillars/plinths inserted using re-used brick. The building has since been demolished.

March, Ravenhill Drive

TL 4142 9656 (AS report 3507)

M Adams

Small scale evaluation revealed a series of archaeological features including pits, ditches and gullies. A sherd of Roman pottery was recovered from one ditch but none of the features could be securely dated.

March, Former Whitemoor Marshalling Yard.

TL 4123 9873 (NPA report 971/10)

M Railton

In February 2010 a topographic survey of land at the Former Whitemoor Marshalling Yard was undertaken in advance of the construction of a National Track Materials Recycling Centre (NTMRC) for recovered rail material. The survey recorded the extent and locations of all structural remains and earthwork features within the proposed development area, including building foundations, turntables, rail lines and in particular, the earthwork remains of the 'gravity hump'. The 19th and 20th century railway yards at Whitemoor are themselves considered to be of regional and national importance. From 1927 under the London and North Eastern Railway (LNER) Company the site developed into the largest marshalling yard in Great Britain, employing 25% of the population of March. The marshalling yard also contained the first bi-directional gravity hump, which used gravity and an innovative hydraulic breaking system to allow carriages to enter the sidings, where they were sorted automatically for transfer to their destinations. A number of 19th and 20th century earthworks and structures directly related to the former Whitemoor Marshalling Yards were recorded. These included the foundations of the Locomotive Repair Shed/ Engine Shed, Running Shed, Water Cooling Tank, Examination Tunnel, and the Locomotive Oil Fuelling Plant, which are recorded on plans of the former railway sidings. Two railway turntables, a number of inspection pits, sections of rail track and concrete/brick structures were also identified, as well as a number of modern concrete railway platforms and floor surfaces. Earthworks were identified that correspond to the locations of 19th century railway sidings, as shown on the 1889 Ordnance Survey map of the site. The most notable feature is an earthwork platform that crosses the centre of the proposed development area and forms part of the bi-directional gravity hump. A series of World War Two air raid shelters about which relatively little is known were also identified. Five of the shelters were simple brick-built surface bomb shelters, with a reinforced roof. One shelter is of a different design, with L-shaped entrance and an escape hatch.

Milton, Long Meadow and Hill Close

G Clarke, M Bullivant and D Booth

A series of six test pits were excavated in fields at Long Meadow and Hill Close following earlier programmes of fieldwalking and geophysical survey. A series of boundary ditches and a square feature containing Roman pottery were recorded in Long Meadow, whilst a large north-south boundary ditch

recorded in the eastern part of Hill Close contained fragments of animal bone and pottery of probable medieval date, probably relating to the eastern boundary ditch or moat of the medieval manor house site.

Over, The O'Connell Ridge East - Site II Barrow

TL 53 27 (CAU report 967, part V)

C Evans and J Tabor

Investigations at Hanson's Needingworth Quarry continued in 2010 with the excavation of barrow 6 at site II, located on the "O'Connell Ridge" (the two significant ridges on site were christened by CAU as the O'Connell Ridge and Godwin Ridge). Following initial evaluation in 2007 and subsequent excavations across the entire site, site II barrow was subject to a geophysical investigation and then excavated using the same quadrant method employed with the neighbouring Low Grounds Barrow Group in 2008-9. Pollen analysis, radiocarbon dating and geoarchaeological assessment were also undertaken. The excavation revealed not only upstanding remains of the round barrow itself complete with surrounding ditch, but also evidence of Late Neolithic activity comprising a number of pits and an intact pre-barrow buried soil (palaeosol) preserved beneath the barrow. The palaeosols of the Godwin and O'Connell ridges are generally well preserved over very large areas of buried landscape but it is rare to find an apparently untruncated and complete buried soil beneath a barrow as here, unlike the under the three mounds of the Low Grounds Barrow Group already examined. Conversely, like the three barrows of the Low Grounds Barrow Group, barrow 6 originated as a relatively small monument, becoming a fully ditched barrow with a total diameter of 35m over time. Geoarchaeological assessment suggested that the barrow's mound was primarily composed of turves. Three phases of barrow construction were identified with a primary inhumation identified in Phase II and a well preserved secondary pit-pyre in Phase III. Radiocarbon dating of charcoal associated with the primary cremation gave a date of cal. BC 1890-1680 (Beta 280341: 3460±40 BP). In addition, a burnt stone spread was identified adjacent to the northern flank of the ridge. No artefacts were recovered directly from either of the two cremations in the barrow; however artefacts recovered included Grooved ware and Beaker/Collared Urn pottery, Neolithic flint, charred wood and human cremated bone, a small quantity of animal bone including domestic species and red deer along with a single hammer stone.

