EAST ANGLIAN ARCHAEOLOGY

Bacton to King's Lynn Gas Pipeline Volume 1: Prehistoric, Roman and Medieval Archaeology

by
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with contributions from
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Cover illustration:
Excavation in progress along the gas pipeline route

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Finds illustrations are by Charlotte Bentley, David Dobson, David Hopkins, Jacqueline Harding and David Watt; Julian Sleap assisted with preparing plans and section drawings from site drawings by the fieldwork team. Chris Caswell helped produce the illustrations and photographic plates and Adam Holman and Susan Freebrey provided graphical and IT assistance.

In addition to separate reports produced by twenty-eight specialists, the text of this monograph draws on the desk-based assessment by Catherine Holgate and on preliminary stratigraphic descriptions by Andrew Crutchley, Gemma Riley and Stuart Noon. Site descriptions are by Tom Wilson, Derek Cater and Chris Clay with introductory and linking text by Richard Moore. The discussions of the sites incorporate period syntheses by Trevor Ashwin, Alice Lyons and Andrew Rogerson. The draft report was proof-read by Rachel Savage. We should like to add special thanks to Jenny Glazebrook for her help throughout.

Summary

Archaeological excavations were carried out along the route of a pipeline crossing the northern half of Norfolk, before and during construction, in 2003. Evidence of Neolithic settlement was found at East Walton above the Nar Valley; and, more speculatively, at Weasenham Clumps. There was also activity at both sites in the Bronze Age. A round barrow at Tittleshall and a small cremation cemetery at Antingham provided evidence of Bronze Age funerary practice. The re-use of the Tittleshall barrow as an early Anglo-Saxon cemetery is described in volume 2.

The earlier Iron Age period was represented by a group of pits at Oulton, a site subsequently used for Anglo-Saxon iron working. Iron slag was also recovered from a late Iron Age or early Roman site at Colby. The remains of an Iron Age roundhouse were found at Foulsham, along with a cruciform drying oven dated to the second or third century AD. Elsewhere, Roman finds were sparse, although sites at Bradfield and Rougham had evidence of nearby settlements. Medieval remains uncovered at Foulsham, Bintree, Themelthorpe, West Dalling, Itteringham and North Walsham imply substantial reordering of the landscape in the late medieval period, reflected in the abandonment of these earlier sites.

Résumé

Des fouilles archéologiques ont été entreprises en 2003 le long du parcours du gazoduc qui traverse la moitié nord de Norfolk. Ces fouilles ont eu lieu avant et pendant la construction de l'ouvrage. Des preuves d'une implantation néolithique ont été découvertes à East Walton au-dessus de la Nar Valley et de façon plus hypothétique à Weasenham Clumps. Un tumulus circulaire à Tittleshall et un petit cimetière de crémation à Antingham ont fourni les preuves d'une pratique funéraire à l'âge du bronze. La réutilisation du tumulus de Tittleshall comme cimetière de la première période anglo-saxonne est décrite dans le volume 2.

Le début de l'âge du fer est représenté par un groupe de fosses sur le site d'Oulton, qui fut utilisé pour le travail du fer au cours de la période anglo-saxonne. Des scories de fer ont également été retrouvées à Colby sur un site datant de la fin de l'âge du fer ou du début de la période romaine. À Foulsham, on a découvert les restes d'une rotonde de l'âge du fer et un four de séchage cruciforme datant du second ou du troisième siècle de notre ère. Les fouilles d'autres lieux ont donné de maigres résultats, encore que les sites de Bradfield et de Rougham contenaient des traces d'implantations aux alentours. Les restes médiévaux découverts à Foulsham, Bintree, Themelthorpe, West Dalling, Itteringham et North Walsham impliquent une profonde réorganisation du paysage à la fin de la période médiévale, comme le révèle l'abandon des sites les plus anciens.

(Traduction: Didier Don)

Zusammenfassung

Entlang einer geplanten Pipeline durch die Nordhälfte von Norfolk wurden 2003 vor und während deren Verlegung archäologische Grabungen durchgeführt. Bei East Walton oberhalb des Nar-Tals fanden sich ebenso wie bei Weasenham Clumps Hinweise auf eine neolitische Siedlungstätigkeit. Letztere waren jedoch eher spekulativer Art. An beiden Stätten gab es zudem Belege für bronzezeitliche Aktivitäten. Ein Rundhügelgrab bei Tittleshall und ein kleines Brandgräberfeld bei Antingham erbrachten Hinweise auf die funeräre Praxis in der Bronzezeit. Die spätere Nutzung des Hügelgrabs von Tittleshall als frühangelsächsisches Gräberfeld ist in Band 2 beschrieben.

Die ältere Eisenzeit ist durch eine Gruppe von Gruben bei Oulton belegt, eine Stätte, die in der Folgezeit von den Angelsachsen zur Eisenverarbeitung genutzt wurde. Eisenschlacken fanden sich auch an einer späteisenzeitlichen oder frührömischen Fundstelle bei Colby. Bei Foulsham traten Reste eines eisenzeitlichen Rundhauses zutage, zusammen mit einem kreuzförmigen Trockenofen, der auf das 2. oder 3. Jahrhundert n. Chr. datiert wurde. Andernorts gab es kaum Funde aus der Römerzeit, obwohl einige Stätten bei Bradfield und Rougham Hinweise auf nahe gelegene Siedlungen enthielten. Bei Foulsham, Bintree, Themelthorpe, West Dalling, Itteringham und North Walsham wurden Funde aus dem Mittelalter entdeckt, die darauf hindeuten, dass die Landschaft im Spätmittelalter stark reorganisiert wurde, was die Aufgabe der älteren Stätten widerspiegelt.

(Übersetzung: Gerlinde Krug)

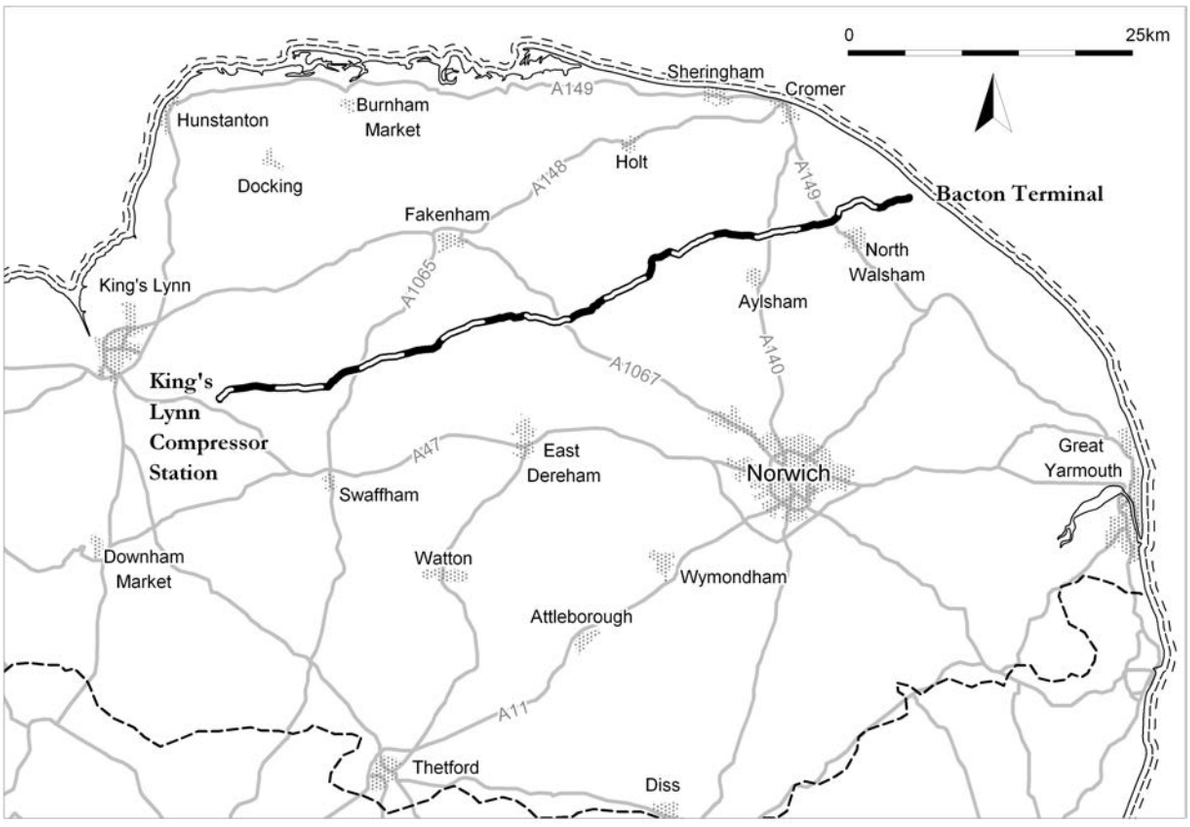

Figure 1 Location of the Bacton to King's Lynn pipeline, in relation to towns and main roads in Norfolk

I. Introduction

by Richard Moore

1.1 The Bacton to King's Lynn Natural Gas Pipeline

The Bacton to King's Lynn pipeline forms part of the National Transmission System, a network of pipelines originally established in the 1960s and 70s to distribute North Sea gas throughout Britain. Natural gas currently supplies thirty-nine per cent of total energy usage in the country and maintaining the distribution system and responding to increases in demand and changes in the pattern of use is now the responsibility of National Grid. The link from Bacton Terminal to the King's Lynn compressor station at West Bilney, five kilometres south-east of the town (Fig. 1), was a response to these changing needs. Construction of the pipeline was carried out in 2003.

Putting a pipe in the ground is a conceptually simple operation but a considerable engineering undertaking. The Bacton to King's Lynn pipe is typical of the larger links in the transmission network: four feet (1220mm) in diameter and made of steel at least 15mm thick with a protective polymer coating. Pipes are manufactured in sections, typically around 13m long, and weighing up to nine tons. These need to be laid out across the landscape and welded together. The welds then have to be rigorously tested and a protective coating applied over them. The pipe-string is buried so that the top of the pipe is at least 1.5m below ground level. Roads, railways and rivers present their own problems: depending on the nature of these obstacles there are several different techniques available to bore, drill or tunnel beneath them.

All of these operations require space: in the case of Bacton to King's Lynn, a construction working width of 42m on cross-country sections and up to 62m at road crossings. To provide a working surface and to protect the soil from compaction, the topsoil is machined off and stacked along one side of this working width. The area next to the topsoil stack forms a running track for the waves of construction traffic to pass along: pipe trucks and pipe benders, welding and testing rigs, the heavy side booms that lift and delicately manoeuvre the pipe into the ground. The pipe sections are strung out and welded alongside the running track. Beyond this, excavation of the pipe-trench is carried out by trenching machines supplemented by back-hoe excavators, the subsoil from the pipe-trench being stacked along the far side of the working width from the topsoil stack.

1.2 Archaeological works

The construction of a pipeline presents both a huge challenge and a huge opportunity to archaeologists. As far as possible, the potential impact of construction on archaeological deposits needs to be mitigated but, at the same time, a cross-country linear construction project provides a valuable window on a long transect through the archaeological landscape.

Within the pipeline working width, any archaeological remains beneath the topsoil stack are fairly well protected from the worst effects of construction, although compaction, vibration and changes in drainage patterns may have adverse consequences. Elsewhere across the working width, almost all archaeological remains will be severely compromised if not completely erased. Identifying any remains at risk at the earliest possible opportunity, implementing measures to mitigate these risks, and the rapid and full recording of any remains disturbed are imperatives for the archaeological team.

Network Archaeology, the archaeological contractor on the Bacton to King's Lynn pipeline, has been at the forefront of developing archaeological mitigation strategies for pipeline construction projects. These strategies have been developed using, as a starting point, current guidance and best practice for projects covered by planning legislation, although, under the provisions of *The Gas Act 1995* cross-country gas pipelines are not subject to normal local authority planning legislation. The various stages of work fulfilled the requirements of an environmental impact assessment, prepared in accordance with the *Public Gas Transporter Pipeline Works (Environmental Impact Assessment) Regulations 1999*.

There is a degree of flexibility in pipeline planning which is almost unique among large development projects: the route of a pipeline can be altered in a way that the site of a building development, for instance, cannot be. Set against this, there are other more stringent constraints. The developer of a pipeline does not own the land on which the development is taking place and access in advance of construction work is subject to negotiation, which can sometimes be protracted. More significantly, because gas supply is critical to the national economy, permission for pipeline construction is contingent on adherence to a fixed timetable: once work has been agreed, the developer has a legal obligation to deliver gas before a specified date. Any archaeological works must fit within a barely flexible schedule.

Mitigation strategies are constantly refined and improved, the lessons learnt from each pipeline project being incorporated into the design of schemes of work in subsequent construction seasons. The development of strategies currently takes place within the broad framework of multi-staged investigations, of which the archaeological work on the Bacton to King's Lynn pipeline provides a typical example.

Stage 1: Route corridor investigation

Once the need for an additional link in the gas transmission network has been identified, the first stage in selection of the route is a route corridor investigation. In the case of Bacton to King's Lynn, three alternative broad route corridors were considered and evaluated against a number of criteria including engineering, geological, environmental, landscape and cultural heritage considerations. Archaeological information at this stage was limited to the sites listed in the Heritage Environment

Record. Following the production of the report (Transco 2002) a preferred route was selected.

Stage 2: Desk based assessment

A desk-based assessment was carried out in early 2002 by Network Archaeology Ltd for SLR Consulting Ltd, the environmental consultants to the main contractor. Information was collected from English Heritage, Norfolk Landscape Archaeology, Norwich Public Record Office, Norwich Local Studies Library and the Public Record Office, Kew, including registers of Scheduled Monuments, Listed Buildings, parks and gardens, and battlefields; Norfolk Heritage Environment Records and the National Monuments Record register of archaeological sites and events, vertical and oblique aerial photographs, tithe maps, first, second and third edition OS maps and secondary printed sources

Known sites lying within a one kilometre-wide study corridor centred on the proposed pipeline route were documented together with important sites throughout the wider region. The 574 archaeological sites identified within the study corridor, ranging from nationally important sites to field boundaries only recently lost, were categorised by significance, from legally protected, nationally significant sites (Category A) to sites of only local significance (Category D). The proposed route was considered to have potentially a direct impact on two nationally significant, twenty-seven regionally significant and seventy-three locally significant sites. The assessment (Holgate 2002) made site-specific recommendation for these sites.

Stage 3: Non-intrusive field survey

In September and November 2002 and January 2003, a series of non-intrusive investigations were carried out (Crutchley and Riley 2003a): field reconnaissance, fieldwalking, metal-detecting and geophysical surveys.

Fieldwalking was carried out in all of the arable fields crossed by the route, with five parallel transects being walked: one on the centre-line and two on each side, spaced 10m apart. The reconnaissance, a visual inspection of the entire route to record any extant earthworks, soil or vegetation marks, land boundaries, land use, visible geology and topographical variations, was carried out at the same time. The metal-detecting survey carried out by a team of three experienced detectorists, working along three parallel transects, 10m apart, also covered the entire route

The geophysical survey consisted of a measured magnetometer survey of a 15m-wide transect and magnetic susceptibility readings taken at 20m intervals along three parallel transects, 20m apart. This was carried out on the whole route except for areas of floodplain, all or part of twenty fields, where hand augur survey had identified broad spreads of alluvium or deep peat deposits. In thirteen fields that had been identified in the desk-based assessment as having high archaeological potential (Holgate 2002), the magnetometer survey included additional grids on either side of the central line producing a 45m-wide transect. In the cases of nine fields, potentially significant initial results led to resurveying over substantially wider areas.

These surveys identified archaeological remains within 109 of the plots of land crossed by the proposed pipeline route. These ranged from the remains of a deserted medieval village (see Itteringham Area B, Chapter 16) through regionally important sites interpreted as occupation areas represented by artefact scatters or magnetic anomalies alongside raised magnetic susceptibility values, to locally important sites of agricultural origin.

Re-routes

Four re-routes of the pipeline were implemented following the field surveys. In each case, the field surveys were repeated along the new sections of the route. These were: south of Swanlane Covert in West Acre parish, where magnetic anomalies (NGR: 579720 317100) were thought to resemble the pattern of Iron Age or Roman settlement remains; at Beech Lane in the southern part of Erpingham parish (NGR: 618480 330580) where the geophysical survey confirmed the presence of a cropmark site (HER 12993) recorded as a moated site or early field system but considered morphologically to be more likely a high status Roman structure (Bunn and Rylatt 2003); south-east of Itteringham village (discussed more fully in Chapter 16); and near St Margaret's Church, Suffield (NGR: 623120 331250) where fieldwalking finds associated with geophysical anomalies suggested a high potential for medieval remains.

In two cases, the re-routes appear to have been successful in avoiding any significant archaeology, while the other two re-routes were partially effective: at Itteringham the heart of the putative deserted settlement was avoided while at Suffield a minor site, with remains possibly associated with a prehistoric burnt mound, was excavated (Cater 2004).

Because of tight constraints in Colby village, a further recommended re-route to avoid a complex of intersecting linear and curvilinear features associated with high magnetic susceptibility over an extended area south of Manor Farm (NGR: 622500 331050) could not be implemented. It is worth noting that during the evaluation stage (see below) very little of significance was found in this field.

Stage 4: Trench evaluation

One hundred and four evaluation trenches were excavated, in thirty-one fields. The trenches were between 30m and 50m long and were 1.8m wide, except on land owned by the National Trust at Itteringham where work was carried out in accordance with a separate method statement (Cater 2003), requiring machine excavation of a 4m wide strip across the whole of two fields along on the centreline of the proposed pipe trench. In most other cases, the trenches were located specifically to investigate anomalies identified during the geophysical survey.

Of the thirty-one fields evaluated, fourteen contained archaeological remains for which open area excavation was recommended. An alternative strategy was implemented at an additional site in the field next to the Stocks Farm site (Chapter 3) where the depth of the overlying subsoil was considered to be sufficient to preserve the archaeological remains *in situ* over most of the pipeline working width, full excavation being limited to a 4m-wide strip along the line of the pipe-trench. The remaining evaluation areas were assessed as being of low archaeological importance and no further work was recommended prior to the watching brief on the construction topsoil strip.

Stage 5: Excavation
Open area excavations were carried out in twenty-four fields identified during the evaluations or during the watching brief (below) in accordance with a written scheme of investigation and following national and regional standards and guidance (IFA 2001, EH 1991, Gurney 2003). After having first scanned the area with metal detectors, the general procedure was to initially excavate using a tracked mechanical excavator fitted with a ditching blade, under close archaeological supervision, down to the surface of the first significant archaeological deposits, or to geological deposits. The exposed surface was then hand cleaned and planned, using a local grid which was then located to the Ordnance Survey grid and datum using dGPS equipment. A sample of each archaeological deposit or feature was excavated, sufficient to characterise, as far as possible, the nature and date of that deposit. The sites were recorded in the normal way: pro forma context sheets, section drawings, detailed post-excavation plans and photographs of all features. Under the guidance of the palaeoenvironmental specialist, selected deposits, covering a range of types and dates, were sampled, to investigate both the function of specific features and the broader palaeoenvironment of each site.

In all, there were seventeen sites judged to be of sufficient significance to warrant publication in this volume, counting the areas described together in Chapter 16 as three separate sites.

Stage 6: Watching brief
The success rate of pre-construction survey techniques in identifying potential areas of archaeological significance has shown steady improvements, but these prospection methods all have their limitations. Of the seventeen sites documented here, eleven were identified prior to construction: the remaining six were found during the course of archaeological monitoring during construction. At this stage, the constraints of the project timetable were more severe and excavation of these six sites had to be tightly scheduled to minimise disruption to the construction programme.

Monitoring was carried out by two archaeologists, present throughout both the topsoil stripping and excavation of the pipe-trench, between May and August 2003. In addition to identifying the six areas which were integrated into the excavation programme, numerous less significant sites and isolated features were identified: these were excavated and recorded by the two members of the watching brief team. In many cases, these were undated features or components of the post-medieval agricultural landscape. More information on these sites is given in the assessment report (Cater 2004) with full details in the site archive. In all, archaeological remains were recorded in 130 of the 255 plots of land crossed by the pipeline route.

The sequence of subsurface deposits revealed during construction, especially during excavation of the pipe-trench, was also recorded, with special attention to the presence of cultural subsoil layers or superficial layers of alluvium or colluvium which could mask earlier archaeological deposits. The first stage of pipe-trenching, the excavation of a 4m-wide header trench to remove the upper oxidised subsoil layer, is particularly useful in identifying shallow masking layers.

Recording the absence of evidence can also be significant: during fieldwalking, for instance, nine areas with surface scatters of burnt flint were noted, but none of these areas were found to contain archaeological features during the watching brief. If this material derived from burnt mounds, a common class of prehistoric feature in the Norfolk landscape, these must have been beyond the pipeline working width or had been completely ploughed out as no traces of them were noted in the course of the watching brief.

Stage 7: Post-excavation assessment, analysis and publication
Following archive checking, preliminary phasing and specialist assessment of the artefacts, an assessment report and updated project design was produced (Cater 2004). This monograph and its companion volume on the Anglo-Saxon cemetery at Mileham Lane, Tittleshall, together with the site archive, is the result of the implementation of the updated project design.

The finds and document archive from all but one of the sites has been deposited at Norwich Castle Museum, where it is available for further research. The document archive includes: specialist reports in their original, unedited forms; site records and drawings; context and finds lists, photographs and digitised site plans. The exception is the archive from Itteringham, Area B which is in the custody of the National Trust. Norfolk Historic Environment Record has copies of the reports on all earlier stages of work, including the post-excavation assessment and all of the specialist reports, as well as a selection of colour transparencies. Each site has been registered with the English Heritage National Monuments Record's OASIS (Online Access to the Index of Archaeological Investigations) database.

1.3 The structure of this volume

Following this introductory chapter, which provides a brief outline of the development of the project through its various stages, Chapter 2 attempts to place the pipeline in its landscape and archaeological context, concentrating on those periods where the results have proved to be most significant.

The following chapters describe the results of the excavations. Apart from the three excavation areas near Itteringham village, which were all thought to show evidence of a reorganisation of the pattern of settlement around the village in the medieval period and were therefore considered to be closely interrelated, each of the excavation sites has been described separately in its own chapter. These chapters are intended to contain sufficient detail to allow the essential character and significance of each site to be appreciated without recourse to other sections of the report. The results of the specialist analyses have therefore been included alongside the stratigraphic descriptions of each phase of activity.

In deciding the sequence in which to describe the sites, the merits of alternative ways of ordering them have been considered: working along the pipeline from one end to the other; grouping in landscape units or arranging them chronologically by their most significant phase. The choice of the last of these three alternatives is felt to emphasise the development through time of the whole of the region crossed by the pipeline and allows those with an

interest in a particular period to quickly reference the significant sites from that period.

The disadvantages of this arrangement arise from the disconnection of the narrative from the details of the landscape: succeeding sections jump backwards and forwards across the county. To redress this, the final chapter aims to consider the excavation sites in their landscape setting as well as considering the significance of the findings to the archaeology of the region as a whole. The overall success of the project in addressing its stated aims is also summarised.

In the course of carrying out the post-excavation assessment, separate phasing schemes were developed for each site. Problems arose, however, because many of the features had no stratigraphic relationships or because relationships were not clearly discernible in the field. It was therefore necessary to place a greater emphasis on artefactual dating. This had the advantage of allowing comparisons to be made between sites and in most cases a single simplified sequence of phases could be applied across the whole project. This is shown in Table 1. Where the stratigraphic record shows clear changes in activity that cannot be separated by absolute dates, as is the case for some of the medieval sites, sub-phases local to that site have been used.

Phase	*Period*	*Date*
0	Geology	
1	Earlier Neolithic	4000 to 3000 BC
2	Later Neolithic and early Bronze Age	3000 to 1000 BC
3	Middle and late Bronze Age	1000 to 600 BC
4	Early and middle Iron Age	600 to 100 BC
5	Late Iron Age and early Roman	100 BC to 100 AD
6	Middle and late Roman	100 to 410 AD
7	Early Anglo-Saxon	Fifth to seventh century AD
8	Middle Anglo-Saxon	Late seventh to ninth century AD
9	Late Anglo-Saxon or Saxo-Norman	Tenth to eleventh century AD
10	Medieval	Eleventh to fourteenth century AD
11	Late medieval	Fourteenth to sixteenth century AD
12	Post-medieval	Sixteenth to nineteenth century AD
13	Undated	
14	Modern	Twentieth century AD

Table 1 Phases used throughout this volume

2. The pipeline route

2.1 The landscape

For a county that is famously 'very flat', the geology and topography of Norfolk is surprisingly clearly expressed in the present-day pattern of settlement and land use. Even a cursory glance at a road atlas shows quite distinct regions in the northern part of the county: a dense web of roads joining numerous villages in the north-eastern quadrant, a more spacious distribution of villages across a wide central belt, and acres of emptiness on either side of the Peddars Way footpath in the north-west. Further west again, the distinctive fenland landscape is revealed in the roads pushing out into the drained marshlands from villages on the old sea banks.

Almost the whole of the region is covered by a blanket of glacial deposits and it is variations in these Quaternary layers that have the greatest effect on the details of the landscape, but the underlying rocks exert their influence on both the topography and on the nature and the composition of the drift deposits. The densely settled north-eastern part of the county is underlain by the Pleistocene sands of the Norwich Crag formation. The superficial morainic and till deposits are a complex patchwork of clays, sands and gravels, and have produced deep, loamy soils which, when managed, develop high fertility.

The Bure valley marks the westward limit of this area, the land beyond lying largely on chalky boulder clays over Cretaceous Upper Chalk rocks. This has produced the more open landscape of 'High Norfolk': the central belt of the county where villages tend to hug the lighter alluvial soils of river valleys and are separated by plateaux of fertile but heavy land.

As the land gradually rises to the west of the Wensum valley, the glacial till deposits become thinner but the underlying chalk rarely outcrops, being covered by shallow layers of glacial sands. These produce relatively impoverished acid soils, though they are continuously cultivable, in contrast to the Breckland sands to the south, and are known locally as the 'Good Sands'. However, much of this area was sandy heathland until relatively recent times. The chalk rocks form a prominent escarpment through the western side of the county, below which a low-lying area of river terrace deposits, overlying Gault Clay, gradually gives way to the alluvium and peat of the fen edge.

This division of the northern part of the county into broad regions of soil types and landscape is obviously an oversimplification, and there are many local factors producing different conditions, particularly along the Ant, Bure, Wensum and Nar river systems that drain the area. In their valleys, river terrace sands and gravels, alluvium and

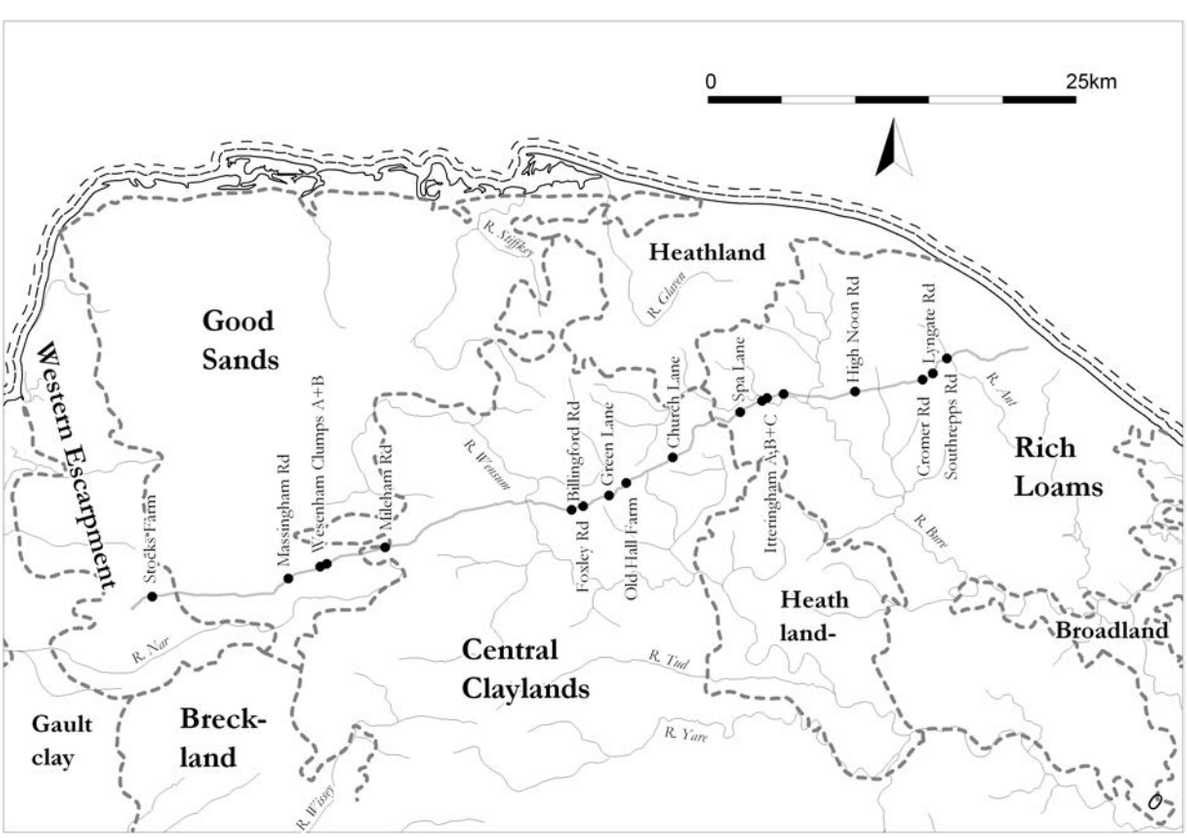

Figure 2 The locations of the excavation areas in relation to the soil regions of Norfolk

peat, and even aeolian drift deposits have created their own soils, variations on humic sandy gleys that are fertile and productive where they are well drained.

2.2 The pipeline

In traversing a substantial proportion of the width of the county, from the North Sea coast at Bacton almost to the edge of the fens in the Nar valley, the pipeline route sampled these various landscape types. The narrow construction corridor offered a limited, but nonetheless valuable, view of the sub-surface archaeological deposits through the region. Ideally, any such sampling of the landscape would use a completely random selection process. Clearly, a pipeline route is not chosen randomly and a consideration of the constraints on the route helps in the appreciation of the limitations of the data produced.

Perhaps most obviously, high-pressure pipelines are routed so as to avoid existing buildings, normally by at least 100 metres. In doing so, they will clearly avoid areas of modern settlement and, where there has been continuity of use, any settlement areas dating back to the late Anglo-Saxon or medieval periods. More subtly, pipeline route selection is affected by modern land use, with well drained, reasonably level, open agricultural land, which presents the fewest problems for construction, being favoured. Valley bottoms, hill tops and land used for high-value crops, such as market gardens and orchards, will all be under-represented. Pipelines only encroach into woodland where alternative routes are unavailable.

The adoption of a carefully staged approach to mitigation, as outlined in the previous chapter, means that it is usually possible to avoid a high proportion of previously known archaeological sites, as well as any significant sites found during the course of the pre-construction surveys. This introduces a further set of biases into the sample transect as some kinds of monument are more visible to non-intrusive survey techniques, and the usefulness of these techniques is greater in some kinds of landscapes than in others. So, for instance, sites on thin, well drained agricultural soils conducive to producing cropmarks, and sites enclosed by large ditches which produce strong geophysical responses will tend to be underrepresented in the excavation data. Conversely, undefended settlements and unmarked, undisturbed cemetery sites, both difficult to detect by non-intrusive methods, would be expected to be overrepresented.

Beyond these considerations, the selection of a favoured pipeline route depends on non-archaeological criteria. It is perhaps therefore fair to say that the route provided a reasonably unbiased sample of the agricultural land of previously unknown archaeological potential in a transect across the northern part of Norfolk.

2.3 Archaeological setting

Despite Norfolk having been in the forefront of the use of aerial photography in archaeology and having pioneered the recording of finds by metal detectorists, much of the archaeology of the county is still waiting to be discovered. Opportunities for intrusive investigations have been relatively rare, the Fenland Survey and the excavations at Spong Hill providing notable exceptions. As the area maintains its largely rural and agricultural character, large-scale development, with the concomitant funding of archaeological mitigation, has been scarce; the construction of the Aylsham bypass in 1979 and the Bacton to Yarmouth gas pipeline and the smaller Brisley to Bushy Common pipeline, both constructed in 1999, are among the few such projects to have occurred in the northern part of the county.

The surveying of standing earthworks, the efforts of early antiquaries and amateur archaeologists, and the recording of chance finds, have all made their contributions to the present state of knowledge, as have the sterling efforts of local enthusiasts in carrying out extensive fieldwalking surveys in the parishes of West Acre, Castle Acre, Rougham, West Lexham, Weasenham All Saints and Tittleshall towards the western end of the pipeline route, and Itteringham towards the eastern end. More recently, the National Mapping Project has made cropmark data more readily accessible and contributed greatly to its interpretation. Nevertheless, over much of its route, the pipeline crosses a landscape whose archaeology and history is still poorly understood. In many instances, our attempt below to provide a brief summary by period in order to place the results into a coherent archaeological context may serve rather to highlight our lack of knowledge.

Neolithic and Bronze Age Norfolk
by Trevor Ashwin

The Nar Valley, just beyond the western end of the pipeline, fell within the ambit of the Fenland Survey. Fieldwalking in this area produced sparse finds, although Silvester (1988, 121) drew attention to flint scatters on sandy ridges and also to the numerous burnt flint mounds around the rim of the fen area. These features, though relatively common, are poorly understood: they may have been the sites of communal bathing, cooking or industrial activities, perhaps with a ritual element, in the Bronze Age (Bates and Wiltshire 2000). The few Neolithic and Bronze Age sites in the valley that were chosen for excavation by the Fenland Management Project in the early 1990s yielded sparse results (Crowson *et al*. 2000, 168–74), having suffered greatly from plough damage.

Moving east, the pipeline route rises over the chalk scarp which forms the boundary between the complex and marginal tract of predominantly sandy soils of the West Norfolk Lowlands (Williamson 2005) to the west and the well-drained calcareous chalkland soils of north-west Norfolk, the Good Sands. The possible significance of this boundary is emphasised by the way it is apparently marked by a discontinuous line of recorded barrows and ring ditches running north-to-south through the parishes of East Walton and Gayton Thorpe.

These barrows and ring ditches are among over 1200 recorded in the county, the majority dating from the earlier part of the Bronze Age. By the middle Bronze Age, cremation burials, either in urns or unaccompanied, were often, but not in all cases, located near to earlier or contemporary round barrows (Brown and Murphy 1997). Late Bronze Age burial evidence in East Anglia is rare (Needham 1995).

The clay plateau in the central part of the route has produced possible evidence of early Neolithic structures at Spong Hill south of the pipeline though it is not clear whether these were domestic dwellings (Wade-Martins

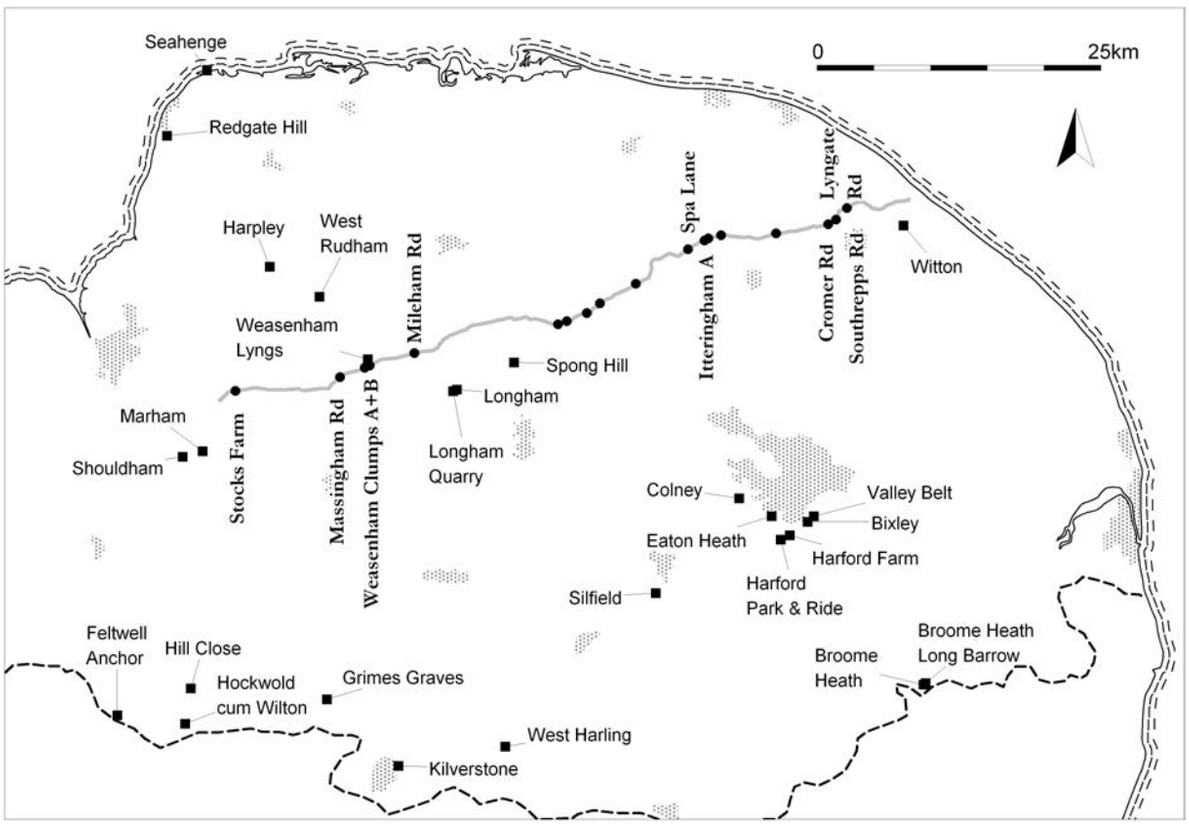

Figure 3 Neolithic, Bronze Age and early Iron Age sites referenced in the text

1993). Throughout the county, later Neolithic to early Bronze Age settlements have proved more elusive than early Neolithic sites which often have deep pits surviving well below the depth of the ploughsoil. There are few prehistoric funerary sites on the heavy clay soils, although this apparent absence may be the result of subsoils that are not conducive to cropmark formation combined with a lack of previous archaeological investigations (Margeson *et al.* 1996). There is some evidence of Neolithic activity on sites elsewhere in the county on heavy soils, such as those at Broome Heath and Old Buckenham Mere (Dymond 1990).

Recent research has emphasised the significance of north-eastern Norfolk to prehistoric studies in the region. The value of the many loess-type soils to the earliest farmers may be reflected in an increasing number of discoveries of possible Neolithic long barrows and other funerary monuments, many of them made during the assessment and cataloguing of archived material during the air photography National Mapping Project (Massey *et al.* 2003; Albone *et al.* 2008). Barrows and ring ditches are numerous, especially in the area near the coast; cropmark analysis and recent excavations have drawn attention to possible relict land divisions dating back to the Bronze Age (Bates forthcoming).

It is widely accepted that English Neolithic and Bronze Age communities were semi-mobile, rather than sedentary (Whittle 1997; Ashwin 2001; Thomas 1991). Individual communities may have shifted through a tract of landscape in a cyclical manner, visiting significant locations repeatedly over a span of centuries. These long-lived patterns of behaviour may have been influenced by an agricultural regime involving repeated temporary clearance of woodland for cultivation and grazing, but may also have been driven by ritual, religious or commemorative needs. Within this framework, many locations that appear to be permanent settlement sites may in fact have been places that were visited repeatedly over an extended period, perhaps seasonally or on some other basis, to perform particular activities.

For most of the area crossed by the pipeline, evidence of Neolithic and Bronze Age activity is limited to artefacts, either as surface finds or in poorly stratified contexts. Scatters of Neolithic flint are recorded from Horningtoft, East Bilney and Stanfield, and pottery, perhaps indicating longer term occupation, at Little Bittering and Sparrow Green. A handful of isolated background finds, probably representing casual discard or stray loss, are known near Gressenhall and Little Bittering. Late Neolithic and early Bronze Age pottery is well represented in the region: Beaker pottery in particular has been found in funerary and settlement contexts, notably on the fen edge (Bamford 1982, Healy 1995), and Bronze Age metalwork finds are quite frequent in Norfolk. A large scatter of metal objects found by detectorists to the north-west of Brisley Block Valve may be indicative of settlement. A single bronze dirk was found near Brisley Methodist Church.

The little palaeo-economic evidence that has been recovered from prehistoric sites in East Anglia suggests that wild plants were at least as important as cultivated varieties during the early Neolithic (Murphy 1998). Analysis of pollen samples from the region suggests that, in common with elsewhere in Britain, there was woodland regeneration in the later Neolithic (Waller 1994). Palynological evidence from the south-east fens and

Holme Fen shows a decline in lime trees during the Bronze Age. This decline may have been the result of forest clearance for agriculture, but in low lying areas the effect of rising ground water levels may have been significant. Evidence of early Bronze Age animal husbandry has been found at Hunstanton, where the assemblage was dominated by sheep or goats, and at West Row Fen, where short-horned cattle, horses, pigs, dogs and some wild species were also present.

Late Bronze Age and Iron Age

by Catherine Holgate and Alice Lyons

Late Bronze Age and early Iron Age settlements were distributed sporadically, with clusters along the lighter soils of river valleys and the fen edge, but there was also some colonisation of the edges of extensive boulder clay areas. Most East Anglian settlements were unenclosed, although there are some enclosed settlements known in the region, such as West Harling in south Norfolk (Clark and Fell 1953), and enclosure became more common during the late Iron Age. Forts in Norfolk appear to have been fairly uncommon and restricted to the west of the county. Settlements appear to have become larger and more nucleated during the fourth to second century BC.