Parson Drove, Butcher's Arms, Main Road

TF 3742 0853 (OA East report 1168)

R Atkins

This evaluation lay adjacent to the west and north of a previous large excavation which found a Roman to medieval rural settlement with salt-making and farming activities. The present evaluation found only a single shallow Roman ditch. Medieval activity consisted of numerous shallow ditches forming a continuation of agricultural features found to the east the

south of the site. One large 14th century ditch had a horse burial in its upper fill.

Peterborough, Bretton, Bretton Way

TF 1605 0080 (OA East report 1230)

A Pickstone

This site lay in north-western Peterborough and is notable for the presence of a Late Roman aisled barn which may have been associated with an enigmatic well-like feature dug down to reach the natural clay geology. This feature measured 2.2m square and 2.5m deep, and was lined with enormous pieces of reused stonework, apparently from a monumental building. These stones are unprecedented for this area with nothing similar of this date known to have been recovered within the region: thin section analysis may help to establish their provenance. While the site lies 5.5km from the Roman town of Durobrivae and 4km from a villa/palace in the village of Castor, these are quite large distances over which to transport such large pieces of masonry.

Preliminary examination of the items retrieved from the 'well' backfills has identified over 80kg of animal bone, four complete pots, up to six leather shoes and perhaps the earliest bone sledge runners in Britain. The pottery assemblage seems unusual in that a large number of trimmed pot bases were recovered. The function of the feature is currently unclear, although further analysis of potentially votive items and an interesting environmental assemblage are expected to aid interpretation.

Ramsey, 40 High Street

TL 2865 8506 (AS report 3683)

G Barlow

An archaeological evaluation was undertaken prior to proposed residential development within the historic core of the medieval town of Ramsey. Two trial trenches were excavated that revealed a former watercourse, a possible hearth, a possible causeway, two buried medieval soils, and a large post medieval pit.

Ramsey, Biggin Lane

TL 2784 8483 (CAU report 960)

J Hutton

An archaeological watching brief was undertaken on land near the western edge of Ramsey on the route of a water main extending from the north of Biggin Lane to Canberra Close. Eight small pits were excavated which revealed evidence of a potential buried soil overlain by a deep layer of sub-soil. One posthole and one narrow linear feature were recorded in one pit but there was no further evidence of archaeological features in the remaining seven.

Reach, Reach Lode New Bridge

TL 555720 267690 (OA East report 1165)

T Phillips

This investigation comprised a combination of trenching, test pits and boreholes on either side of Reach Lode. Linear drainage ditches proved to have been cut through the peat and into the clay. Various

soil formations were recorded which varied to some extent across the site, including marsh and creek beds, although no buried soils were identified. The most significant results came from a series of augered boreholes and a core, positioned along the line of the proposed ramp and culverts for each approach to the New Bridge. The boreholes confirmed the presence of a large palaeochannel, up to 5m deep, in the vicinity.

Sawtry, Gidding Road

TL 1648 8335 (APS 52/11)

An open area excavation was carried out ahead of groundworks associated with residential development at Gidding Road. This excavation focused upon an area previously identified as containing Romano-British deposits. During the course of the excavation, late Iron Age and early Romano-British drainage features and clay extraction pits were identified. There was no evidence of settlement remains within the area. An isolated Romano-British human burial was uncovered. Two Bronze Age flints and two sherds of Saxon pottery were retrieved, indicating some limited activity in the area during these periods. Subsoil, modern land drains and modern topsoil formed the latest deposits encountered on site.

St Neots, Longsands Community College

TL 1905 6086 (OA East report 1192)

R Atkins

Investigations found Early Neolithic and Early Iron Age pits, a Late Iron Age boundary ditch and a probable Romano-British droveway. The Late Iron Age and Roman features probably relate to a known early Roman settlement found just to the west in 2006.

St Neots, St Neots Priory

TL 181 603 (OA East report 1173)

P Spoerry, N Gilmour and P Masters

Lottery funding for the St Neots Town Centre initiative enabled the commissioning of a Ground-Penetrating Radar Survey (GPR) over the site of the priory a medieval alien house that was partly excavated in the 1950s and early 1960s by CF Tebbutt. Most of the site now lies beneath modern buildings and car parks and much of it is designated as a Scheduled Monument (SAM1006882). The survey was carried out by Cranfield University and investigated the putative site of the west range, north range and kitchens, and east range/chapter house. Responses interpreted as buried wall foundations were identified in all locations but none could be precisely related to excavated features.

The identified anomalies generally appeared to be aligned ordinally with the cardinal compass points, unlike the excavated priory plan which was largely aligned about twelve degrees west of north. Explanations for these results include the possibility that the original excavated plan was mis-aligned, although this suggestion can be discounted in general terms since three surviving column bases that still lie below manhole covers are clearly correctly mapped. Re-analysis of Tebbutt's excavation report provides

some alternative explanations. His plan is in some cases based on a very limited view of structures. Additionally he observed but did not fully record other buildings, some of which were undoubtedly earlier phases of the priory and some were perhaps on differing alignments. He also planned a large structure to the north of the main convent that he identified as a late medieval infirmary and which was commonly aligned with the GPR anomalies. Clearly Tebbutt's plan, although undoubtedly quite accurate in its depiction of some buildings to the north and east of the cloister garth, was an over-simplification of a multi-phase complex and it should therefore be no surprise that below-ground GPR anomalies that represent important archaeological features exist on other alignments both within the area of the Scheduled Monument and perhaps beyond.

Soham, Millcote

TL 5893 7294 (NHA report 10/81)

E Taylor

An archaeological trial trench evaluation comprising two trenches totalling 20 metres was undertaken prior to the redevelopment of land at Millcote, Soham. The evaluation revealed the remains of the mill leet shown on the tithe map of 1841. The leet appeared to be parallel with Soham Lode and contained 18th and 19th century pottery, brick and tile.

Soham, Weatheralls Primary School

TL 5948 7353 (OA East report 1185)

T Phillips

Evaluation found evidence of an early medieval field system that may be associated with a settlement in the immediate vicinity. This was represented by a major ditched boundary which ran roughly parallel with both Pratt Street to the west and the 5m contour line to the east. Other trenches revealed further boundaries and two pits. The results should be viewed in conjunction with the results of an archaeological evaluation undertaken in 1991, in the western part of the site, which encountered similar remains. The joint results present a more complete picture of a ditched rectilinear field system with settlement evidence represented by the pits and domestic debris deposited into the ditches. The ceramic assemblage from both evaluations suggests a date between the 10th to mid-12th centuries for the earliest activity.

Somersham, 52 High Street

TL 36187 77859 (OA East report 1227)

T Fletcher

Evaluation in advance of proposed residential development revealed evidence of late medieval quarrying, dated to AD 1500–1650 on the basis of a small assemblage of pottery. Similar activities have been recorded at other locations within the village.

Somersham, Knobb's Farm, Phase 7

TL 3673 7988 (CAU report 986)

M Collins

A further phase of excavation was undertaken at

Knobb's Farm Quarry, revealing evidence for Middle Iron Age settlement activity and field systems, along with a later phase of Late Iron Age/Early Roman activity in the form of trackways and a substantial enclosure. Further excavations will follow.

St Ives, St Ives Golf Course

TL 3037 7220 (CAU report 947)

J Hutton

Following a geophysical survey in 2007, an archaeological evaluation was undertaken at St Ives Golf Course prior to the construction of a housing development. Archaeological features were recorded in sixteen of the nineteen trenches opened, the majority of which were the remnants of medieval agricultural practices; ridge and furrow. A few undated linear features and field boundary ditches that corresponded with cartographic evidence were also revealed. Limited quantities of artefacts were recovered from the site, further supporting the interpretation that the site was agricultural land outside the core activity areas.

Steeple Morden, Primary School

TL 28538 42531 (OA East report 1212)

J House

A possible track-side or boundary ditch found at this site may have been established during the Anglo-Saxon period, the route perhaps serving as an access between the nearby manor house that once stood to the west of the school and the church. Alternatively it may have been an early property boundary for a tenement fronting onto Hay Street to the east. During the post medieval period the boundary was re-established in the form of a clunch wall, constructed after infilling of the ditch and accumulation of a subsoil layer had occurred.

Tilbrook, Brook Farm, Station Road

TL 0802 6939 (AS report 3629)

T Collins, L Prosser, P and K Henry

An historic building recording was undertaken prior to proposed internal alterations at Brook Farmhouse, Tilbrook. Technical analysis established that the building probably originated in the later 16th or early 17th century, laid out on conventional lines with parlour/hall arrangement, and a separate but contiguous service wing to the north. The evidence suggests some augmentation and development in the early 17th, 18th and 19th centuries. Of most notable importance are several historic decorative wall-paintings, which were found in the four rooms of the south range, and represent a rare survival in the county, part of a local cluster of known paintings and an important indicator of local social and wider, East Anglian artistic influences.

Waterbeach, Waste Management Park

TL 486 688 (CAU report 974)

M Collins

Archaeological evaluation comprising 24 trenches was undertaken at the Waste Management Park. A number of archaeological features were identified including probable prehistoric burnt pits, a continuation

of several Romano-British ditches seen in previous excavations and a possible trackway. Several substantial undated features including a watering hole/well and probable enclosure ditch were also encountered.

Westley Waterless, Orchard Cottage

TL 6204 5622 (ASC report 1278)

K Semmelmann and B Zeepvat

An historic building recording and a series of test pits were undertaken at Orchard Cottage, Westley Waterless in order to inform proposals for the development of buildings on the site. Orchard Cottage is a Grade II listed building (Listed Building 1164469) and is timber framed with a thatched roof. The reception rooms surveyed have brick floors that appear to be modern despite the presence of earlier bricks in the house. There was no evidence in the test pits for earlier flooring material or archaeological remains. The timberwork shows evidence for earlier doorways between the two rooms, the clear re-use of the bridging beam in the dining room as well as later insertions to reinforce the walls and ceiling. The dining room appears to have undergone fairly substantial alterations, probably in the 18th century when the fireplace was partially rebuilt and elm panelling added to the north wall.