As well as complete and partial human inhumations and special animal deposits (Hill 1995) at settlements, early Iron Age cremations are occasionally found. Inhumations continued into the late Iron Age, but cremation became the most common funerary ritual during the late first century BC.

The distribution of Iron Age pottery findspots suggests that occupation became yet more focused on the dry land around the edge of the fen, probably reflecting the high water tables prevalent during this period (Silvester 1988, fig. 122; Waller 1994, 75).

Late Iron Age settlement expanded onto the heavy boulder clays (Margeson *et al.* 1996) and woodland clearance intensified. In the Brecklands, this led to the spread of heathland vegetation from about 250 BC. Settlement also spread to open grassland and fen vegetation on the fen edge, and onto river terrace gravels. Many sites displaying the classic 'Celtic' landscape of small fields and tracks are visible on aerial photographs (Dymond 1990). Large scale iron smelting is known to have taken place in some areas, such as at Silfield, Wymondham, where antler and horn working is also believed to have taken place in the late Iron Age (Dymond 1990, 28).

Documentary evidence from classical sources becomes available at the end of the Iron Age and we know that Norfolk was at the heart of the territorial lands of the native *Iceni.* On the eve of the Roman Conquest, the landscape would have been rich in woodland, pasture and fen, interspersed with occasional forts (Davies *et al* 1992), at least one temple complex (Gregory 1992), larger settlements (*oppida*), hamlets and farmsteads (Davies 1996; Hutcheson 2005, 26–7). Indeed, the land may have been divided into smaller territorial areas (Ashwin and Flitcroft 1999).

Reputedly famous for their traditional golden torcs and horsemanship, the *Iceni* were allowed to continue to rule for eighteen years after the successful Roman invasion, as clients of the Roman Emperors Claudius (AD 41–54) and then Nero (AD 54–68). The region provided a buffer between the settled, Romanised south and the northern territories, which had been slower to accept Roman rule. However, the transition from rich and powerful 'Celtic Kingdom' to part of a far-flung Roman province was not an easy one. A small rebellion by the *Iceni* in AD 47, instigated by the Roman general Ostorius Scapula's demand that all warriors give up their arms to Rome, was soon put down. It may have been after this upheaval that Prasutagus and his wife Boudica became leaders of the *Iceni*. Peace did not last long and a significant rebellion (AD 60/61) led by Boudica after the death of her husband was very successful in uniting several tribes, including the *Trinovantes* and *Catuvellauni*, and in overrunning *Camulodunum* (Colchester), *Londinium* (London) and *Verulamium* (St Albans), but ultimately ended in defeat and death (Robinson and Gregory 2003).

Roman Norfolk

by Alice Lyons

How badly Norfolk was depopulated, both by those killed during battle and enslaved as prisoners, and how long the people continued to suffer through loss of the annual crop, the ensuing re-organisation of *Iceni* territory and the enforced establishment of the *Civitas,* remain the subject of research.

As the Roman way of life became more firmly established, the population recovered: a figure of several hundred thousand people has been suggested as living in Norfolk at this time (Gurney 2005, 28). Most of the population would have lived in continuity with their Iron Age past: in the countryside, in small villages or native-style farmsteads.

In the western part of the region, falling sea levels meant that the fen edge became an attractive place to settle (Gregory 1982; Gurney 1986) with access to the bird, fish, reed, peat and salt reserves that this area of land provided and with good grazing on the chalk 'highlands' to the east. It is thought that as this land emerged from the sea or salt marsh, it automatically became the property of the Emperor, administered from the huge villa estate at Stonea, Cambridgeshire (Jackson and Potter 1996). It is certainly true that vast lodes, canals and roads were dug (Wallis 2002) to manage the fen, which would have meant a considerable investment of labour, suggesting the involvement of the army or organised labour of some sort. How long this imperial estate continued to function is unknown; by the later Roman period, management of this area may have devolved into smaller farming units.

Settlement appears to have focused on the fen edge and coastal and estuarine regions, with only limited activity on the Boulder Clay in the northern half of the county, contrasting with dense occupation on the heavy soils of south Norfolk (Dymond 1990). Around twenty settlement sites are known in the west of the county, most built on spring lines along the Icknield ridge (Margeson *et al.* 1996).

In Norfolk generally, an infrastructure was constructed and the land became criss-crossed with metalled roads and maintained waterways. To the north of Castle Acre, the pipeline crosses the route of the Peddars Way, the northern section of a route from London through modern Chelmsford to the Wash at Holme. Further east, another route running south from Holkham Bay can be traced as an alignment of minor roads, parish boundaries and the western side of Holkham Park. An east-to-west

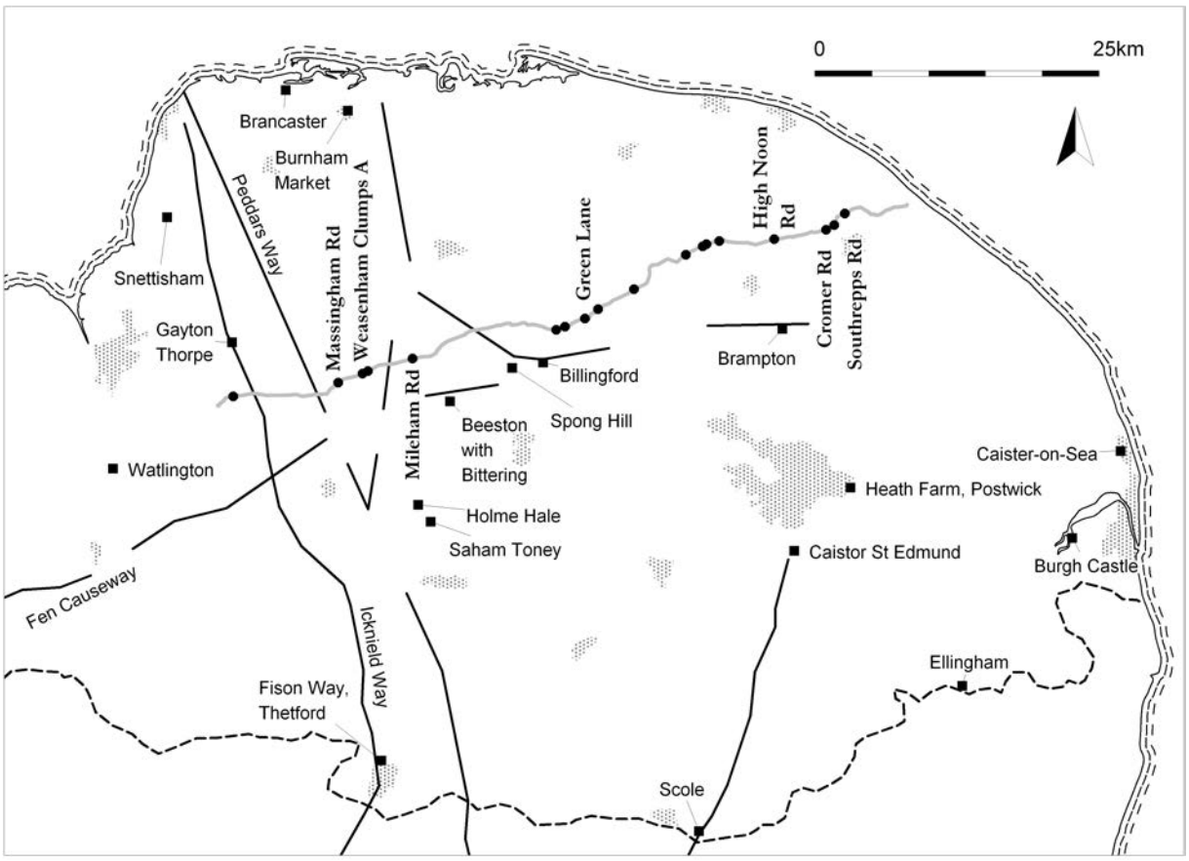

Figure 4 Late Iron Age and Roman sites referenced in the text, including Icknield Way and Roman roads

road probably passed through Castle Acre to connect with the Fen Causeway (Margary 1957, 212–14). A possible prehistoric track running north towards Hunstanton, the Icknield Way, may have remained in use although its existence is contentious; it is thought by some to be a medieval myth (Harrison 2003).

Small towns, such as those at Brampton (Knowles 1977; Green 1977), Billingford (Wallis 2011) and Scole (Rogerson 1977; Ashwin and Tester forthcoming) grew up where the roads and rivers crossed, providing local centres of trade, industry and worship. Farmsteads were also common, such as that at Spong Hill (Gurney 1995), where evidence for local pottery production was found. Villa estates were also frequent and particularly visible along the Icknield Way in the west of the region; Gayton Thorpe is a prime example (Atkinson 1929; de Bootman 1998), while the *Civitas* capital of *Venta Icenorum* (market place of the *Iceni*) was developed (Davies 2001) with many distinctly Roman cultural elements such as the amphitheatre, forum, temples, public baths (Frere 1971) and a small theatre.

With the changing political situation in the third century, with Rome weakening, the central part of the *Civitas* capital was walled and defences were built along the shoreline of the county (Gurney 1996). Two Saxon Shore forts were built facing each other across the estuary of the Yare, at Burgh (Johnson 1983) and Caister-on-Sea (Darling and Gurney 1993), with a third known in north-west Norfolk at Brancaster (Hinchliffe with Sparey Green 1985); at least one other, perhaps in the Cromer area, may have been lost to marine incursion.

Palynological evidence indicates that East Anglia was agriculturally productive in the Roman period. Charred crop remains from the fens, the fen edge, the Boulder Clay plateau, areas of light sand soils and coastal areas in Norfolk indicate that spelt wheat was the predominant crop. Barley and emmer were quite common, with a lesser amount of horse bean, pea, oats, rye and flax/linseed being grown. Evidence of animal husbandry demonstrates a decline in sheep farming and an increase in the numbers of cattle. This appears to be in step with the evidence for increased arable farming, which required traction power and manure.

The Anglo-Saxon period

by Catherine Holgate

Population began to decline in the fourth century and continued to decline into the early Anglo-Saxon period. Artefacts found by fieldwalking and metal detecting indicate that settlement was mainly restricted to lighter soils and river valleys in Norfolk, and evidence of early Anglo-Saxon settlement on the Boulder Clay is scarce. There is some evidence for continuity of settlement, with small numbers of early Anglo-Saxon finds occurring in assemblages alongside larger quantities of Roman pottery. Early Anglo-Saxon sites are also often found alongside Roman settlements and roads (Dymond 1990).

Excavations at Spong Hill and at Billingford near North Elmham have produced evidence of settlement in the form of small groups of sunken-featured buildings (SFBs), probably representing isolated and short-lived farmsteads or small hamlets. It has been suggested that the

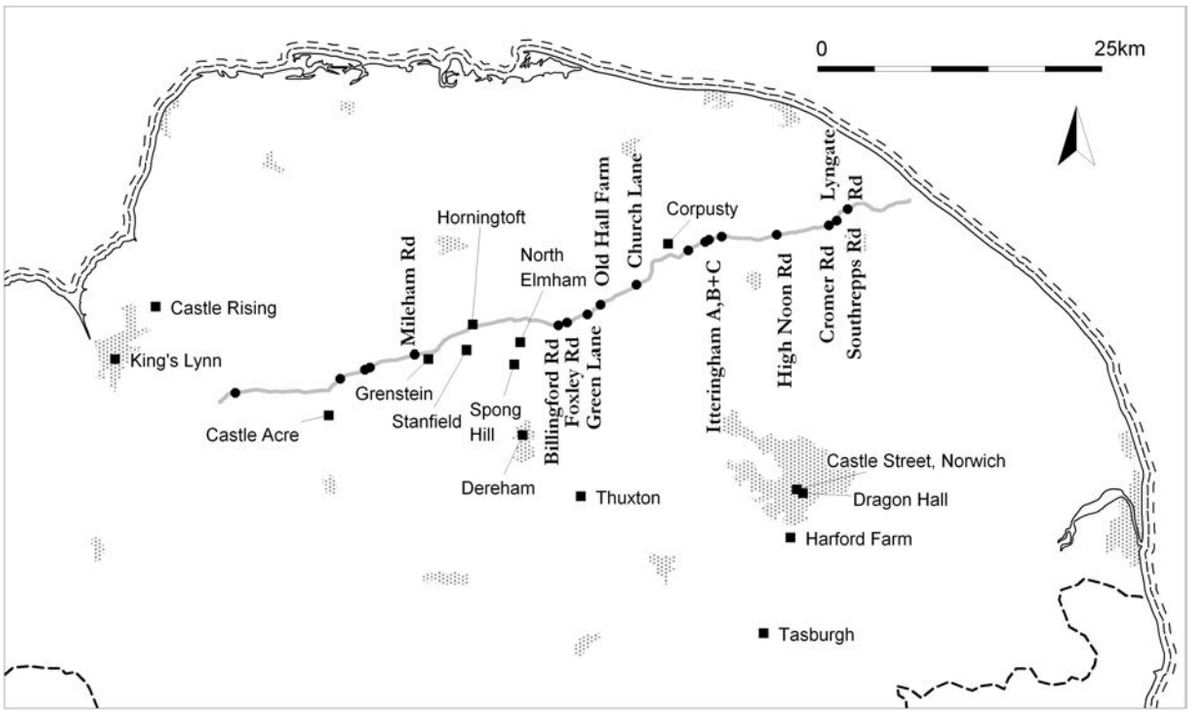

Figure 5 Anglo-Saxon and medieval sites referenced in the text

village of Longham, about three kilometres south of the pipeline, has its origins in this early period (Wade-Martins 1980b).

The available environmental evidence seems to indicate that woodland regeneration took place in some areas but elsewhere agricultural land cleared in the Iron Age and Roman periods remained in use. The crops grown during the early Anglo-Saxon period seem consistent with those grown during the Roman period, with a particular emphasis on spelt wheat. It is likely that there was an increase in pasture in comparison to arable land.

Around two hundred pagan Anglo-Saxon cemeteries have been found in Norfolk. Of these, the extensive late fifth and sixth century cemetery at Spong Hill stands out, its 2400 excavated burials making it the largest known Anglo-Saxon cemetery in the country. It presumably served a large territory, rather than a single settlement. In general, pagan Anglo-Saxon cemeteries were located away from contemporary areas of occupation (Margeson *et al.* 1996), and are often found on elevated land overlooking rivers, or in low-lying positions close to rivers. Artefacts and burial practices show close affinities with coeval sites in what is now Schleswig-Holstein and Lower Saxony.

In the middle Anglo-Saxon period there was a marked change in the pattern of settlement, giving rise to predominantly nucleated settlements. In many cases these are the fore-runners of present-day villages, with the site of the settlement nucleus often immediately adjacent to the parish church. These changes were accompanied by population growth and rapid economic expansion. Artefact scatters and isolated finds from the period have been recorded in almost all the parishes of Norfolk. Excavation evidence from the period is, however, rare with structural remains particularly so. The small number of sites excavated may be a factor in this but it probably points to the use of insubstantial construction styles relying on timber beam foundations that barely extended into the subsoil.

In the earlier Anglo-Saxon period, control of land had become increasingly centralised with tribal holdings becoming absorbed into large 'multiple estates' under direct control of the East Anglian kings. Through the middle Anglo-Saxon period, the development of a more complex hierarchy of rights and obligations led to increasing fragmentation of these estates into increasingly independent manors (Williamson 1993, 92–104).

Changes in agricultural practices appear to have taken place in the seventh century. The main crops were bread wheat, rye, six-row barley, oats, peas, horse bean, hemp and flax, while spelt wheat disappeared. There is evidence, including wooden fish weirs, that fisheries were also important along the coast. Many local workshops were producing pottery and metalwork with a widespread distribution by this time.

The middle Anglo-Saxon period saw the introduction of Christianity and the establishment of the practice of churchyard burial. Monastic settlements, such as Dereham, where there is a huge cemetery of the period, probably acted as central places, attracting trade not only to service the religious foundation but probably also because of an advantageous legal status (Wade 1997).

The Danish invasion of the late ninth century had surprisingly little effect on the continuity of settlement (Wade-Martins 1993) though place name evidence and Viking-type disc brooches, the numbers of known examples of which have greatly increased in recent years as a result of metal detecting, betray their presence. The increases in population size and density continued through the later Anglo-Saxon period. Norwich expanded rapidly in the eleventh century, as did coastal ports including King's Lynn. Some settlements, such as

Tasburgh, which apparently had burghal status, later shrank to little more than villages. Domesday Book documents the complex system of tenurial organisation which was in place by the end of the Anglo-Saxon period.

Close to the pipeline route, the village of Stanfield provides an example of how present-day landscape patterns can reveal the Anglo-Saxon origins of a settlement, as a number of smaller, narrower and more compact fields, surrounded on three sides by common land, have been interpreted as the original assart (Dymond 1990). The village church contains late Anglo-Saxon quoins, and two pottery scatters of the period have been located nearby. Scatters of late Anglo-Saxon pottery near to the pipeline route indicate other areas of former occupation: to the north of Mileham church; near the village of Gressenhall; and immediately south of East Bilney moat. The ruins of North Elmham Cathedral, less than two kilometres south of the pipeline, provide a reminder of the importance of the area in the Anglo-Saxon period.

The medieval period

At the time of the Domesday survey, there was a higher density of plough teams in Norfolk than anywhere else in the country. Although arable use of the clay lands of north Norfolk may have lagged behind much of the rest of the county, this area too saw increasing exploitaition and settlement. The typical pattern of settlement that had developed since the middle Anglo-Saxon period, with nucleated villages beside parish churches, had already begun to break down, a trend which accelerated into the twelfth century. Farms were relocated towards the edges of common land, producing villages which consisted of girdles of settlement around commons and greens. The population growth of the next two centuries added to these common-edge agglomerations (Willamson 1993, 167).

The driving forces for this marked shift in the pattern of settlement are obscure but ready access to common pasture must have been important: physical proximity would have made it easier for commoners to exercise, assert and defend their rights. The pattern of manorial landholdings in Norfolk was especially complex and there was a high proportion of free tenants, factors which would have worked against central control and coordination of communities. Although ridge and furrow earthworks and areas of long narrow fields, the remnants of strip cultivation, occur throughout the county (Silvester 1989), these are interspersed with old, long established fields; the tightly organised open-field agriculture so typical of the English Midlands did not develop in Norfolk. Instead, the more irregular open-field system that developed perhaps meant that the resources of common land provided a more significant contribution to economic survival.

One very characteristic result of the gradual migration towards the edges of common land, continuing through the medieval period, is the typical Norfolk parish church standing in isolation, several fields distant from the nearest habitation, when it would once have formed the physical as well as the spiritual focal point of a village. Another characteristic Norfolk pattern, two or even three churches clustering together in the centre of a village, provides a further demonstration of the effects of the complex medieval manorial structure.

By the end of the medieval period, much of the present-day landscape character of the area would be recognisable in broad outline. There are surprisingly few deserted medieval villages recorded in Norfolk but of those that are listed on the Historic Environment Record a substantial proportion cluster along the western boundary of the clay lands, and this area must have suffered depopulation in the subsequent periods. In the east and central parts of the county, much of the land was already enclosed by the time of the parliamentary enclosures of the eighteenth and nineteenth centuries, but the large, regular fields on the Good Sands, in the western part of the pipeline route, would have been reclaimed from heaths and commons at this time.

3. Neolithic and Bronze Age settlement near Stocks Farm, East Walton

by Tom Wilson

3.1 Summary

This site was used as a settlement in the Neolithic and Bronze Age, the main focus of activity apparently concentrated towards the western end of the excavation area. Isolated remnants of prehistoric soil layers incorporating domestic refuse were located, which once would have covered a wider area of the site. Clusters of postholes and stakeholes were recorded, perhaps providing evidence of buildings or structures. During the Bronze Age, a ditch separated the area of pits to the west from the eastern area characterised by postholes. A line of posts running parallel to the ditch may have bounded the eastern side of the site at that time and a ring-shaped feature further east could have surrounded a small building or burial mound. Probably towards the end of the Bronze Age, the site was sealed by colluvium, producing a subsoil which was itself later subject to erosion.

3.2 The site

The site (HER 37617) lies within the parish of East Walton, ten kilometres east of King's Lynn, and 100 metres north of the minor road between East Walton and East Winch. The centre of the site was at NGR 573610 317040 (Fig. 6).

Although the area is fifteen kilometres from the main eastern boundary of the fenland basin proper, a significant tongue of peat fenland extends into the valley of the River Nar (Silvester 1988, fig. 120; Waller 1994, figs 2.2, 5.16–23). East Walton is situated immediately to the east, or 'upstream', of this wetland inlet; to the west, it borders the parishes of West Winch and Pentney, which are the easternmost parishes surveyed by Silvester during the Fenland Project. While the present course of the Nar is four kilometres to the south, at Narborough and Pentney, the Stocks Farm site lies between two minor tributary

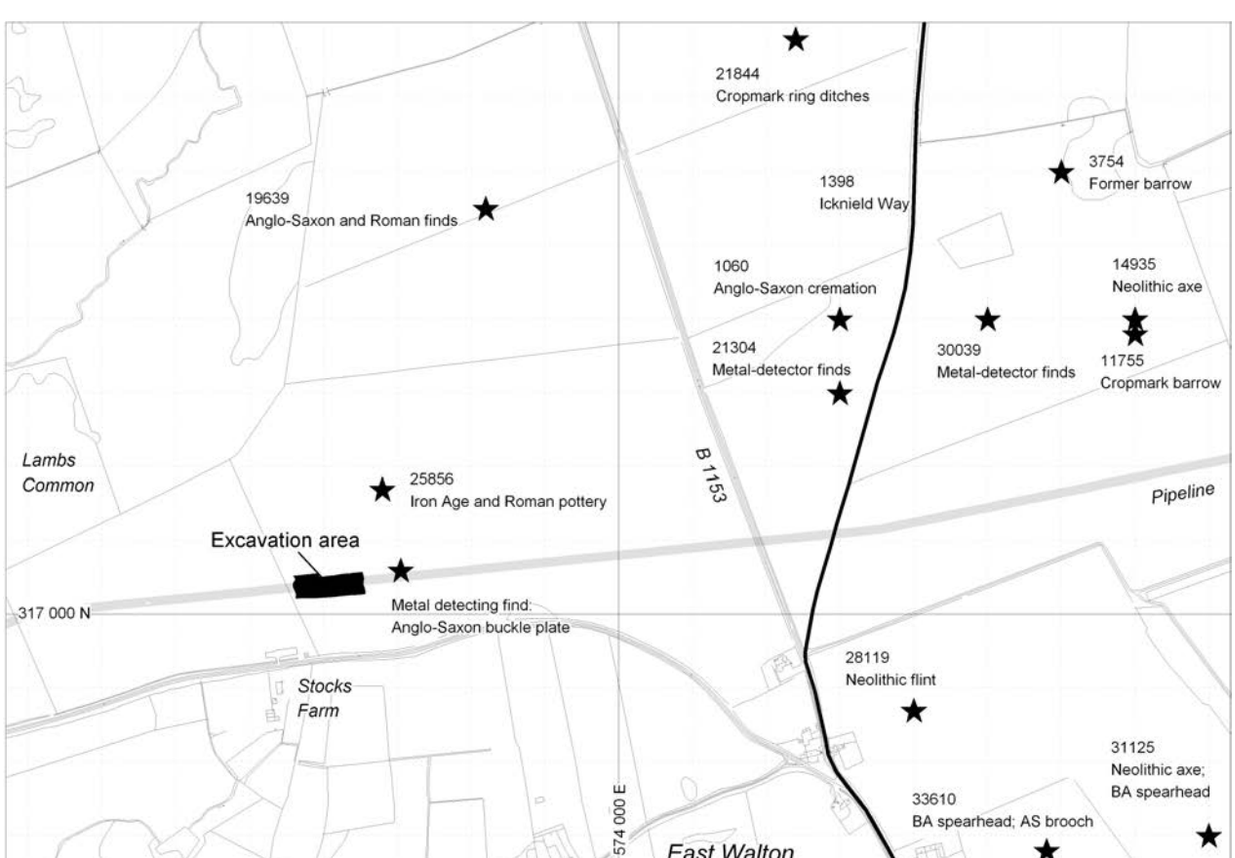

Figure 6 Stocks Farm, East Walton, location of the excavation area and nearby HER and DBA sites mentioned in the text, scale 1:10,000

streams, one running through the wooded area of Lamb's Common to the north and the other, to the south, draining Walton Common.

The valleys of these two streams create a spur of land running from the edge of the chalk uplands to the east and the excavation area occupied the lower south-west facing slope of this spur. Glacial drift deposits of chalky till overlie the chalk, on which shallow, well-drained coarse loamy and sandy soils, of the Newmarket 2 association in the Soil Survey classification (SSEW 1983), have developed. At the centre of the site, the top of the archaeological deposits were at 20.25m above Ordnance Datum (OD). The ground dropped quite steeply to the west, being 2.30m lower at the western limit of excavation, while the eastern end of the site was just 0.20m lower.

3.3 Pre-construction work

The archaeological potential of this area was recognised in the desk-based assessment (Holgate 2002) with Anglo-Saxon and medieval activity, in particular, being highlighted. The site lies within an area in which metal detectorists have located Anglo-Saxon metalwork suggesting the presence of a Saxon cemetery, as well as Iron Age and Roman pottery (HER 25856). An Anglo-Saxon cremation site, 800m further east and close to a round barrow, was excavated in 1972 (HER 1060). Metal-detector finds nearby (HER 21304, 30039) could well have been associated with this cemetery. Fieldwalking carried out in 1982 in the two fields north of the site produced sherds of Ipswich Ware pottery along with Roman pottery and tile (HER 19639). Extensive medieval settlement areas are also still evident in East Walton 500m south-east of the site, including crofts, tofts and building platforms (HER 30996).

The chalklands to the east of the site have also produced prehistoric finds, including Neolithic flint from the field behind East Walton School House (HER 28119) and polished axes (HER 31125, 14935). One of these axes was located at a cropmark barrow site (HER 11755), probably the mound excavated around 1886 which was found to contain 'an earthen jar and bodies with feet to centre' (HER 3754). The date of these finds is not known. There is a group of three more cropmark ring ditches to the north (HER 21844). Bronze Age finds from the area include the remains of two spearheads found in fields behind the Greyhound public house in East Walton (HER 33610, 31125). Two possible alternatives have been suggested for the line of the Icknield Way (HER 1398): following the line of either the present day B1153 running north from the village or a farm track to the east of the village.

Because of the identified potential for Anglo-Saxon archaeology at this location, the geophysical survey was broadened to extend beyond the pipeline working width in the field in which this site was subsequently found and the adjacent fields to the east and west. Probable archaeological features were recorded in the form of linear and curvilinear anomalies, together with pit-like anomalies in the area of the site but these did not extend to the central and eastern parts of the field (Bunn and Rylatt 2003). These anomalies were set against an obscuring background of irregular striations formed by glacial reticulation: interleaving laminae within the drift deposits. Raised susceptibility values were detected, indicating the possibility of concentrated human activity across the whole field.

The fieldwalking survey recovered a scatter of forty worked flints, including part of a Neolithic axe, from the field containing the site. One sherd of early Anglo-Saxon pottery was also found. Among other, later finds, the metal-detecting survey recovered an Anglo-Saxon buckle plate (Fig. 7) at NGR 573705 317060, 50m east of the area that was subsequently excavated.

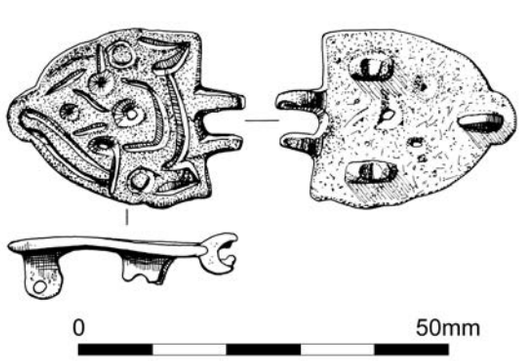

Figure 7 Anglo-Saxon buckle plate found during fieldwalking at Stock's Farm, scale 1:1

3.4 Excavation

The results of the preconstruction surveys prompted excavation of fourteen evaluation trenches in the field where the site was found. No sign of Anglo-Saxon activity was found during the evaluation (Crutchley and Riley 2003b) but one trench contained evidence of prehistoric settlement. The area around this trench was stripped of topsoil revealing large spreads of dark soil. These dark layers were excavated in a grid pattern of box sections. The 'boxes', typically three metres square, were generally numbered in a numerical sequence, though the first four boxes excavated were identified by letter: these are shown as 1a, 1b, 1c and 1d on the site plan (Fig. 8). Baulks left between squares allowed a series of sections across the site to be observed. After interpretation and recording, the baulks were excavated for soil samples.

The ceramic assemblage from the site indicates three discontinuous phases of activity: during the earlier Neolithic, the later Neolithic to earlier Bronze Age, and the mid- or later Bronze Age periods. It has been possible to date only seven pits from pottery evidence, and the majority of features remain unphased. A small number of cut features were datable stratigraphically, and a few others had discernable structural associations through which they could be dated. As there is no artefactual evidence of activity on site after the later Bronze Age, it is probable that most, if not all, of the undated features date from the Neolithic or the Bronze Age.

3.5 Phase 0: geology

On site, the natural drift geology was observed to consist of moderately well compacted chalk lumps, with occasional pockets of degraded chalk and sand, and very infrequent flint inclusions. An overlying colluvial subsoil

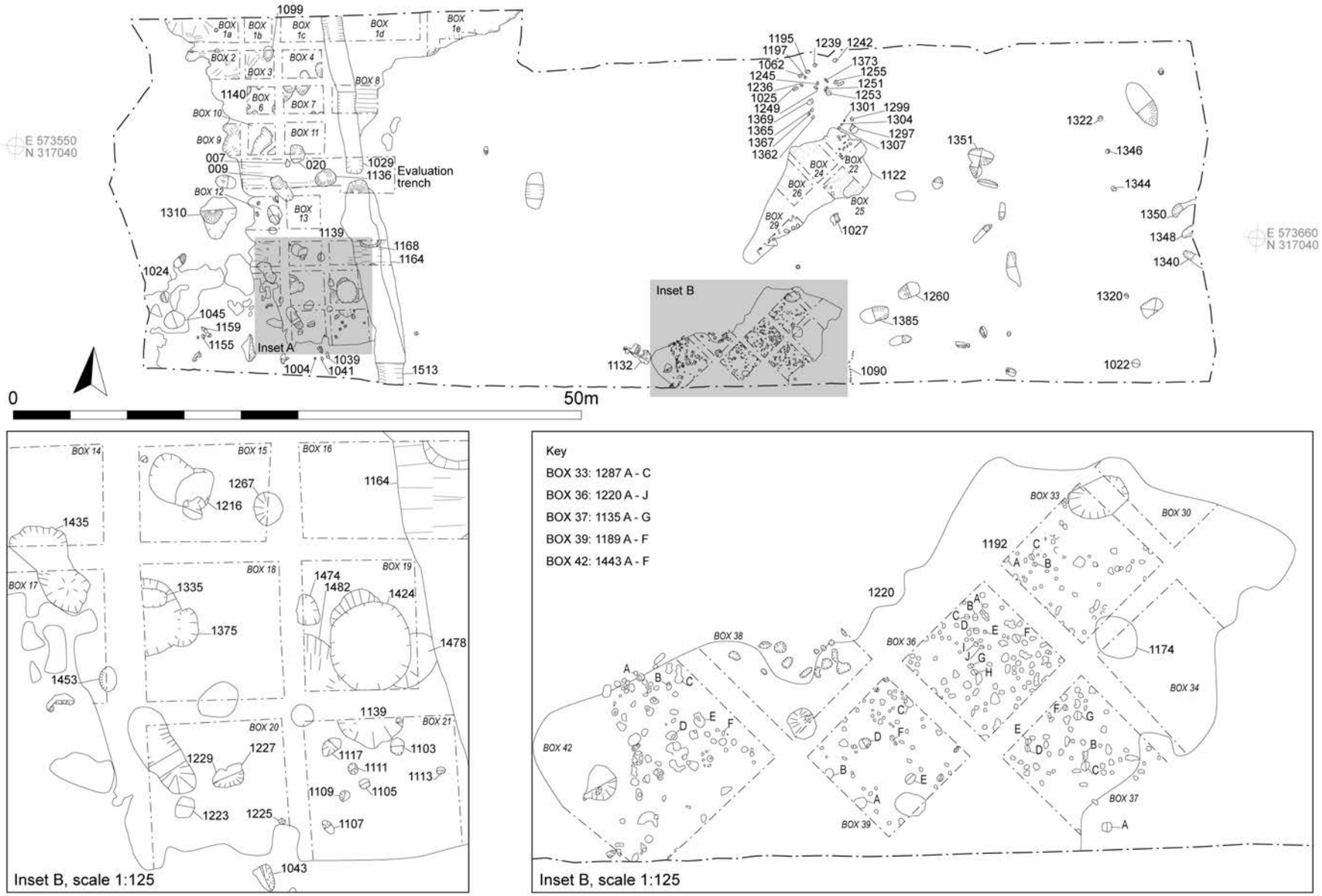

Figure 8 Plan of the excavation area near Stocks Farm, scale 1:500 and 1:125

of brown and orange-brown clayey sand with occasional chalk flecks and sub-angular flint inclusions sealed the drift geology. The soil profile indicated that deep ploughing had made a significant impact on the natural topography.

A number of the features noted on the site seem to have been of natural origin. A flinty layer filled a large hollow in Box 1 (Fig. 8) to the west, while another large hollow with a complex depositionary sequence of flint and sandy fills was recorded in Boxes 1, 2, 3, 6, 7 and 12. There were two more large gravel-filled hollows to the east. Three long fissure-like geological features containing sandy deposits were recorded, as well as twelve small hollows.

3.6 Phase 1: earlier Neolithic occupation

The spreads of dark soil observed when the topsoil was removed were found to fill three shallow, irregular hollows, considered to be features of the periglacial landscape. These deposits probably accumulated through the development of a cultural soil horizon incorporating dumps of domestic refuse from an occupation area very close by. The separate deposits are likely to have originated as a single broad layer, truncated by later ploughing and only surviving within the three natural hollows. The development of these soil layers started in the earlier Neolithic period and may have continued into the Bronze Age.

Excavating the layers in a series of square or rectangular boxes created cross-sections and allowed finds from different layers and areas to be differentiated. However, although these palaeosols were present as separate horizons, with distinct artefact assemblages, their development may be better seen as a single continuing process.

Palaeosol layer *1140*

Layer *1140* extended southwards for 29m from the northern site boundary, across Boxes 1 to 4, 6 to 21 and the evaluation trench (Plate 1). The thickness of the deposit was typically 0.15m but varied because of the irregular micro-topography of the hollow, being as much as 0.30m in part of Box 12. In general, the layer was a sandy silt, although a clayey component was noted in the southern half (Boxes 12, 15, 16, 18, 19 and 20). Box 12 contained reddish brown flecks, which might have been burnt clay. Otherwise, the layer was dark blackish or brownish grey, becoming more yellow (Box 1) or orange (Boxes 9, 17 and 20) at some points around the edge as a result of leaching. Charcoal flecks, large enough to be separately distinguished, were noted in nine boxes; elsewhere dark staining caused by comminuted charcoal was common. The area around Boxes 2 to 7 appears to have been particularly charcoal-rich. Up to ten per cent of the layer consisted of poorly sorted shattered flint and chalk inclusions up to 150mm in size, though more typically 20 to 40mm. A natural sarsen pebble recovered from Box 3 has areas of differential wear that suggest it had been used as a rubber (Major 2007).

Of the one hundred and two pottery sherds attributed to this layer, eighty-three could be dated to this phase, while eighteen were later Neolithic or earlier Bronze Age. These later sherds could have derived from undetected later features, but more probably confirm that the layer was continuing to develop over an extended period, perhaps two thousand years or more. The earlier Neolithic pottery was concentrated in the northern part of the deposit, the same area where the greatest charcoal concentration was found, particularly Boxes 1, 2, 3, 7 and 14. Eight of the later Neolithic or earlier Bronze Age pottery sherds attributed to this layer were found in Box 20, and are

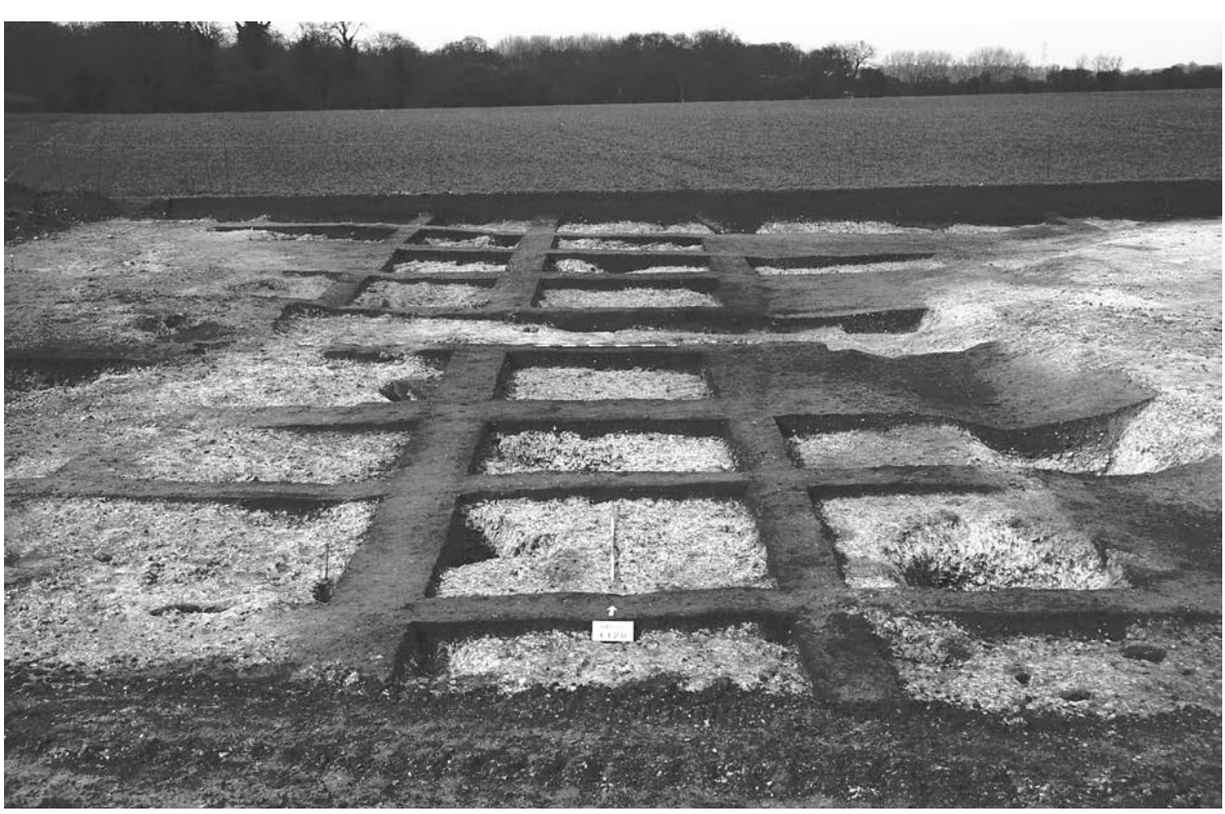

Plate 1 Western hollow containing Neolithic palaeosols *1140* and *1139*, prior to the removal of the baulks between the excavated boxes; 2m scale, north-facing shot

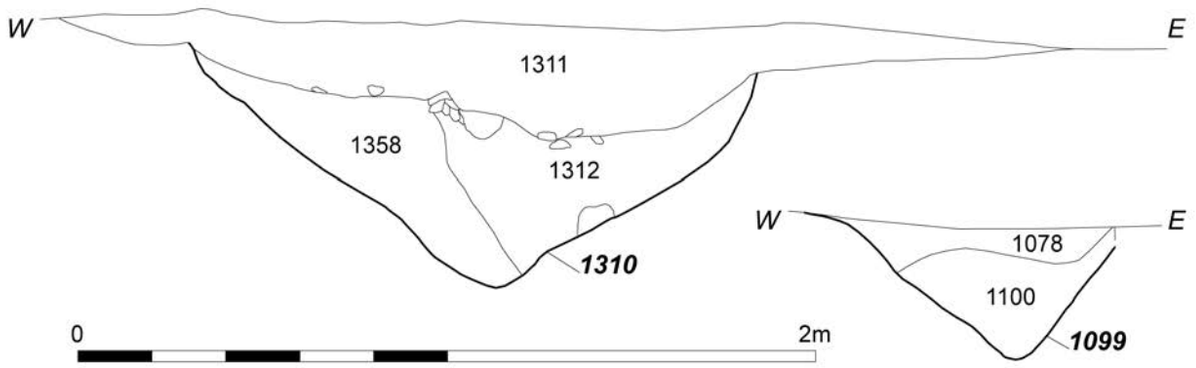

Figure 9 Sections through Phase 1 pits at Stocks farm, scale 1:20

almost certainly from the upper fill of the later pit *1482*, which extends into Boxes 18 and 19. The other ten Bronze Age pottery sherds (15g) were all recovered from Box 13. One abraded Phase 3 pottery sherd (5g) found in Box 8 was possibly intrusive from ditch *1029*. Worked flints were also recovered from Boxes 3, 7, 8 and 20. Layer *1140* was succeeded by layer *1139*, either a continuation of the same process of soil development or as a separate deposit from much later, possibly much intermingled by post-depositional changes.

Palaeosol layers *1024* and *1122*

A small depression in the south-western corner of the site contained layer *1024*. The survival of this layer was patchy, but it was up to 0.10m thick in places. It was a mottled sandy clay, containing occasional gravels and chalk flecks, the proportion of clay continuing the trend towards an increasing clay component to the south that was noted for layer *1140*, reinforcing the impression that these were originally part of a single layer. However, no separate soil horizons were identified above layer *1024* and no later artefacts were found, the seventeen sherds of pottery recovered from it indicating that this was solely an earlier Neolithic layer.