Whittlesey, land to the rear of 11 Broad Street

TL 2678 9710 (WITHAM report 19)

R Trimble

An archaeological evaluation prior to redevelopment of the site identified large cut features interpreted as medieval rubbish pits along with residual sherds of Roman and Saxon pottery and post medieval to modern demolition deposits relating to the former 18th and/or 19th century structures in the immediate area.

Whittlesey, Eastrea, Coates Road

TL 2969 9725 (APS reports 102/09, 105/09, 111/09, 87/10 and 35/11)

S Malone, M Peachey and G Taylor

A series of archaeological investigations was undertaken on land along Coates Road in Eastrea village in advance of proposed development. Detailed gradiometer survey revealed no clear archaeological features, however a number of linear features of possible archaeological origin and a series of parallel linear features possibly indicate medieval ridge and furrow cultivation were recorded. Aerial photographic assessment examined a radius of 500m around the site in order to identify and accurately map archaeological and natural features. Cropmarks are very evident on the photographs within the site boundary and immediate environs however, most of the visible cropmarks were of geological origin and only a few archaeological features could be confidently identified within the site. A number of straight and narrow marks suggested elements of a rectilinear field system, including a possible double-ditched trackway along with two large ring-ditches to the north and a smaller one to the eastern end of the site were recorded. Evaluation trial trenching revealed a number of ditches, four of

which contained prehistoric pottery. These were located in the eastern part of the site and mostly appear to correlate with the features identified on aerial photographs. Further excavation revealed Iron Age field systems, with a probable sub-rectangular enclosure containing a ring ditch. A Late Bronze Age well/waterhole containing the lower part of a log ladder was also found. The log ladder was radiocarbon dated to cal BC 980-800. An isolated inhumation within a nailed coffin was also revealed. The skeleton was also radiocarbon dated to cal 20 BC – AD 130.

Whittlesford, Nine Wells

TL 45 47 (Independentus Excavatorum report)

R Scarle, P Cornelissen, L Cornelissen, W Hughes, S Reed and R Skeen

Following previous investigations by the Archaeology RheeSearch Group between 2003 and 2010, the probable remains of a Roman building were investigated. A 2010 survey by the Archaeology RheeSearch Group revealed an extensive area of features including a possible villa complex; subsequent test pit excavation explored these features, centred on a rectangular area of high resistance. At the outset of the investigations, surface finds of roof and hypocaust tile were made immediately. Test pitting revealed a concentration of building debris including lenses of densely packed roof tile, flue tile and brick fragments in many of the trenches. Incorporated within these demolition layers were degraded *opus signinum* and mortar, with plastered mortar fragments in considerable quantities. Of note was the residue of a mortar overcoat on some of the plastered surfaces, suggesting that the walls had been refurbished at some stage. Some of the flue tile shows evidence of smoke/burning and some flecks of charcoal were found at a relatively shallow depth in some of the trenches. The remains of an *in situ* mosaic were also recorded and loose tesserae were also found in the upper layers of that particular test pit. A large portion remained complete with only central parts of the extent uncovered being damaged. The edge of the mosaic was bordered by a red tile on edge.

Whittlesford, Red Lion Hotel

TL 5484 2473 (CAU report 969)

Hutton J

Archaeological excavation undertaken in two phases in 2009 and 2010, in the grounds of the Red Lion Hotel prior to proposed development revealed both linear and pit features; the majority of which were undated with the exception of two linear features that contained 15th century pottery. The features were overlain by a buried plough soil that contained material culture from the later prehistoric period through to the 19th century.

Wicken, Dimmock's Cote Quarry

TL 5450 7260 (OA East report 1223)

N Gilmour

Investigations on land to the north of a lime quarry at Dimmock's Cote revealed evidence of Iron Age occupation, in the form of postholes and pits. Later

activity was represented by possible early medieval structures and traces of medieval and later ridge and furrow and headlands.

Wimpole, Wimpole Farm

TL 3411 5132 (Archaeology Research Group report)
I Sanderson

A magnetometry and resistivity survey was carried out to determine if any sub surface features could be detected which would help locate a building shown on historic maps prior to excavation. Several drainage channels and building foundations were identified.

Wisbech, 4 Ely Place

TF 4623 0960 (OA East report 1160)
T Fletcher

This work ties in with investigations carried out by OA East in the adjacent library building in 2008/2009. There, evidence of a large ditch-like feature, partly infilled with sterile deposits but with an organic waterlogged primary fill was recorded. This feature is believed to represent an early defensive ditch associated with the castle on a different alignment to the known position of the later moat. Evidence of the continuation of this feature with the same sequence of fills was recorded in the new investigation.