Layer *1122* survived in an irregular oval glacial hollow to the north-west. The southern edge of the hollow was recorded as a 'small scarp' running south-west to north-east across Boxes 22, 24, 25, 26 and 29. In general, layer *1122* was a loose dark brown sandy silt up to 0.42m thick, but typically 0.18m thick and lensing out at the edges. It contained occasional comminuted charcoal and moderate abraded chalk and flint fragments. Twelve early Neolithic pottery sherds were recovered, eight of them from Box 29. In contrast to palaeosol *1140*, no dating evidence was recovered from the soil horizons above this one, though a tiny fragment of blue-green glass, perhaps from a bead (SF 70378) was recovered from a sieved bulk soil sample, demonstrating that pedogenic processes capable of bringing intrusive objects down through these soils were occurring on site.

Western group of pits

Of six pits located beneath the western palaeosols, three could be dated by the pottery sherds they contained, while three were dated stratigraphically. The largest of the artefactually datable pits, pit *1435*, was oval and 0.20m deep with a concave profile. It had filled with compact, brownish-black silty sand containing occasional flint and chalk fragments and six earlier Neolithic pottery sherds. It also contained a single human tooth. Pit *1453* nearby was smaller and had a distinctly different greyish-brown clayey fill. This deposit contained occasional flint and chalk fragments and twenty-four earlier Neolithic pottery sherds. Pit *1310* seems to have had a layer of redeposited natural ironstone, *1358*, dumped into its western side (Fig. 9). This deposit could be interpreted as the fill of an earlier pit but Neolithic pits half-filled with natural deposits have been noted on other sites (Wilson 2003) and may have some archaeological significance. A pale brownish-grey silty soil, containing chalk and ironstone cobble

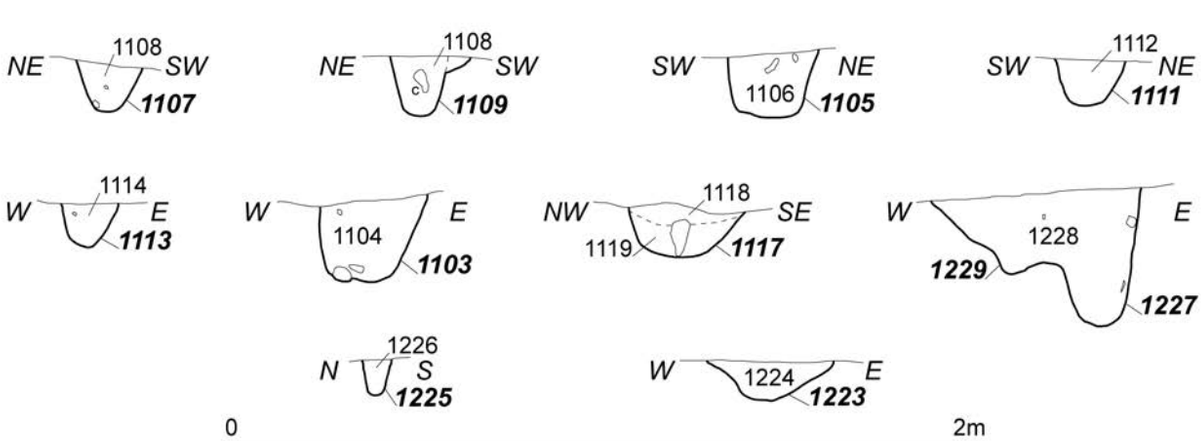

Figure 10 Sections through Phase 1 postholes at Stocks farm, scale 1:20

inclusions and five Neolithic pottery sherds, filled the rest of the pit.

Three pits sealed by palaeosol *1139*, which began forming in the earlier Neolithic phase, contained quite distinct soils. Pit *1099* (Fig. 9), located in the corner of Box 3, had been infilled with a very dark brown silt loam containing occasional flint pebbles and frequent charcoal. Neither pit *009* nor pit or posthole *007* contained dating evidence, but pre-dated the Phase 2 palaeosol layers.

Postholes to the south-west

Eleven postholes were found in the south-western part of the site, beneath palaeosol *1140*. They were generally very regular and steep sided, with flat bases (Fig. 10) but postholes *1223* and *1117* were much wider and shallower-sided than the others, possibly indicating that their posts had been ripped out. The other members of this group were postholes *1103, 1105, 1107, 1109, 1111, 1113, 1225, 1227* and *1229*. Four similar postholes nearby, *1004*, *1039*, *1041* and *1043*, may also have been early Neolithic, but were not covered by the surviving palaeosol. The datable postholes may have formed a structure; a north-east to south-west oriented eight-posted rectangular structure can be envisaged, 2.1m wide and 3.5m long, with posthole *1105* as its eastern corner and *1223* as its western corner. Alternatively, these postholes could be fragmentary remnants of several structures, or have held fences, hurdles, or single posts.

Earlier Neolithic pottery

by Sarah Percival

Introduction

One hundred and sixty-two sherds weighing 916g were identified as being of earlier Neolithic date. The assemblage was found in a series of buried soils, pits and postholes from a putative structure. The sherds are generally small, with an average sherd weight (ASW) of only 5.5g. The condition of the sherds is variable. While some show signs of post-depositional attrition, none are particularly worn or burnt (Garrow 2006, 38). The rim count indicates that a minimum of nine vessels are represented. Recent research on pottery found in pits on several contemporary sites suggests that each vessel present is typically represented by sixteen sherds or fewer (Garrow 2006, 39). This would also suggest that the remains of around nine vessels were present, although it is unclear whether pit assemblages can be directly equated with material recovered from palaeosols such as those at this site.

Description

Three fabrics have been identified in two fabric groups (Table 2). The most common fabrics are those containing flint, which make up 93.69 per cent of the total assemblage. A sandy fabric containing rounded quartz grains was also found. Flint is the dominant inclusion type within many assemblages from southern England in the earlier Neolithic (Cleal 1995, 187) and is certainly the prevalent fabric in vessels from East Anglia (Healy 1988, 64; Percival 2004, 422). The sandy fabric with voids (Q5) may be equivalent to the 'corky' vacuous fabric found at Broome Heath (Wainwright 1972, 23).

The rim forms were classified following the rim typology used for Hurst Fen, Suffolk, (Longworth 1960, 228) Windmill Hill, Wiltshire (Smith 1965), and Spong Hill, Norfolk (Healy 1988, fig. 57) and other assemblages (see Table 3).

Type	*Quantity*	*Wt/g*
Folded or rolled	4	31
Out turned	4	16
Simple (flat)	2	12
Simple (pointed)	1	8
Total	**11**	**67**

Table 3 Quantity and weight of earlier Neolithic pottery by rim form, Stocks Farm

The rims are most frequently folded, rolled or out-turned. The remaining rims are simple, upright forms, which can be rounded, pointed or flattened. No expanded or externally thickened rims were found. Burnishing is present on twenty sherds (13 per cent of total sherd count). In common with many earlier Neolithic assemblages, the generally small sherd size hampers identification of vessel form. One sherd is decorated with impressed decoration, and is perhaps of the Mildenhall style. The abundance of rolled rim forms and the defined shoulder ledges found on several sherds are suggestive of plain carinated bowls similar to vessels from Broome Heath, Ditchingham (Wainwright 1972, fig. 15: 1).

The majority of the *in situ* pottery came from the palaeosols, which produced 735g of pottery, or 80.2 per cent of the total assemblage (Table 4). Very little pottery was found in cut features, with only three pits producing small quantities of sherds. The remainder of the assemblage was residual.

The pottery from the palaeosol is characterised by small, highly fragmentary sherds (ASW 5.9g) and is similar to the assemblage from the pits, though these sherds are slightly smaller (ASW 4.1g). There is no evidence for selective deposition or placed pottery within the pit assemblages. The slight difference of ASW between the feature types indicates that the pit assemblage shows a greater degree of attrition than the pottery from

Fabric	*Description*	*Quantity*	*% quantity*	*Wt/g*	*% Wt*
F7	Fine, well finished with highly smoothed or burnished exterior. Contained flint pieces below 4mm in size	87	50.6	426	46.5
F8	Medium fabric with mixed flint pieces up to 8mm and a smoothed surface finish	65	40.1	438	47.8
Q5	Moderate, quartz sand tempered fabric. Rare mica. Occasional voids suggesting organic component to fabric	10	9.3	52	5.7
Total		162	100	916	100

Table 2 Quantity and weight of Neolithic pottery by fabric, Stocks Farm

Feature type	*Phase*	*Feature*	*Box*	*No. sherds*	*Total wt/g*
Palaeosols	1	*1024*	-	17	39
	1	*1140*	3	11	62
			2	26	304
			1	29	80
			7	17	96
			14	5	13
	1	*1122*	-	4	22
			26	1	42
			29	8	45
			24	3	32
Pits	1	*1435*	-	6	21
	1	*1453*	-	24	104
	1	*1310*	-	5	17
Palaeosols	2	*1139*	2	2	18
	2	*1192*	30	1	8
Pit	13	*1474*	-	1	3
Topsoil	14	*1003*	-	2	10
Total				162	916

Table 4 Quantity and weight of Neolithic and earlier Neolithic pottery by feature type, Stocks Farm

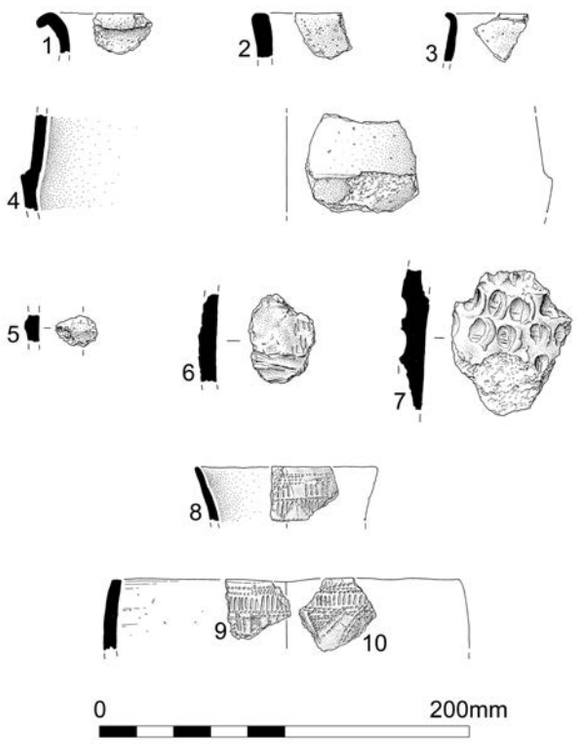

Figure 11 Prehistoric pottery from Stocks Farm, scale 1:4

the hollows and may have been subjected to more pre-depositional disturbance. This suggests that the pottery found within the buried soil did not result from truncation by cut features, but represents accumulation of 'domestic' debris in the hollows, probably through deliberate dumping. The pits were also subsequently infilled with dumps of material, perhaps taken from deposits in the hollows or a similar source (Healy 1988, 107). The filling of periglacial hollows, tree throws and pits with dumped material is characteristic of earlier Neolithic sites in East Anglia (Healy 1995, 174; Thomas 1999, 64; Garrow 2006, 36). Excavated examples of such sites include Broome Heath (Wainwright 1972), Spong Hill, (Healy 1988) and Kilverstone, Norfolk (Garrow *et al*. 2005) and Barleycroft, Cambridgeshire (Evans *et al*. 1999).

Sherds from the following earlier Neolithic vessels are illustrated. A plain bowl with a simple, pointed rim in fabric F7 (Fig. 11.1) and another with a rolled rim in fabric F8 (Fig. 11.2) were found in palaeosol *1024*. Two more fragments of plain bowl from palaeosol *1140* are illustrated (Figs 11.3 and 11.4). Both are in fabric F7 and one (Fig. 11.3) has an out-turned rim. Part of another vessel in fabric F8 with impressed decoration that came from the same palaeosol is also illustrated (Fig. 11.5).

Discussion

The exact form of the Neolithic Bowl in this assemblage is unclear, owing to the condition of the sherds. The vessels feature a blunt rounded shoulder or ledge rather than being of angular bipartite form. This 'S' shaped or baggy form combined with the rolled and out-turned rims appear to belong to a tradition of plain-ware vessels prevalent in eastern England (Herne 1988, 15; Thomas 1999, 99) and is paralleled at Broome Heath (Wainwright 1972). The style appears to be a regional variant of 'developed' carinated bowl and dates to around 3600 BC (Thomas 1999, 99; Gibson 2002, 72). The decorated sherd (Fig. 11.5) recovered from palaeosol *1140* to the west (in Box 14) has impressed marks in a linear pattern perhaps suggesting a Mildenhall impressed, decorated bowl (Healy 1988, fig. 72: 149), a form which first appeared alongside developed, carinated bowl forms after around 3600 BC (Gibson 2002, 72).

There are many examples of natural hollows producing assemblages of earlier Neolithic pottery and other artefacts from sites throughout southern England. In Oxfordshire several such sites have been excavated in the area around Dorney and at Eton Rowing Course (Allen *et al.* 2004, 91) where the substantial deposits of artefacts were interpreted as midden material laid down after an episode of tree clearance. Healy (1988, 107) identifies a series of dumped deposits within hollows and postholes at Spong Hill which she interprets as representing clearance and levelling for agriculture; it is possible that similar activity is represented here. Similar artefact-rich hollows were found during recent excavations at Rougham in Suffolk (Site RGH044) and Harford park and ride, Caistor St Edmund (Percival forthcoming a), and others associated with tree clearance were also noted at Barleycroft in Cambridgeshire (Evans *et al*. 1999, 248). All these sites produced assemblages of small sized sherds in variable to poor condition. The preservation of the sherds may indicate that the assemblage was largely *ex situ*; however, at Dorney, analysis of the soil profile suggested that the site had been extensively trampled leading to *in situ* deterioration of the pottery assemblage (Allen *et al.* 2004, 90).

Worked flint
by Sarah Bates

Introduction
In total, 176 pieces of struck flint and a single burnt fragment were recovered by hand during the excavation. The assemblage consists largely of unmodified flakes. These vary in nature and a few irregular hard hammer struck pieces are present. Many, however, are thin flakes, probably struck by soft hammer, and a fairly large number of blades are also present. A further 209 pieces, mainly spalls, were recovered from soil samples. A number of retouched and utilised pieces are present. The flint from all phases is summarised in Table 5.

A large amount of the flint from this site is patinated (70 per cent of the assemblage by number), which may relate partly to the chalky nature of the natural soils nearby. In some cases, the patina may result from the flint having been burnt: some of the material is clearly burnt and has a cracked or crazed white appearance. Other pieces are an orange-pink colour and are also possibly burnt or have been heat-affected in some way, although it is possible that some of the discoloration may be due to staining.

Description
One hundred and eighty-one flints were found in palaeosols dating to the earlier Neolithic phase. One hundred and twelve of these were from soil samples and consisted mostly of spalls, although a few other types were also found. Most of the flints from these deposits were concentrated in the north-western part of the site. Four flakes were found in palaeosol *1024*, to the south-west. One is a thin curving flake, probably soft hammer struck. Most of the flakes are white or 'calcined' and have some kind of accretion adhering to them, both effects presumably due to their proximity to the natural chalk. A blade-like piece that appears to have been used as a backed knife (Fig. 13.1) came from palaeosol *1122* in the north-east. This knife has a steep right side of battered cortex, perhaps slightly retouched to blunt any sharp edges, and its left has been utilised.

Pit *1099* in the north-west contained seven spalls, recovered from a soil sample. Most other flints from nearby are flakes, some of which are thin pieces. There are also six blades, two of them with abraded platforms. Some of the flint from this area is pinkish or orange-red in colour and may be slightly burnt. Further south, a small blade with an abraded platform, a blade-like flake and some small irregular shatter fragments, were found in the vicinity of a cluster of pits and postholes and may have derived from their truncated fills. Towards the south-western corner of the site, six flints, all patinated an off-white colour, came from pit *1435*. They include four blades, two of them utilised and one of these with a slight trace of polish on its dorsal surface near the utilised edge. A single blade came from adjacent and contemporary pit *1453*.

Of the seventy-five struck flints from undated contexts, which were mainly spalls, two blades seem likely to date to the earlier Neolithic phase. One, from pit *1216*, is retouched and has been used as a knife (SF 70364, Fig. 13.2). The other blade was in pit *1168*, and has a prepared platform. There are also single retouched and utilised flakes from otherwise undated pits *1132* and *1375*. Otherwise the residual flints are mostly unmodified flakes with a few blades also present.

Discussion
The earlier Neolithic deposits produced the largest amount of flint; of this, only a small proportion came from the fills of features, the rest was from palaeosols. The nature of the flint — with a number of blades and some thin flakes, with a few retouched or utilised blades and some evidence for core preparation in the form of abraded platforms — is consistent with earlier Neolithic dating. It is possible that the flint derives from the fills of truncated features or that it represents other activity in the vicinity during the period.

Type	*Number*
Single platform flake core	1
Shatter	23
Flake	76
Blade-like flake	11
Blade	29
Spall	202
Chip	1
Bladelet	3
Sub-circular	5
End scraper	2
aautoThumbnail	1
Knife	2
Backed knife	1
Scale flaked knife	1
Piercer	2
Denticulate	1
Retouched flake/fragment	6
Retouched blade	1
Utilised blade	8
Utilised flake	8
Core tool	1
Total	385

Table 5 Summary of flint from all phases, Stocks Farm

3.7 Phase 2: later Neolithic to earlier Bronze Age settlement

During the Neolithic to Bronze Age transitional phase, soil development continued to take place at the site, either across a broad area or just in the hollows. Only two pits could be attributed to this phase, and two groups of stakeholes or structures appear to date from this time. The site shows zoning into a western area of middening or discard, and an eastern area with structures probably indicating habitation.

Continued development of palaeosols
This western hollow (Plate 1) contained a second soil horizon, *1139*, recorded in Boxes 1 to 4, 6 to 11, 13, 15 to 18 and the evaluation trench, and appearing to date from this phase. In general, the layer was composed of dark greyish-brown sandy silt with some clay and yellowish mottling, and occasional flint nodules and angular pebbles as well as occasional charcoal flecks and chalk lumps. It was up to 0.19m thick, but with considerable variation from box to box. One Bronze Age pottery sherd was retrieved from Box 16 and one sherd from a later Neolithic or earlier Bronze Age Beaker pot and five worked flints

from Box 7, with thirteen further worked flints from Boxes 8 and 4. Two large earlier Neolithic pottery sherds found in this layer in Box 2 may have been misattributed or residual from palaeosol *1140*, which was particularly pottery-rich in that area.

Several other isolated patches of soil were probably part of the same horizon. An irregular spread, *1311*, had accumulated above, and partly settled into, earlier Neolithic pit *1310* to a thickness of up to 0.30m (Fig. 9). It was composed of dark orange-brown silty sand, and contained bone, struck flints and forty-nine sherds of later Neolithic or earlier Bronze Age pottery. It had no physical relationship with layer *1139*, but if it was part of the same deposit, as seems likely, it allows the datable artefacts from the two deposits to be considered as a single assemblage. More localised patches of blackish silty sand survived in Box 1, extending at least 6.5m east of ditch *1029*, and must have been remnants either of palaeosol *1140* or *1139*.

Soil surviving within the more southerly of two eastern hollows, *1192*, appears to have begun developing in the later Neolithic or earlier Bronze Age. In general, this layer can be characterised as dark orange-brown sandy silt mottled with darker patches, containing occasional chalk and flint fragments, as well as some charcoal. This hollow was very irregular and the deposit ranged in depth from 0.01m to 0.38m, with variation of up to 0.3m in a single excavation box. Twelve pottery sherds (108g) were recovered from Box 41, one large sherd from Box 39, and two sherds, dated to the Bronze Age, from Box 36. Box 30 contained one sherd of Neolithic pottery. A second soil horizon no more than 0.03m thick, *1094,* may have begun developing in the south-eastern part of the hollow, in Boxes 34 and 37, although its appearance as a separate layer may be the result of post-depositional changes. It produced one tiny Neolithic or Bronze Age pottery sherd.

Pits

Two oval pits can be dated to this phase. In the eastern part of the site, pit *1027* (Fig. 12) contained a lower fill of firm brownish-grey sandy silt with frequent chalk inclusions above which a very charcoal-rich greyish-brown sandy silt had been deposited. It produced two large sherds of later Neolithic or earlier Bronze Age Grooved War and three other Bronze Age sherds along with a red deer antler (Plate 2), pieces of burnt flint and fragments of charcoal from ash, alder and blackthorn. Eight sherds (35g) of later Neolithic or earlier Bronze Age pottery, originally misattributed to palaeosol *1140*, probably came from the uppermost of a series of four fills of pit *1482* in the western part of the site.

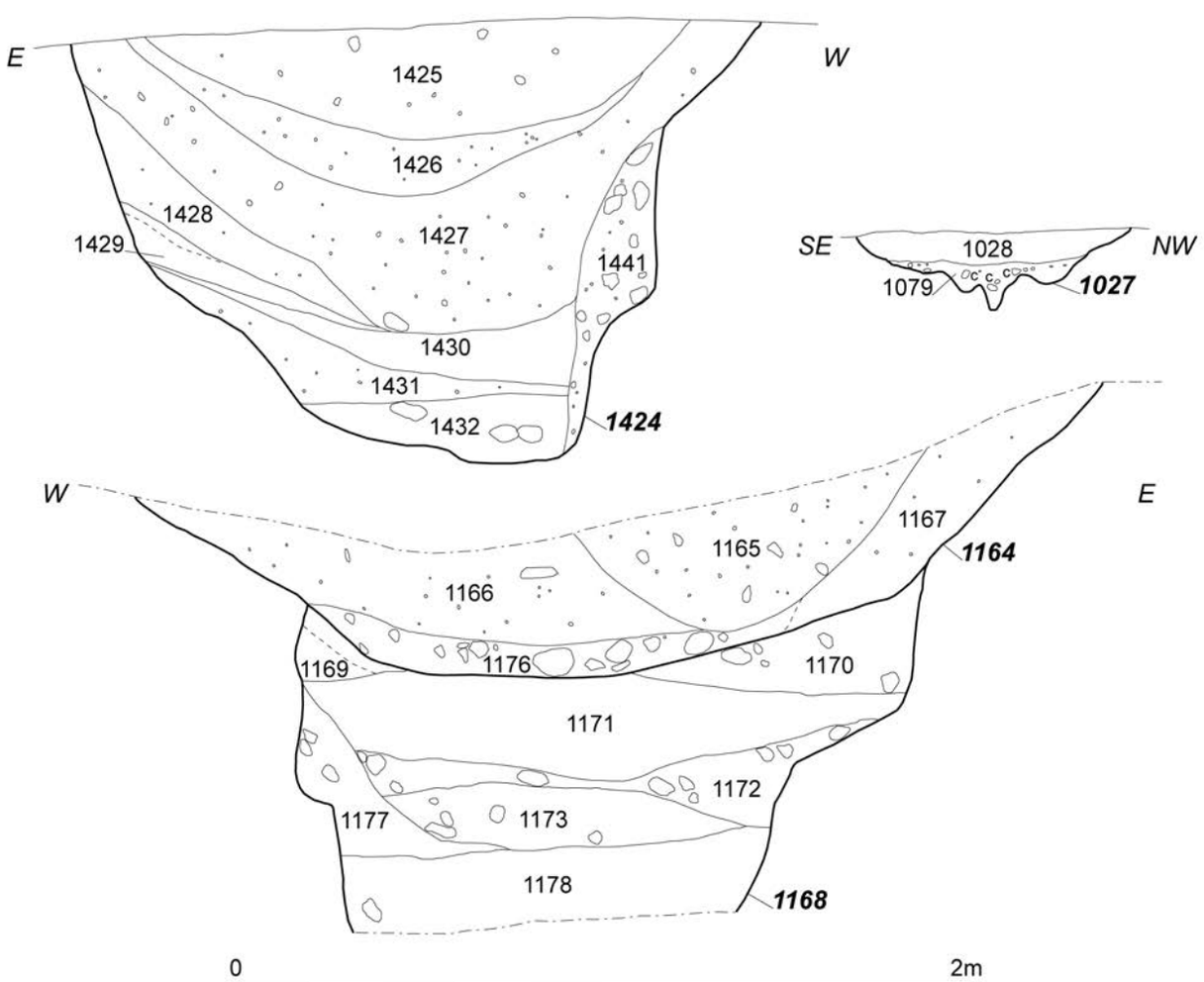

Figure 12 Sections through Phase 2 and 3 pits at Stocks farm, scale 1:20 and 1:40

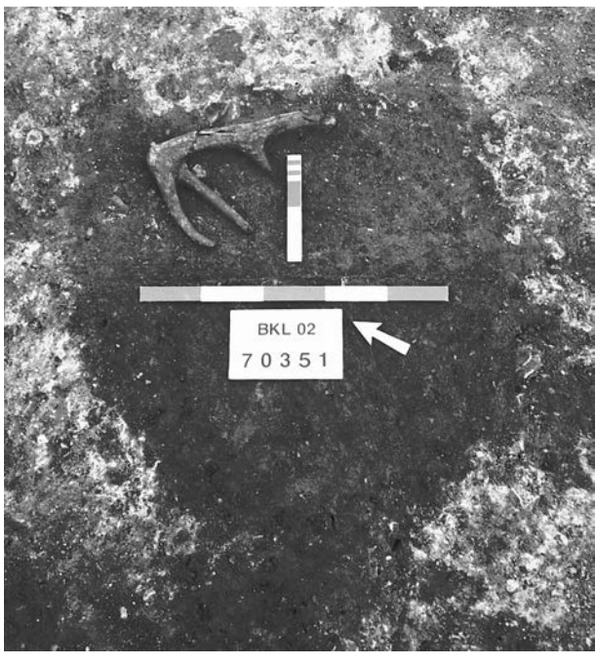

Plate 2 Antler in later Neolithic or early Bronze Age pit *1027*; 0.5m and 0.2m scales, north-east facing shot

Possible post structure

The remains of a possible structure in the south-western corner of the site consisted of three postholes in a line, with one or perhaps two extending from the end, in an L-shape. Though the deepest were 0.20m deep, others had been almost completely truncated away, suggesting that other postholes may have originally been present but did not survive. Individual large pottery sherds were found in two of the postholes, *1155* and *1159*. Their fills were all of a consistently different soil composition to those from the earlier group of Neolithic postholes 8m further east.

Later Neolithic or earlier Bronze Age pottery

by Sarah Percival

Introduction

A number of later Neolithic or earlier Bronze Age styles are represented in the assemblage. The small Beaker assemblage of fifty-nine sherds weighing 272g represents a minimum of eight vessels. A range of Beaker fabrics was identified containing a mix of flint, grog and quartz sand (Table 6). Two sherds of Grooved Ware (15g) were recovered. The Grooved Ware fabric is coarse with large sub-angular grog inclusions alongside sparse white pieces of quartz. A single sherd from a Collared Urn is made of coarse fabric (G1), which contains large sub-angular grog.

Later Neolithic or early Bronze Age pottery included the following illustrated sherds. Part of a Grooved Ware vessel in fabric G2 and with incised decoration (Fig. 11.6) was found in the second and last fill of pit *1027*. A Beaker in fabric G3 with fingertip-impressed decoration was found in palaeosol *1192* (Fig. 11.7), and another in the same fabric with square-toothed comb-impressed decoration was located in palaeosol *1311* (Fig. 11.8). This palaeosol also produced two more Beaker sherds, possibly from the same vessel, which were in fabric Q4/F4, and also had square-toothed comb-impressed decoration (Fig. 11.9 and 10).

Description

The Beaker sherds derive from a minimum of eight vessels, each represented by a small number of sherds or a single sherd. Of these vessels, two are decorated with coarse fingertip-impressed rustication (*e.g.* Fig. 11.7) and the remainder have square-tooth comb-impressed zonal decoration formed of filled bands, triangles and lozenges (Figs 11.8 and 11.9). Three large rim sherds survive of which two suggest closed or 'W' profile forms (Fig. 11.9), the third rim is from a vessel of open profile with a short upright neck (Fig. 11.8). The sherds are small with an ASW of 4.6g. The Grooved Ware body sherds are decorated with shallow incised channels suggesting the Clacton sub-style (Longworth *et al*. 1971, Healy 1988, fig. 80: 205). No Grooved Ware rims or bases were found. The Collared Urn sherd is from a small plain vessel similar to examples found during barrow excavations at Bixley, Norfolk (Ashwin and Bates 2000, fig. 35: 2 and 3).

The Grooved Ware was found within the waste-rich upper fill of pit *1027*. Two of five sherds recovered are Grooved Ware, while the other three are of uncertain type. This pattern of secondary fills of dumped material, often within an upper fill or recut has been observed on several Grooved Ware sites (Percival 2004, Garrow 2006, 99). Most of the Beaker sherds came from palaeosol *1311*. Such deposits have been interpreted as indicating intermittent use of a site, perhaps associated with seasonal grazing for animals (Healy 1995). The single sherd of Collared Urn found in pit *1136* indicates that activity at the site continued until the end of the later Neolithic or earlier Bronze Age. Collared Urns are often associated with funerary deposits (Bamford 2000) but have been found in domestic contexts, for example at West Fen Row, Suffolk (Martin and Murphy 1988).

Discussion

The small quantity of Grooved Ware sherds do not appear to have been arranged or placed within the fill of pit *1027*, as seen in complex pit groups elsewhere (Percival 2004). Grooved Ware finds are relatively rare in Norfolk, although Clacton-style sherds have been found at Redgate Hill, Hunstanton (Cleal 1993), Spong Hill, North Elmham (Healy 1988) and Harford (Percival 2004). The occurrence of Grooved Ware has been broadly dated to 3000 to 2100 BC (Garwood 1999, 152).

Fabric	*Fabric description*	*Quantity*	*Wt/g*
F4	Frequent small angular flint pieces giving fabric a speckled texture	6	41
F5	Frequent medium angular flint pieces sand	28	98
G3	Moderate small voids occasional sub angular flint. Fine smoothed surface, laminated texture	14	95
Q4	Common quartz sand, grog occasional angular flint	11	39
Total		59	273

Table 6 Quantity and weight of Beaker pottery by fabric, Stocks Farm

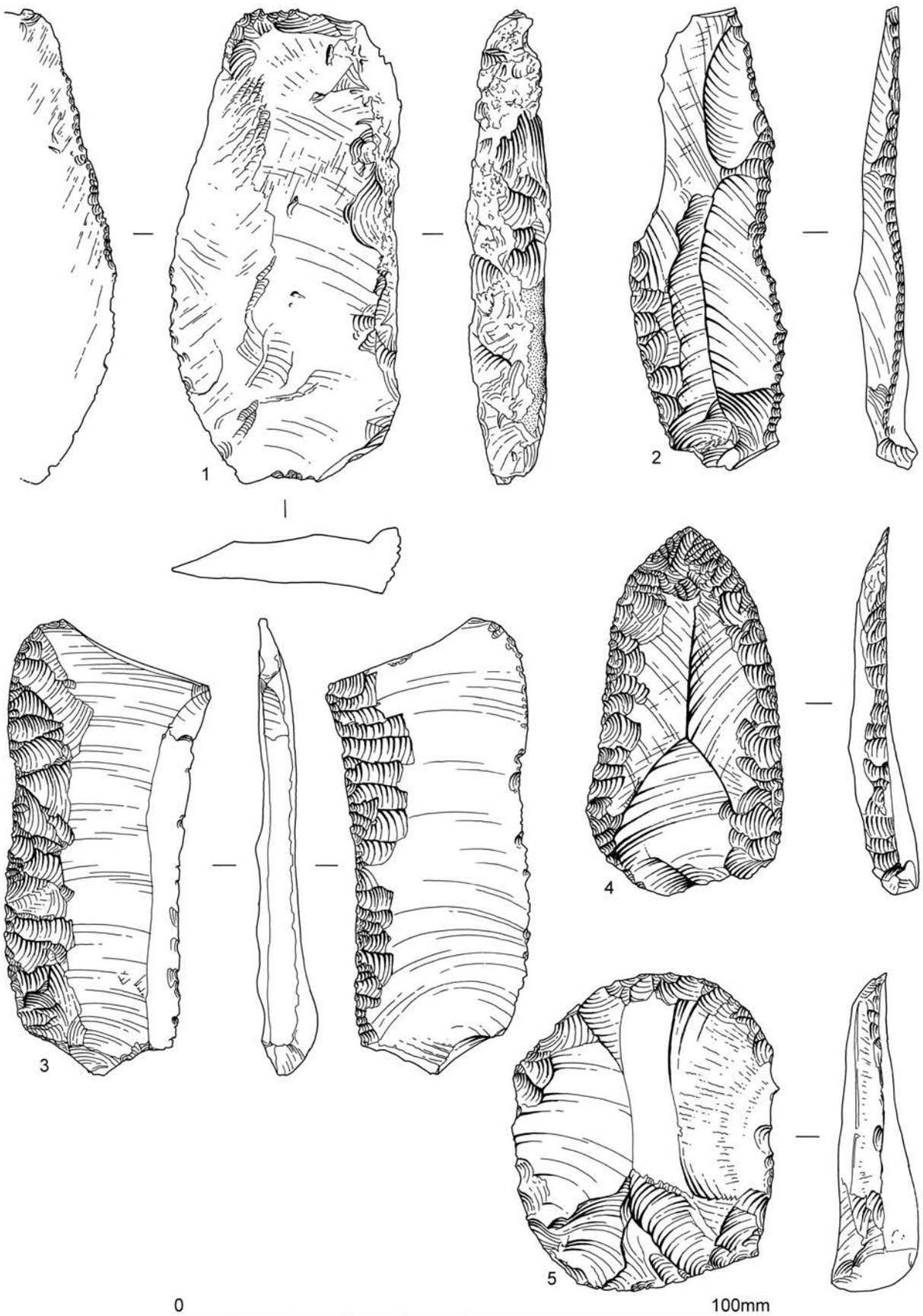

Figure 13 Struck flint tools from Stocks Farm, scale 1:1

The Beaker assemblage is stylistically late and lies within Case's southern Group B, which contains long-necked Beakers with cordons and banded or floating-panel decoration alongside fingertip-impressed vessels, and dates approximately from the fourth quarter of the third millennium BC onwards (Case 1993, fig. 13). Recent radiocarbon dates for Beaker assemblages in Norfolk indicate that the style was in use for a period spanning the second half of the third millennium BC and the first quarter of the second (Percival and Trimble forthcoming).

The composition of the later Neolithic or earlier Bronze Age assemblage bears some resemblance to fen-edge collections such as those recorded at Hockwold cum Wilton (Bamford 1982); however the range of vessel types at Stocks Farm was far more restricted than those found within larger fen-edge assemblages (Healy 1996, 112), and some vessel classes (particularly Food Vessels) are not present. This may suggest that use of the site during the later Neolithic or earlier Bronze Age was fairly limited, perhaps being restricted to intermittent short-term occupation.

Worked flint
by Sarah Bates

Description
The struck flint assemblage is summarised in Section 3.6 above. Forty-eight flints were found in palaeosols which are thought to date to the later Neolithic or earlier Bronze Age. Twenty-six pieces were from the north-western area of the site, the same area as the Phase 1 flint concentration. There are eleven flakes, predominantly thin, a few of them possibly burnt. A couple have abraded platforms. There are also eight small blades, a small pointed fragment retouched to a piercer and a utilised flake. Three unmodified pieces of debitage were found further to the south. Seven more flints, including a neat, quite squat, horseshoe-shaped end scraper (Fig. 13.5) came from palaeosol *1192* to the south-east.

Twelve flints came from the fill of pit *1310* to the west. They include two knives: a neat scale-flaked example with unifacial flaking along both sides and to its distal point (Fig. 13.4), and part of a blade with a facetted platform, neat, quite shallow flaking of its left edge and lesser, more shallow retouch of its right edge on the opposite, ventral, face (Fig. 13.3). Both are patinated an opaque pale grey. There are also two quite small squat scrapers, two utilised flakes and six unmodified flakes which are predominantly small and thin. The nature of the two knives and of the scrapers, particularly the blade-like knives, is not inconsistent with an earlier Neolithic date and the pieces may date to the earlier period. A blade and a spall were found along with an antler in pit *1027* in the eastern half of the site.

Discussion
Most of the debitage from palaeosols assigned to this phase was very similar to that from the deposits assigned to Phase 1. There are some thin flakes, probably soft hammer struck, and several blades. There are also a couple of retouched pieces that seem more likely to date to the earlier period. The greatest concentration of material is in the same area as that from the earlier phase and suggests that material from the earlier phase may have become mixed into the later deposit. Some pieces may, however, date to the later period.

3.8 Phase 3: middle and late Bronze Age settlement

The upper soil layer on the western side of the site and the soil in the more southerly hollow on the eastern side of the site appear to have continued developing into this period. Erosion of palaeosol *1139* created a hollow, subsequently filled by a reddish-brown clay loam, *1405*, overlain by layer *1395* (not shown on plan), a yellowish-brown sandy loam up to 0.30m thick. These deposits were laid down prior to the cutting of ditch *1029* (see below). The apparent erosion of the palaeosol probably indicates that the site was unoccupied for a significant period of time between the Phase 2 and Phase 3 activity.

Western pit group
Nine pits, most cutting through palaeosol *1139*, ranged from 1.85m to 0.74m across and 1.3m (*1424*, Plate 3) to 0.10m deep. They generally had concave profiles, some with undulations or slight 'steps' recorded. Pit *1424* had been filled with firm clay and chalk, *1441*, before being recut, but the fills of the others were unremarkable. The artefactual assemblages were small: pit *020* contained one pottery sherd and three struck flints, pit *1045* contained four Bronze Age pottery sherds, pit *1136* yielded two Bronze Age pottery sherds, the larger of which was from a middle Bronze Age Collared Urn, and pit *1424* contained one Bronze Age pottery sherd and two flint flakes.

Pit *1045* lay outside the main group, but was still to the west of ditch *1513*. Pit *1168* (Fig. 13) pre-dated the ditch and might therefore be Neolithic, but its *terminus ante quem* is in this phase. Pits *1267* and *1478* contained no pottery but post-dated palaeosol *1139* and contained woodland snail assemblages (*1478* also including some grassland taxa), so they are highly likely to have been cut during this phase (see Section 3.12 below). Pits *1424* and *1136* also contained assemblages of woodland snail fauna, while snails found in marshy conditions were also found in the latter pit.

Ditches *1029* and *1513*
The western area of activity was bounded to the east by two segments of a ditch separated by a small gap. This ditch was dug through palaeosol *1139*, and may have been contemporary with the Bronze Age pits described above (Plate 1). A line of undated postholes near the eastern end of the site, (see below) followed a roughly parallel alignment suggesting that these too may have been elements of the local landscape in the Bronze Age. Artefactual dating evidence from the ditch was sparse: a residual later Neolithic or earlier Bronze Age pottery sherd was found in the base of ditch *1513*, but five other pottery sherds and two flints recovered from both ditches could not be closely dated. A bone artefact from ditch *1513* could date from the Bronze Age or Iron Age.

The southern section of the ditch, *1513* (Fig. 14), was deeper and probably earlier than northern section, *1029*. It is possible that the first cut of ditch *1029* may have been completely truncated by later recuts, but if so it must then have been much shallower than its counterpart to the south. A possible alternative hypothesis is that the southern ditch was constructed first, the boundary being extended northwards, at the same time as the original ditch was recut. The two ditch terminals were only 0.57m apart, a little narrow for an entranceway, although they were

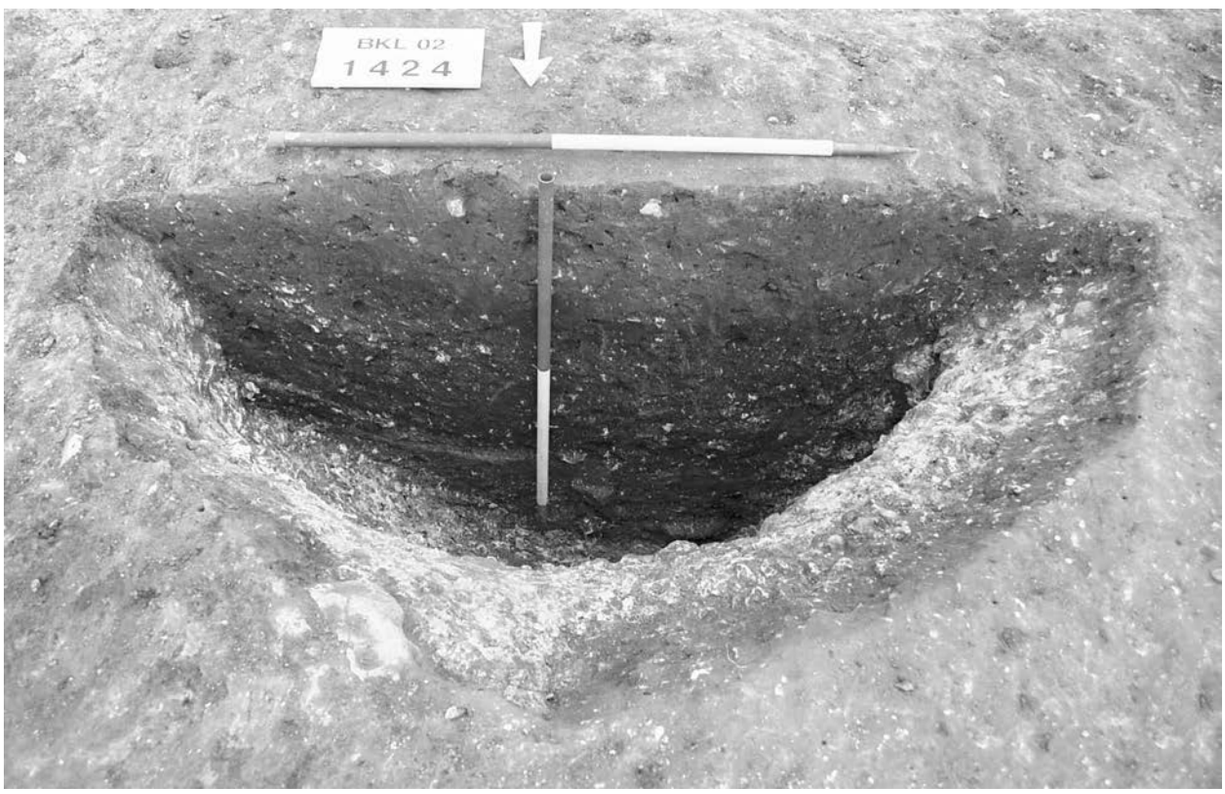

Plate 3 Bronze Age pit *1424*, north-facing section; 1m scales

sufficiently deep and steep-sided to be confidently interpreted as separate.

The end of the southern ditch terminal had a concave profile with sides that were almost vertical at the top, but heavily eroded. This erosion was not seen elsewhere on the ditch sides and may be the result of greater use of the area around this terminal. A layer of chalk within a silt matrix near the base of the ditch (*1281, 1181, 1053*) was up to 0.3m thick, but thinner and patchy near the southern site boundary, where it seems to have been tipped into the ditch from the east. Above this deposit, the ditch profile and depositionary sequence much more closely matched those of ditch *1029*. Three recuts of the ditch contained sequences of dark sandy or clayey silts containing chalk

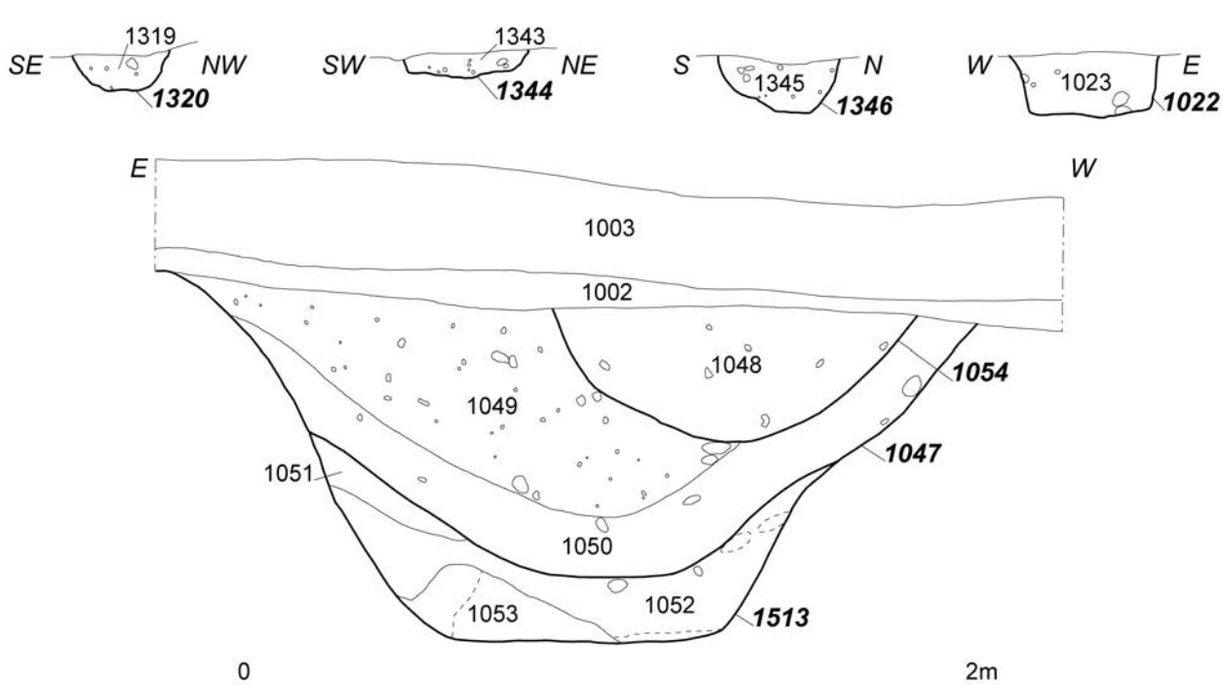

Figure 14 Sections through Phase 3 ditch and postholes at Stocks Farm, scale 1:20

inclusions with increasing frequency towards the top. The lowest fill in the recut was sampled at the terminal and found to contain a snail assemblage of mainly grassland taxa, contrasting with the assemblages from earlier phases which had high proportions of woodland species.

At 1.80m wide and 0.66m deep, the northern section of the ditch, *1029*, was smaller. It had a thin, silty basal fill over which silty loam and chalk had been dumped in from both sides in a complex sequence of deposition, with episodes of recutting. A darker soil had accumulated in the upper part of the ditch and this fill contained a bone point or gouge.

Formed from the proximal end of a sheep radius, this tool has an oblique diagonal cut across the mid-shaft in a longitudinal direction, to form a point. Its dimensions are: length: 76mm; width: 17mm; and thickness: 13mm. Simple pointed bone implements such as this were made and used over millennia: for example Sellwood (1984, 382–7) discussed thirty-eight from Iron Age Danebury and compared them with assemblages from other sites (Julia Huddle in Cater 2004, species identification by Julie Curl).

Post-built boundary

Five postholes running roughly from north to south across the eastern part of the site, *1022*, *1320*, *1344, 1346* and *1322* (Fig. 14), may have held a line of boundary posts, perhaps with smaller posts or stakes between the posts. The postholes were very regular in shape, all being between 0.30 and 0.35m diameter and 0.10 to 0.18m deep. They were filled with red sand derived from the underlying glacial deposits. The posts appear to have been placed about 3.1m apart, with gaps of 6.13m and 9.47m corresponding to a single post and a pair of postholes missing from the line as a result of truncation. A fourth absence to the north was in an area lying directly on the red sand where the similarity of this to the fill would have made the feature difficult to distinguish. None of these postholes contained dating evidence, but the line was parallel to ditches *1513* and *1029*. This may be simply because the alignments of both boundaries were influenced by the slope of the hill, but if their parallel orientation is taken as indicating that they were coeval, they would have enclosed an area that was largely devoid of dated archaeological features but had a profusion of stakeholes.

Worked flint

by Sarah Bates

The total struck flint assemblage is summarised in Section 3.6 above. A blade, a flake and a retouched flake came from middle or late Bronze Age deposit *1405*. Three flakes and six spalls came from pit *020* in the western part of the site. The flakes are all thin pieces and may be slightly burnt. Further south, two flakes came from the fill of pit *1424* and nine other pieces, mostly spalls, came from a sample from its fill. One of the flakes, a thin curving piece with a facetted platform, is more characteristic of an earlier, Neolithic type and might be residual in the pit. A couple of the pieces may have been burnt.

3.9 Phases 4 and 5: evidence of nearby Iron Age farming

No features have been definitively dated to the Iron Age; however, the geoarchaeological evidence suggests that the land uphill of the site was eroding after the Bronze Age, possibly during the Iron Age. It is most likely that this erosion was caused by arable farming.

Colluvial material survived in patches across the site. Three unstratified Iron Age pottery sherds and three earlier Iron Age crumbs of pottery were recovered from the subsoil *1002*. This artefactual material is probably residual and indicates that Iron Age activity was taking place nearby, possibly up slope to the east and north-east. Note however that subsoil *1002* also contained sixteen sherds of later Neolithic or earlier Bronze Age pottery, one sherd of which weighed 35g. This was all almost certainly pulled up by ploughing, and indicates a high level of movement of soil.

3.10 Phases 7 to 10: intrusive post-Roman pottery

by Sue Anderson

Two post-Roman pottery sherds were found. One is a body sherd of early Saxon medium sandy pottery, which was collected from a geological fissure. Another sherd, of medieval coarse ware (fabric MCW3), was intrusive in Phase 2 layer *1311*, to the west.

3.11 Phase 13: undated features

Two curvilinear ditches at the eastern site boundary may have formed a small ring ditch of about 6m diameter. Both segments were 0.65m wide, the southern terminal, *1340*, being 0.15m shallower than northern terminal *1350*, which survived to a depth of 0.28m, but both appeared to have been real terminals and not to have arisen simply from truncation of a shallow part of the ring. The fills of each segment were identical, including similar concentrations of chalk and flint pebbles, strongly concentrated towards the base, together with burnt stone and animal bone. Between these curvilinear ditches, an oval pit, *1348*, up to 0.28m deep with irregular sides and an off-centre pointed base, had a very dark brown sandy silt fill containing occasional chalk, ironstone and flint pebbles. These three features may have been the remains of a ring gully that surrounded a small building or structure, which would most likely be of Bronze Age or Iron Age date. Alternatively, they may have been the remains of a funerary monument. Since no dating evidence was found and the whole feature was not exposed, it is not possible to form any firm interpretation.

A line of twelve stakes, *1090*, on the eastern side of the site ran north from the southern limit of excavation. The line was not completely straight, having a shallow curving dog-leg towards the northern end. The stakeholes were all oval or circular, 0.08 to 0.12m in diameter and just 0.02 to 0.15m deep.

Swarms of small holes were recorded in areas of lesser truncation across the site, particularly beneath the palaeosols. Most of the stakeholes were 0.05 to 0.08m in diameter and 0.07 to 0.15m deep, and at least some may have resulted either from minor fluctuations in the

topography or from bioturbation. Some may have cut through the palaeosols but had not been distinguishable at the top of the deposit sequence (A. Crutchley, pers. comm.). Others were, however, clearly prehistoric archaeological features. One group, sealed by palaeosol *1122* in Box 22, and comprising features *1025*, *1062*, *1195*, *1197*, *1236*, *1239*, *1245*, *1242*, *1249*, *1251*, *1253*, *1255*, *1299*, *1301*, *1304*, *1307*, *1362*, *1365*, *1367*, *1369* and *1373*, was very tightly packed. Within this group, some straight lines can be interpolated, perhaps suggesting that they related to some kind of structure. Otherwise, no clear structural patterns were noted.

A profusion of stakeholes in the south-eastern part of the site must date to the earlier Bronze Age or earlier as they were sealed beneath palaeosol *1192*. In Box 36, paired postholes *1220* A and B, D and E, J and I, and G and H could have been part of a circular double post-built structure; similar structures have been recorded by the author at Dreghorn, Ayrshire (Wilson 2003). A similar pattern might have been present in Boxes 33, 36, 37, 39 and 42 (contexts *1443* and *1189*). This would indicate the presence of a sub-rectangular structure approximately 6.1m long and over 4.2m wide. This structure probably dates to Phase 2, contemporary with the artefacts from the developing soil, rather than pre-dating it.

The density of these features in those areas where they survived implies that the whole site would have been thickly studded with stakes. They are unlikely to have been long lived, and may represent temporary structures, movable fences, or tethers for animals. Even if they were ephemeral features, their numbers imply that the site was occupied for far longer than the artefactual evidence or datable features suggest.

3.12 Environmental archaeology

by James Rackham, with Rowena Gale, Alison Locker and Gemma Martin

Introduction

Fifty-eight bulk samples were taken for environmental analysis, twenty-seven from the buried soil layers and the remainder from excavated features. Assessment of the processed samples and hand-collected animal bone (Rackham in Cater 2004) concluded that identification of species present and the spatial distribution of the material could yield archaeologically useful information for a site of this period. The palaeoenvironmental evidence allows questions of whether the site was open grassland or wooded scrub in different areas and at different times during its occupation to be addressed.

Botanical remains

by Gemma Martin

The results are presented in Tables 7 and 8. Because of the scarcity of botanical remains, frequencies have been applied to feature groups in Table 7. The samples from the palaeosols are differentiated by sampling box, in order to identify potential foci of activity and detectable patterns throughout the phases of occupation.

Uncharred botanical remains, including rootlets and seeds primarily of goosefoot family as well as those of chickweed, campion, black bindweed, nettle and elder, indicate that there were small amounts of contamination by recent material.

Even considering that early prehistoric sites are notorious for containing very limited botanical assemblages, especially of charred cereal grain (Greig 1991), this site is particularly poor in charred remains. The sample group yielded very small botanical assemblages amounting to 156 charred items, including fragments. The preservation is generally poor, preventing species identification of any cereal grains and most weed seeds. The preserved remains of economic value comprise seventy-three cereal grains (and fragments), which are predominantly barley, including several hulled grains, and a small number of wheat grains. No corresponding chaff has been recovered to confirm or elaborate on the cereal identifications. In addition, fifty-seven fragments of nut shell have also been recovered, all hazel aside from a single instance of plum, cherry or sloe (*Prunus* sp).

The weed seeds are minor components of the assemblage, with identifiable species generally represented by single seeds only. The species identified include buttercup, common chickweed, possible dock, medick or trefoil and other small-seeded legumes, cleavers and possible sedge (Tables 7 and 8).

Discussion

The scarcity of botanical remains presents difficulties in extracting meaningful information from the assemblages, a problem frequently encountered on early prehistoric sites (*e.g.* Murphy, 1998). The frequency of charred remains from the sampled features and deposits across the site appears to demonstrate a concentration of probable domestic activity within the western half of the site. The botanical remains that potentially constitute domestic residues, notably fragments of hazelnut shell, appear to occur most frequently in contexts associated with the palaeosols in the western hollow, spanning all phases of activity. However, this perceived concentration partly results from the greater number of samples taken from the west than the east, which skews the spatial distribution of charred material. In the eastern area there appears to be more charred remains associated with features than palaeosols, but again this is due partly to greater ratio of sampled features to palaeosols here. Detecting temporal changes also remains problematic owing to the differing numbers of samples from each phase.

The lack of evidence for crop processing may not reflect directly the role that cereals played in the economy of this site. It is impossible to quantify the loss of material, through factors such as weathering, frost damage or re-working of the deposits, which could have reduced the assemblage size. In addition, the remains are exclusively preserved through charring, so the scarcity of evidence may be linked to the cereal processing methods adopted in prehistory. The cereals may have not been parched (weakening the husks before removal or hardening the grain before grinding), since the husks may have been rubbed off. Alternatively, grain can be consumed in forms that require no grinding, such as in gruel. Straw and chaff may be under-represented because they are usable as fodder, building material and temper for pottery. While the raw data suggests that pastoral regimes and wild resources were of greater economic importance than cereal production to the Neolithic and Bronze Age inhabitants of this site, cereals are taphonomically under-represented. It is possible that these people were following a transhumance lifestyle, accounting for the scarcity of

	Phase	*1*	*2*	*3*	*3*	*13*	*13*	*13*	***Total***
	Deposit type	*Pits*	*Pits*	*Pits*	*Ditch*	*Pits*	*Stakeholes*	*Colluvium*	
	No. samples	*3*	*2*	*7*	*1*	*16*	*1*	*1*	***31***
	Vol. soil/litre	*93*	*29*	*190*	*17*	*516.5*	*40*	*40*	***925.5***
Cereal									
Triticum sp.	Wheat					1			**1**
cf. *Triticum* sp.	Wheat?								**0**
Hordeum sp(p). (hulled)	Hulled barley								**0**
Hordeum sp(p).	Barley			1		2		1	**4**
cf. *Hordeum* sp(p).	Barley?					3			**3**
Cerealia indet.	Indet. grain					2		1	**3**
Indet. frags						5		1	**6**
Weeds									
Ranunculus acris/repens/bulbosus	Meadow/creeping/bulbous buttercup								**0**
Chenopodiceae	Goosefoot family		1						**1**
Stellaria media (L.) Vill	Common chickweed								**0**
cf. *Rumex* sp(p.)	Dock?					1			**1**
Medicago/Trifolium spp.	Medick/trefoil					1			**1**
Fabaceae indet.	Small legumes		1						**1**
Galium cf. *aparine* L.	Cleavers?			1					**1**
cf. *Carex* sp.	Sedge?					1			**1**
Indeterminate			1	1		3			**5**
Other									
Corylus avellana L.	Hazelnut shell frags.	1	2	2		4	1		**10**
Prunus sp.	Plum (plum/cherry/sloe) frag.					1			**1**
Indet. nutshell frags									**0**
Sambucus sp.	Elder			1					**1**

Table 7 Charred plant remains from the excavated features, Stocks Farm

	Phase	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*2*	*2*	*2*	
	Context	*1140*	*1285*	*1361*	*1470*	*1275*	*1388*	*1449*	*1311*	*1202*	*1139*	***Total***
	Same as	*1140*	*1140*	*1140*	*1140*	*1140*	*1140*	*1112*	*1311*	*1139*	*1139*	
	Box	*2*	*7*	*10*	*12*	*13*	*18*	*14*	*12*	*2*	*7*	
	No. samples	*12*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*7*	***27***
	Vol. soil/litre	*260*	*20*	*39*	*37*	*21*	*32*	*41*	*39*	*20*	*140*	***649***
Cereal												
Triticum sp.	Wheat		1								1	**2**
cf. *Triticum* sp.	Wheat?	1										**1**
Hordeum sp(p). (hulled)	Hulled barley	1				1						**2**
cf. *Hordeum* sp(p).	Barley?	2					1					**3**
Cerealia indet.	Indeterminate grain	1							1			**2**
Indet. frags		10									4	**14**
Weeds												
Ranunculus acris/repens/bulbosus	Meadow/creeping/ Bulbous buttercup										1	**1**
Stellaria media (L.) Vill	Common chickweed								1			**1**
Medicago/Trifolium spp.	Medick/trefoil										1	**1**
Fabaceae indet.	Small legume seeds	1										**1**
Indet.		1							1		3	**5**
Frags							1	1				**2**
Other												
Corylus avellana L.	Hazelnut shell frags.	10	1	1					1		3	**16**
Indet. nut shell frags										1		**1**

Table 8 Charred plant remains from palaeosol deposits, Stocks Farm

cereal remains, but this cannot be confirmed. It remains impossible to ascertain the relative importance of arable and pastoral regimes, and gathered resources.

Charcoal

by Rowena Gale

Charcoal from a sample of palaeosol *1311* appeared to include material from a domestic hearth. Of the nineteen fragments identified, six were birch, four were oak, three hazel, two alder two blackthorn and two were from the hawthorn or *Sorbus* group. One of the oak fragments was sapwood but the maturity of the other three could not be ascertained.

Snails

by James Rackham

Snail assemblages were recovered from all of the samples, but they varied in size and several contained shells of the blind burrowing snail *Cecilioides acicula*, a probable recent introduction that can burrow to depths of over one metre (Evans 1972). Following the assessment (Rackham in Cater 2004), the ten richest sample assemblages were quantified (Table 9). The samples from the Phase 1 palaeosol layers all show evidence for damper conditions indicated by the presence of shells of *Vallonia pulchella*, *Lymnaea truncatula* and *Planorbis leucostoma* along with a few shells of shade-loving species. These samples would imply a largely open grassland environment associated with this palaeosol.

Quantified assemblages from Phases 2 and 3 are all from pit fills, three of which produced very large samples that were sub-sampled before study (Table 9). In contrast to the Phase 1 deposits, all of these samples show a mixture of taxa from different habitats, but shells of the woodland species *Discus rotundatus* and *Carychium tridentatum* are two of the most numerous. Shells of *Vallonia costata*, a taxon that is characteristic of open grassland but is also found in dry open woodland and scrub (Cameron 2003), exceed those of *Vallonia excentrica* in these samples. These results are in contrast with the Phase 1 deposits, and suggest perhaps a drier and possibly more wooded locality. Evans (1972) records *V. costata* as the first of the open country taxa to colonise recently cleared woodland. This mixed fauna with the presence of *Pomatia elegans*, another taxon Evans associated with clearance or at least the ground disturbance associated with clearance, suggests that these deposits reflect a period of clearance and subsequent opening up of the landscape. In the absence of a sequential series of samples through some of these deposits this change from woodland to open country cannot be directly illustrated, but the general fauna from the bulk samples allows this inference. *Pomatia elegans* is also characteristic of a calcareous soil and would be expected to be absent from decalcified soils.

At first glance this limited data set would suggest an open Neolithic landscape around the site, after which woodland regeneration occurred after the early Neolithic (Phase 1) occupation, followed by a second phase of clearance in the Bronze Age. However, several factors suggest that this may be too simplistic an interpretation of the data. Firstly, the Phase 1 data is all derived from the palaeosol deposits. If the unquantified samples from the palaeosols are also considered, this picture of an open landscape is reinforced (Rackham in Cater 2004), but the one quantified Phase 1 sample derived from a pit fill is different. Pit *1435* (fill *1436*), had a mixed fauna (Table 9), but was dominated by shells of *Vallonia*, in which *V. costata* are more abundant.

The palaeosols have the Phase 1 and Phase 2 and 3 ceramics apparently stratified, but this could have resulted from differing levels of soil bioturbation over time, considering the greater duration that the early Neolithic pot sherds were in the soil. Most of the colluvial burial of this ancient soil took place after the late Bronze Age occupation, and it is possible that the early Neolithic horizon represents merely a horizon within the ancient palaeosol rather than the actual burial by later colluvial sediments of the Neolithic land surface. If this was the case, then the snail fauna from the early Neolithic phase of the palaeosol may have been lost through solution in the soil, and the shells that have been recovered may relate to the latest phase of the palaeosol before its burial by colluvial sediments. If the latter were true, then the sequence of events would be somewhat different to that suggested above. The Phase 2 sample from a pit would be the earliest snail assemblage, followed by those of the middle to late Bronze Age pits. These all suggest a period of woodland clearance and an opening up of the landscape. The snail assemblages from the Phase 1 palaeosols would then represent the landscape after this and prior to the colluvial burial.

The late and perhaps post-Bronze Age landscape was therefore one of open grassland, with some damp grassland areas. The sequence suggested by these snails therefore hangs upon the interpretation of the archaeological sequence and the development of the palaeosol. Five of the unquantified snail assemblages (Rackham in Cater 2004) have been identified to Phases 2 and 3, three of which were from palaeosol deposits and two from pits. In all three palaeosol samples, the snail assemblage suggests an open grassland environment, while both pit deposits produced a similarly mixed fauna, containing both open and shade loving taxa. The samples from the palaeosols therefore consistently illustrate an open environment irrespective of phase, while in general the pits show a woodland or mixed fauna.

It is possible that this difference reflects differing local environments represented by the soil and the dug features, but since all the pits were dug through the soil, and are unlikely to have remained open for extended time periods, it would appear unlikely that the taphonomy could account for these differences unless snail-rich debris from woodland environments was being discarded into the pits. This possibility should not however be ruled out. Middle to late Bronze Age pit *1136* contained a very large number of shells of *Planorbis leucostoma*, a species associated with ditches that are seasonally waterlogged but tend to dry out in the summer (Macan 1977), and these comprise nearly 40 per cent of all the shells recorded. Unless this pit was in fact a well-type feature, seasonally used as a source of water, this density of a species typically found in marshes, ponds and ditches that tend to dry up is likely to have arrived with reeds and ditch or pond-side material collected for some functional use, such as a floor covering, and thrown away in the pit.

Context	Palaeosol 1122	Palaeosol 1122	Palaeosol 1122	Palaeosol 1122l	Palaeosol 1140	Palaeosol 1388	Palaeosol 1449	Pit fill 1436	Pit fill 1475	Pit fill 1137	Pit fill 1269	Pit fill 1432	Pit fill 1427
Feature								*1435*	*1474*	*1136*	*1268*	*1424*	*1424*
Phase	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*2*	*3*	*3*	*3*	*3*
Open country										25%		25%	25%
Cecilioides acicula	++++	++++	++++	++++	++++	+++	++++	+++	+++	++	++		+++
Helicella itala	1	4	5	2	7	7	5		2		2		
Pupilla muscorum	1	3	5	5	1	20	3		1	3	1	2	1
Vertigo pygmaea					1	3		+	3	12			1
Vertigo pusilla									1		1		
Vertigo substriata										5			
Vertigo angustior						3				17			
Vertigo antivertigo										7			
Vertigo sp.								+	1	11		1	
Vallonia excentrica	9	7	17	7	20	59	25	+	24	22	9	15	33
Vallonia costata	2		6	3		24	6	+	25	112		96	45
Vallonia pulchella	2		3	1	6	7	3	+	2	1	1		
Vallonia sp.	10	4	11	9	11	72	25		54	121	7	53	44
Catholic													
Trichia hispida	5	6	7	4		21	4	+	53	103	9	78	41
Hygromia striolata									3	2		2	2
Cochlicopa lubrica							1		5	6		3	2
Cochlicopa lubricella							1		2	1		1	2
Cochlicopa sp.						3	1	+	2	46	1	15	13
Cepea nemoralis			4	2								1	1
Cepea hortensis			4										2
Cepea sp.				2		4		+		4	1	2	14
Shade loving													
Pomatia elegans								+		4		10	1
Discus rotundatus	1	1	1			5	3	+	66	40	10	58	83
Oxychilus cellarius										6			
Oxychilus alliarus	1			1	3						2	5	1
Oxychilus sp.			1			4		+	17	10		15	12
Aegopinella nitidula			1					+	1	1		4	1
Aegopinella pura							2		7	33		15	30
Nesovitrea hammonis						1				8	1	1	1
Euconulus fulvus										1		1	
Acanthinula aculeata								+		4			1
Punctum pygmaeum								+	3	15		3	1
Carychium tridentatum						6	4		11	118	2	32	22
Carychium minimum										16			
Carychium sp.						3	7	+	4	23	1	4	
Vitrina sp.												2	
Vitrea crystallina										3		1	
Vitrea contracta										1			
Vitrea sp										4		2	4
Clausilidae									4	1	1	6	6
Aquatic													
Planorbis leucostoma					4			+		543		2	15
Aplexa hypnorum										5			1
Lymnaea truncatula					1	1	1	+	1	72		11	2

Table 9 Frequency of mollusc taxa identified from the samples, Stocks Farm

Animal bone and marine shell

by James Rackham

This site produced the second largest assemblage of hand-collected animal bone from the project, some 891 fragments, weighing 6.6kg, but also one of the assemblages in the poorest state of preservation. Many of the bones are represented by several fragments. Identified bones from phased contexts amount to a sample of 482 recorded fragments. Interestingly the Phase 1 material is a little better preserved than that from Phase 2. The material from Phase 2 palaeosols is the worst preserved, with over 23 per cent being in a very poor state (Class 2: bone very severely pitted and thinned, tending to break up; teeth with surface erosion and loss of cementum and dentine). When bones are in this condition, it is certain that a significant proportion of the originally deposited assemblage will have been lost from the soil. This loss will also be biased towards the younger, more porous, juvenile bones and species with more fragile bones.

Human, cattle, possible aurochs, sheep, pig, red deer and dog have been identified in the hand-collected material. A cockle shell (*Cardium edule*) is also recorded from Phase 2 palaeosol *1192*. Bones of thrush, a tit-sized passerine, a small unidentified carnivore, water vole, bank vole, field vole, wood mouse, shrew, snake, frog or toad and fish (see below) were recorded from the soil samples. Generally, only teeth have survived from the small mammals, indicating that bone has been lost from the soil. All of these species dig burrows, so their occurrence cannot be guaranteed as contemporary with the archaeological debris; these bones may represent a death assemblage in the soil over several thousand years, or perhaps only the last few hundred years. Only the bones of the larger animals can be considered reasonably well stratified, although the carpometacarpus fragment of a probable member of the thrush family is burnt, which indicates contemporaneity with the archaeology. There may also be doubt concerning the age of the fish bones. These tend not to survive burial in adverse conditions, and both eel and herring vertebrae are small enough to fall down through worm holes and burrows and become worked into the soil, perhaps to some depth, by soil processes. Only the three eel bones from pit fills can be considered contemporary with the archaeology with any confidence.

Most of the bones recovered from Phases 1 and 2 derive from palaeosol layers, with only a small proportion derived from pits. Cattle bones dominate the small collection in all phases. One dog bone is recorded from Phase 2, but a large dog mandible was recovered from an undated context and evidence of dog gnawing could still be detected on a few bones. Two human femoral shafts were recovered, from the secondary fill of Bronze Age pit *1424* and from an earlier Neolithic palaeosol. Both bones were robust and adult, and that from the pit, although fragmented, was in very good condition.

The red deer bones include fragments of antler, shed antler, and long bones; the bones tending to indicate large adult animals. Fragments are recorded from Phase 1, 2 and 13 (probably 3). One heavily fragmented shed antler was recovered from Phase 2 palaeosol *1192*, although fragments of more than one antler could be present among the 108 pieces. A second, much less fragmented, shed antler was present in Phase 2 pit *1027*. Both indicate that shed antlers were collected, but whether for ritual use or as raw material cannot be established as none of the antler fragments show any sign of working.

The majority of the surviving cattle bones indicate adult animals, with only three bones having unfused or just-fused epiphyses and one cattle mandible found in a Phase 3 pit having the first molar only just in wear. A very small calf is indicated by a femur fragment from the Phase 2 palaeosol. Several of the cattle bones indicate large animals. A lack of measurable long bones prevents estimation of their size, but four bones, a femur, a first phalanx, a proximal radius fragment and a calcaneum are perhaps large enough to be in the range of the aurochs. The only butchered bones of cattle were recovered from contexts assigned to undated Phase 13 (probably 3). For the cattle at least, fragments survive from most parts of the skeleton, but not in sufficient quantities to justify any analysis of the proportions of various skeletal elements.

In contrast to the cattle, three of the sheep bones that carry evidence for age at death indicate immature animals. These are an unfused distal radius, a deciduous premolar 4, and one very small tibia from a young lamb. There is equally little ageing data for pigs, with one bone and two teeth all indicating immature or juvenile animals.

Fish bone

by Alison Locker

The small fish bone assemblage included three small eel vertebrae from Neolithic and Bronze Age contexts, and a single herring vertebra from an unphased palaeosol. The remainder were teeth, of which nine were identified as shark and compared to the porbeagle, though they were all fragmentary and should not be regarded as specific identifications. Another seven tooth fragments could also be shark, but might also be ling, cod or other large gadid, salmon or pike. The large number of teeth in comparison with other elements is unusual, and it has been suggested they are fossils.

Discussion

by James Rackham

The palaeoenvironmental evidence derived from the mollusc shells is subject to alternative interpretations, but it may be that the early Neolithic period is represented by only one snail assemblage if the shells from the palaeosol relate to the latest phase of the palaeosol before its burial by colluvium. The only assemblage from a cut feature of early Neolithic date has produced a mixed assemblage suggesting an opening up of the landscape following clearance. The palaeosol deposits assigned to the early Neolithic period show a characteristically open and dry grassland environment, with only a small component of snails favouring shaded or woodland environments. This is the picture for every palaeosol sample assigned to Phase 1 (Rackham in Cater 2004) and, incidentally, the palaeosol samples from Phases 2 and 3 as well.

The majority of the samples from Phases 2 and 3 derive from pits, and all these have produced a mixed fauna with the woodland elements occasionally dominant and taxa suggesting recent clearance. This clear discrepancy between the palaeosol assemblages and the pit fills could be explained by their differing depositional environments, but this would demand that the pits remained open sufficiently long to be colonised by snails from beyond the grassland surrounding them. The assemblage might be better understood if the snail

assemblages from the palaeosol deposits are seen as reflecting the land surface after the clearance phase. This suggests a woodland clearance followed by grassland, possibly only fully developed after the site ceased to be occupied but before nearby arable activity caused the deposition of colluvium over the palaeosol. Since the woodland element is present in cut features from Phases 1, 2 and 3, it is possible that each phase of activity on the site commenced with clearance of old or regenerated woodland. This supports the archaeological conclusion that each episode on the site was separated by a period of abandonment. It also implies that the landscape of the earliest settlers, and each subsequent phase of occupation except the last, was no longer maintained even for pasture.

The Phase 2 charcoal sample suggests mixed open woodland, scrub or hedgerow environments as a source of firewood, rather than typical mixed oak woodland where oak and hazel might be expected to be dominant. The presence of large red deer among the animal bones from Phases 1 and 2 suggest that there were forest areas in the vicinity, where such animals could forage and were hunted.

Traces of wheat and barley suggest that these cereals were consumed on site. There is no direct evidence for local cereal production or on-site crop processing in any phase, but we can assume that both wheat and barley were grown nearby. Wild resources were evidently exploited, and the surviving remains demonstrate that certainly hazelnuts, and possibly plum, cherry or sloe and elder, were in all likelihood available locally and brought onto site for processing and consumption during all three phases of occupation.

The only wild animals for which we have evidence of exploitation are the eels, red deer and possibly aurochsen and some birds. The surviving bones of red deer indicate large, adult, probably male animals being hunted, but their shed antlers were also collected for use. Aurochsen were hunted into the middle Bronze Age (Davis 1987) and the absence of any bones assigned to possible aurochs in Phase 3 may therefore be significant. One burnt carpometacarpus of the thrush family suggests that song birds were taken and although no birds larger than a thrush have been identified, three of the soil samples produced fragments of bird eggshell, whose size indicated eggs both larger and smaller than a chicken. Their occurrence in these contexts, although very rare, could well indicate egg collection for food.

Cattle are the most important of the domestic species, although it must be remembered that the species ratios have been affected by recovery efficiency in the hand-collected assemblage and preservation in both hand-collected and soil sample assemblages. In comparing the frequency of contexts and samples with each species, pigs may be under-represented in the hand-collected material but there is no indication that sheep are. It is difficult to assess the husbandry of the domestic animals since many juvenile bones may not have survived. The sample residues significantly broaden the range of food items found on the site, indicating the importance of hazelnuts, cereals, and probably fishes, birds, eggs and wild fruits in the prehistoric diet, though there is too little data for this to be effectively quantified. It is clear from the range of surviving evidence that this was a domestic occupation site. A minimal charred plant remains assemblage is characteristic of earlier prehistoric sites, and the very low numbers of identifiable cereal remains from a relatively large number of samples (just over 1.5 tonnes of soil) is not unusual and may indicate the care or methods used in preparing grain for consumption.

Most of the resources indicated from these remains would have been available locally, but the cockle shell, assuming it was not intrusive, indicates that the settlement was exploiting marine resources as well as local woodland, rivers and arable and pastoral lands.

3.13 Site formation processes within the palaeosols

by Tom Wilson

The stratigraphic and artefactual record of the buried soil horizons presents evidence of a complex series of processes occurring over a considerable period. These ongoing pedogenic processes would have continuously modified existing contexts making interpretation of discrete phases of activity difficult. These soils were developing from before the first people occupied the site until after the last settlement had been abandoned when it was buried beneath colluvial deposits from the slope above. Erosion could be seen to have affected one area during the Bronze Age, and similar but undetectable events may also have taken place at other times during the lifetime of the site.

Sequences of three distinct layers were recorded and these were strikingly consistent in different boxes, even when their characteristics of colour, consistency and composition, including coarse and fine particulate proportions, were recorded by different archaeologists. Moreover, a strong correlation was noted between these putative layers and the age of their ceramics. This suggests that the palaeosol layers should be considered as separate soil horizons. During post-excavation work, however, an alternative explanation was examined: that the impression of separate layers was the result of post-depositional change. The following three observations were central to this hypothesis: pottery sherd weight appeared to be directly proportional to depth; much of the Phase 2 lithic debitage was not significantly different to the Phase 1 assemblage; and there was no consistent difference between the snail shell assemblages from any of the palaeosols, all of which suggested an open landscape, while the assemblages from pits were distinctly different and tended to suggest a more wooded environment.

The mean sherd weights (MSW) of pottery, as context groups, as period assemblages, and sub-divided into contemporary groups within contexts, were compared to seek relationships indicating whether the material was *in situ* or disturbed (Table 10). When weights of all pottery in each palaeosol are compared, the sherds in putative Phase 1 contexts are about 10 per cent heavier than sherds found in putative Phase 2 contexts, but when the weights of sherds of each phase are compared, regardless of provenance, earlier Neolithic sherds have the heaviest MSW, followed by the later Neolithic or early Bronze Age sherds, and then Bronze Age sherds. These MSW differences correlate with fabric type; the Neolithic sherds being flint-tempered, while the softer, more easily abraded Bronze Age fabrics are grog-tempered (S. Percival, pers. comm.). This suggests that there is little difference between the degrees of disturbance in these layers. When pottery groups of the same date but different

Phase	*Palaeosols*	*Pottery date*	*Sherds*	*Sherd wt/g*	*Mean sherd wt/g*
1	1024	Earlier Neolithic	121	735	6.1
	1122	Later Neolithic or earlier Bronze Age	8	35	4.4
	1140	Bronze Age	11	20	1.8
		Undetermined	2	3	1.5
		Total	**142**	**793**	**5.6**
2	1139	Earlier Neolithic	3	26	8.7
	1192	Later Neolithic or earlier Bronze Age	71	336	4.7
	1311	Bronze Age	3	23	7.7
		?Roman	1	5	5.0
		Total	**78**	**390**	**5.0**
1 & 2	1024	Total earlier Neolithic	124	761	6.1
	1140	Total later Neolithic or earlier Bronze Age	79	371	4.7
	1122	Total Bronze Age	14	43	3.1
	1139				
	1192				
	1311				
		Grand total	**217**	**1175**	**5.4**

Table 10 Quantity, weight and mean sherd weight of prehistoric pottery within palaeosols at Stocks Farm by phase (after S. Percival)

phase are compared, there is even less of a clear weight-to-depth relationship. For pottery dated to both the earlier Neolithic and Bronze Age periods, sherds found in Phase 1 contexts are lighter than those in Phase 2 contexts. For later Neolithic or earlier Bronze Age sherds, there is no significant different in MSW between the two phases.

However a closer reading of the data indicates sufficient clustering both vertically, within the layers identified on site, and horizontally to indicate that the earlier Neolithic artefacts have not moved significantly from their original point of deposition and that the soil has formed from material accumulated around and then above them. None of the earlier Neolithic ceramics showed signs of damage commensurate with long life in an active soil (S. Percival pers. comm.). There has doubtless been some intermingling of layers, but it is notable that the palaeosols still exist only because they are in hollows. As well as preserving them from medieval and modern ploughshares, these hollows would have significantly reduced any downslope movement once the soil had formed inside them.

The distribution of flint spalls and the distribution of snail shell have also been considered. Some significant vertical movement through the soil must have taken place if the woodland snail assemblages were originally deposited before the grassland assemblages. However, these snails, and the flint spalls, are far smaller and lighter than the pottery sherds and could certainly have moved under the effects of bioturbation and cryoturbation. Freeze-cracking, while more typical of argillic soils (Schiffer 1996), may also have resulted in spalls and shells moving upwards or downwards. As the soils would seem to have been active until being covered by colluvium during or after the late Bronze Age, small objects such as spalls and snail shell could travel through them, but this does not indicate that the earlier pottery necessarily also came from above.

Despite the evidence presented above, the possibility must be left open that all of the artefacts originated at higher levels and moved down through the soil column. The most likely explanation is that both interpretations are partly true, that while there has been significant mixing the soils are not so disturbed as to have lost all of their original character. This author concludes that the soil did build up in layers, that their interfaces remain distinct and discernible, possibly in part due to different surface conditions during site abandonment stages, and that, despite dynamic soil processes over at least 2000 years, the archaeological record retained enough coherence to produce secure interpretations concerning different phases.

3.14 Discussion

by Trevor Ashwin and Tom Wilson

While the proximity of the fenland may well be a significant factor in assessing the Stocks Farm evidence, the importance of the more subtle contrast between the Good Sands and the relatively mixed soils to their west should not be underestimated either. This is especially true when considering a factor that may have restricted the population-carrying capacity of the calcareous uplands of West Norfolk into the medieval period and beyond: the lack of surface water. Only a short distance to the east of the site, the landscape is one of rolling uplands dominated by dry valleys. Although some of these may have carried running water, at least seasonally, in the wetter environment of later prehistory, the point still stands. In the introduction to his archaeological survey of West Acre, the neighbouring parish to the west, Alan Davison noted that, apart from the Nar itself, there is no surface water at all in the parish other than a group of small ponds at High House Farm (Davison 2003, 203). While the lowland soils to the west are most easily characterised as being of relatively low agricultural value, the presence of a wide variety of drainage conditions in this complex surface patchwork could have provided many specific environments not present in the uplands, with water available for animals all year round. Stocks Farm lay at the interface between these two zones.

How extensive was the prehistoric occupation landscape studied at Stocks Farm? The issue of site visibility, whether the prehistoric site would have been recognised at all if it were not for this evaluation and

whether it in fact extended further to the east and west along the pipeline route, is very important. It is usually difficult to identify well preserved prehistoric occupation sites for excavation in the agriculturally flattened landscape of Norfolk. On the rare occasions when it is possible to excavate on the sites of prehistoric lithic scatters, as at Shouldham and Marham, nearby in the Nar Valley (Crowson, Lane and Reeve 2000, 168–74), ploughing is usually found to have removed any subsoil features. By contrast, important prehistoric occupation evidence, although usually plough damaged, is often found by archaeologists who are looking for something else entirely (Ashwin 2001, 30–1). The Stocks Farm site is no exception, having been targeted during project planning on account of the Anglo-Saxon remains nearby. The excavation team considered that the site would have been identified in any event during the watching brief, even without prior evaluation, since a number of the features, including the hollows filled with dark palaeosols and the Phase 3 segmented ditch, would have been recognised during stripping of the working width. Discovery under these circumstances, however, would have involved heavier machine truncation to add to that already inflicted by ploughing, while less time and fewer resources would have been available to do justice to the evidence.

It is possible that the localised hummocky natural relief here, with natural depressions containing conspicuous buried soils, allowed identification of this area of archaeological interest, while material to east and west may already have been eroded terminally by ploughing. Alternatively, the pipe route may have intersected a north-to-south band of occupation that followed the soil and drainage 'fault line' already described.