As with the library site, the top of this feature was truncated by the cellar and neither edge was recorded. Pottery from the fills has been dated to the 11th–12th century. Due to both practical and health and safety considerations, it was not possible to excavate to the base of the feature, although an auger survey indicated a large water-holding feature to a depth of at least 1.60m OD. One particularly rich waterlogged layer proved to be a compressed deposit containing plant material and seeds, charred grain and charcoal fragments. Seeds from this layer were radiocarbon dated to cal AD 1020–1160 (SUERC: 28096).

Despite the small size of the trench, the findings are significant in enhancing current understanding of the development of Wisbech Castle. Although a 1795 plan of the site exists, this only shows the castle as it existed at the end of the 18th century, prior to the development of the area into its current form. The design and layout of the Norman castle, reputedly destroyed during a devastating flood of 1236, is unknown. The radiocarbon dating of the large feature recorded at Ely Place corresponds with the period prior to the flood and may provide direct evidence of a Norman castle moat or ditch destroyed in that period.

Wisbech, 'The Sea Bank', Waterlees Road

TF 4696 1095 (OA East report 1184)

T Fletcher

This site is bounded to the west by a bank which continues along the route of Waterlees Road towards the north. Although not precisely dated, the bank is known locally and on maps as the 'Roman Bank' and was probably constructed to act as a sea defence in the Late Saxon and medieval periods. Further along Waterlees Road the bank survives much higher, almost 2m in places, and it is likely that it originally

spanned the area now beneath Waterlees Road. Two trenches excavated through the bank revealed that it was constructed using imported silts. On its eastern side lay a large ditch with several fills, including redeposited bank material. In a trench running parallel to the road, two pits and a ditch provided evidence of 11th to 12th century activity, while at the far eastern end of the site pits and evidence of possible industrial activity were recorded.

Woodditton, new Gardener's Building, Dalham Hall Stud

TL 6602 6080 (AS report 3934)

T Schofield

An archaeological evaluation including trial trenching in advance of construction of a new gardener's building identified a gully with a sherd of Iron Age pottery in the fill, along with a ditch containing a residual prehistoric struck flint and a post medieval posthole. Despite being in close proximity to the medieval moat, no features of this period were identified.

Yaxley, 41 Middleton Road

TL 1837 9229 (AS report 3642)

G Barlow and P Thompson

Evaluation prior to residential development identified three ditches, two pits, a cobbled surface and a possible tree throw. All features were dated to the medieval period, with the exception of the cobbled surface which is believed to be post medieval in date.

Yaxley, Chapel Street

TL 1805 9222 (APS report 101/10)

M Peachey

An archaeological evaluation comprising four trial trenches was undertaken prior to residential development within the property boundary of 52 Chapel Street, Yaxley. Medieval and post medieval ditches were recorded to the southern end of the site and have been interpreted as earlier property boundaries.

Yelling, 158 High Street

TL 2639 6240 (ASC report 1279)

C Rouse

Archaeological evaluation comprising two trenches within the footprint of the proposed dwellings revealed a pit and ditches of medieval to post medieval date. The pit contained 11th–12th century pottery and was cut by a linear feature containing 12th to early 14th century pottery. Most of the pottery recovered from the pit came from a single cooking vessel.

Desk-based assessments were produced for the following sites

Brampton, RAF Brampton

TL 2083 7026 (Defence Estates)

Brampton, land to the south-east of St Mary's Church

TL 2150 7060 (OA East report 1161)