The site need not represent long-term permanent occupation throughout prehistory, but might still have been an extremely persistent focus, especially since this landscape zone would have afforded relatively easy access to diverse natural environments to both east and west. With regard to the topography of earlier Neolithic settlement, it is interesting to compare this situation with that on the northern side of the Waveney valley in south Norfolk, and the possibility that area excavations in the Broome and Ditchingham area (Wainwright 1972; Robertson 2003), rather than exposing discrete 'sites', actually revealed a very small sample of a continuous band of Neolithic occupation on the dry terrace fringing the Waveney valley. Interestingly, the important early Neolithic site at Kilverstone, near Thetford, occupies a topographically similar location much further to the west in the Little Ouse–Waveney valley (Garrow *et al.* 2005). An extensive activity zone of this kind could have hosted an entire spectrum of Neolithic activities, embracing ceremonial and funerary foci as well as 'settlements' and locations given over to specific agricultural or manufacturing activities; despite this, it might still be difficult for archaeologists to recognise, especially given the problems of site visibility already mentioned. Compounding factors here are the general absence of conspicuous ceremonial enclosures in Norfolk (Ashwin 1996a), and the fact that persistent yet non-sedentary activity within such a zone could have left an 'untidy' pattern of evidence which varied in intensity from place to place.

Phase 1: earlier Neolithic period

The early Neolithic settlement at Stocks Farm probably consisted of insubstantial wooden-framed buildings or structures surrounded by a scatter of pits. It should be no surprise that this boundary between the low-lying wetland environment to the west and higher chalklands further east was deemed a suitable place to live by early farmers. The higher ground would have been good land for swidden agriculture or pasture while the fenland to the east could have provided bountiful natural resources, as it had no doubt done for the forebears of these early settlers.

The palaeosol consistently produced a greater density of archaeological debris than the cut features. The impression that activity was confined to the west and north-east of the site, however, could be a misleading result of better survival in these areas (as in glacial hollows at Colney, Whitmore 2004). When survival areas are considered individually, they provide different indications as to whether the material found in palaeosols was discarded within, around or away from structures. It is very clear that the northern part of the western area incorporated more detritus than the south, or any other contemporary area, while one or more stake-built buildings or structures stood in the southern part of that area. Both stakes and rubbish-rich deposits occurred together in the north-eastern area. Conversely, if any of the stakeholes in the south-east, which are thought to be either Phase 1 or 2, are from this phase, they appear not to have been accompanied by rubbish discard.

The settlement is unlikely to have remained in use until Phase 2, and it is reasonable to presume that some reforestation occurred between settlement phases, although the evidence is not sufficiently clear to confirm this. There may have been some site erosion between phases, accounting for the relative shallowness of the Phase 1 pits, but, since the function of Neolithic pits is unclear it is possible that they were never substantially deeper than when found in excavation.

The wider setting

by Trevor Ashwin

The dating evidence is not sufficiently detailed to say whether activity was episodic, though it was perhaps intensely so if this was an especially favoured zone for the mixed subsistence strategies of early agriculturalists. Wider chronological research questions are emerging for the Neolithic of this region. Increasing numbers of radiocarbon dates from enclosures and 'pit sites', for example Kilverstone (Garrow *et al.* 2005), Etton, Cambs (Pryor 1988) and St Osyth, Essex (Germany 2006), suggest a significant intensification in the period from around 3700 to 3500 BC. This corresponds with what Cleal, in her study of early Neolithic ceramics in southern and south-west England, has termed the Early or Developing Neolithic (Cleal 2004). However, it is clear that many of these dates come from contexts that may be untypical of Neolithic occupation sites more generally, either representing features from enclosures or from intense concentrations of pitting, perhaps indicating specialised activities similar to those taking place at enclosures. Furthermore, these dated sites in East Anglia tend to be associated with decorated bowl pottery of Mildenhall type. By contrast, the fairly fragmentary Neolithic pottery found at Stocks Farm appears mostly to have been plain carinated bowl: a type of ware that is

generally found more frequently than Mildenhall type in Norfolk but seldom in contexts that permit close dating. Our inability to resolve the dating of the Neolithic occupation here reinforces the need to gain a better understanding of the chronology and typology of the type of pottery that is most often represented on Neolithic sites, especially those that do not appear to have a clearly ceremonial emphasis.

The discovery of palaeosols is an interesting addition to the Neolithic environmental dataset from Norfolk, to be placed alongside other recent discoveries such as those near Norwich at Colney (Whitmore 2004) and Harford (Percival and Trimble forthcoming). All of these sites have shown how localised hollows and lower valley slopes can protect islands of prehistoric soil for archaeological study. At Colney, a midden deposit containing plain bowl pottery and enormous amounts of struck flint, apparently associated with a stony 'floor', had been laid upon a pre-cultivation forest soil and subsequently been cut by postholes that may have represented a significant timber building. The deposits in the Stocks Farm hollows are rather harder to interpret. It would appear that soils of later prehistoric date were also present in these relatively shallow features, raising the possibility of truncation and soil-removal events in prehistory as well as more recently. Furthermore, there was no distinct soil horizon, corresponding to the brown forest soil in the base of the Colney hollow, pre-dating the occupation. Any such deposit may have been impossible to distinguish clearly during excavation from the earliest anthropogenic layers, however, on account of leaching or bioturbation.

With regard to the soils themselves, it is uncertain whether or not deposits of earlier Neolithic date survived (relatively) intact anywhere, given the possible degree of prehistoric reworking, although the apparent concentration of larger Neolithic sherds in the lower horizons might indicate that some stratigraphy remained intact over large areas. Considering the volume of soils excavated, the quantities of finds and environmental remains collected from them do not seem at all large; by comparison, the occupation layer at Colney produced over 5000 flint flakes alone, compared with the 176 struck flints of all kinds from the entire Stocks Farm excavation. However, there are sufficient indications of organic richness to suggest that occupation waste was an important component of the palaeosols.

How did the soils accumulate, and to what extent were they handled or 'managed' by prehistoric people? Examination of the Neolithic site at Kilverstone (Garrow *et al.* 2005) raises many interesting possibilities for those attempting to interpret that ubiquitous Neolithic subsoil feature: the pit. The occupation landscape at Kilverstone was dominated by over 200 pits, found in a large number of groups. Analysis of the artefact populations of individual pit groups suggested that each group represented a specific event or episode of occupation. The results from each group indicated the former presence of a midden from which specially dug pits had been filled, one by one, in sequence. This interpretation underlines the likely interpenetration between 'ritual' and 'mundane' or purely 'practical' considerations in Neolithic lifeways, with features that resemble 'rubbish pits' having intrinsic meaning and significance. It also reinforces suggestions that many small, steep-sided and Neolithic pits, often closely spaced, at other sites had been carefully excavated specially to receive their contents (considered with reference to Norfolk sites in Ashwin 2001). The presence, even in very small quantities, of fragments of a human femur is interesting here, and might best be viewed in the context of the careful curation of objects of special significance rather than of funerary activity *per se*.

Using Kilverstone as a model, the Neolithic palaeosols might represent a large midden or a complex series of smaller dumps, from which curated material was taken for burial in nearby pits. The observation that the plain bowl pottery, although occurring in small, only partially diagnostic sherds, appeared very similar whether from palaeosols or pit fills (Percival, above) might indicate a commonality between these two context types. Unfortunately, further interpretation is hampered by differential truncation, which has probably removed pits and soils on a large scale, and our lack of knowledge of what features and deposits might lie beyond the limits of the narrow excavation area. Also, we must acknowledge that the specific depositional pattern identified by Garrow *et al*. need not be applicable to all occupation sites featuring pits. Were Garrow's classic 'pit sites', such as Kilverstone and Hurst Fen, Mildenhall (Clark 1960), actually foci for gatherings, ceremonial or other special activities, even fulfilling the role of the Neolithic enclosures that are so scarce in this region? In this context, it is interesting that these 'pit sites' (like East Anglian causewayed enclosures: Pryor 1998; Germany 2006) tend to feature decorated pottery of Mildenhall type, quite unlike the plain bowl ceramics from Stocks Farm and numerous other sites. The need to recognise and characterise, where possible, the possible diversity of Neolithic settlement practices in the region remains as strong as ever.

The indications of a posthole structure, when added to other recent finds from Norfolk at Colney (Whitmore 2004) and Harford park and ride, Caistor St Edmund (Percival and Trimble forthcoming), reinforce the fact that remains of this kind, so often absent from Neolithic excavation landscapes (Darvill 1996), may survive for study in hollows or in sheltered valley locations. It is unclear whether they represented a roofed building, a fragment of a fence or enclosure, or some other structure. In this they resemble the Colney structure, which was formed of quite substantial posts but was not unequivocally roofed. However, while the latter was also found in a hollow in association with a palaeosol, it was also associated with a stony floor-like deposit; furthermore, the whole complex (although only glimpsed within a small excavation trench) had been cut into a midden-like deposit rich in struck flint and pottery. The Stocks Farm structure, recorded as lying below a Phase 1 soil, is harder to explain in stratigraphic terms and no associated activity surface was seen. This might indicate a truncation or erosion event between the disuse of the structure and the laying-down of the palaeosol; alternatively, it is possible that the postholes had in fact been cut from a somewhat higher level through the early soils, but had escaped detection as their fills were similar to the surrounding deposits.

Leaving aside specific questions about the activities represented by the pits, and the lack of dating evidence, the early Neolithic occupation at Stocks Farm is best regarded as episodic, the Phase 1 pits representing one or more particular sojourns at the site. Rather than being used

for rubbish disposal in any casual sense, they may represent deliberate and careful burial events, taking place in specially excavated pits during the period of occupation or even as an act of 'closure' to mark its conclusion. While at many sites environmental evidence can help indicate whether or not prehistoric occupation formed a lengthy continuum, here the data is equivocal: not only are sample sizes small, but few of them are closely dated. The molluscan evidence seems to imply an open environment, though the site may have seen repeated clearance events consistent with intermittent reoccupation.

Phase 2: later Neolithic and early Bronze Age period
by Trevor Ashwin
Features and palaeosols containing late Neolithic and Bronze Age material appeared to be concentrated in the south-eastern zone, and to have been absent from the north-eastern area which saw excavation of pits in Phase 1. However, the significance of this spatial distinction is limited because of the doubts about deposit survival. The Phase 2 results seem significant in more general terms, in suggesting that persistent episodic activity continued here from the earlier period and was characterised by the continued laying-down of soil layers. Parts of the site were covered by a dense distribution of stakeholes, some of them containing finds of the period, which also suggests that this location was occupied over and over again. In the absence of scientific dates, the small but varied pottery assemblage suggests that activities that took place within a very wide time frame have in fact been grouped within Phase 2: the stylistically 'late' Beaker, and the Collared Urn sherd from pit *1136*, contrasting with sherds of Grooved Ware which might date to the earlier fourth millennium BC.

Healy (1995, 175), in her survey of prehistoric ceramics and settlement in East Anglia, drew attention to a qualitative contrast between the subsoil archaeology of the earlier Neolithic period and that of the late Neolithic and early Bronze Age, with the latter more commonly characterised by indications of middens and spreads as opposed to deeper subsoil features. While the digging of pits in the early Neolithic is most unlikely to have been driven by refuse disposal, pure and simple, it is possible that the third millennium BC saw significant changes in customs and habits reflected in the excavation of fewer substantial pits and increasing deposition of artefacts in surface contexts. At Stocks Farm very few pits can be dated to this period, and the archaeological record seems to be dominated by the continued development of the soils recorded in the hollows. As with the earlier period, the possibility of loss of soil layers and removal of features in topographically higher areas of the site means that it is not clear whether the Phase 2 soil layers were confined to the hollows or were once contiguous across the site. Again, the quantities of pottery and flint collected do not seem large given the scale of excavation.

Of the negative features recorded, pit *1027* deserves close attention. Its mid- to late Neolithic date seems clear as the large sherds of fragile Grooved Ware are unlikely to have occurred residually in a deposit of another date while its shallowness and irregular form suggest heavy truncation. Lying extremely close to the recorded southern limits of the north-easternmost soil-filled depression, it may suggest that other comparable features have been removed entirely from the higher ground. Its location also mirrors that of other features to the north of this depression, all of them unphased, including the similar-sized pit *1297* and the confused yet broadly rectilinear cluster of posts and stakes immediately to its north. While pit *1027*, and perhaps other features now destroyed, might have lain near the edge of a midden-like layer which was confined to this hollow, it is also possible that the soils once extended around it, or even that it had been cut through now-lost palaeosols.

Phase 3: middle and late Bronze Age period
by Trevor Ashwin
It seems likely that the environment remained at least partly wooded until the middle Bronze Age, although samples from the latter end of this phase indicate that grassland was by then predominant. There are few features that can be dated to Phase 3, and those that can contain little dating evidence. This suggests that either activity during this phase was very limited or that fewer durable artefacts were in use and Phase 3 activity is under-represented. The site was probably no longer permanently settled and the remains here were elements either of an agricultural or a ritual landscape.

There are indications of a qualitative change in the character of archaeological features and deposits, compared with those of Phase 1 and 2. Accumulation of the dark sandy palaeosols appears to have ceased, in the western part of the site at least, prior to the excavation of Phase 3 ditch *1029* and surviving features dating to this period show signs of an order and regularity not seen in earlier phases. The line of the north-to-south ditch crossing the western part of the area appears to have been mirrored by that of the posthole line 55m to the east, while pits assigned to Phase 3 were concentrated immediately to the west of the ditch. This latter cluster may be more apparent than real, since these recorded pits had been cut into a palaeosol-filled hollow which was skirted on its eastern side by the Phase 3 ditch: it is possible further pits were originally present in the higher blank area to the east but have since been lost.

Despite these doubts about its immediate context, the ditch complex is of some interest. A change in the character of settlement with clear indications of formal division of the landscape and the rise of occupation sites featuring post-built roundhouses far more substantial than those that went before (Bradley 1998, 147–64; Brück 1999) is a prominent feature of the much-studied middle Bronze Age of Wessex but is much harder to discern in northern East Anglia, where evidence for significant Bronze Age structures and land divisions is at a premium (Ashwin 1996a; 2001). However, recent excavation results are offering more glimpses of settlement landscapes in the second millennium BC quite different from those that went before. While post-built structures and field divisions have been glimpsed elsewhere in 'upland' Norfolk (Trimble 2006; Bates forthcoming), area excavation of a mid- to late second millennium site in the Little Ouse valley at Game Farm, Brandon (Gibson 2004) is of special interest, not least because it, too, lay a short distance from a river-valley fen margin. As well as at least four roundhouses, apparently constructed in sequence, this site featured a complex series of ditched enclosures which may have been associated with cattle-rearing. Some caution is needed in suggesting that developments of this kind may have taken place elsewhere around the

eastern fen fringes as the Breckland context of Game Farm may have been atypical, and Healy's study of the lower Wissey valley noted a dearth of later Bronze Age evidence there (1996, 180). However, the palynology of the Fenland Upper Peat more generally suggests that the dryland fen-edge landscape was becoming increasingly open at this time (Waller 1994, 154).

In this context, it is possible that the recorded ditches at Stocks Farm are a fragment of a system of field boundaries, indicating a landscape that was utilised more 'formally' and intensively than in previous millennia, with domestic livestock perhaps of increased importance. The parallel posthole line in the eastern part of the area is of interest here, possibly indicating that the excavation trench had bisected a land division around 65m wide, fenced on its eastern side and ditched to the west. Elsewhere in Norfolk, later prehistoric enclosures bounded by both post-lines and ditches have been recorded at Redgate Hill, Hunstanton (date uncertain: Healy *et al*. 1993) and on the Norwich Southern Bypass at Trowse (Iron Age: Ashwin and Bates 2000, 159–69). Alternatively the ditch might have had an unknown ritual or ceremonial significance. Factors supporting this suggestion include the complex history of re-digging that it exhibited, the slightness of the initial phase of ditch *1029*, and the seeming narrowness of the 'entrance' causeway, especially if it had been used in the context of stock management.

Phase 7: early Anglo-Saxon find

Considering that this site was originally identified as a possible Anglo-Saxon site, it is surprising that there were no features and few finds that dated to this period. However, the buckle found in the metal-detecting survey adds to a dense background of objects found nearby, and should be noted by future investigators.

3.15 Conclusions

by Trevor Ashwin

The results from Stocks Farm are of great interest despite major constraints upon detailed interpretation of the site landscape itself. Differential plough damage had removed many subsoil features and buried soil elements, leaving a partial sample of archaeological deposits surviving for study. The linear form of the excavation area, dictated by the footprint of the pipeline rather than by any archaeological consideration, also impeded spatial interpretation of those remains that did survive. The importance of the evidence lies not in the detailed information that it can provide about a specific occupation landscape but in what it might say about its prehistoric geographical context.

The site lies close to the eastern edge of the Wash fenlands, a unique landscape tract that has become well established as a core area in the study of British prehistory and palaeoenvironmental studies ever since the 1930s (Hall and Coles 1994; Waller 1994). The wide peat fen embayment of the lower Wissey valley, to the south, has seen significant prehistoric research over many decades, with numerous important finds (Healy 1996; Bates and Wiltshire 2000), and its palaeogeography has been studied thoroughly. However, in terms of prehistoric studies, the Nar valley has not been well favoured, the sinuous complexity of the landscape impeding detailed reconstruction of the development of the fenland pocket that it contains. Silvester (1988, 169) has remarked that it is surrounded by hilltops and valley sides which are of clear significance to interpretation of the fen tracts themselves yet which, as dryland, lay beyond the scope of the Fenland Project.

While the relationship of the site to this nearby wetland tract and the various ways in which the activities and movements may have been structured by its presence (*cf.* Last 2005), its proximity to other natural geographical boundaries must also be considered. To those who frequented it in prehistoric times, the location of the site may have been liminal in more than one sense, lying at the intersection of upland soil regions that would have been far more sharply contrasted, in terms of soil type, vegetation and drainage, than they are today.

4. A Bronze Age barrow at Mileham Road, Tittleshall

by Derek Cater and Tom Wilson

4.1 Summary

Excavations revealed a multi-phase site, including funerary remains from both the Bronze Age and the Anglo-Saxon period, as well as more limited Iron Age and post-medieval activity. During the Bronze Age, a barrow was constructed, in at least two phases: the first represented by a segmented ditch, which would then have been buried under a mound surrounded by a larger uninterrupted ditch. Two central pits had the appearance of graves but contained no surviving human remains. The second ditch slowly filled up in the Iron Age, but the monument must still have been visible in the early Anglo-Saxon period, when it was used as the focus for a cemetery. Twenty-six inhumations and two cremations date from between the late fifth and mid-seventh centuries. The Anglo-Saxon cemetery is the subject of the companion volume (Walton Rogers forthcoming) and is only briefly summarised here.

4.2 The site

The site (HER 37622) was located within the parish of Tittleshall, centred on NGR 589400 320380, in the large arable field bounded to the west by Mileham Road and to the north by Back Street. It was 700 metres south of St Mary's Church and two kilometres north-west of Mileham village (Fig. 15).

The excavation area lies in a loop of the shallow valley of the river Nar. All that remains of the river itself, at this point, has been channelled into a roadside ditch alongside Mileham Road. A complex pattern of glaciofluvial drift deposits underlies the valley floor, producing well-drained sandy soils, while the higher ground to the east lies over chalky till. There has been some movement of soil down the slope, leading to the accumulation of colluvium where the gradient of the slope levels out. Following removal of topsoil and colluvium, the tops of the archaeological deposits were at around 63.5m OD at the

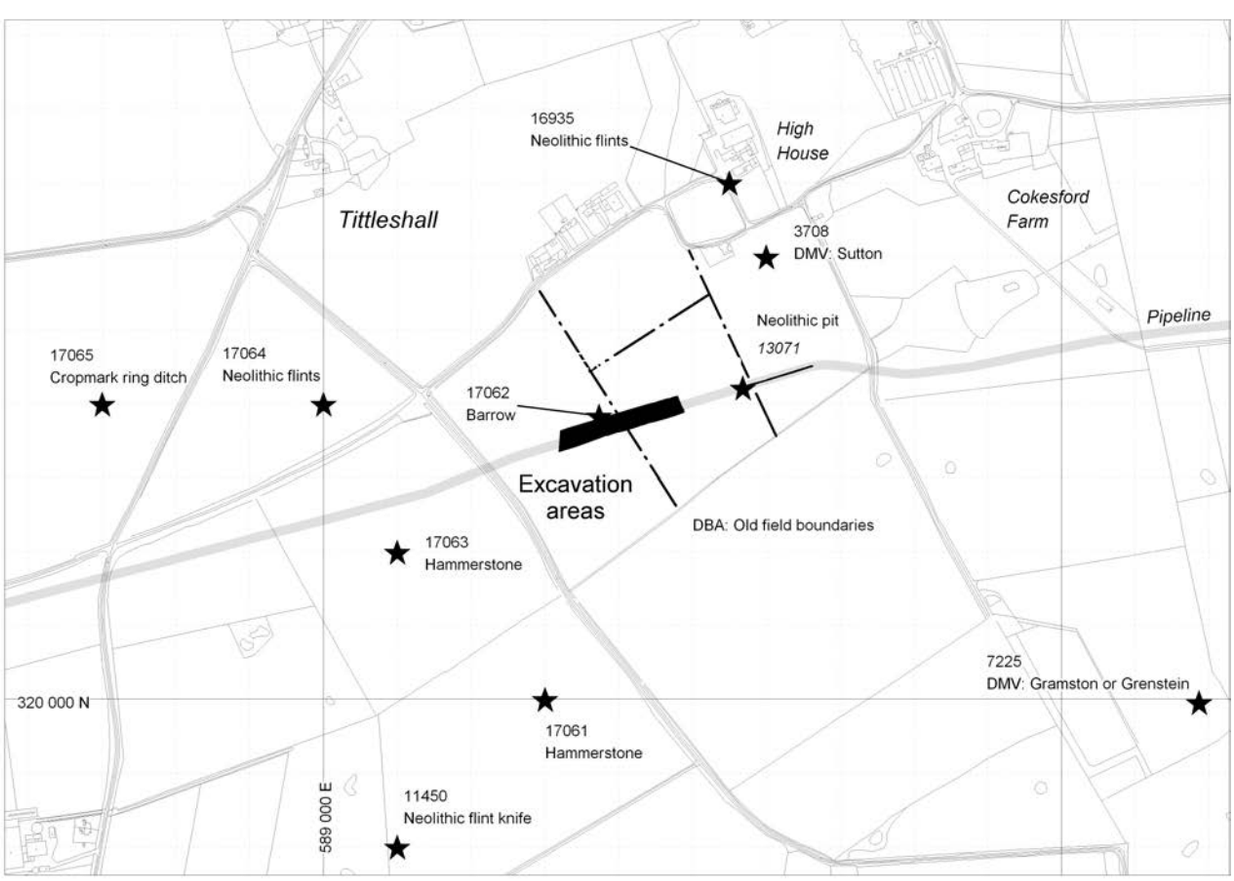

Figure 15 Mileham Road, Tittleshall, location of the excavation area at and nearby HER and DBA sites and findspots mentioned in the text, scale 1:10,000

eastern end of the excavation area and 61.0m OD at the western end.

4.3 Pre-construction work

The band of Bronze Age barrows stretching for a distance of about 2.5km from Weasenham Heath to Tittleshall were highlighted in the desk-based assessment as the most significant known aspect of the prehistoric landscape on the pipeline route. This barrow group is described in more detail in the following chapter. A circular cropmark, interpreted as a Bronze Age ring ditch (HER 17062), was identified as a possible eastern outlier of this group. At the time that the desk-based assessment was carried out, the proposed route of the pipeline ran 150m to the south, clipping the southern corner of the field in which the cropmark ring ditch was located. The route was subsequently modified, for engineering reasons, so that it crossed the centre of the field; the southern half of the cropmark then fell within the pipeline working width.

In the early 1970s, this field had been fieldwalked: finds included a Neolithic flint axe. This fieldwalking also covered other fields in the area, producing Neolithic struck flints: an arrowhead and some scrapers (HER 16935); a Neolithic arrowhead and scraper (HER 17064); two hammerstones (HER 17063 and 17061); a plano-convex slug knife (HER 11450); and other flint implements from both the Mesolithic and Neolithic periods (HER 17065 and the three fields to its west, not shown on Fig. 15: 17066, 17068 and 17069). A cropmark ring ditch has also been recorded in the same area (HER 17065) west of the Litcham Road.

The desk-based assessment also drew attention to a high potential for medieval finds, with two nearby deserted medieval villages: Sutton (HER 3708), which is visible as cropmarks in the northern part of the field containing the site and the adjacent field to the east; and Gramston or Grenstein (HER 7225) where earthworks were partially flattened by agricultural improvements in 1959. Excavations in 1965 and 1966 (Wade-Martins 1980b) revealed a linear settlement with tofts, a farm, trackways and a pond and suggested that the village was finally abandoned in the sixteenth century. There have been finds of Anglo-Saxon, as well as medieval, pottery from both of these sites.

The field was unploughed stubble when the fieldwalking survey was carried out by Network Archaeology and the only artefacts recovered were nine pieces of worked flint, one sherd of late twelfth to fourteenth century pottery, and post-medieval building material. Metal detecting recovered a fourteenth century penny and a seventeenth century trade token.

The geophysical survey detected the cropmark ring ditch (HER 17062) as a curvilinear anomaly. Other linear and pit-like anomalies to the west also suggested the presence of significant archaeological remains. A field boundary depicted on the second edition 6 inch Ordnance Survey map of 1907 showed up clearly. In contrast to the relatively high density of features identified by the gradiometer survey, the magnetic susceptibility levels were low throughout the field.

The engineering constraints at this point in the pipeline route were very tight and had already resulted in various route options being assessed. Avoiding the cropmark ring ditch would have involved a complex and awkward re-route. A decision was therefore taken to excavate the half of the ring ditch within the pipeline working width. At this stage, the pre-construction surveys had given no indication of the Anglo-Saxon burials overlying the ring ditch.

4.4 Excavation

The pipeline working width was stripped of topsoil over the ring ditch, continuing in either direction until no further associated features were seen (Fig. 16). A 2m-wide evaluation trench was also excavated as far as the eastern boundary of the field, over 250m beyond the limit of the excavation area, to test whether there were any further areas of extensive archaeological remains. This exercise located a pit 190m away from the barrow containing pottery dated to the earlier Neolithic period.

4.5 Phase 0: natural deposits

The natural substrate varied in bands running approximately north to south across the site. The westernmost forty metres lay on greyish-brown silt containing frequent angular flints. Further east, this was superseded by an eighty metre-wide belt of brown silty sand with a higher proportion of flints and occasional patches of silvery sand. The next hundred and five metres lay on an orange band of silt with some flint, while the easternmost hundred metres was on stone-free brown silty sand.

4.6 Phase 1: earlier Neolithic activity

Pit *13071*, which lay 190m east of the ring ditch (NGR: 589568 320422, Fig. 15), was circular, 1.2m across and 0.30m deep, with slightly concave sides sloping at 45° to a concave base. Its basal fill was a dark grey sandy silt, possibly the remains of a burnt deposit, although little organic matter survived. This deposit contained thirty-three sherds of pottery. The second fill, a brown sand, contained fifty-one sherds. Bulk soil samples from the two fills produced only a single charred grain each, underlining the hostile local conditions for survival of organic remains.

Earlier Neolithic pottery
by Sarah Percival

A single pit produced a sizeable assemblage of earlier Neolithic plain carinated bowl comprising eighty-four sherds (1,753g). This assemblage is moderately well preserved, and has an unusually large average sherd weight of 20g.

The majority of the sherds are of medium or coarse fabric with flint inclusions (94 per cent, or 1653g) with a very small number (100g) of quartz-sand tempered sherds (Table 11). Flint temper is typical of earlier Neolithic period, and the fabrics compare well to those from other sites on the pipeline: Stocks Farm, Weasenham Clumps, Massingham Road and Lyngate Road.

Rim and body sherds suggest a range of round-based carinated bowls of the type prevalent in East Anglia after around 3600 BC (Gibson 2002, 71) and characterised by a range of developed rims and high sub-angular shoulders. Rims are catalogued after Healy (1988 fig. 57). Three rim

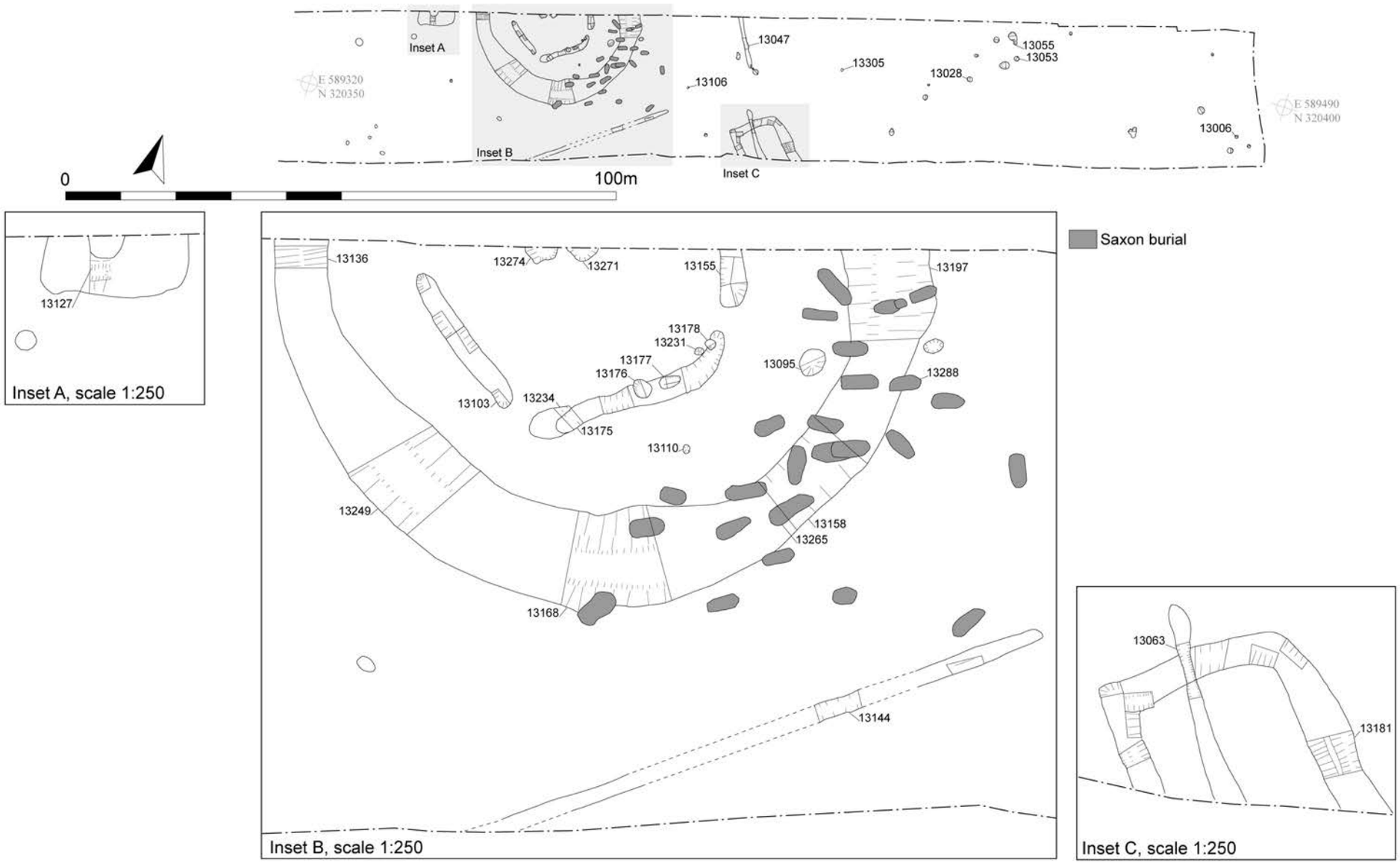

Figure 16 Plan of the excavation area at Mileham Road, scale 1:1000 and 1:250

Fabric	*Description*	*Quantity*	*Wt/g*
F7	Fine, well finished with highly smoothed or burnished exterior. Contains flint pieces below 4mm in size	6	75
F8	Medium fabric with mixed flint pieces up to 8mm and a smoothed surface finish	27	719
F9	Coarse mixed angular flint including those above 8mm	45	859
Q5	Moderate, quartz sand tempered fabric. Rare mica. Occasional voids suggesting organic component to fabric	6	100
Total		**84**	**1753**

Table 11 Quantity and weight of earlier Neolithic pottery by fabric, Mileham Road

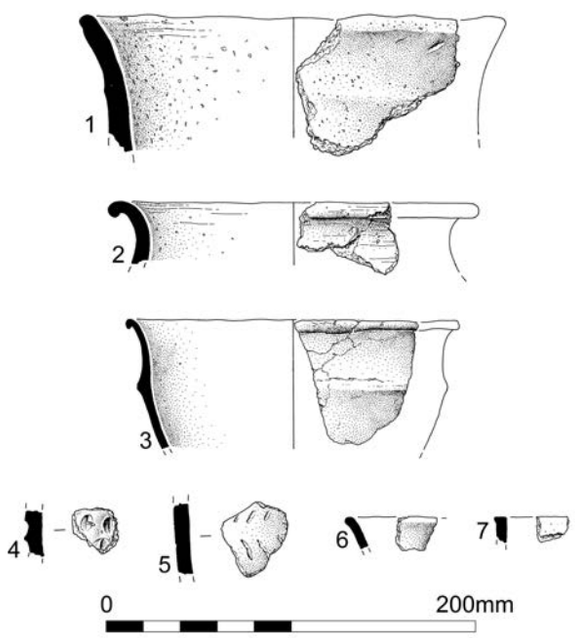

Figure 17 Prehistoric pottery from Mileham Road, scale 1:4

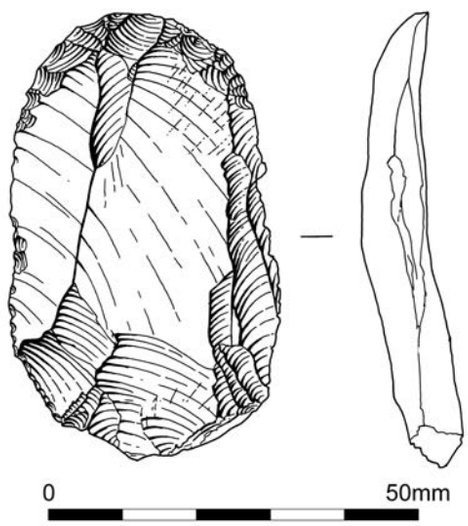

Figure 18: Earlier Neolithic flint end scraper from Mileham Road, scale 1:1

types are present; simple rounded (type 1a, three examples) out-turned or folded (type 2, six examples) and externally thickened (R3, one example) representing a minimum of seven vessels. Three earlier Neolithic plain bowl vessels from pit *13071* are illustrated: one in fabric F9 with rim type R1a (Fig. 17.1), one in fabric F8 with rim type R2 (Fig. 17.2) and one in fabric Q5 with rim type R3 (Fig. 17.3).

It is possible that the pit in which this pottery was found represents a deliberately backfilled pit of the type found at Stocks Farm (Chapter 3 this volume) and other excavated sites in East Anglia (Garrow 2006, 36). However the large size and moderately well preserved condition of the sherds suggest that they were not exposed to prolonged weathering or trampling before being deposited in the pit.

Struck flint

by Sarah Bates

Forty-six of the 284 struck flints recovered from this site came from pit *13071*. The whole flint assemblage is summarised in Section 4.7 below. The Phase 1 group included eight blades and nine blade-like flakes, as well as flakes and some shatter pieces, and three spalls recovered from a soil sample. Most of the debitage is sharp and quite jagged and 'fresh' in appearance with a similar speckled cortex. Some pieces, including some of the blades, are neat in shape, and one flake has an abraded platform. A neat end scraper was also found (Fig. 18). The material is sharp and has not been subject to much damage before entering the pit. There is a relatively high number of blade-like pieces and some evidence for deliberate core preparation. Both of these attributes suggest a relatively early date (Butler 2005, 121). A neat end scraper is likely to date to the same period.

4.7 Phase 2: later Neolithic and earlier Bronze Age barrow

Early pit

The oldest feature in the vicinity of the barrow was a large, curved oval pit, *13234* (Fig. 19). Its western side appeared to have been eroded at the top suggesting that the pit remained open for a period of time during which it was accessed from that side. The upper third of the eastern side was cut away by ring ditch segment *13175*. The pit contained two stony sand fills that were devoid of artefacts.

Barrow inner ring ditch

An inner ring ditch comprised three small ditch segments separated by narrow causeways. The width of one causeway could be established as 1.10m. The ring ditch had an internal diameter of at least 13.30m and has been interpreted as the first phase in the construction of a round barrow. It is assumed that these features were later buried under a mound of material from the outer ring ditch

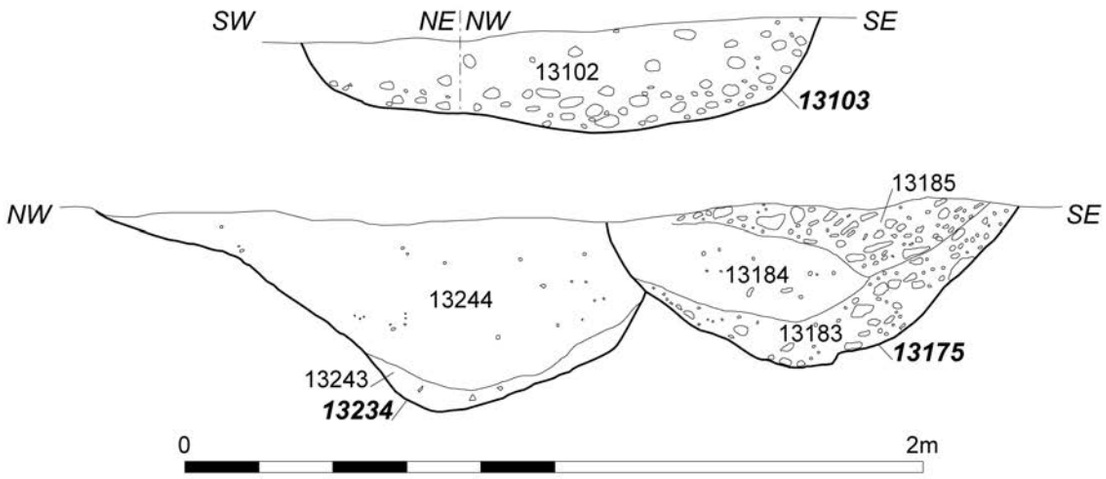

Figure 19 Sections through Phase 2 pit and inner ring ditch segments at Mileham Road, scale 1:20

(below) but that this mound had been destroyed by more recent ploughing.

The westernmost segment, *13103*, was only slightly curved. It was deepest at the southern terminal (Fig. 19), where its sides were almost vertical and the base was flat. It was filled by a uniform, flinty, poorly sorted brown sand fill containing occasional flecks of charcoal but no artefacts. The poorly sorted and sterile nature of this soil suggests that the ditch was not open for long, very possibly being backfilled shortly after it was cut.

The southern ring ditch segment, *13175*, had a significantly different profile to segment *13103* (Fig. 19). Like segment *13103*, it had three fills, all of pale brown sand with flint inclusions. The basal fill contained only occasional flints, but subsequent fills had slightly more, perhaps indicating that the cut remained open to erosion and washed-in deposits. However, the fills showed little variation and it is also possible that the feature was backfilled soon after excavation.

Only a short length of the eastern ditch segment, *13155*, lay within the excavation area. The western, internal side of the ditch was almost vertical, while the eastern side sloped more gradually. The base was a flattish concave shape. The ditch was at least 0.32 deep with a single sand fill containing no artefacts and only occasional flints.

Pits and a posthole dug after the inner ring ditch

Following the construction of the inner ring ditch, four pit-like features were dug, at least three of which cut the infilled southern ring ditch segment. The very close spatial correlation between these features and the inner segmental ring ditch suggests that the infilled ditch was still recognisable and accessible when the pits were dug, and not buried beneath a mound associated with the outer ring ditch.

The three pits cutting the ditch varied in shape and size. The most westerly pit, *13176*, was sub-circular and steep-sided, with a slightly concave base, 0.19m deep. Pit *13177* was oval with shallow sides and a flattish base, and was 0.07m deep. Pit *13178* was different again, being sub-square and 0.10m deep, with fairly steep sides and a flattish base. These pits contained few artefacts: a single flint flake in pit *13178* and two in pit *13177*. Charcoal from pit *13177* was identified as oak narrow roundwood (R. Gale in Cater 2004).

Feature *13231* differed from the other features in this group by having two fills. The lower fill consisted of at least fifty per cent flints, and yielded eleven struck flint flakes. It is possible that this lower, stony layer represents packing collapsed into the void left by a rotten or ripped-out post (*cf.* Reynolds 1995).

Barrow outer ring ditch

An outer continuous ring ditch was subsequently created (Plate 4, contexts *13136*, *13249, 13168*, *13158*, and *13197*), concentric with the segmental ring ditch. Only the southern half of this larger ditch lay within the excavation area, where it could be seen to have an internal diameter of 23m and external diameter of 30m. In all five excavated sections, the ditch had convex sides and a flat or slightly concave base. Truncation by later ploughing was especially apparent in the westernmost section, *13136* (Fig. 20). The greater survival elsewhere along the arc of the feature revealed that the sides of the ditch, particularly the inner side, were heavily eroded (Fig. 20, *13197*, *13168* and *13249*).

The ditch fills were slightly different in each of the five excavated slots. In all cases the earliest two or three fills consisted of material deposited through rapid weathering of the ditch sides. These deposits were predominantly composed of sand, with five to ten per cent flint inclusions. One of the fills in the south-western excavated slot (*13254*, Fig. 20) contained a 60g sherd of an early Anglo-Saxon jar, presumably intrusive from the later inhumations.

Above the sandy basal layers, stonier material with up to ninety per cent pebbles, but more typically fifty per cent, had accumulated. These layers are interpreted as formed from later erosion of the mound because tip lines showed that they had accumulated from the inner side of the ring ditch. They must also partly represent a soil that was developing within the ditch itself. If this interpretation is correct, their stoniness suggests an element of design in the way the mound had been constructed with preferential selection of stony material. Small quantities of Iron Age pottery found in some excavated slots suggest that the slumping of this material back into the ditch occurred at this time. At least four separate slumping events could be discerned in the fills of section *13168* (Fig. 20).

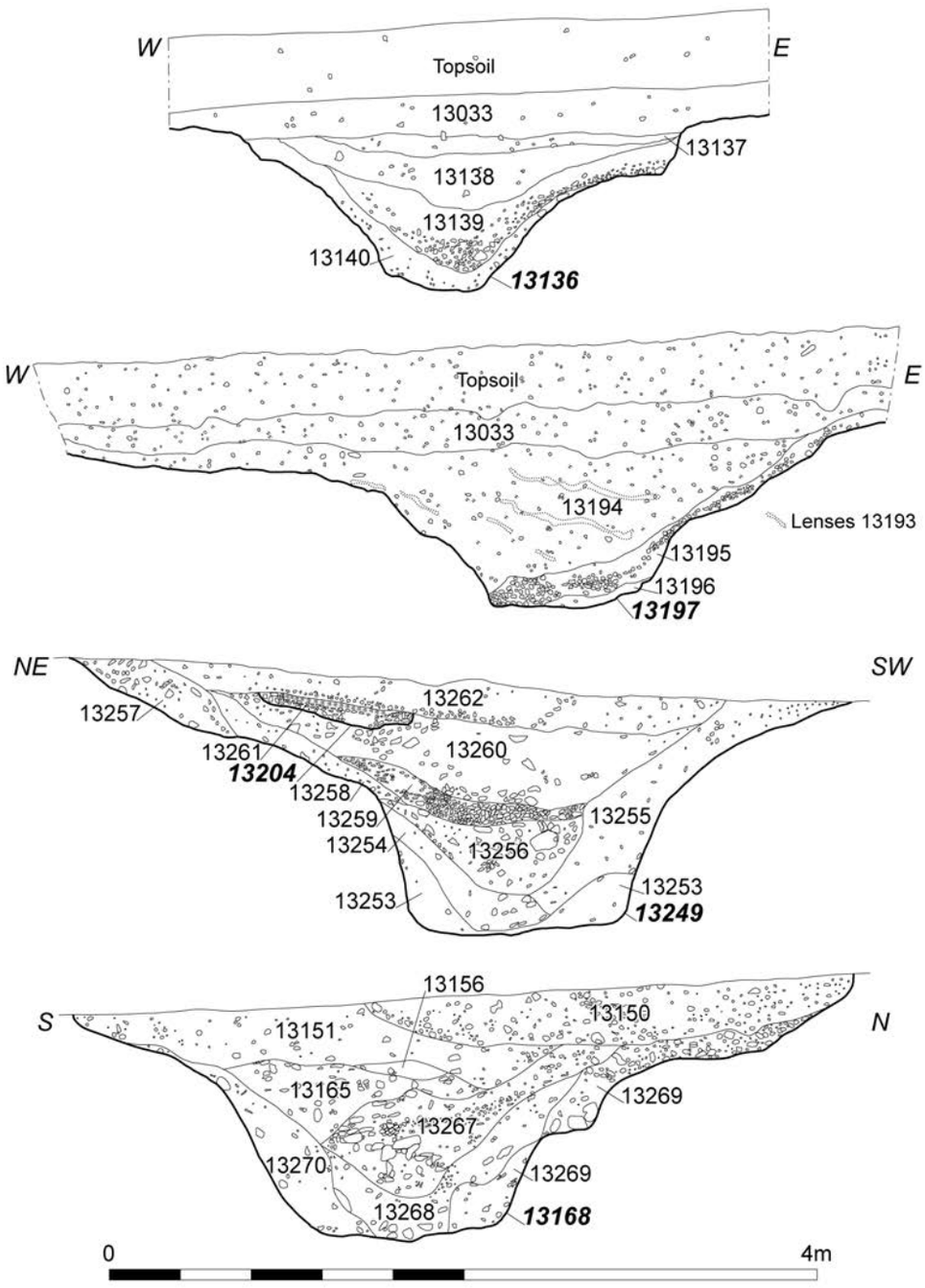

Figure 20 Sections through Phase 2 outer ring ditch at Mileham Road, scale 1:40

The upper fills certainly resulted from slow natural accumulation of sediments within the ditch, perhaps incorporating the remains of a topsoil layer. The top fills were universally darker, though more variable in colour, than the lower fills. A distinctively darker top fill, *13150*, was present in the northern half of the southernmost section (Fig. 20), its concave lower horizon suggesting that it could represent an unrecognised cut. It contained two sherds of possible Iron Age pottery. In the easternmost section, the stony layer was thin and covered by a deep, pale fill containing a succession of dark brown sand lenses, *13194*, tipping downwards from within the ring ditch (Fig. 20). These could have formed from post-depositional mineralisation or from bands of more organically rich material, the remains of thin buried soils which developed after each slumping episode. This layer contained four sherds of pottery of either Iron Age or early Saxon date, together with two intrusive medieval sherds.

The south-western section revealed thin layers of burnt flint and sand with comminuted charcoal, including layer *13261*, possibly filling a shallow cut, *13204* (Fig. 20), and a similar layer, *13202*, within the excavated intervention. Layer *13202* contained four flint spalls. Two scraps of undetermined prehistoric pottery and twenty-eight struck flints, including some blades or blade-like flakes, were found in the upper fill of the south-eastern section. All of this material is likely to be residual, but it is a high concentration in an otherwise artefact-poor feature.

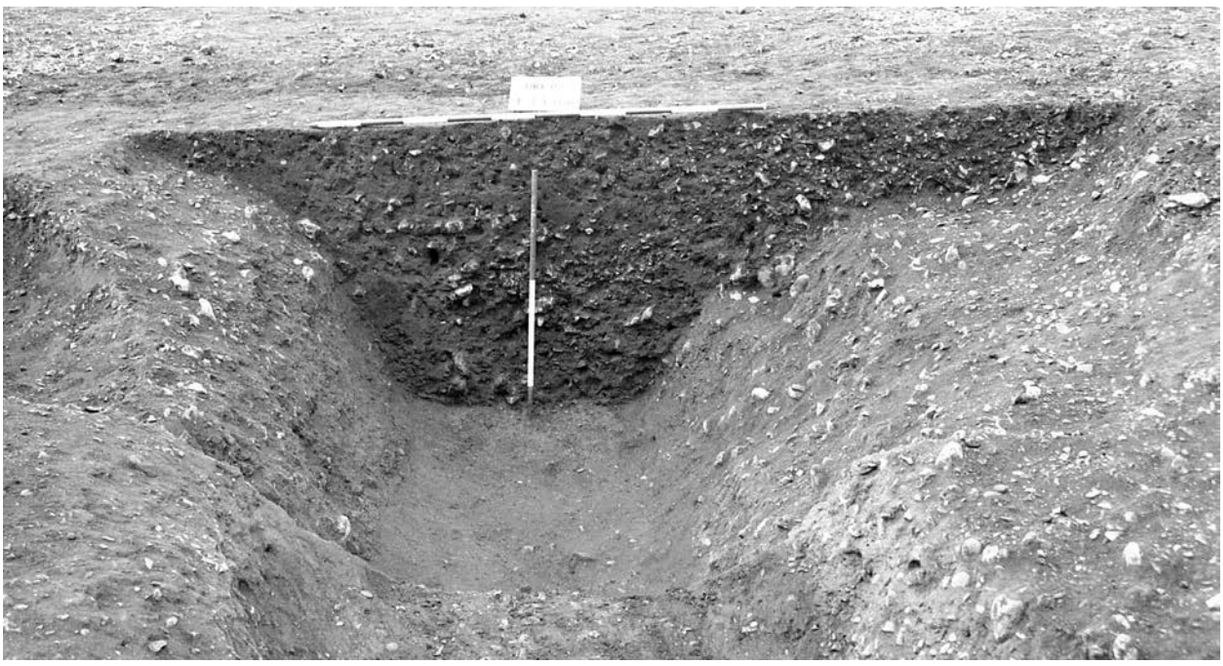

Plate 4 Barrow outer ring ditch, east-facing section of intervention *13168*; 2m and 1m scales

Possible grave pits

Two intercutting pits were located near the centre of the ring ditches; analogy with features within better preserved round barrows would suggest that they were burial pits, although they contained two distinct fills, unusual for graves, and no inhumed or cremated bone was recovered from either. The acidic ground conditions in the sandy soil could explain the lack of bone. Both pits extended beyond the limit of excavation, so their shape and dimensions were not clearly ascertained. Pit *13271*, at the centre of the ring ditches, cut the other pit, *13274*, which was displaced slightly to the west. Both pits were similar in size. No artefacts were recovered from either pit. The absence of surviving mound material to provide stratigraphic links with the ring ditches, the small excavated sample, and the lack of any artefacts or skeletal material preclude a definitive interpretation.

Later Neolithic to early Bronze Age pottery

by Sarah Percival

Five sherds of residual Neolithic or early Bronze Age Beaker pottery were found. Two are in coarse, flint-tempered fabric, decorated with fingertip-impressed 'rustication'. Of the remaining sherds, one has an incised herringbone motif and is made of grog-tempered fabric (G4), and the other is sandy with incised geometric decoration. All the decorative forms are common within fen-edge assemblages such as Hockwold cum Wilton (Bamford 1982, Gibson 1982) where they are associated with possible domestic occupation. The Beaker sherds were recovered from Anglo-Saxon graves *13265* (fabric G4, Fig. 17.5) and *13288*, the subsoil and from a small, otherwise undated pit, *13006*, among a group of Anglo-Saxon features at the eastern end of the site, which produced a single sherd (fabric F5, Fig. 17.4). The dispersal within later features suggests that the pottery may have originally been deposited in surface scatters or middens (as at Hockwold cum Wilton, Bamford 1982) or beneath the barrow, as with examples from nearby Weasenham Lyngs (Petersen and Healy 1986). Beaker dating on stylistic grounds is uncertain; however it is probable that these examples fall towards the end of the period of Beaker currency, 2600 to 1800 BC in Norfolk.

Struck flint

by Sarah Bates

Introduction

A total of 275 pieces of flint were retained from those recovered during this excavation, and nine spalls were recovered from soil samples. The whole assemblage is summarised in Table 12.

Description

The largest proportion of the assemblage consists of unmodified flakes, which are predominantly quite small in size, irregular in shape and often quite thick. Most of

Type	*Number*
Multi-platform flake core	1
Flake	162
Blade	20
Bladelet	4
Blade-like flake	24
Bladelet	1
Shatter	9
Spall	52
End scraper	2
Sub-circular scraper	1
Knife	2
Piercer	1
Retouched blade	2
Retouched flake	1
Utilised flake	1
Hammerstone flake	1
Total	284

Table 12 Summary of struck flint, Mileham Road

them have been struck by hard hammer in an irregular fashion, probably from quite small cores. Some blades and blade-like flakes are also present, however, and these include some neat pieces, a few with abraded platforms where they have been struck from prepared cores. One multi-platform flake core is present. It is on a very irregular fragment which was already patinated prior to its use as a core. Only a small number of retouched or utilised pieces are present. They include three scrapers. One is a neat end scraper on an ovate/subrectangular flake (Fig. 18); the others are a sub-circular scraper on a cortical flake of probable natural origin and a small ovate scraper. There is also part of a possible backed knife, a possible unfinished arrowhead or small knife and a possible piercer on a fragment of natural origin.

Two retouched blades, a retouched flake and an utilised flake are also present and one flake has a battered area at one end and may be from a hammerstone.

One hundred and three struck flints were recovered from Phase 2 contexts, just under half of which were in outer ring ditch *13136*. The assemblage consists mainly of flakes although a few, mostly small and neat, blades and blade-like flakes are present. Most of the flint is quite sharp. Nineteen flints, including a small irregular core on an already patinated fragment, were found in inner ring ditches *13103, 13175* and *13155*. Thirteen flakes recovered from small pit or posthole *13231*, adjacent to inner ring ditch *13175*, are sharp and tend to a thick, squat form. Six spalls were recovered from soil samples of deposits which overlay the ring ditch. The rest of the material consists mostly of flakes, which are generally sharp and hard hammer struck. Two small blades, one with an abraded platform, and seven blade-like flakes are present. There are no retouched or utilised pieces.

Phase 7 features yielded 152 struck flints. All but two of these were from grave fills, many of which cut the infilled ring ditch. The flint consists mainly of flakes, many of them small irregular hard hammer struck pieces. There are also a few blade-like pieces. A small ovate scraper, an irregular retouched flake, a utilised flake and a possible piercer are also present as well as some spalls and a few shatter pieces. Two retouched pieces came from the subsoil: a small flake with retouch/flaking on its dorsal surface, possibly a knife or an unfinished arrowhead and the proximal part of a possible backed knife. Two blades, one of them possibly retouched, were found in the topsoil and twenty-five pieces were from unphased contexts.

Discussion

Much of the flint seems to date to the later Neolithic and Bronze Age phases of activity represented by the excavated features. The majority of the material came from the vicinity of the ring ditch, much of it redeposited into the early Saxon graves. The nature of most of the flint also concurs with this date. It is more irregular and often shows clear evidence for having been more randomly struck by hard hammer than earlier material (Butler 2005, 157). However, a few small neat blades recovered from deposits associated with the ring ditch might be residual pieces, and derive from earlier activity at the site.

There are relatively few retouched or utilised pieces. Apart from one end scraper from the earlier Neolithic pit, the retouched pieces are all of types which are likely to date to the later Neolithic or earlier Bronze Age.

4.8 Phase 5: later Iron Age activity

Only two features can be ascribed to this period, both of them members of a group of small pits or postholes around 70m east of the barrow ditch. Pit *13028* had steep sides and a flattish base. Its dark sand fill yielded eight Iron Age pottery sherds from at least three different vessels. A small, regular posthole, *13053*, is less securely dated to this phase, as it contained just two small pottery sherds in different fabrics. It is possible that these sherds were residual, although they might be viewed as significant considering how little pottery of this period was found. Several other undated pits recorded in the vicinity of these features could be Iron Age, but are more likely to be early Anglo-Saxon given the greater number of nearby pits from that phase. The rectangular enclosure *13181* (see below) could also have been Iron Age, but can only be conclusively dated by its stratigraphic *terminus ante quem* of the post-medieval phase. The pin and spring of an Iron Age bow brooch, probably dating to the first century BC, were recovered from the subsoil (SF 70548, not illustrated).

Iron Age pottery

by Sarah Percival

Fifty-two sherds (140g) were identified as being of Iron Age date; a further twelve sherds (12g) are of possible Iron Age date.

The Iron Age pottery is characterised by the use of flint-tempered and sand-tempered fabrics (Table 13). Five fabrics were identified, of which the majority contain sand as the principal inclusion (63 per cent, 88g). The predominance of sandy rather than flint-tempered fabrics perhaps suggests a date in the later Iron Age, the period following the third century BC.

Two rim sherds were found, both of which have flattened rim-endings similar to examples from Silfield, Wymondham (Ashwin 1996b, fig. 17: 23 and 24), which date to the third to first centuries BC. One, found in pit *13028*, is of fabric Q2 and has a flat-topped rim (Fig. 17.6). The second, from pit *13095*, is of fabric F1 and has a flat-topped rim (Fig. 17.7). No decorated sherds are present, again suggesting a date in the later Iron Age. Two sherds were found in sub-rectangular enclosure *13181*, which may have been contemporary, but most of the assemblage was redeposited into Anglo-Saxon graves.

Fabric	*Description*	*Quantity*	*Wt/g*
F1	Common small angular flint, occasional quartz sand	27	21
F2	Moderate small-medium angular unburnt flint. Moderate quartz sand	10	28
F3	Common medium to large angular white flint. Common quartz sand	1	3
Q1	Quartz-sand fine burnished	3	13
Q2	Common rounded quartz sand, sparse angular unburnt flint. Irregular voids	11	75
Total		**52**	**140**

Table 13 Iron Age pottery fabric types, Mileham Road

4.9 Phase 6: possible Roman presence

There is no evidence that people were living at the site during the Roman period but a broad horizon of friable soil, *13033*, between 0.3m and 0.5m thick over and around the barrow ditches, and probably derived from the erosion of mound material, may have formed at this time (Fig. 20). A Romano-British finger ring (SF 70452) was found within this deposit, the stratigraphic record suggesting its deposition occurred before the cemetery began to be cut into the slumped mound, in which case it might have been a casual loss or the result of a deliberate act of discard prompted by the presence of the mound. An alternative possibility is that this ring was an antique at the time of its deposition into an Anglo-Saxon grave and was displaced from its original context at a later date.

Copper alloy ring
by Adrian Marsden and Kenneth Penn
The Romano-British ring (SF 70452, not illustrated) has corroded surfaces, and is presumably of copper alloy. The form is typical of many rings of the second to third century, with the band widening considerably at the shoulders to form a prominent, flat bezel. The bezel is both corroded and accreted, making it unclear whether this was plain, enamelled or inset with a gem. Close inspection suggests an oval setting; presumably this was filled with enamel or inset with a stone. Such settings are common in these rings, often consisting of simple glass or enamel fillings or sometimes poor-quality paste intaglios imitating the stone nicolo. Again, these settings, with their emphasis on colour and display, belong particularly to the aesthetic of the later second and third centuries.

Although not found in a grave, it is possible that this ring derives from one of the Anglo-Saxon burials. Roman objects in Anglo-Saxon graves are not uncommon: at Spong Hill, Grave 26 contained a Roman brooch of second or third century date (Hills *et al*. 1984, 36) and in his review of Roman and Celtic objects in Anglo-Saxon graves White (1988) was able to list over thirty finger rings, of various dates in the Roman period. In his discussion, White recognised some selection of objects available on a Roman site, and went on to suggest that the rings with intaglios carried some quasi-magical connotation. In the case of the ring from the present site, however, it is not certain that it retained its intaglio or setting, and it may have been merely re-used as a ring.

4.10 Phase 7: early Anglo-Saxon cemetery

Full details of this phase of activity are published in the companion volume: *Tyttel's* halh*: the early Anglo-Saxon burial ground at Tittleshall, Norfolk* (Walton Rogers forthcoming), describing the twenty-six inhumations and two cremations, along with other related features around the Bronze Age barrow. Unstratified and residual pottery of this period is assumed to relate to the cemetery and is therefore discussed in the companion volume. Two small square enclosure ditches might also have been contemporary with the cemetery, but their date is not certain and these two features are described below.

Small ditched enclosure
The whole of the north-western side and parts of the north-eastern and south-western sides of a rectilinear ditched enclosure lay within the excavation area to the east of the barrow and cemetery. No gap that might have indicated an entrance point was observed in that part of the ditches lying within the area of excavation. The south-eastern arm of ditch *13181*, and probably also the other two side sides had been recut at least once. Much of the primary cut on the eastern side was destroyed by its later recut, but its fairly steep eastern side and part of its flattish base survived, showing it to have been in excess of 0.60m wide, at least 0.24m deep and filled by sterile dark brown silty sand. The recut was twice as deep, had fairly steeply-sloping sides and a concave base and had a dark brown silty sand fill which produced four small sherds (weighing 6g) of residual Bronze Age pottery.

Only a single fill was recorded in the south-western and north-eastern arms of the ditch, a brown or orange-brown silty sand, but the stepped profiles suggest that there may have been an unseen recut in these sections also. Interventions in the north-western inner corner of the ditch produced three possible early Anglo-Saxon pottery sherds and two Iron Age sherds.

Possible second small ditched enclosure
The southern part of what may have been a similar enclosure ditch, *13127*, was revealed immediately to the west of the outer ring ditch. The ditch was up to 1.65m wide and 0.45m deep. A vertical-sided feature, possibly a posthole, lay partially within the excavated slot at its eastern end and was apparently cut into the base of the ditch to a depth of 0.24m. No evidence of a post-pipe or post packing was observed and its fill was identical to that of the ditch: a brown silty sand, which contained occasional large flint gravel but no datable artefacts.

4.11 Phase 12: post-medieval agriculture

A brown silty sand deposit overlay the natural subsoil and the archaeological deposits described above. It was generally 0.10m deep, but thickened to between 0.30m and 0.50m in the vicinity of the barrow. This material appeared, in part, to be colluvial in origin, but also represents the upper level of the archaeological deposits, now thoroughly mixed by ploughing. Within and around the ring ditch it probably also incorporated the remains of a central mound. This layer contained much artefactual material.

Several ditches and tree pits defined part of a post-medieval field system that crossed the cemetery area. Principal among these were ditches *13144*, *13047* and *13063*. Ditches *13047* and *13063* correspond to the position of a field boundary shown on the second edition Ordnance Survey map of 1907, ditch *13144* ran at right angles.

Eighty sherds of post-Roman pottery were recovered from contexts assigned to this period, including most of the post-Anglo-Saxon material from the site. Eleven sherds from a single jar were found in the colluvial subsoil, but most of this group consisted of small, abraded sherds.

4.12 Phase 13: undated feature

Two unidentifiable fragments of cremated human bone, weighing just 1g, were found in a sample from a small, shallow feature, *13110*, which was 0.38m across and 0.06m deep. The very dark fill of this feature contained oak charcoal fragments (R. Gale in Cater 2004) but no

pottery. The charcoal-rich fill would be consistent with an interpretation as a disturbed cremation burial, either associated with the Anglo-Saxon cemetery or a secondary burial in the Bronze Age round barrow.

4.13 Discussion

Phase 1: earlier Neolithic period
by Trevor Ashwin
The substantial assemblage of pottery from pit *13071* is exclusively plain bowl. In common with the other earlier Neolithic pottery from other sites on the Bacton to King's Lynn pipeline, decorated wares of Mildenhall type are notably absent. The pattern observed during recent detailed analysis of Neolithic pits and their content at Kilverstone (Garrow *et al*. 2005) might suggest that pits such as these were specially dug to receive material that had been piled, or even 'curated', on an adjacent surface midden. Here however, the large sherd size and relatively good condition and the freshness of much of the stuck flint suggested minimal weathering or trampling. Despite the significance of the research at Kilverstone, there may be doubts as to whether the particular kind of depositional processes observed there were common to all Neolithic occupation sites featuring pits. That the Kilverstone pit groups were associated with Mildenhall rather than plain bowl pottery, as here, may be significant.

Phase 2: later Neolithic and early Bronze Age period
by Trevor Ashwin
The main focus of the Weasenham Lyngs barrow group appears to have been about five kilometres to the west (Chapter 5; Petersen and Healy 1986). The Weasenham group lies in one of the dry valleys that are such a prominent feature of this area of upland Norfolk. A loose cluster of barrows and ring ditches, a little to its west, occupies an area of high ground between the upper reaches of this valley and its neighbour to the south, and the Mileham Road feature is the easternmost of these. The lack of further recorded barrows to the east may be connected with a highly significant change in soil type, the well drained Good Sands here giving way to the Boulder Clay of central Norfolk. Lawson *et al.* (1981) identified the correlation in Norfolk between the locations of barrows and ring ditches with areas of relatively light soils. It is not at all clear to what degree this indicates lesser levels of prehistoric activity on these heavy and sometimes stony soils or lower archaeological visibility on poorly drained soils that are less conducive to cropmark formation (Ashwin 1996a, 50–1). Whatever the case, the edge of the Boulder Clay may well be significant when considering why this loose alignment of monuments does not appear to have continued further to the east.

It is not uncommon for field survey in advance of ring ditch excavation to produce very few finds, as was the case here. The irregular plans of both ring ditches, and the seemingly erratic manner in which the outer one widened and narrowed, indicates at a glance that these were merely the deeper parts of heavily truncated features. Most field archaeologists (including the writer!) are familiar with excavating barrows in a highly eroded, and therefore grossly simplified, state. Modern excavations of upstanding barrows such as that at Deeping St Nicholas, Lincolnshire (French 1994) illustrate the possible complexity of development and use history that these monuments may exhibit. The Deeping monument, excavated to a very high standard under the auspices of the Fenland Management Project prior to de-watering, was interpreted by the excavator as two successive barrows, with massive alteration and extension of an early Bronze Age burial mound taking place in the period around 1750 to 1500 cal. BC.

In the plough-flattened landscape of the present site, it is impossible to tell such a detailed story since structural details, and any prehistoric burials that may have been present, have been lost. Uncertainties are amplified by the paucity of finds from any of the excavated deposits, and the absence of any stratigraphic links between any of the main surviving features. However, even within these parameters it is possible to draw some tentative conclusions.

It seems clear that the inner ring ditch must have preceded the outer ditch and it is likely that the group of pits were dug into the infilled inner ring ditch before any mound associated with the outer ditch was excavated. This would suggest that the inner ring ditch was a significantly earlier feature than the outer ditch, allowing time for it to largely fill up before the pits were dug into its still-visible remains.

The striking irregularity of the inner ring ditch has probably been accentuated by truncation, but the well defined profile of the feature indicated that the causeways crossing it were genuine, and not merely products of erosion. Double-concentric barrow ring ditches are not at all uncommon in East Anglia (Lawson *et al.* 1981), an inner feature often, as at Deeping (discussed above), enclosing a primary mound which was subsequently enlarged and extended. The sterile and homogeneous filling of the inner ring here at Mileham Road offers no clear evidence for the former presence of an associated mound, however, and there can be no certainty on this point, especially as postholes and other structural features may well have been swept away wholesale. The very earliest structural element of the Deeping barrow was a series of concentric stake circles (French 1994, fig. 14), although this was soon covered by a primary mound. One of the double-concentric ring ditches excavated on the Norwich Southern Bypass (Harford Farm *2100*: Ashwin and Bates 2000, fig. 65) produced no clear evidence for an inner mound, with a circle of 32 posts lying within it being reminiscent of the palisade-type barrows of the Netherlands (Glasbergen 1954). In this context, it seems unlikely that the pits apparently superimposed upon the south-eastern extent of the ditch, whatever their significance, represented upright timbers packed into its fill. They do not follow the line of the ditch segment itself, while the longitudinal sectioning of several other areas of the inner ring failed to record any more extensive evidence that this was in fact a foundation or bedding trench for a timber structure.

That the outer ring enclosed a substantial mound is indicated clearly by the stony slump deposit in its fill. The patterning of the surviving Anglo-Saxon graves clustered around the south-eastern part of the monument suggests that this was a bell barrow, with a berm of 1.80 to 2.00m between the inner rim of the ditch and the foot of the mound. A very similar situation was noted on the Norwich Southern Bypass in the case of Harford Farm ring ditch 1022, which also lay in an area subsequently occupied by an Anglo-Saxon cemetery (Ashwin and Bates 2000, 69).

If any graves had been cut into the mound itself, they would have been lost as the mound was ploughed flat; this was thought to be the case at the Harford Farm site, where small metal fragments in the upper fill of a Bronze Age grave were thought to have represented intrusive debris from ploughed out Anglo-Saxon graves. Another alternative would be that the burials were clustered around the foot of the mound without extending onto it. The location of the heavily truncated cremation in pit *13110* is intriguing here. The lack of dating means that it is not possible to say whether this was a prehistoric deposit which had been sealed by the barrow mound or an Anglo-Saxon one whose position indicates the minimum width of the berm.

The soil conditions did not favour the survival of human bone for study, nor could the central pits, *13271* and *13274*, be fully excavated. However, it seems best to regard these features as central graves. They may have been early features, sealed by a primary phase of mound construction. The southernmost ring ditch of three excavated on the Norwich Southern Bypass at Bixley (Ashwin and Bates 2000, 27) provides a warning that the sequence may have been more complex. At this latter site, a prominent central feature, possibly a grave pit, had in fact been cut *through* a remnant of mound material. Indeed, the removal of the mound deposit revealed no certain pre-mound graves at all, all identified cremations and inhumations having been dug into it. This confounded expectations and highlighted the dangers of generalising too broadly about the likely development of barrow ring ditches that can all look very similar to each other on aerial photographs.

Phase 5: late Iron Age and early Roman period

The large number of features of questionable date, and the quantities of pottery deemed residual or insufficient to date their context suggest that more activity was taking place in the Iron Age than these limited results attest. The data can only conclusively point to some use being made of the site at this time but its nature remains obscure.

Phase 7: early Anglo-Saxon period

Interpretation of the square-ditched enclosures is hampered by the lack of a secure date for their construction and by the fact that neither of them lay entirely within the area of excavation. Their full form and dimensions therefore remain unknown. This is a particular problem in relation to enclosure *13127*, which lay largely beyond the limits of excavation.

Some datable artefacts were recovered from the fills of enclosure *13181*, but the crucial sherds are of uncertain date; as with many sites in the region, pottery analysis is complicated by the similarity of prehistoric and Saxon fabric types. Four small Bronze Age sherds must be residual, but a possible Anglo-Saxon date relies on three sherds that could possibly be of Iron Age origin. At present all that can be said with confidence is that enclosure *13181* pre-dates the post-medieval field system.

A series of six apparently similar enclosures were excavated at Harford Farm, Caistor St Edmund, in advance of the construction of the Norwich Southern Bypass (Penn 2000). There, a Roman date was inferred, partly from stratigraphic relationships, one of the enclosures cutting an Iron Age roundhouse, and partly based on artefactual dating, one enclosure ditch having produced a third century AD coin. The excavator of these enclosures concluded that they were probably square barrows that originally contained central burials and references similar enclosures excavated at Maxey, Cambs, and others present in the East Midlands and Essex, discussed by Whimster (1981, 339). He conceded that an earlier Iron Age or an Anglo-Saxon date for their construction could not be ruled out.

Some potentially significant differences exist between the Mileham Road and Harford Farm enclosures, however, which imply that they differed in date or function. The precise north-to-south alignment of the Harford Farm enclosures was missing at Mileham Road as was any evidence for an internal bank. At Mileham Road, the Anglo-Saxon burials extended towards the enclosure but did not impinge on it. The enclosure did not cut any of the burials, nor did its fills contain the large numbers of sherds that one might expect to have been present in the post-Anglo-Saxon ploughsoil. This suggests that the cemetery and the enclosure were broadly contemporary.

The Mileham Road enclosures were devoid of surviving features, which makes their function uncertain. It is possible that they each enclosed a central burial. In the case of enclosure *13181*, this would have been destroyed by the post-medieval field ditch that ran along its central axis, while the centre of the enclosure *13127* lay beyond the limits of excavation. If they were burial monuments they may or may not have contained barrow mounds. Other possibilities are that they delimited constituent activities of the burial rite or that they had a religious or ritual function.

5. A landscape of prehistoric settlement at Weasenham Clumps

by Derek Cater and Tom Wilson

5.1 Summary

This site, close to an extensive group of Bronze Age barrows, produced evidence of activity from the early Neolithic period until the late Iron Age. In the earlier Neolithic and earlier Iron Age periods, this clearly indicated settlement on the site, but during the later Neolithic, Bronze Age and later Iron Age, activity was more limited and probably centred beyond the boundaries of the excavation area. Two of the recorded features may have been the remains of round barrows, although the evidence for this is insubstantial and inconclusive.

5.2 The site

This site (HERs 37827: area A; 37828: area B), straddled the border between the parishes of Lexham and Weasenham All Saints on the eastern side of A1065 Swaffham to Fakenham Road. The excavation area extended for over 800 metres across two fields (NGRs 584893 318992 and 585635 319342) (Fig. 21). The villages of East and West Lexham are both about two kilometres to the south; Weasenham All Saints and Rougham stand about the same distance to the north and north-west respectively. The land here rises very slightly to the east, to a height of just over 80m OD beyond High House Farm, and drops gently to the valley of the River Nar to the south and the dry continuation of the Nar valley to the north.

The soils that have developed over the glacial sands are deep, well-drained, coarse, very acidic loams. At the time of the fieldwork, the land was in arable use, for growing sugar beet.

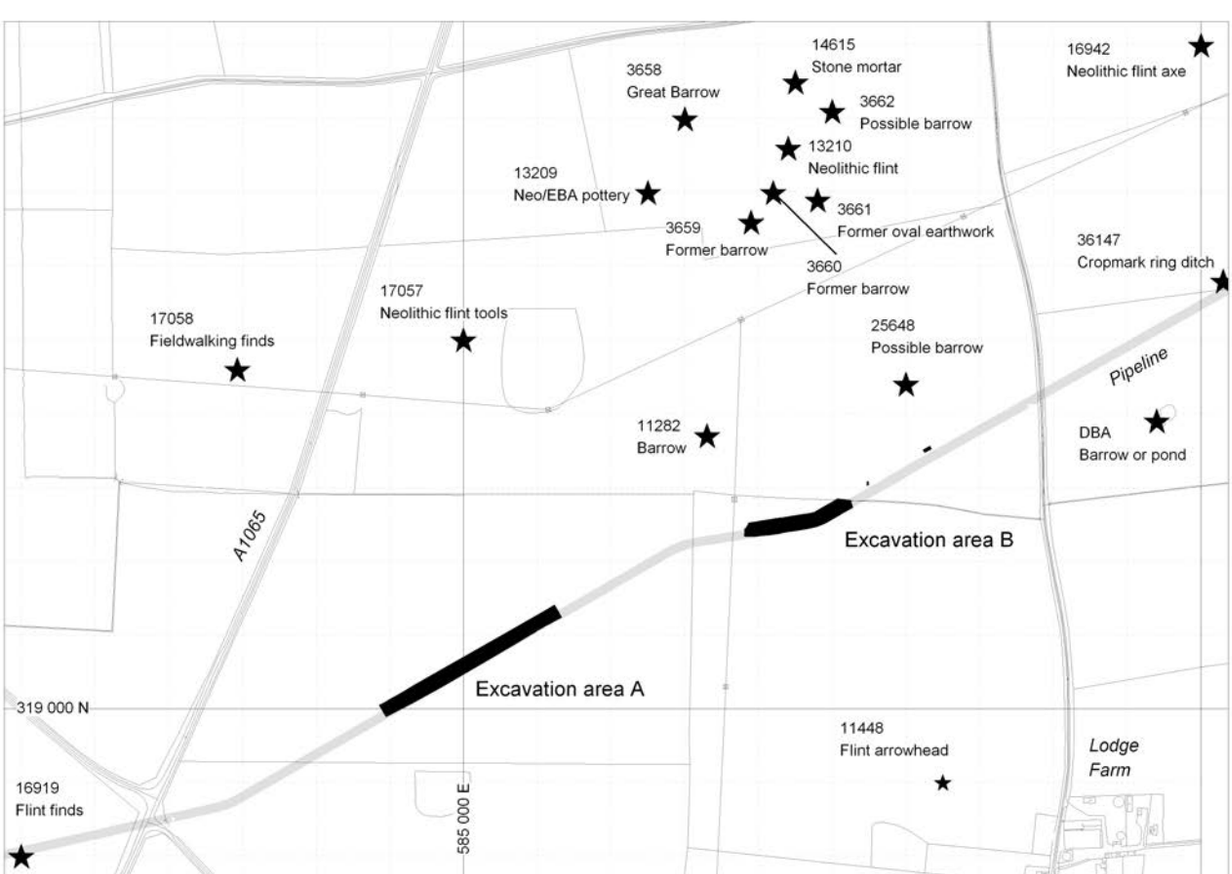

Figure 21 Weasenham Clumps, location of the excavation areas and nearby HER and DBA sites mentioned in the text, scale 1:10,000

5.3 Pre-construction work

The desk-based assessment identified this area as having high archaeological potential, the southern extent of a dense prehistoric funerary landscape (Holgate 2002). Eleven barrows in the Weasenham Barrow Group are Scheduled Monuments and include the 30m-wide Great Barrow (HER 3658), recorded in 1935 as being ditched, with inner and outer banks as well as a seven foot (2.15m) high mound with a central depression. Stray finds from the vicinity of this bell barrow include Neolithic flint (HER 13210), a sherd of flint-tempered Neolithic or early Bronze Age pottery (HER 13209), and part of a quartzite stone mortar (HER 14615).

Of the other barrows in this group (HERs 3659 to 3662 shown on Fig. 21 and HERs 3654 to 3657 to the north), one (HER 3659) was excavated by the Department of the Environment in 1972 and found to be 25m in diameter, though the mound was completely ploughed out. There was no ditch. A pit near the centre contained multiple cremations, together with fragmentary Collared Urn. Another (HER 3660), 30m diameter and 1m high, contained a cremation and 350 sherds of Beaker pottery. Neolithic flints, including a leaf-shaped arrowhead have been found at the location of a 20m-diameter barrow which no longer survives as an earthwork (HER 3662). The scheduled area also includes an oval earthwork (HER 3661), now largely ploughed out, surrounded by a ditch 14 feet (4.4m) wide, and enclosing an area some 200 feet (62m) long by ninety feet (28m) wide. This is undated, but has been interpreted as a Neolithic or Bronze Age enclosure (Petersen and Healy 1986). A scheduled barrow 1.2m high and 25m in diameter (HER 11282) and a circular mound, possibly another barrow (HER 25648), are closer to the site. Fieldwalking finds, including Neolithic flint tools (HER 17057), are recorded from the same field.

The area of known barrows continues eastwards for about 2.5km and includes a group of thirteen barrows or probable barrows on Litcham Heath, to the east of the area shown on Fig. 21. Two sets of three ring ditches remain from ploughed-out barrows (HER 4071 and 36137). Four more barrows still exist as mounds slightly further north (HERs 3701, 3702, 11592, 3688). An outlying disc barrow further north-east was designated a Scheduled Monument, but it is now ploughed out and has been descheduled (HER 3696, NGR 586853 320280). Two circular features adjacent to the pipeline route could have been either barrows or ponds (Holgate 2002, HER 36147), and a third has been identified on aerial photographs as a ring ditch (HER 15400). Recorded surface finds from Litcham Heath include a Neolithic flint axe (HER 16942).

The Weasenham Barrow Group should be considered as part of a much broader ritual landscape. A possible barrow (HER 12069) stands next to the Wellingham Road at NGR 587770 319560, east of those described above. This feature may have started as a barrow, later re-used as a sighting mound for the Roman road, or been constructed beside the road as a medieval mill mound. Cropmarks of two barrows accompanied by nearby flint scatters, have been recorded in Tittleshall parish (HER 13835 at NGR 588640 319630 and HER 17065 (Fig. 15) in addition to the barrow ditch (HER 17062) excavated as part of this pipeline development (Fig. 15; see previous chapter).

Known prehistoric sites are rarer to the south of the pipeline than to the north but these fields have received far less attention than the area around the barrows. Surface finds, mostly recovered from systematic fieldwalking, include Neolithic flint tools in three fields next to the A1065 (HER 17058, 16919 and, further west, 16902) and a Bronze Age arrowhead (HER 11448)

The desk-based assessment recommended that 'the field surveys should aim to clarify the extent, character and significance of the Bronze Age funerary landscape within the proposed working width with further recommendations made on the basis of the survey results' (Holgate 2002).

At the time that the pre-construction field surveys were carried out, there was a full crop of sugar beet in both fields so that fieldwalking could not be undertaken. A germinating crop in the field immediately to the east compromised surface visibility but eighteen pieces of worked flint including a scraper, a denticulate tool and a blade were recovered. The geophysical surveys were extended to cover the full 44m of the pipeline working width between the A1065 and Wellingham Road because of the high potential for funerary remains. The magnetometry survey was largely inconclusive. Curvilinear anomalies, possibly representing ring ditches, were noted but their lack of clarity tempered any firm interpretation (Bunn and Rylatt 2003). The magnetic susceptibility readings were slightly higher than the background levels in this area.

5.4 Excavation

Because of the archaeological potential apparent from the pre-construction investigations, a decision was made to move directly to area excavation, rather than first evaluating by trial trenching. The site was initially stripped using a combination of back-hoe excavators and bulldozers, as part of the normal construction topsoil strip. This exposed a homogenised layer at the interface between the topsoil and subsoil, probably the product of modern ploughing. This material was then skimmed off by machine, under the supervision of the archaeologists, until the limits of the surviving archaeological deposits had been reached. The site thus stripped extended across two fields, which were excavated simultaneously; work being completed within a two-week period. Archaeological features were found in two activity zones, described in this report as Area A to the west and Area B to the east (Figs 22 and 23). Within the pipeline working width, these two zones appeared to be discrete but were probably parts of a single larger site.

Features were generally isolated, lacking stratigraphic links with which to formulate phased chronologies. Nonetheless, there were closely datable groups of well preserved features, particularly on the eastern side of the site. Comparison of the stratigraphy with the artefact assemblages indicated that levels of residuality were negligible, although some abraded Iron Age pottery in pits may have been residual. The profiles and fills of undated features can, to some extent, be correlated with those of dated features, allowing more comprehensive phasing. Correlation of struck flint in features containing pottery with flint in features without sherds has also allowed some refinement of chronology, bearing in mind the low level of residual finds.