<i>Cambridge, MacKay's of Cambridge, 85 East Road</i> TL 4613 5872 (CAU report)	TL 1683 5938 (AS report 3704)
<i>Cambridge, Trinity College Chapel</i> TL 4477 5869 (CAU report 959)	<i>Foxton, Orchard Farm</i> TL 4222 4688 (ASC report)
<i>Litlington, Highfields Wind Farm</i> TL 3166 4119 (CAP report 617)	<i>Gamlingay, Green End Industrial Estate</i> TL 2345 5242 (CAU report 971)
<i>Stukeleys, Ermine Street, Huntingdon</i> TL 2229 7338 (OA East report 1205)	<i>Great Gidding, 23 Gains Lane</i> TL 1180 8295 (OA East report 1189)
<i>Wicken, Dimmock's Cote Quarry, Northern Extension</i> TL 5450 7260 (OA East report 1207)	<i>Godmanchester, Flood Defence Scheme</i> TL 524 270 (OA East report 1187)
<i>Wilburton, Station Road</i> TL 4854 7506 (OA East report 1215)	<i>Hail Weston, 68 High Street</i> TL 1640 6209 (AS report 3651)
The following sites produced little of archaeological interest:	<i>Huntingdon, Hartford, 2-6 Main Street</i> TL 2516 7249 (HN report 607)
<i>Balsham, Dotterall Hall Barns</i> TL 5538 5271 (OA East report 1178)	<i>Landbeach, Enterprise Nurseries</i> TL 4842 6415 (ALBION report 2010/88)
<i>Brington and Molesworth, RAF Molesworth</i> TL 0743 7758 (ASC report 1243)	<i>Mepal, 8 Bridge Road</i> TL 4436 8104 (HN report 591)
<i>Cambridge, Chesterton Community College</i> TL 451 598 (CAU report 925)	<i>March, Robingoodfellows Lane</i> TL 4135 9782 (AS report 3505)
<i>Cambridge, Cherry Hinton Infants School</i> TL 4893 5690 (OA East report 1204)	<i>Offord D'Arcy, Grove Farm</i> TL 221 663 (CAU report 980)
<i>Cambridge, Fitzwilliam College (Central Building)</i> TL 4395 5950 (NAU report 2291)	<i>Over, LEM, Longstanton Road</i> TL 3754 6907 (OA East report 1224)
<i>Cambridge, land between Kings Hedges Road and the Guided Busway</i> TL 4551 6179 (OA East report 1228)	<i>Papworth Everard, Papworth Hospital Heritage Centre</i> TL 2880 6288 (ALBION 2010/91)
<i>Cambridge, The Lensfield Hotel</i> TL 4524 5763 (CAU report 930)	<i>Peterborough, Castor, Castor Primary School</i> TL 12486 98453 (OA East Report 1201)
<i>Cambridge, NIAB frontage site, Huntingdon Road</i> TL 4324 6040 (CAU report 970)	<i>Ramsey, 143 Great Whyte</i> TL 2852 8558 (AS report 3686)
<i>Cambridge, St Botolph's Church</i> TL 448 581(OA East report 1171)	<i>Snailwell, British Racing School Manege</i> TL 6496 6586 (ECC FAU report 2218)
<i>Cambridge, Trumpington, Byron's Pool</i> TL 4354 5459 (ECC FAU report 2291)	<i>St Neots, Kings Lane Garage</i> TL 1899 6037 (OA East report 1169)
<i>Cambridge, Trumpington, St Faiths School</i> TL 4526 5671 (OA East report 1177)	<i>Stukeleys, Hinchingbrooke School</i> TL 2261 7166 (OA East report 1200)
<i>Cheveley, 5 Ashley Road</i> TL 6857 6172 (OA East report 1222)	<i>Tilbrook, Brook Farm, Station Road</i> TL 0802 6939 (AS report 3633)
<i>Eaton Socon, land to the rear of 10a, 12and 14 Bushmead Road</i>	<i>Warboys, 27 Station Road</i> TL 3122 8054 (AS report 3510)

Review: Borderlands
The Archaeology of the Addenbrooke's Environs, South Cambridge
by Christopher Evans, with Duncan Mackay and Leo Webley

Kasia Gdaniec

Cambridge, Cambridge Archaeological Unit Landscapes Archives: New Archaeologies of the Cambridge Region (1). 2008. 212pp, 108 black & white figures, some colour plates, 50 tables.
ISBN 978-0-9544824-7-3 pb (£25)

Published in 2008, *Borderlands* heralded the analysis of multi-period settlement evidence recovered from a series of major planning related investigation campaigns in southern Cambridgeshire. Though widely reviewed in national journals and magazines at that time, this book on Cambridge's local archaeology had unfortunately slipped through the PCAS review section, an oversight that required redress given the valuable contribution that it has made to regional research.

With a primary focus on the expansion area of Addenbrooke's Hospital's Biomedical Campus since 2000, the results of wider landscape evaluations in the four allocated areas for the city's housing growth: the Cambridge Southern Fringe sites of Clay Farm, Glebe Farm, the Bell School and Trumpington Meadows along with a number of other development-led investigations, provided the opportunity to illustrate in some detail land use dating from the later Bronze Age through to the Saxon period, though with a focus on the dominant later Iron Age and Roman settlement patterns. As will be described, this seminal analysis of the archaeology of the Addenbrooke's environs constitutes an important reference in British archaeology for investigators of clay landscapes, of field methods and of the historiography of the 'archaeologies' of southern Cambridgeshire.