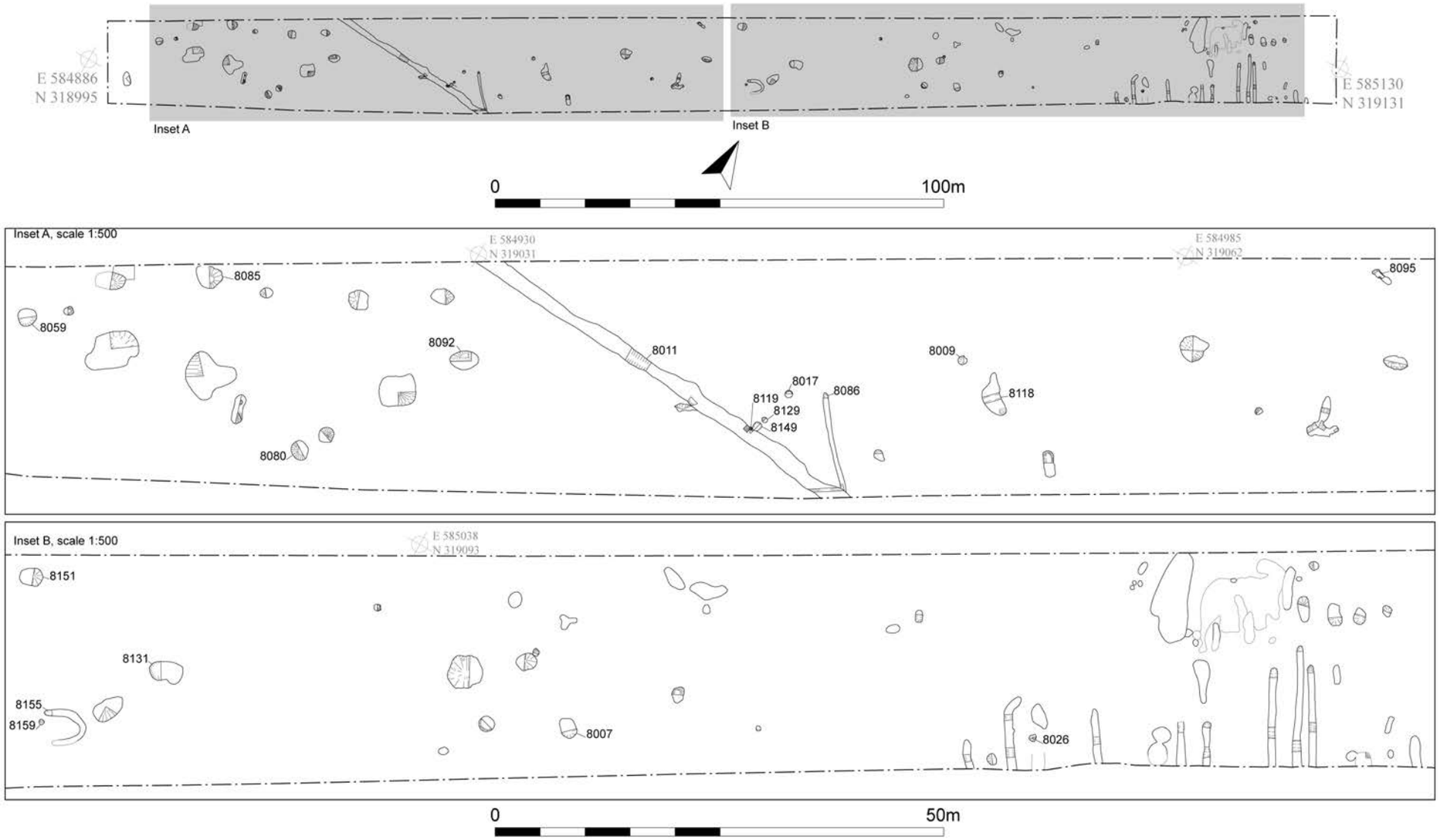

Figure 22 Plan of excavation Area A, Weasenham Clumps, scale 1:1250 and 1:500

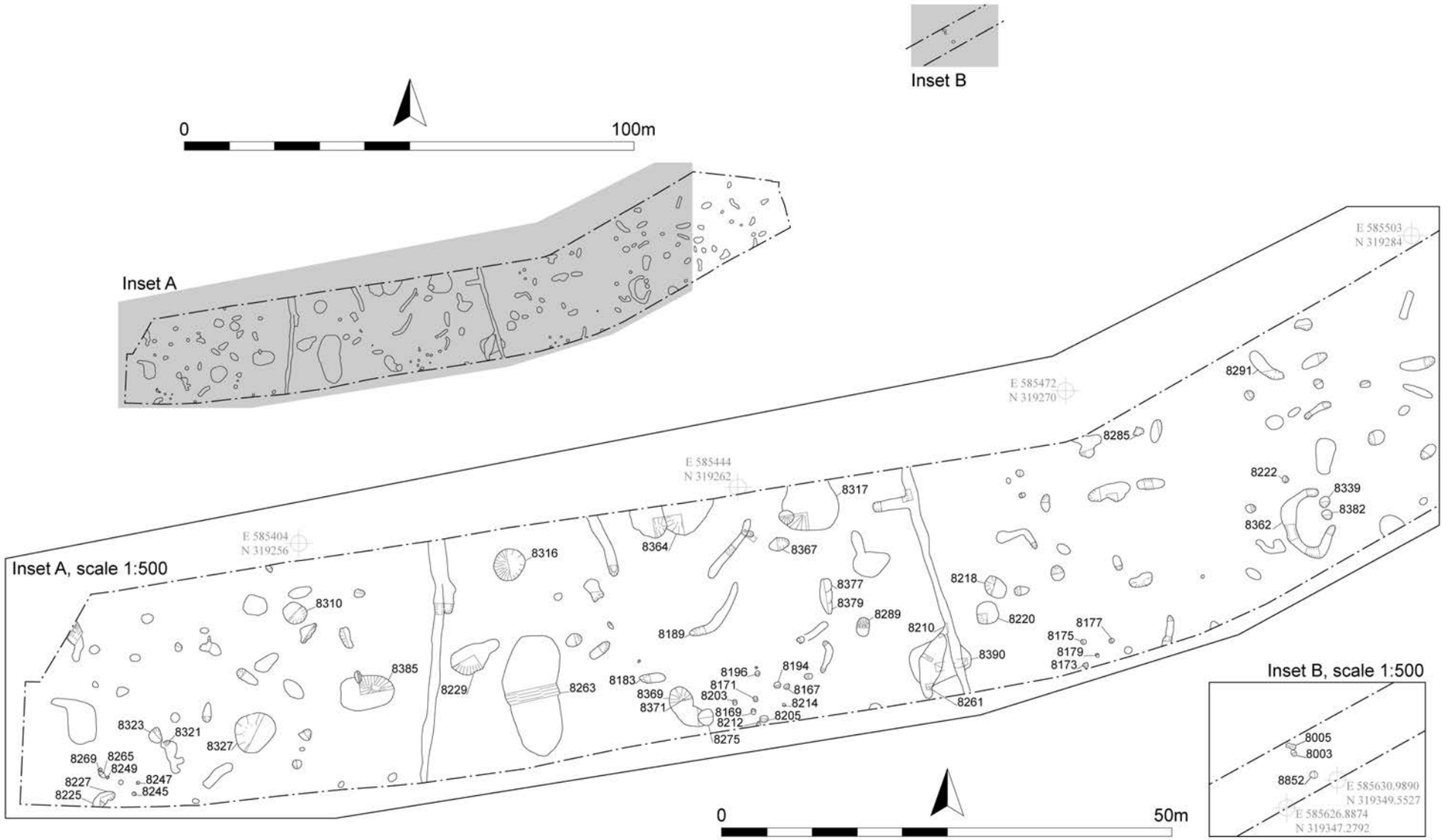

Figure 23 Plan of excavation Area B, Weasenham Clumps, scale 1:1250 and 1:500

5.5 Phase 0: natural deposits

The sedimentary geology was described as a pale or mid-orange-brown sand, containing occasional patches of orange and bluish grey sandy clays and of pale greyish brown sand. It contained frequent flint nodules and fragments up to 0.20m in size, with occasional chalk flecks.

5.6 Phase 1: earlier Neolithic

Deep pits in Area A

Although the number of flints indicates that activity took place in Area A during the earlier Neolithic period, no pottery sherds were recovered. Only one feature had a sufficient quantity of flintwork to be ascribed to this phase with any degree of confidence. Pit *8092* was 2.55m long and 1.70m wide, with a steep-sided profile. It survived to a depth of 1.44m. A 0.10m-thick charcoal-stained grey sand layer in its base produced a single blade-like flake. Five more blade-like flakes and a blade were recovered from the brown silty sand filling the rest of the pit. The disturbed top fill of the pit produced a 3g abraded sherd of sandy grey ware Roman pottery, the only artefact of that date found at the site (A. Lyons in Cater 2004). This pit was of similar size and shape to several of the better dated pits in Area B, including pit *8275*, with a similar depositional sequence to others in that area.

Two poorly dated pits in Area A, *8007* and *8080*, were also over 1.0m deep with very steep sides, pit *8080* having an eroded upper profile. At 1.5 to 1.8m across, both of these pits are smaller than those in Area B (see below). They contained, respectively, three and one small sherds of undatable prehistoric pottery.

Deep pits in Area B

Pit *8275* was circular in plan, with a diameter of 1.48m. It was steep-sided and was not bottomed (Fig. 24), excavation being halted for health and safety reasons. Two distinct silty sand fills were noted, an earlier pale fill and a dark brown upper fill. This upper fill produced 117 sherds of earlier Neolithic pottery and 109 struck flints.

Four more pits in Area B, *8310, 8316*, *8327* and *8364,* were similarly substantial and vertically-sided and were probably contemporary with pit *8275*, but contained insufficient artefact assemblages to be securely phased. They ranged from 2.1 to 4.8m across, and their bases were not reached despite excavation to one metre or more below the stripped surface. All except pit *8310* had the upper slopes of their sides eroded, suggesting that they had been open for some time before backfilling. Sequences of up to five homogeneous silty sand layers were recorded within them.

Smaller pits in Area B

Six further pits, smaller than those described above, were dated to the earlier Neolithic period; they were interspersed between the undated features across Area B. Their fills were generally darker and more homogeneous than those of the deep pits.

Pit *8369* was 2.12m in diameter, with steep but irregular sides and a flat base. It contained a basal sandy layer and a darker brown, more artefact-rich, silty sand upper layer. Sixty-nine sherds of early Neolithic pottery and seventy-seven struck flints were retrieved from the upper fill. It was cut by an undated but centrally located posthole, *8371*. Pit *8379* was at least 1.3m in diameter. A densely packed layer of unstruck flints in a dark brown silty sand matrix lay above the basal fill; this has been interpreted as either a deliberate dump or a packing to support a massive post. An upper fill was noticeably darker, possibly indicating the presence of occupation debris, and contained four struck flint flakes. Pit *8377*, recorded as stratigraphically later than pit *8379*, was 2.3m long and had shallowly sloping sides and an irregularly concave base. Its single brown silty sand fill incorporated two sherds of earlier Neolithic pottery and seven struck flints. Both of these pits were around 0.30m deep. Pit *8220*, to the east, was a deeper feature, to 0.89m, with concave sides and base. Its brown silty sand fill contained seventeen earlier Neolithic pottery sherds from three vessels, and twenty struck flints, including three blades, three blade-like flakes and a small discoidal knife. In the same area of the site, pit *8289* had shallow and irregularly sloping sides with a rounded base, 0.37m deep. Its yellowish brown sandy fill contained fourteen pottery sherds, probably of earlier Neolithic, or possibly Iron Age, date. In the south-west corner of the site, a smallish oval pit, *8265*, contained eleven scrappy earlier Neolithic pottery sherds.

Hollow in Area B

Feature *8390* may have been a natural depression, a working hollow, or perhaps a waterhole for livestock. It had shallowly sloping sides to an irregular base 0.35m deep. Four flint flakes and three spalls were recovered from this feature and three sherds of earlier Neolithic pottery which were ascribed to the later ditch *8210* probably also derived from the fill of this feature. Hollow *8390* was superseded by feature *8261*, which was 0.25m deep and had a homogeneous brown silty sand fill incorporating nine sherds of earlier Neolithic pottery and fourteen struck flints, including one blade and one knife. Its irregularity might suggest that feature *8261* was of natural origin; however, since it appears to have replaced the earlier feature, it is more likely that this hollow was deliberately dug and maintained because it had some utility for the people using the site at the time.

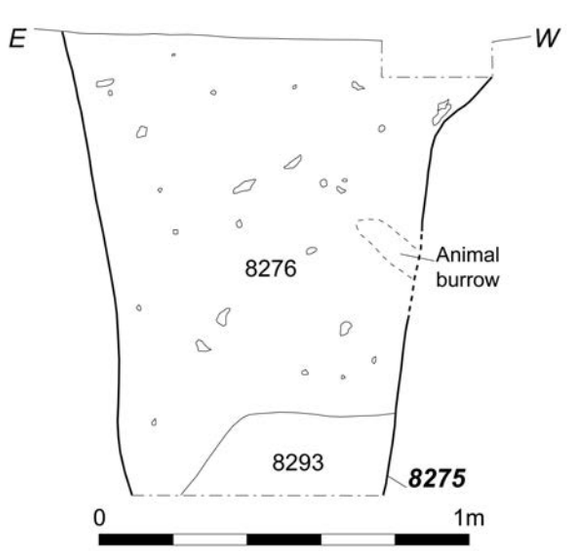

Figure 24 Section through Phase 1 pit *8275*, Weasenham Clumps Area B, scale 1:20

Postholes in Area B
Posthole *8194* was 0.18m deep with shallow, concave sides and a rounded base. It contained eight flint blades and four flakes, all burnt pink, and five pottery sherds of undetermined prehistoric date. The flint possibly indicates that this was a Neolithic feature, and not part of the surrounding group of Iron Age postholes (see discussion on flint from Phase 1 features, below). If so, it may have held an isolated post or formed a structure with some of the undated postholes nearby. A second posthole, *8269*, was located to the western end of Area B, cut by earlier Neolithic pit *8265*.

Pit *8852* at the eastern end of Area B
Pit *8852* was an isolated feature 190m north-east of the other early Neolithic pits (Fig. 23, Inset B). It was 0.64m across and steep-sided, surviving to just 0.17m deep. The base was covered with pale sand, above which was a dark brown sandy silt containing charcoal, fourteen sherds of earlier Neolithic pottery and eight struck flints.

Earlier Neolithic pottery
by Sarah Percival

Introduction
The site yielded 261 earlier Neolithic pottery sherds (1,114g) from eleven features, the pottery from this period accounting for almost half of the total 547-sherd prehistoric pottery assemblage recovered from the site (Table 14). This early Neolithic assemblage comprises small, abraded sherds with an average sherd weight (ASW) of 4g.

Ceramic period	*Quantity*	*Wt/g*
Earlier Neolithic	261	1114
Later Neolithic or early Bronze Age	21	124
Mid Bronze Age	11	144
Later Bronze Age	39	1805
Bronze Age	2	3
Earlier Iron Age	139	440
Mid- to later Iron Age	43	47
Probable Iron Age	4	43
Undetermined	27	82
Total	**547**	**3802**

Table 14 Quantity and weight of pottery of all phases, Weasenham Clumps

Description
Four main fabrics were identified in two fabric groups (Table 15). Flint fabrics dominate in common with the other earlier Neolithic sites excavated along the route of the pipeline and most other sites in East Anglia (Healy 1988, 64; Percival 2004, 422). A sandy fabric with voids (Q5) was also found.

The rim forms were classified following the rim typology used for Hurst Fen, Suffolk, (Longworth 1960, 228) Windmill Hill, Wiltshire (Smith 1965), and Spong Hill, Norfolk (Healy 1988 Fig. 57) and other assemblages (see Table 16).

Rim type	*Quantity*	*Wt/g*
Simple (rounded)	5	23
Simple (pointed)	2	14
Simple (flat)	1	2
Folded rolled or out-turned	8	58
Externally-thickened	2	24
Total	**17**	**114**

Table 16 Quantity and weight of earlier Neolithic pottery by rim type, Weasenham Clumps

The assemblage is composed of plain, round-based bowls similar in form to those found at Stocks Farm and Massingham Road (Chapters 3 and 11). A minimum of thirteen vessels is suggested by rim count. The bowl forms differ slightly from the other sites, having a greater range of rim forms, specifically externally thickened rims that are not present on the other sites. All the forms have parallels within the assemblage from Spong Hill, North Elmham (*e.g.* Healy 1988, fig. 67: 83; fig. 75: 180). One sherd (Fig. 25.12) had a drilled perforation similar to an example from Spong Hill (Healy 1988 fig. 65: 67). It is likely that the assemblage still falls within the East Anglian style of developed bowl common to most Norfolk sites and typified by the vessels within the large assemblage from Broome Heath (Wainwright 1972). The following sherds are illustrated. A plain bowl of rim type R2 in fabric F7, was recovered from ditch *8210* (Fig. 25.7), and another in fabric F8 was found in pit *8220* (Fig. 25.8). Part of a vessel of rim type R1a in fabric F8 was located in irregular depression *8261* (Fig. 25.9). Pit *8275* yielded a plain bowl of rim type R1b in fabric F7 (Fig. 25.10), and sherds from vessels in fabric F7 (Fig. 25.11) and fabric F8 (Fig. 25.12).

Fabric	*Description*	*No.*	*% N*	*Wt/g*	*% Wt*
F	Abraded flint-rich fabric	7	2.7%	9	0.8%
F7	Fine, well finished with highly smoothed or burnished exterior. Contained flint pieces below 4mm in size	51	19.5%	213	19.1%
F8	Medium fabric with mixed flint pieces up to 8mm and a smoothed surface finish	169	64.8%	748	67.1%
F9	Coarse mixed angular flint including those above 8mm	2	0.8%	14	1.3%
Q	Abraded quartz sand fabric	2	0.8%	3	0.3%
Q5	Moderate, quartz sand tempered fabric. Rare mica. Occasional voids suggesting organic component to fabric	30	11.5%	127	11.4%
Total		**261**	**100%**	**1114**	**100%**

Table 15 Quantity and weight of earlier Neolithic pottery by fabric, Weasenham Clumps

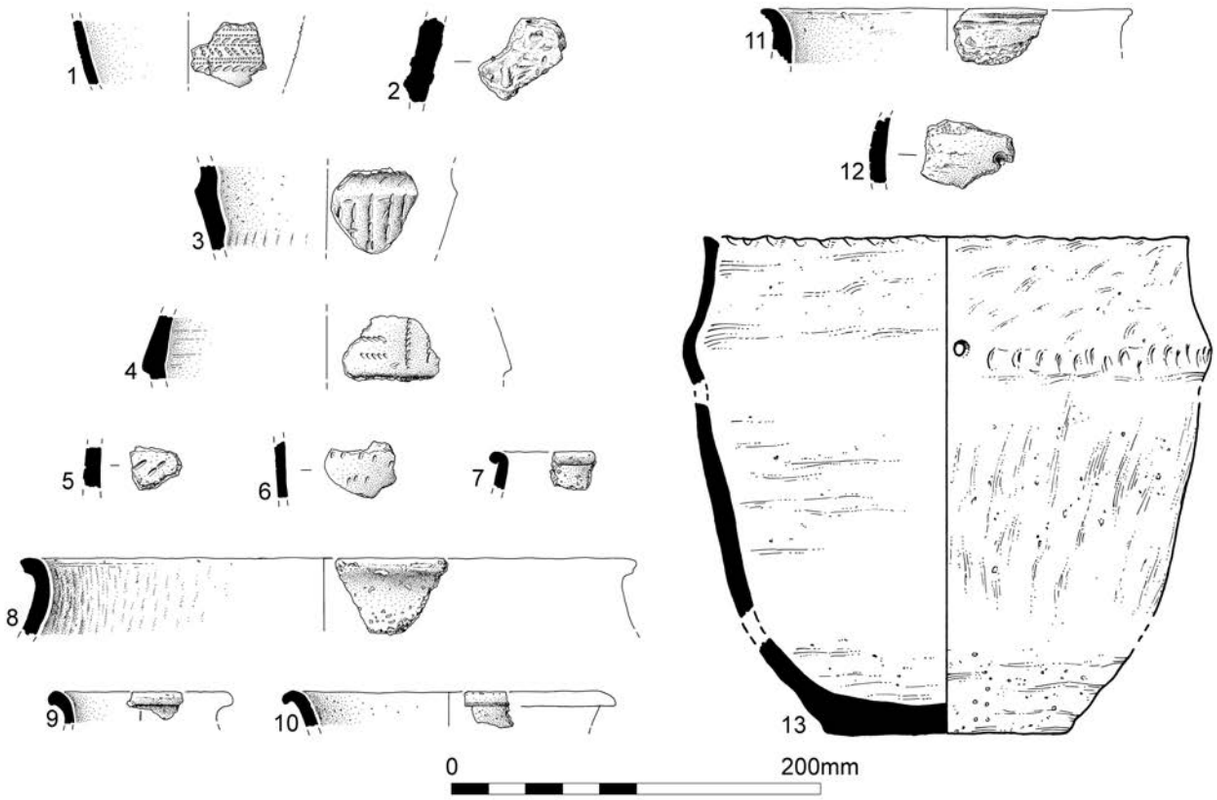

Figure 25 Prehistoric pottery from Weasenham Clumps, scale 1:4

Deposition

The earlier Neolithic pottery was primarily recovered from pit fills (Table 17).

Eight pits contained earlier Neolithic sherds, though only two, pits *8275* and *8369*, produced large assemblages. Deep, steep-sided pit *8275* contained a substantial assemblage of 117 sherds (449g). All of the pottery came from the upper fill while the lower fill was sterile. This upper fill is likely to represent a dump of material, perhaps made up of occupation debris, selected from midden-like accumulations, or collected within a surface hollow. Similar accumulations have been postulated on several earlier Neolithic sites in Norfolk, for example Spong Hill, North Elmham (Healy 1988, 110).

Feature type	*Feature*	*Quantity*	*Wt/g*
Ditch	*8210*	3	7
Irregular depression	*8261*	9	40
Pits	*8220*	17	144
	8265	11	21
	8275	117	449
	8289	14	20
	8364	3	25
	8369	69	310
	8377	2	6
	8892	1	15
	8852	14	69
Posthole	*8857*	1	8
Total		**247**	**1114**

Table 17 Quantity and weight of earlier Neolithic pottery by feature, Weasenham Clumps

A second pit *8369* lay adjacent to *8725* and also produced a large assemblage of earlier Neolithic pottery comprising sixty-nine sherds (310g), again recovered from a dark upper fill. It is possible that the pits were excavated as a pair or formed part of a cluster of the type noted on many earlier Neolithic sites (Garrow 2006, 44). At the eastern end of the site, a small, truncated pit *8852* contained fourteen small pieces of earlier Neolithic plain bowl in flint- and sand-tempered fabrics.

Discussion

The pottery suggests activity at this site in the period around 3600 BC (Gibson 2002, 72). The assemblage is similar to the earlier Neolithic pottery found at Stocks Farm and Massingham Road (Chapters 3 and 11), and is probably of broadly contemporary date and form. Finds of earlier Neolithic pottery from the proximity of the site include sherds of Mildenhall Ware and plain bowl found during barrow excavations at Weasenham Lyngs (Petersen and Healy 1986, 96), but finds from the area are relatively rare.

The function of earlier Neolithic bowl pottery is generally taken to be domestic; however the complex manipulation of the broken sherds perhaps suggests that the pots also fulfilled a less mundane role in social reproduction, the processes which sustain the characteristics of social structure or tradition (Thomas 1999). Pit fills of the type excavated here are generally considered to represent material selected from a previous accumulation and dumped into a feature especially created to receive the deposit.

Struck flint from Phase 1 features
by Sarah Bates

Introduction
The 474 flints collected from the site include fifty-nine recovered from samples, almost all of them spalls, and twenty-nine surface finds from the watching brief. A summary of the flint from the site is shown in Table 18.

By far the majority of the flint (411 pieces) came from Area B. The largest part of the assemblage consists of unmodified flakes but a relatively large number of blades are also present. Both the flakes and blades are predominantly thin and many of them quite small. Edge damage is mainly rare or slight but much of the material is patinated, in most cases only slightly, though some pieces more heavily so. Some pieces have abraded platforms.

Type	*Number*
Single platform flake core	1
Single platform blade core	1
Bipolar core	1
Core fragment	1
Core/tool	1
Crested blade	1
Flake	175
Blade-like flake	39
Blade	113
Bladelet	2
Spall	106
Scraper	3
Sub-circular scraper	3
Side scraper	1
Discoidal knife	1
Scale flaked knife	1
Knife	3
Piercer	2
Truncated blade	2
Leaf-shaped arrowhead	1
Microlith	1
Retouched blade	2
Retouched flake	4
Utilised blade	6
Utilised flake	3
Total	**474**
Fragment	2

Table 18 Summary of struck flint, Weasenham Clumps

Description
Area A yielded nine flints from a Phase 1 context, the fill of pit *8092*. These are a blade-like flake and a small blade, plus seven flakes that are blade-like but squat in shape.

Phase 1 contexts in Area B contained 296 struck flints, but most of these were from two adjacent pits located about half-way along the southern side of Area B. Pit *8369* contained seventy-seven flints. These include twenty-two blades, eight blade-like pieces, mainly thin neat pieces, and two or three with abraded platforms. Many of the flakes are also thin, and were possibly struck by soft hammer. A fairly large blade has had its edges slightly retouched and has been used as a knife and another flake, more squat, but with regular blade-like scars on its dorsal face, has had one edge used, also probably as a knife (Figs 26.2 and 26.1). There are also three slightly retouched flakes and part of a utilised blade. An adjacent pit, *8275*, yielded 105 flints. These include what might be an exhausted bipolar blade core, modified by flaking from both faces along one side to form a crude scraper or knife-like tool. Most of the other flints from pit *8275* are unmodified flakes, with a few blade-like pieces. Some pieces were probably struck by soft hammer. The flakes are consistently quite thin or neat or both. There is one utilised flake and one utilised blade. Thirty-one more pieces came out of soil samples taken from this pit, including two neat blades, twenty-three spalls and four flakes, two of them blade-like.

Other Phase 1 features in Area B contained much smaller groups of flint. Feature *8261* contained fifteen flints, mainly unmodified flakes but including a small single platform blade core on a rather chunky cortical fragment, a single small blade and a neat, quite thin flake with very shallow flaking on the ventral face along its right edge and tiny chips along that edge showing that it has been used, probably as a knife (Fig. 26.4). Pit *8220* contained twenty small flints, including a few blades and blade-like flakes and a small sub-circular flake with some irregular bifacial retouch to its edges. This flake may have been used as a knife or a scraper. Ten pieces came from pit *8310*, including four small blades and a neat long and narrow bipolar blade core, which has had blades struck from either end on one face. The other face has a battered ridge along its length at one side. Pit *8377* contained eight flints, including a neatly retouched, but broken, sub-circular scraper, one blade-like flake and one flake with a slightly utilised edge. Four small flakes, part of a bladelet and a neat horseshoe-shaped scraper (Fig. 26.3) were found in pit *8379*. Four flakes and three spalls were found in pit *8390* and two flakes came from pit *8265*. Seventeen more flints were recovered from seven other pits and one ditch assigned to Phase 1. They include nine blades, two other blade-like pieces and a small retouched blade-like piece, possibly a knife.

Eight pieces, including a flake core, some irregular sharp flakes and two small thin blades came from pit *8852* found beyond the eastern end of Area B during the watching brief. The pit has been dated to the earlier Neolithic and the flint is consistent with this date.

Twelve pieces, eight of them blades or blade-like, and all quite sharp, came from posthole *8194* in Area B. The flints are all pinkish and were probably burnt or heated to some degree. At least two pieces refit to each other and the similar size and nature of the flints suggest that they could have all been struck from the same core. Although the feature appears to be part of an Iron Age group, the nature and condition of this lithic material suggests that it is of earlier date (see discussion below).

Some of the struck flint found in Phase 2, 3 and 4 contexts may have been residual from Phase 1, particularly those within Phase 2 ring gully *8362* (Section 5.7) and Phase 3 pit *8118* (Section 5.8).

Discussion
One struck flint from Area B, a microlith found in feature *8291*, is likely to be of Mesolithic date. It was almost certainly residual, but indicates nearby activity dating to that period.

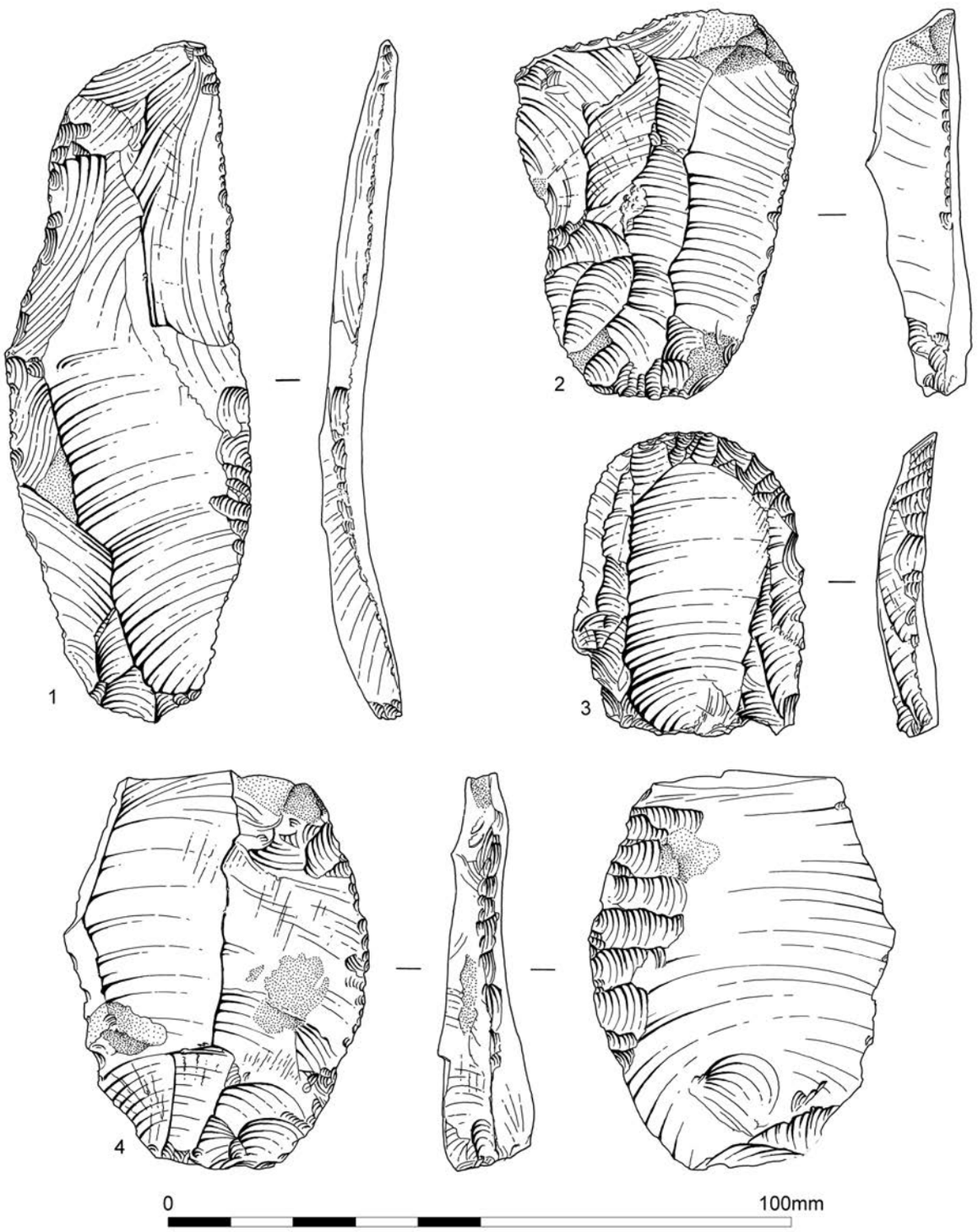

Figure 26 Struck flint tools from Phase 1 features at Weasenham Clumps Area A, scale 1:1

The debitage appears mainly to be soft hammer struck and, therefore, seems quite likely to be of Neolithic date (Butler 2005, 121). Overall, relatively few retouched and utilised pieces are present. Relatively large numbers of flints were recovered from several contexts, notably from the fills of Phase 1 pits *8369* and *8275*. Also of note are the possibly heat-affected thin blades or blade-like pieces from the fill of posthole *8194*. Deliberate heat-treatment of flint has been shown to improve its quality for knapping (Olausson 1983, Barnes 2006) and is usually considered to be associated with knapping during the Mesolithic or earlier Neolithic periods. The blade-like nature of the flint from posthole *8194* also suggests that it may be of a relatively early date. The sharpness of the flint, as well as the presence of refitting pieces, suggests that it may be *in situ* rather than redeposited, but the feature occurs within a cluster of undated and early Iron Age postholes. Either the flint is an atypical example of later prehistoric material, or this feature is of an earlier date.

It is notable that most of the flint from Area B came from near to the pits and other features assigned to Phase 1. The flint seems to be associated with the earlier Neolithic activity there, with some material having become incorporated in the fills of later features.

Worked flint was rather sparse in Area A. It represents activity in the vicinity during the prehistoric period and came mainly from the subsoil and a small number of pits, most of which probably date to the Neolithic or Bronze Age. The flint recovered from the only Phase 1 pit includes a small blade and blade-like flakes, but they cannot be dated to the earlier Neolithic period with certainty.

5.7 Phase 2: later Neolithic and early Bronze Age

Features in Area A

Ditch *8011* dated from Phase 2 or earlier, since it was cut by pit *8119*, which is of this phase. The ditch was at least 1.1m wide and 0.45m deep, with steep sides, but its pale fill contained no artefactual material. It cut through a smaller gully, *8086*, which appeared to terminate to the north, although this could well be the result of truncation. This gully also had a pale fill, similarly devoid of cultural material, save for a little charcoal.

A line of three closely spaced pits ran at an approximate right angle to ditch *8011*. None of the pits contained any artefactual dating, but pit *8149* was cut by the ditch. The three pits were all approximately 0.6m across but pits *8149* and *8129* (Fig. 27) survived to a depth of less than 0.2m, whereas pit *8017* was 0.8m deep.

Pit *8119*, cutting into ditch *8011* (Fig. 27), contained thirteen sherds of Beaker pottery. It had a similar yellowish brown sand fill as the features above. The pottery was recovered from high up in the fill, while flecks and occasional concentrations of charcoal were present closer to the base. These might perhaps be the remains of a disturbed or inverted cremation, although no human bone was recovered.

Two pits in the centre of Area A probably dated to Phase 2. Pit *8151* was comparatively large and 0.47m deep. It contained four sherds of later Neolithic or earlier Bronze Age pottery, including a Beaker sherd, and a single, sub-circular flint flake. Pit *8131* further south was larger still and over 1.35m deep. It has been dated to this phase from a single pottery sherd, but its dark lower fill

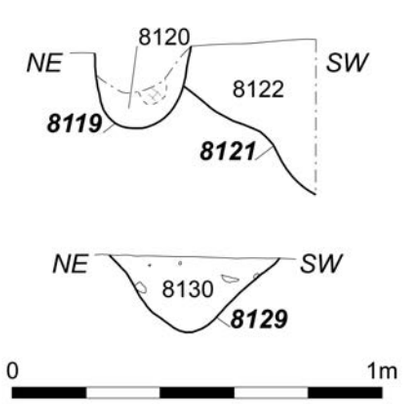

Figure 27 Sections through Phase 2 pits at Weasenham Clumps Area A, scale 1:20

was disturbed, casting considerable doubt on this attribution: it might equally have been a storage pit from a later phase.

Curvilinear gully in Area B

Curvilinear gully *8362* formed a very irregular semi-circle in plan, with a maximum external diameter of 6.25m and maximum internal diameter of 4.25m. The gully had a break in its circuit of 2.94m on its eastern side. It was at least 0.38m deep and varied in width from 0.66m to 1.3m, possibly as a result of animal disturbance. The brown silty sand that filled the gully contained four prehistoric pottery sherds, two of which could be identified as Beaker pottery. Also present were thirty-four worked flints, including twelve blades, one sub-circular ovate scraper and a broken Neolithic leaf-shaped arrowhead.

Undated pits *8339* and *8382* lay within the gap in the circuit of gully *8362*. The steepness of their sides, and their depth, 0.38m in the case of pit *8339*, suggest that they were genuinely separate features rather than the truncated remnants of a continuous circular gully. Neither contained any artefacts.

The curvilinear gully is likely to have surrounded a building or other structure, or a barrow. No postholes or other traces of a structure were found, and the fill does not indicate a domestic context. Conversely, no central pit or any human bone was discovered. It remains perfectly possible that the gully was associated with a lowly structure, such as a windbreak or an animal pen.

Later Neolithic or early Bronze Age pottery

by Sarah Percival

Eighteen sherds of Beaker pottery (93g) were found within the fills of three pits in Area A. These sherds are small and fragmentary, each context assemblage containing the remains of one or more vessels each represented by a small number of sherds. In Area B, two sherds of Beaker (9g) were recovered from gully *8362*. The sherds are made of grog-tempered fabric (G4) and are decorated with comb-impressed geometric designs. A further Beaker sherd came from pit *8385* in Area B. The sherd is made of heavily flint-tempered fabric (F5) and has crude tool-impressed decoration all over. The small size and poor condition of the sherds suggest that they are residual, and represent a 'background noise' of activity at the site in the later Neolithic or earlier Bronze Age.

The Beaker sherds are found in both grog- and flint-tempered fabrics. Fabric G3 contains moderate small sub-rounded voids indicting the former presence of grog and occasional sub-angular flint. This was the most common fabric, representing 68 per cent of the assemblage from Area A (64g) and comprising thirteen sherds probably all from a single vessel, plus two sherds from Area B. The flint-tempered sherds are made of fabric F5, which contains frequent medium angular flint pieces and common quartz sand. Two Beaker sherds found in Area A are illustrated: one in fabric G3 from pit *8119* (Fig. 25.1) and one in fabric F5 from pit *8151* (Fig. 25.2).

The form of the vessels is hard to determine, as the pieces are small and no rim or base sherds were found. The decorated pieces are similar to examples found at Hockwold cum Wilton on the fen edge and feature comb-impressed zoned decoration comprising horizontal bands filled with short diagonal lines (Bamford 1982, fig. 13:

63.010) or fingertip-impressed rustication (Bamford 1982, fig. 6: 93.037).

The Beaker assemblage is typical of vessels previously considered to be 'domestic' Beaker combining a mix of carefully decorated 'fine' wares and rusticated 'coarse' wares. Recent finds of rusticated Beaker associated with prestige metalwork has suggested, however, that a purely mundane interpretation of these assemblages may underestimate the complex role that pottery played in the maintenance of social structure and tradition (Gibson forthcoming). Beaker currency is generally thought to fall between 2600 and 1800 BC (Kinnes *et al*. 1991).

Struck flint from Phase 2 features
by Sarah Bates
In Area B, thirty-four struck flints and a fragment of burnt flint came from the excavated fill of curvilinear gully *8362*, and twenty-two tiny, but sharp and fresh-looking spalls were recovered from a soil sample, suggesting contemporary knapping nearby. The flint included ten blades, two with abraded platforms, a sub-circular scraper on a cortical flake, two small utilised blades, one of them a piercer, and part of a very fine bifacially flaked piece (Fig. 28.2), with its base missing, which probably was a long slender leaf-shaped arrowhead of earlier Neolithic date, possibly Green's kite-shaped form 2C (Green 1984). It is notable that while the gully contained Beaker pottery, many of the flints are of characteristic 'early' Neolithic types and may therefore be residual.

A scraper was found in Area B Phase 2 pit *8385*. Its proximal end is missing but it appears to be on a largely cortical flake and has neat, but quite slight, retouch around its distal end with a few removals from its right side. On its reverse, ventral, face shallow flaking extends about halfway across the flake from its right side. It is slightly burnt.

5.8 Phase 3: middle Bronze Age

Pit *8118*, in Area A, was at least 0.72m deep, with steep sides. Its brown sand fill contained part of a quern, eleven Collared Urn sherds and nine struck flints, two of which were blades, presumably residual. Pit *8009* was smaller and only survived to a depth of 0.11m but contained two small Bronze Age pottery sherds and flecks of charcoal. There was no evidence of middle Bronze Age activity found in Area B.

Middle Bronze Age pottery
by Sarah Percival
Eleven sherds (144g) were identified as being fragments of middle Bronze Age Collared Urn. Two vessels were identified, both from pit *8118*, and both of grog-rich fabric (G1). The first vessel has a shallow collar with impressed lines running vertically towards the rim (Fig. 25.3). The second has a slightly deeper collar with twisted-cord impressions forming lattice-filled panels (Fig. 25.4). Both vessels are typologically late according to the scheme proposed by Burgess (1986, 348) and fall within

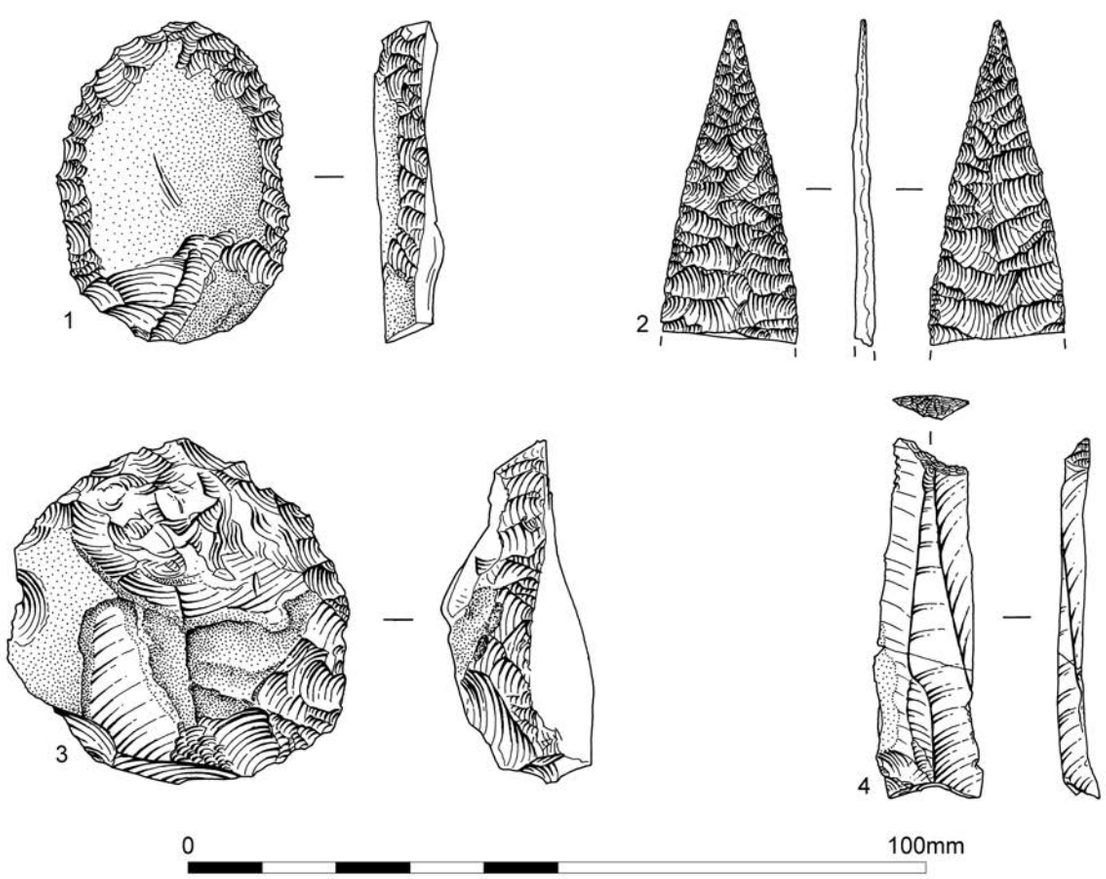

Figure 28 Struck flint tools from residual contexts at Weasenham Clumps, scale 1:1

Longworth's Secondary Series (Longworth 1984). A large, late style Collared Urn, also with twisted cord-impressed decoration, was found beneath a barrow at Weasenham Lyngs (HER 3659), 400m north of the present find (Petersen and Healy 1986, fig. 83: 1). However, examples of Collared Urns from domestic contexts have been found on the fen edge (Longworth 1984, 76), at sites such as West Row Fen (Martin and Murphy 1988) and Hockwold cum Wilton (Healy 1996, fig. 72: 9) and it is likely that the vessels from this site are also of non-funerary origin. Radiocarbon dating suggests that Collared Urns were in use from around 2200 BC until 1200 BC (Gibson 2002, 101).