Divided into four chapters, the first depicts the history of local research and describes the endeavours of two former curators of the Museum of Archaeology and Ethnology, Cambridge. *Borderlands'* contextual setting uses Sir Cyril Fox's doctoral thesis, *The Archaeology of the Cambridge Region*, published in 1923, whose careful work remains widely used by local researchers to this day. Fox amassed and plotted the distribution of artefact collections, monuments and sites and discussed them, among other things, in terms of their physiographic setting, the implications of which led him to divide his 44 square mile study area (centred

on Cambridge) into 'primary settlement' or 'secondary settlement' areas: fertile, free-draining light soils on porous substrates with flowing water courses for the former, densely wooded clay and chalk plains, with large areas of drift till deposits for the latter. Centred on the Cambridge Southern Fringe, the investigation results gained through excavation and large landscape evaluation campaigns allowed Evans, Mackay and Webley to test Fox's geographic settlement determinism in roughly the same area and, furthermore, to reappraise his northern limit of the distinctive late Iron Age Aylesford-Swarling ('Belgic') zone, using the large evidence base acquired over the last 85 years of investigation. While Fox's distribution of settlements, and his conclusion that few sites would ever be found on the heavy clay soils, can now be significantly challenged in the light of current archaeological evidence gained mainly through planning-related excavation, we find that the plotting of subsequent late Iron Age material culture, notably 'prestige goods', does not much deviate from that published in 1923. Curator Mary Cra'ster's excavations at the then 'New' Addenbrooke's Hospital in the 1960s are also described, and although conducted very much under rescue conditions the results of her investigation of an enclosed late Iron Age settlement shaped an understanding of the character of local pre-Roman settlement that remained in place and unchallenged until recently.

Chapter 2, the largest in the book, presents the evidence from the main excavations at Addenbrooke's: the three-hectare excavation of the 'Hutchison Site'. Here the main occupation phases, the material culture, environmental and economic evidence is described from features and deposits dating from the late Bronze Age through to the seventh/eighth century AD. The dominant period of occupation dates from the late first century BC to the later first century AD and is characterised by an evolving arrangement of field and settlement enclosures, within some of which were rectangular buildings, laid out in respect of increasingly formalised roads; a cemetery, wells and an important new Conquest period kiln site: 11 kilns of six distinct types producing around half of the total assemblage of Late Iron Age and Romano-British pe-

riod ceramics (*c.* 273kg – 20,876 sherds). High levels of residual diagnostic artefacts occurring in later features serve to display the level of intensity of and, indirectly, the locations of earlier settlement. Plotting the residual material helped the authors to achieve their main objective of teasing apart the feature evidence to attempt to clarify the morphology of the settlements, ultimately assisting in “distinguishing what *The Conquest* meant in the local landscape” (p.40) – the crux of the investigation’s objectives. From the pottery evidence we learn that ‘handmade vessels’ (by which ones assumes ‘coil/slab-built’ is meant) in the kiln fabric continued to be made alongside wheel-thrown forms in the post-Conquest period, demonstrating that the Romanisation of the local traditions took a decade or more to establish – similar to evidence found at the Greenhouse Farm site near Marshall’s airport where further kilns were found just over a decade ago. Fulsome comparison of the site’s rectangular buildings, settlement axes, the cemetery evidence and the emerging road network with other sites in the vicinity of those newly examined around Addenbrooke’s – at War Ditches, Clay Farm, Vicar’s Farm and the villa site at Great Shelford – begin to define the organisation of people in the landscape, and while a re-organisation of their governance and changing cultural attitudes over time is apparent in both material repertoires and the aspect of ‘sites’, the earlier Later Bronze Age axial trends seem to persist to some degree, like a running stitch through the main ditch systems.

The Saxon evidence in this review of the book should not be overlooked: it is well developed and unexpected in its artefact repertoire, while conforming to the typical low pottery density (relative to earlier periods) common to Cambridgeshire’s Saxon period.

Spatial data and the site morphology of various sites is examined in the third chapter, where short descriptions of many later prehistoric and Romano-British sites in the environs of the Southern Fringe sites, together with those in other areas of Cambridgeshire’s chalk downs and clay plains, are discussed. Evans’ hallmark tenacity with distribution plotting of data from old and new archives is seen at its best in this chapter in which not only are the character of Conquest period settlement and burial rites discussed, but the articulation of the density of Neolithic, Bronze Age, Iron Age, Roman and Saxon occupation sites and settlements on what Fox had termed ‘secondary settlement areas’ overturns former notions of the intractability of these landscapes for much other than pasture fields and light density settlement.

Combining a suite of non-intrusive surveys (rectification of air photographs, geophysical surveys, metal detections and fieldwalking/ ploughzone artefact testing) with trenching, the Longstanton landscape evaluation (650 ha) in the strategic planning site of a proposed new (eco-)town, “Northstowe”, furnished the historic environment record with 36 new sites of significant proportions and with artefact repertoires and site characteristics that match any

site in the “primary settlement areas” of the gravel terraces and at the fen edge. The last decade saw an unprecedented increase in multi-disciplinary landscape appraisals as developers lodged numerous environmental impact assessments with their planning applications to local authorities in response to the last Government’s agenda for regional residential expansion. Mostly greenfield developments, their locations on the clay plains to the south and west of Cambridge enabled similarly unprecedented archaeological exploration of these landscapes of unknown potential, which were in full swing when new analysis of archaeological evidence on the clays in Leicestershire was published by Patrick Clay (aptly named; Clay 2002). As a consequence of the increase in evaluations, the number of new archaeological sites in South Cambridgeshire and Huntingdonshire districts multiplied exponentially (“today there is a lot more past”: p.7), the bulk of which will not see publication perhaps for another decade – perhaps longer given current economic circumstances. Evans and his colleagues, however, understood the value of publishing survey results - to wire this evidence into the evolving regional research framework and the cognition of archaeologists working in Cambridgeshire, and to provide the background against which detailed excavation evidence can be compared and contrasted. Using the excavation evidence as templates for site definition along with air photo-mapped cropmark sites, evaluation survey site densities have been modelled and intervals between sites, mainly of Iron Age and Roman date, have emerged: 2.8 sites per sq km for the Iron Age and 1.9 for the Roman (see table 3.2 and pp.181ff), or at intervals between 300m and 500m. These are then viewed against Fox’s distribution maps and other valuable published analyses (e.g. Kirby and Oosthuizen 2000), but regrettably did not consider wider evidence of the up-to-date county Historic Environment Record – a minor criticism. That aside, it is as plain as the clay is hard to excavate that prehistoric to Saxon settlement occurred in high densities on all geological types in the Cambridge region, and it remains for future work to continue to commit to the study of the environmental and economic base of these sites to compare with those in the Great Ouse and Cam river valleys: to decipher their trading, resources and socio-political relationships to each other.

The ultimate chapter discusses evidence of the earliest settlement period evident in the survey area and depicts the presence and development of large, almost monumental, Middle Bronze Age ditched enclosures in the environs of Addenbrooke’s and the Southern Fringe area. Contemporary field systems at Clay Farm to the west of Addenbrooke’s endured into the Iron Age, when began the process of their modification and re-orientation to fit a new model of landscape organisation, peaking in the period before and after the Roman Conquest. What is interesting in this study of land-use progression is that Evans *et al.’s* research endorses Fox’s conclusions of 1923, which seem to remain true today: that the limit of the

Aylesford-Swarling 'culture' seems to have been the Cambridge area. This is, again, in the process of being tested, as the major excavations in the growth development areas of Trumpington Meadows, just east of the River Cam, and Clay Farm (between Trumpington and the Addenbrooke's campus) are currently in progress. What has been learned from the survey methodology, and is propounded in this last section of the book, is that a determined effort to consistently interrogate soils of the plough zone, test cropmark and geophysical evidence, build phased land-use/site base plans based on detailed artefact studies will assist in focusing robust research agenda for future excavations that will enable the elucidation of the complexity of these past landscapes to emerge.

Borderlands is a well illustrated book, with clear, unfussy line drawings, computer graphics and photographs by the Unit's team of illustrators. These are complemented by selected reproductions of antiquarian views of the rural Cambridge landscape, air photographs of the pre-Addenbrooke's Hospital landscape showing its former short and long-term land-uses, and photos of Mary Cra'ster's 1967 investigations of the Iron Age and Roman settlement ahead of the construction of the first hospital buildings. What sets it apart from so many books of its kind is the use of insets and enlarged figure captions: departures and asides that pack the book with additional information that adds great value to the main story. Here there are short site summaries of excavations conducted long ago, and there are accounts of fairs, military occupation and biographies of archaeologists who themselves were part of the enquiry of this area. One inset carries an account of excavations of prehistoric and Roman houses and enclosures at Rectory Farm, Great Shelford, by John Alexander (and other notable Cambridge colleagues) an old friend and collaborator of Evans, to whom the book is dedicated. There is no index – lamented by this author whose copy is now beset with ribbons and tags marking key pages and passages, but that shortfall is off-set by a good array of absolute dates, most helpful for artefact chronologies and the key changes and structures within the sites (and probably kept the book at an affordable price!). The closing sentences of *Borderlands* inform us that the fieldwork projects described within it "mark a threshold in the region's practices and, certainly, today these are exciting times in archaeology". Written at some point prior to publication in 2008, we must hold that thought through these straitened times and determine to engage with these sites with the enthusiasm and sense of enquiry as that displayed in these pages by Evans, Mackay, Webley and their colleagues who contributed to the book, to add the requested nuances and make the inevitable corrections to the story that they have begun to tell.

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April 4th 2011

Index

Ann Hudson

Notes: Alphabetization is word-by-word. A page reference followed by *illus* indicates an illustration or illustrations; there may also be relevant text on these pages. References to the colour plate section are given as 'Plate 1' etc. A page reference followed by n indicates a note. In the 'Fieldwork in Cambridgeshire 2010' section, pages 216 to 229, entries are made only for site names; desk-based assessments and sites which produced little of archaeological interest are omitted. Entries for periods (for example, 'Anglo-Saxon period') give page references for complete articles containing relevant material.

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