Worked stone
by Hilary Major
A saddle quern fragment, recovered from Bronze Age pit *8118*, was made from a very hard, dark stone, probably a plutonic erratic boulder, and was up to 44mm thick. Saddle querns were frequently made from suitably shaped erratics or, in Norfolk, from flint nodules.

5.9 Phase 4: earlier Iron Age settlement in Area B

Pit group at the western end
Four small pits in the south-western corner of the site were typically around 1.0m across with steep sides and flattish bases. The largest, *8323*, was 1.01m deep and contained the darkest fill, which included nine earlier Iron Age pottery sherds from at least three vessels, five of which were burnt. This was not the richest assemblage however, since the dark reddish fill of pit *8225,* only a third of the depth, produced twenty-five sherds together with ten struck flints, at least three of which were residual. Pits *8227* and *8321* contained much more modest assemblages.

A posthole, *8245*, within this pit group may also have been of this phase, since it contained a single earlier Iron Age pottery sherd. There were several postholes nearby, but there was no indication that these were of the same phase: posthole *8269* was truncated by a Neolithic pit, and postholes *8247* and *8249* contained no dating evidence and were morphologically different to posthole *8245*. As a whole, these features formed no specific pattern.

Hollow
Feature *8317* may have been a large, disturbed pit, a natural hollow, a waterhole for animals, or simply the remains of a very large tree root. It was 5.0m across and survived to a depth of 0.50m, with a generally smooth concave profile, but its edges were disturbed by root activity. Its dark fill contained eight earlier Iron Age pottery sherds, seven of which were scraps. Two other features in the same part of the site, an earlier Neolithic pit, *8390,* and an undated pit, *8263*, had similar fills, distinctly different from the fills of the group of deep, straight-sided Phase 1 pits, such as pit *8275*.

Linear features
A section of ditch, *8189*, may belong to this phase, as it contained three earlier Iron Age pottery sherds. It was only 6.5m long, surviving to a depth of 0.35m, and contained sterile, sandy fills. Other similar, ditch fragments nearby were undated and none shared the same alignment as ditch *8189*, but it is possible that they were all significantly truncated elements of a single system of land division.

Pits in centre of Area B
Four oval pits, *8229*, *8183*, *8367* and *8218*, were loosely clustered near the centre of the area, interspersed with many undated features of similar general form. Pit *8229* was exceptional, being around 4m across and having very shallowly sloping sides; the other three survived to a depth of around 0.3 to 0.4m and were around 2m across and had irregular steep sides and concave bases. Pit *8183* produced eighteen sherds of pottery.

Possible post-built structures
Ten postholes appear to have defined a square structure. Posthole *8167* contained fifteen earlier Iron Age pottery sherds and a residual flint flake, postholes *8169, 8214* and *8171* (Fig. 29) produced five sherds, three sherds and one sherd respectively. Given that adjacent posthole *8194* appears to be Neolithic (see p.53), the other postholes, all lacking dating evidence, cannot confidently be considered Iron Age. However it is likely that most of them formed part of a structure of some kind. If undated postholes *8196*, *8203* and *8205*, and dated posthole *8167* (Fig. 29) defined four corners, this would produce a rectangular structure measuring about 2.85m by 3.35m. The variations in profile and dimensions, however, cast doubt on their being associated.

Samples from postholes produced very small numbers of fragmented cereal grain and hazelnut shell suggesting that only low levels of domestic waste were being incorporated into the features.

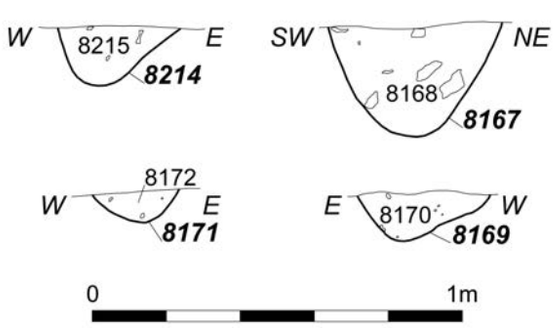

Figure 29 Sections through Phase 4 postholes at Weasenham Clumps Area B, scale 1:20

Five postholes to the east may have been part of a group that held an earlier Iron Age structure. Two adjacent postholes, *8177* and *8175*, yielded one pottery sherd each. Postholes *8173* and *8179* are undated but could have been associated. A single piece of hammerscale was identified in a sample from the fill of posthole *8173*. A fifth, unexcavated posthole suggests that the group may have extended southwards beyond the site boundary. Alternatively, the putative structure may have extended north, if other postholes originally present had been ploughed away. However, since those recorded were up to 0.31m deep, this seems unlikely.

In contrast to postholes *8214* and *8167*, samples from postholes *8175* and *8177* contained the greatest density of material from any of the samples from the site. These were

the only two samples to contain wheat, and posthole *8175* contained a concentration of flax seeds. Since the charred seeds must have been ripe when burnt, use as oil or food seems more likely than processing for linen fibre.

A small posthole, *8222*, contained four earlier Iron Age pottery sherds and a clear post pipe, and was adjacent to Phase 2 ring gully *8362*. It may have formed a two-post structure with an undated posthole to the west.

Other features

One isolated pit, *8285*, in Area B contained pottery generally dated to the late Bronze Age. This indicates that activity was taking place on this site during the transition from the Bronze Age to Iron Age (Phase 3 to 4). Sub-circular in plan and 0.70m in diameter, it survived as little more than a thin lens, but the dark sand fill still contained thirty-nine later Bronze Age pottery sherds, thirty-four of which were from a single vessel that must have lain on the base of the pit. A single blade-like flint flake was also recovered.

Earlier Iron Age settlement evidently continued eastwards, since two features dated to this phase were recorded during the watching brief 130m away from Area B (Fig. 20, Inset B). Pit *8005* contained a brown fill with five earlier Iron Age pottery sherds. An adjacent truncated pit or posthole *8003* was smaller but its similar fill contained eleven scraps of earlier Iron Age pottery sherds. Both features survived to just 0.12m deep, suggesting that there had been a considerable degree of truncation in this area. If so, any activity may have extended well beyond the two main areas.

A single sherd, found in animal burrow *8095*, offers a hint of earlier Iron Age activity near Area A, which was otherwise devoid of evidence of activity from this phase.

Later Bronze Age or early Iron Age pottery

by Sarah Percival

Almost all of the pottery dating to this phase was recovered from Area B. The later Bronze Age or earlier Iron Age pottery was initially separated into two independent phases. However, following full analysis these two assemblages are considered to be contiguous or even contemporary.

The 'later Bronze Age style' pottery was all recovered from pit *8285*. The pit contained thirty-nine sherds (1,805g) representing a minimum of four vessels, including a partially complete jar with fingertip-impressed decoration on rim top and shoulder (Fig. 25.13). The vessel is of Barrett's Class I jar form (Barrett 1980) and is similar to examples from West Harling, Norfolk (Clark and Fell 1953, fig. 11, 12), and Barham, Suffolk (Martin 1993, fig. 22, 59). The sherds are mostly made of flint-tempered fabrics, though one sherd is sand-tempered. The pottery falls within Barrett's post-Deverel-Rimbury decorated phase and is principally composed of coarse wares, although the sandy fabric may hint that some finewares had also been present. The pit assemblage probably dates to around the sixth century BC, although a date as late as the fourth century BC is possible (Barrett 1978, 287). It is likely that the assemblage represents domestic occupation debris, although exact function is uncertain.

The 'earlier Iron Age style' pottery was recovered from a broad scatter of features principally consisting of pits (201g, 60 per cent) and postholes (80g, 24 per cent). Three sherds (11g) came from the fill of curvilinear feature *8189*. Five fabrics were identified in two fabric groups (Table 19). The assemblage is principally composed of flint-tempered fabrics which make up 77 per cent of the assemblage (255g). The remainder of the sherds are of sandy quartz-tempered fabrics.

Limited amounts of scrappy pottery were found further afield. The two pits to the east (*8003* and *8005)* both produced small quantities of flint-tempered earlier Iron Age pottery. The sherds are abraded, suggesting that they may have been redeposited within the pit fill. In Area A, a sherd of possible earlier Iron Age date (7g) was found in animal burrow *8095*. This sherd is made of flint-tempered fabric (F3) and has fingernail-impressed decoration (Fig. 25.5).

Overall, the range of fabrics is typical of earlier Iron Age assemblages, which like those of the later Bronze Age, are composed of both flint-tempered coarse wares and 'fine' quartz sand-tempered wares (Percival 2000, 170). The pottery is undecorated and has out-turned rims with rounded rim endings and angular shoulders. Similar sherds have been found at Valley Belt, Trowse (Ashwin and Bates 2000, fig. 140: 104; fig. 138: 8) where they were tentatively dated to the fifth century cal. BC (Ashwin and Bates 2000, 179). Little later Bronze Age or earlier Iron Age pottery has been recovered from the region around Lexham and Weasenham. A broadly contemporary assemblage was found in pits excavated at Longham (HER 7239), some 9km south-east of this site (Ashwin 1999, fig. 23: 43 to 46). The Weasenham Clumps assemblage appears to represent low density domestic occupation during the later Bronze Age or earlier Iron Age.

Struck flint from Phase 4 features

by Sarah Bates

Small amounts of struck flint came from several Phase 4 pits and postholes in Area B: *8167*, *8169*, *8171, 8183*, *8205*, *8212*, *8214*, *8218*, *8225* and *8317*, and from curvilinear feature *8189*. Although it is possible that some of these flints are of Iron Age date, the features all contain

Fabric	*Description*	*Quantity*	*Wt/g*
F	Indeterminate flint-tempered	14	17
F1	Common small angular flint, occasional quartz sand	12	40
F2	Moderate small-medium angular unburnt flint. Moderate quartz sand	19	60
F3	Common medium to large angular white flint. Common quartz sand	28	138
Q	Indeterminate quartz sand-tempered fabric	3	1
Q2	Common rounded quartz sand, sparse angular unburnt flint. Irregular voids	23	68
Q3	Common rounded quartz sand, sparse angular unburnt flint. Fine burnished	1	7
Total		**100**	**331**

Table 19 Quantity and weight of earlier Iron Age pottery by fabric, Weasenham Clumps

some blades or blade-like pieces, some of them neat or from prepared cores. Pit *8218* contained a small, neat, crested blade. It seems quite likely, considering the proximity of earlier Neolithic and Bronze Age features, that at least some of this flint was residual in the Iron Age contexts. The flint assemblage from the whole site is discussed in more detail in Section 5.6 above.

5.10 Phase 5: limited later Iron Age activity

by Sarah Percival

A small Iron Age assemblage comprising forty-three sherds (47g) was recovered from a small, irregular, 0.15m-deep pit *8026* in Area A. The sherds are extremely small and abraded, suggesting a high degree of residuality. All are of sand-tempered fabric (Q2) and two are decorated with tool-impressed dots (Fig. 25.6), similar to examples from Beeston with Bittering dating to the third to first centuries BC (Percival 1999, fig. 20: 12 and 18). No rim or base sherds were found.

5.11 Phase 13: undated features

An unusual, horseshoe-shaped gully, *8155*, in Area A is likely to have been of prehistoric date. The gully, with an opening to the south-west, enclosed an area 2.82m by 2.30m. It had no internal features but single posthole, *8159*, located in the gap close to the northern terminus, could be related. The gully is similar in plan to feature *8362* in Area B, which had two pits in a comparable position, although in that case the opening was to the east. Gully *8155* survived to a depth of 0.32m and was filled by reddish brown sand containing two flint waste flakes. This feature is too small and irregular for a roundhouse ring gully and the direction of the opening would be unusual for a prehistoric building. It could have defined and drained a work area, but no associated waste material was recovered. It is small for an animal pen. The possibility remains that it might have been a truncated funerary monument.

The remains of up to twelve parallel linear features at the eastern end of Area A may have been the remains of medieval furrows, although they are too close together to be part of a single field system. They could alternatively be horticultural in origin. Area B contained five ditches or ditch stubs on a broadly similar, north to south alignment, which are probably also agricultural features from the medieval period or later.

Struck flint from undated contexts

by Sarah Bates

In Area A, a small flake and a side scraper came respectively from undated pits *8059* and *8085*. The scraper is on a thick hard hammer struck flake and its utilised edge is worn smooth. In Area B, eleven flints were found within undated features, individually or in pairs. These include a small neat flake and a microlith from *8291*, a feature that may have been entirely the product of animal action. The microlith is patinated white, and is an obliquely backed example (Jacobi 1984, 54, fig. 4.7, similar to numbers 3–10) of probable later Mesolithic date.

Seven struck flints came from the subsoil in Area A. These include a truncated blade which is broken into two pieces; one edge of the blade is utilised, its proximal end is missing, and its distal end is abruptly retouched (Fig. 28.4). There are also two neatly retouched scrapers, one ovate and one sub-circular (Figs 28.1 and 28.3). Lastly, a small blade-like flake was found in the topsoil. The flint assemblage is discussed in more detail in Section 5.6 above.

5.12 Environmental archaeology

by Gemma Martin and James Rackham

Ten samples were taken for environmental assessment (Rackham in Cater 2004) of which five, all from Phase 4 contexts, received further analysis. Most of the grain and seeds were distorted and corroded in appearance, but of the identifiable cereals, barley dominates the cereal assemblages both in terms of frequency and numbers, while wheat grains appear to be confined to Phase 4 posthole *8175*. Conversely, there is only a single occurrence of barley chaff, from Phase 4 pit *8285*, and a greater frequency of wheat chaff from a glume wheat species, such as spelt or emmer. Again, the wheat chaff is only present in the fills of Phase 4 postholes. These differences may be attributed to the greater fragility of chaff from free-threshing cereals such as barley than of the more robust wheat chaff, which would better survive the charring process (Boardman and Jones 1990). Several of the barley grains are hulled, although no other diagnostic features have been preserved in order to identify the grains as a six-row (*Hordeum vulgare* L.) or two-row (*Hordeum distichon* L.) variety. Traces of hazelnut from posthole *8167*, and small vetches or peas (*Vicia/Lathyrus* spp.), particularly associated with pit *8285*, could also have been of economic significance. Of particular interest is the concentration of flax seeds associated with postholes *8175* and *8177*, although they too are very distorted and only a few from posthole *8175* could be positively identified as *Linum usitatissimum* L., the species widely cultivated for oil and fibre. The small numbers of wild species derive from a limited and unspecialised weed flora.

5.13 Discussion

by Trevor Ashwin

Earlier Neolithic activity appears to have been domestic in nature, the features being almost exclusively pits. Many of the pits were deep and regular in shape, suggesting that they were created for storage. Pits were located in both Areas A and B, while there was a scatter of shallow scoops and also two postholes in Area B. The postholes suggest that some structures were present that have since been all but truncated, and the absence of smaller pits in Area A is a possible indication of the greater truncation in that area, any possible evidence of structures having been lost. Area B also had one very large feature that had been maintained, perhaps a waterhole or a dry working hollow.

Phase 1: earlier Neolithic period

Weasenham Lyngs is better known to prehistorians for its barrows of the third and second millennia BC than for earlier Neolithic sites and monuments. Looked at from a broad perspective, however, this is an interesting location in the context of our understanding of this earlier period. Neolithic finds distribution data from Norfolk places the site near the southern limit of a very notable concentration

of recorded finds. Over thirty flint axes are recorded as having been found over an area extending ten kilometres to the north and north-west of the site (Ashwin and Davison 2005). The northern edge of this tract is formed by a dry area of the Good Sands extending across the upper valleys of the west-flowing Nar and Babingley rivers and, at Rudham, onto the main watershed between the east- and west-flowing river systems. This coincides with the long barrows at West Rudham (Hogg 1940) and Harpley. The southern and eastern limits of this spread may also coincide to some extent with topographic boundaries. In particular, it appears constrained by the interface between the Good Sands and the central Boulder Clay plateau. It is noticeable that recorded axe finds are absent from the westward-extending 'tongue' of boulder clay a very short distance to the north of the Weasenham Clumps site, coinciding with the tract of relatively high ground occupied now by the village of Weasenham All Saints.

The aspect of the sites is of interest; in particular, Area B lies only 2.5km to the north of the Nar but it occupies a north-facing slope, facing towards the prehistoric monument complex and the concentration of Neolithic finds beyond, rather than the river valley to the south.

The one possible earlier Neolithic element in the Weasenham Lyngs monument complex (HER 3661) lies less than 400m to the north-west of Area B. Described fully in Petersen and Healy 1986, this ovate cropmark could well have been recorded from air photography as a putative long barrow were it not for the observations of Eric Puddy in 1941, who recorded a ditched enclosure with an outer bank immediately prior to the area being steam ploughed (Petersen and Healy 1986, pl. XVIII). Very limited excavation in the ditch in 1972 produced only small quantities of Beaker and of Mildenhall-type pottery. This feature may have been a Neolithic mortuary enclosure of a type that only seldom survives ploughing in agricultural southern England, though it should be emphasised that this remains speculation and that no positive evidence of funerary function has been recorded. However, the possibility remains that the earthwork represents a ceremonial or mortuary antecedent to the Weasenham barrow cemetery. If this was indeed the case, its location at the southern limit of the distribution of Neolithic axes would mirror that of the Harpley and West Rudham long barrows at its northern limit.

When considering the sparseness of early Neolithic features, the scale of the plough destruction episodes recorded by Puddy and Sainty in 1941–2 (Petersen and Healy 1986, 72) must be remembered. It is likely that only a very partial sample of any subsoil features that once existed here had survived for study. The activity represented by the 261 sherds of Neolithic bowl could mark a number of occupation episodes in the fourth millennium BC. Alternatively, it could indicate events and activities specific to the ceremonial or mortuary complex, if this was indeed present in some form at this early date.

The few surviving Phase 1 pits, although containing relatively sparse finds assemblages, seem to have been substantial features, all the more so considering the likely degree of erosion at this site. They contrast with the smaller, more compact pits from Area A which were assigned to Phase 2. A dichotomy in form between early Neolithic pits, associated with plain bowl pottery, and smaller late Neolithic to Bronze Age pits, with Beaker or Grooved Ware, has been suggested at other sites in central Norfolk, such as Spong Hill, North Elmham (Healy 1988; Healy 1995, 175) and at Longham Quarry (Ashwin 1998: summary in Ashwin 2001, 28–9). The significance of this contrast is hard to explain, especially on sites where surface deposits that were once associated with the surviving subsoil features have been completely removed. Within a broad, unbroken continuum of non-sedentary settlement in the Neolithic and Bronze Age, it may indicate changes in specific human behaviours at occupation sites in the later fourth and third millennia BC. As Healy has suggested with regard to Spong Hill, this change may have involved an increase in surface deposition of pottery, flint and other material as well as the excavation of smaller pits, but these phenomena may be symptoms of a complex, multivariate process. The reference to occupation in this context needs to be qualified as it is impossible to estimate the extent to which pits and pit groups such as these, though often apparently containing domestic waste, may have had intrinsic ritual or ceremonial significance, perhaps signifying or marking specific episodes in the life cycle of an occupation episode. At the very least, they may signify the disposal of rubbish in a careful and highly structured manner (Garrow *et al*. 2005).

Neolithic pottery was also present in several pit-like features which were probably the upper elements of solution pipes formed by non-cultural processes. This is not surprising in itself, and has been noted elsewhere where mobile sandy soils overlie chalk: most graphically at Eaton Heath, Norwich, where numerous deep features containing Neolithic and Bronze Age material, originally interpreted by the excavator as 'shafts' (Wainwright 1973, 12–23), have been reinterpreted as solution holes (Healy 1986, 57–8). During excavations on the Norwich Southern Bypass, many similar features were encountered, and some excavated to considerable depth until their origins became clear (Ashwin and Bates 2000, 11–15). Prehistoric material may have entered the fills of these features from now-destroyed middens or occupation layers during slumping episodes. Alternatively, it may have been placed in them deliberately by prehistoric people, possibly even in response to slumping episodes causing visible depressions at the surface, which may have elicited some kind of ceremonial or propitiatory response. Wainwright's discovery of a complete Beaker at a depth of no less than 3.7m in one of the Eaton Heath shafts (1973, 12) might best be explained in this manner, as a vessel deposited in a relatively shallow depression drawn downwards over subsequent millennia as a cycle of collapse and infilling continued.

The earlier Neolithic remains may represent two separate and unrelated settlements or, since the two sites are similar and the fields are known to have been under the plough for some time, might be the remains of a continuum of occupation, moving through 600m of the landscape during a long period of use, rather than a large settlement. There is no clear evidence of non-domestic or ritual activity, either in monumental form or in the form of structured deposition, although pits *8369* and *8379* have characteristics that might have resulted from symbolically constituted behaviour. The environmental samples from this phase produced very little, though hazelnut shells and barley are possible indicators of domestic activity.

Phase 2: late Neolithic and early Bronze Age period

Considering the scale of documented plough damage, it is no surprise that the surviving Phase 2 evidence is very sparse. The lack of precise dating evidence, not only from the features at Weasenham Clumps but also from the barrow group to the north, does not allow us to ask many specific questions about the landscape here in the third and second millennia BC. Furthermore, we know little about the chronology of the development of the barrow group itself. The single radiocarbon determination from an excavated barrow here (HER 3659: 1860–1510 cal. BC, Petersen and Healy 1986, 73), from a cremation associated with Collared Urn pottery, is relatively late, compared to dates presented in Ashwin and Bates (2000, fig. 181); it would be no surprise if the barrow group had been developing for centuries prior to this date. The sampled charcoal was oak, and therefore possibly from a long-lived tree, compounding these uncertainties.

Remarkably few barrow groups have seen excavation on any scale in the spaces between the conspicuous monuments themselves. A notable exception from Norfolk is the Harford Farm ring ditch complex at Caistor St Edmund (Ashwin and Bates 2000, chapter 4). Weasenham Lyngs has never seen large-scale excavation, and we cannot tell whether or not the landscape encountered during the excavations at Areas A and B extended northward into the interstices of the barrow group. Certainly the 2003 excavations identified no clear evidence for concerted settlement. This is interesting in the light of the 1972 excavation results from Site HER 3660, where the barrow mound had sealed a spread of Beaker pottery, struck and burnt flint, and over 700 pieces of distinctive hard-fired clay lumps. It seemed unlike daub associated with wattle and timber buildings, instead resembling 'brick' or kiln material; while similar material is known from other early Bronze Age sites, the quantity here seemed exceptional (Petersen and Healy 1986, 101).

These finds raise important questions. It is possible that the barrows, or some of them, were raised in the later third or early second millennium BC in a landscape that had seen occupation in previous centuries by Beaker-using people, and that the ephemeral remains of this earlier activity had only survived for study where protected from ploughing by barrow mounds. Petersen and Healy (*ibid.*) list examples of similar associations in Norfolk and Suffolk. They also draw attention to the absence of this material from trenches dug between individual barrows here at Weasenham Clumps. As they themselves point out, such an absence may be due to differential truncation; the absence of recorded pits associated with the spread is an important warning that significant prehistoric occupation remains are not necessarily associated with any subsoil features that will survive for study in truncated landscapes. However, it is also possible that this activity was confined to the area of one or more of the barrows, rather than indicating a series of more extensive spreads or middens. It is even possible that the unusual quantities of 'brick' and burnt flint actually indicate some exceptional activity, ceremonial or industrial, that was carried on at the precise location where the barrow was subsequently raised.

Perhaps the most interesting individual feature assigned to Phase 2 was the penannular gully and associated postholes in the easternmost part of Area B. While this may have been a small enclosure surrounding a modest structure or animal pen, it might represent a remnant of a small ovate barrow. Alternatively it might have been of other ritual significance. The Wossit at Street House, Cleveland (Vyner 1988) and Seahenge at Holme next the Sea (Brennand and Taylor 2003) are both examples of small-scale prehistoric funerary or ceremonial monuments, perhaps representing activities of very limited duration or even one-time events, that cannot easily be paralleled in the published literature, and are unlikely, in arable environments, to leave conspicuous cropmarks. The irregular platform of the Weasenham Clumps gully suggests that this was merely the base of a once significantly deeper feature; in this environment, it is possible that pits, structural features and even graves that were once associated with it had been lost completely. Both the Weasenham Clumps gully and the Holme I circle were ovate, with greatest outer dimensions of 6.25m and 6.78m respectively. It seems unwise to speculate further, since there is no definitive evidence about the date or function of this feature. However, the pair of pits occupying the north-eastern causeway across the gully are intriguing since their location might suggest a deliberate closure event, of the kind that has been recorded elsewhere in East Anglia in both funerary or ceremonial contexts, such as the ring ditch at Eynesbury, Cambs (Ellis 2004, 8–13) and in domestic contexts such as Witton, Norfolk (Bates in prep.).

Phase 3: mid- to late Bronze Age period

It is hard to draw conclusions from the sole pit attributed to the Middle Bronze Age, recorded in Area A. Collared Urn was also found in the burial recorded in the adjacent barrow at Site HER 3659, and it is conceivable that pit *8118* was a grave, either a flat one or once covered by a now-destroyed barrow, in which no skeletal material survived for study. Alternatively it may have been a non-funerary feature. Healy (1995, 179–80) has emphasised how Collared Urn, although often viewed as a funerary ceramic since it is so often found in barrow burials, is common in settlement contexts of the second millennium BC, as at West Row Fen, Suffolk (Martin and Murphy 1988), where soil and stratigraphic conditions allow its relatively soft fabric to survive for study.

If the strange U-shaped gully found in Area A is prehistoric, it is most likely to have been Bronze Age or Neolithic, since very little Iron Age activity was found in that area. There is insufficient evidence to interpret it, though various possibilities could be suggested: it was the remains of a barrow; it related to a working area, or it surrounded a structure or small building.

Phase 4: early and middle Iron Age period

The clusters of pits and posthole groups in Area B may represent only the bases of the deepest Phase 4 features in this zone of the site; the mixture of pottery identified in features of this phase does not permit close dating, but suggests activity in the later Bronze Age–Iron Age transition of the early first millennium BC, rather than the Iron Age proper.

The two posthole groups may indicate rectilinear structures of the kind most often interpreted as raised granaries or stores for other perishable goods. Comparable structures are now known from several sites in Norfolk. In some cases, as at Silfield, Wymondham (Ashwin 1996b) they appear as discrete four-post

structures, standing alone or in small clusters. Elsewhere, such as Valley Belt on Norwich Southern Bypass, Trowse (Ashwin and Bates 2000, fig. 127), there are signs that some at least formed integral parts of ditched or fenced boundaries, maybe functioning as entrance structures. Although apparently rectilinear, both of the structures at Weasenham Clumps are large by comparison, and the more westerly example appears quite complex, with a greatest dimension of perhaps 6m, and as many as ten postholes. There is little further basis for reconstruction, but the fact that these postholes survived at all as relatively coherent features in this ploughed environment indicates the depth to which these posts had been set. This may suggest that they had once supported raised structures.

The environmental evidence retrieved from the bulk soil samples from the site was very sparse, but a high proportion of the little that did occur came from the postholes of this phase, including grains and chaff of both barley and spelt or emmer wheat. Along with the presence of possible storage structures and loose clusters of pits, this might suggest a farmyard-type environment, or an area of open space adjacent to a settlement, but this was not necessarily the case. Iron Age roundhouses excavated elsewhere in Norfolk, such as Harford Farm, structure 3002 (Ashwin and Bates 2000, figs 79 and 80), can be relatively shallowly founded, with the appreciable weight of a conical thatched roof carried on a ring of numerous small postholes with larger timbers seemingly confined to the porch structure, which commonly faces south-east. Given the conditions at Weasenham Clumps, any attempts at spatial or functional interpretation seems unwise since it is possible that evidence for residential buildings had been substantially ploughed away.

One pit dated to the second half of the Iron Age was found, in Area A, away from the earlier Iron Age settlement. It appears to have been a rubbish pit, and may indicate that there was a further area of activity with its focus beyond the pipeline working width. Apart from this one pit, there was no evidence of any use of the site after the early Iron Age for anything other than agriculture.

6. Bronze Age cremation cemetery and Iron Age occupation at Cromer Road, Antingham

by Derek Cater and Tom Wilson

6.1 Summary

Five urned cremations dating to the Bronze Age were found, buried on an area of high ground. The site was later used during the Iron Age, when a number of pits were dug. These pits produced unusual assemblages of artefacts that suggest that the act of infilling them may have been more meaningful than the unconsidered disposal of everyday domestic waste.

6.2 The site

This site (HER 37987) is located within the southern part of the parish of Antingham, 200 metres to the west of the A149 Yarmouth to Cromer road (NGR: 625860 331710), three kilometres north-west of North Walsham (Fig. 30). It lies on fairly level land, the watershed of the Bure and Ant rivers, at around 36.0m OD, the ground falling gradually away, to both east and west, beyond the limits of the site.

Glacial sands and gravels underlie the site, producing a well drained loamy soil. The field containing the site was arable, used for cereal cultivation at the time of the fieldwork.

6.3 Pre-construction work

The desk-based assessment drew attention to an extensive area of ditches visible as cropmarks (HER 12821) stretching for 2km along the A149 and up to 400m on either side of the road. These cropmarks include three pairs of ditches that may define trackways, one of which passes across the area of the site, and a ring ditch approximately 20m across. These cropmarks continue into the field to the north (HER 28821). Cropmarks on the eastern side of the A149 include a square enclosure 30 to

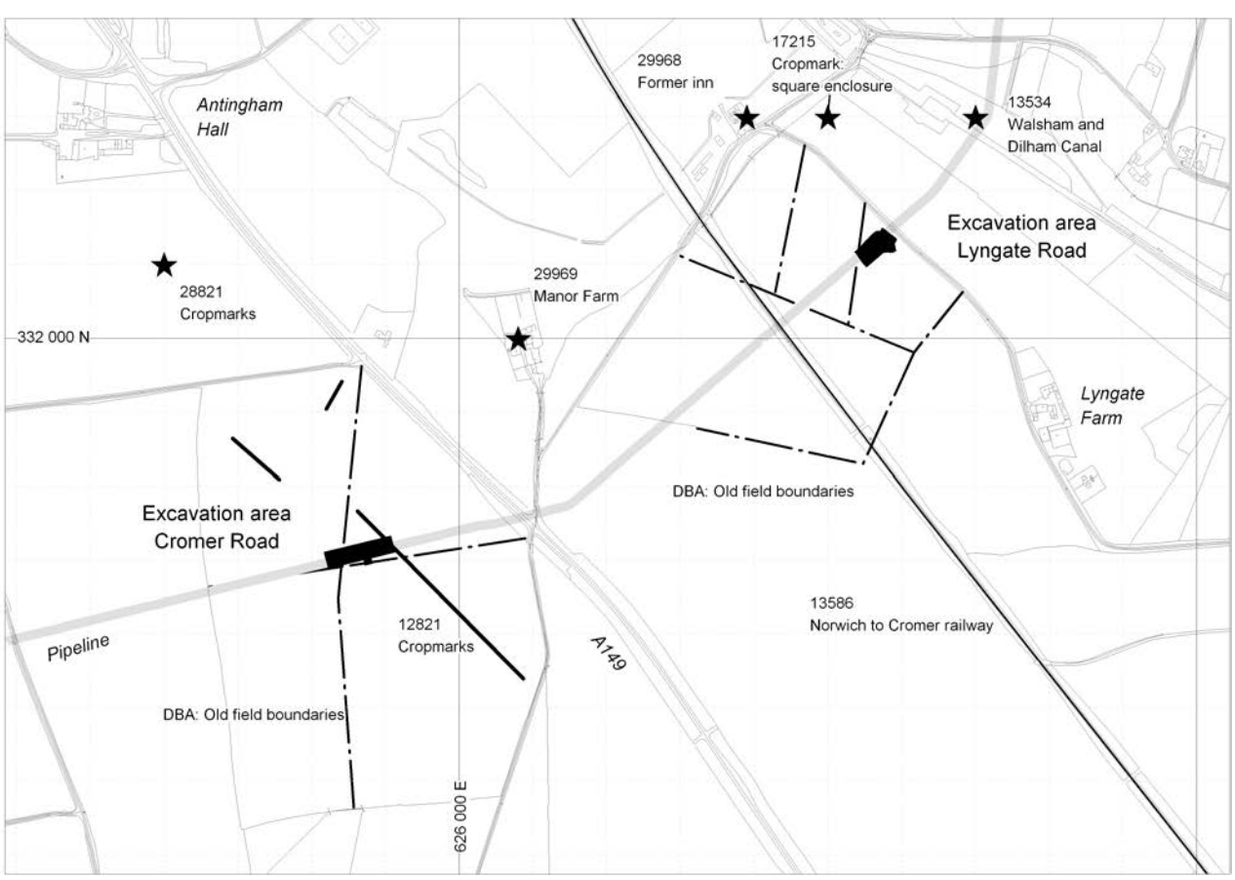

Figure 30 Cromer Road, Antingham and Lyngate Road, North Walsham, location of the excavation areas and nearby HER and DBA sites mentioned in the text, scale 1:10,000

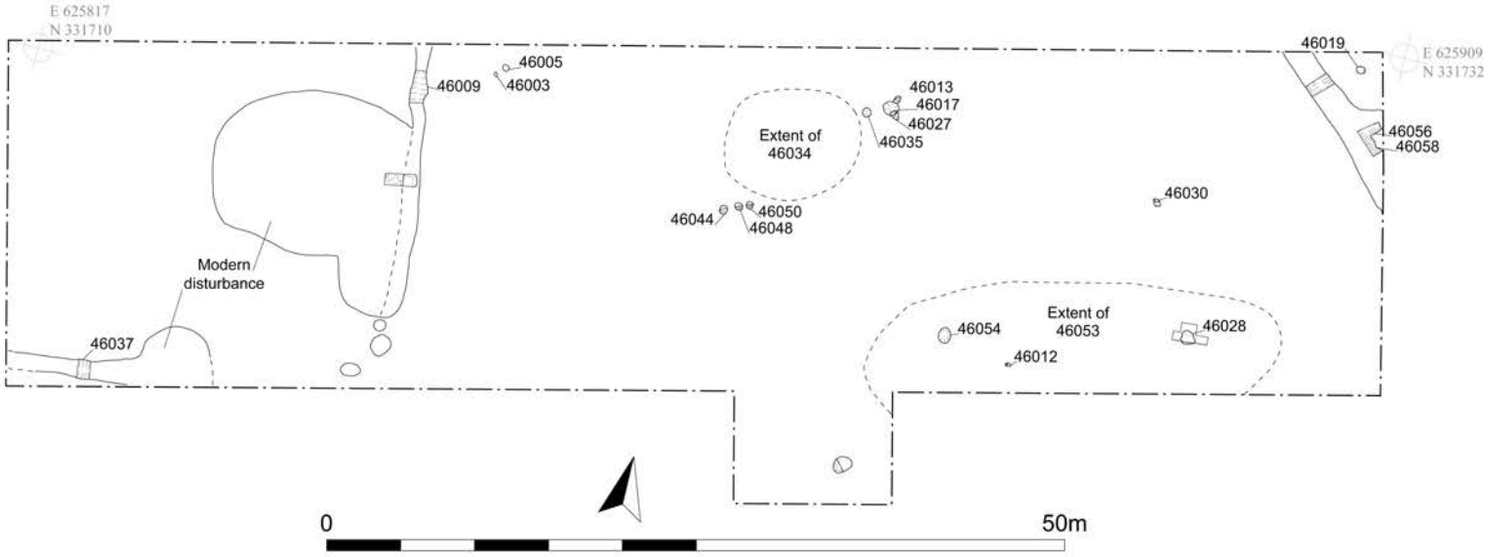

Figure 31 Plan of the excavation area at Cromer Road, scale 1:500

40m across (HER 17215). Cropmarks of two ring ditches within a hexagonal enclosure have also been identified 1km to the north-west (HER 12143; NGR 624700 332000).

No significant concentrations of cultural material were recovered by fieldwalking, although fields to the west and east produced burnt flints, possibly the scattered remains of ploughed-out prehistoric burnt mounds. Four flint scrapers, a flint blade and six flint flakes were recorded from the field immediately to the west of the site.

The geophysical survey noted a diffuse linear anomaly and a number of pit-like anomalies corresponding to one of the cropmark trackways. A relatively pronounced ditch-like feature was detected at the western edge of the field, superimposed upon another, more diffuse example. Two linear features abutting the eastern boundary of the field at right angles seemed to form part of a small enclosure. There was a greater concentration of anomalies in the field to the east of the road. Extremely high magnetic susceptibility readings in the fields to the east were probably related to the Norwich to Cromer railway (HER 13586).

Following the generally negative field survey results, no evaluation trenching was undertaken at this site. The site was subsequently identified during the monitoring of topsoil removal, when the remains of a cremation urn were uncovered.

6.4 Excavation

Once identified, the site was stripped with a back-hoe excavator using a toothless bucket, under archaeological supervision. The cremations were all totally excavated, together with representative interventions in the other features (Fig. 31).

The upper parts of the cremation urns had been truncated by ploughing, showing that the ground surface had been lowered since their burial. This truncation has severely limited the stratigraphic data by leaving most of the archaeological deposits as discrete features. However, there appears to have been little residuality, with the exception of a single intrusive Roman pottery sherd found within an Iron Age palaeosol, and the site has been phased largely by artefact dating.

6.5 Phase 0: geology

On site, the drift geology was recorded as a mixture of orange-brown sandy silt and similarly coloured sands and gravels.

6.6 Phase 3: middle Bronze Age cremation cemetery

The earliest features created on this site were two small clusters of urned cremations. Two cremations were cut into the west-facing slope of the site, with three or four more cremations cut into its eastern side.

Western cremation group

Pit *46005* was oval, 0.46m long and 0.40m wide, and was cut into the western side of a slight natural rise in the centre of the field. The pit had almost vertical sides and a flat base, and survived to a depth of 0.14m (Fig. 32). It

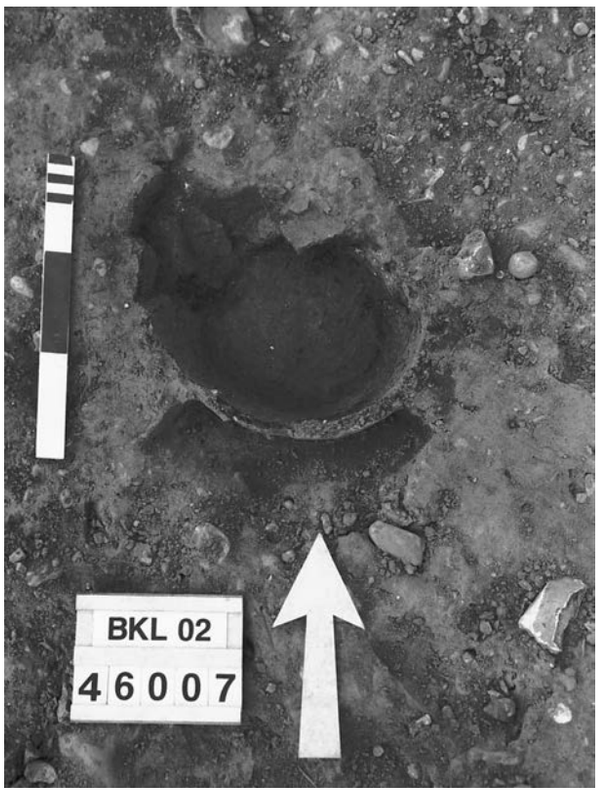

Plate 5 Detail of middle Bronze Age cremation urn *46007 in situ* within pit *46005*; 0.3m scale

contained the truncated remains of a large grog-tempered urn (*46007*, SF 72912), the base of which had survived *in situ* (Plate 5). This urn contained 297g of cremated bone from an adult human. There was not enough diagnostic bone surviving to determine the sex. A further 13g of cremated bone were recovered from the backfill.

A second, smaller pit, *46003*, by the side of pit *46005*, was also oval in plan, 0.27m by 0.22m, and 0.08m deep, with steep sides and a flattish base (Fig. 32). Its backfill contained 115 non-diagnostic pottery sherds from a beaker or urn (SF 72911) and a number of pottery scraps in a second fabric. The fill of this pit also contained a tiny quantity of cremated bone. The scarcity of bone, its uncertain species and the non-diagnostic form of the major pottery vessel cast doubt on this being a cremation pit, and it is possible that the pottery vessels in this pit were offerings deposited at the time of the interment in pit *46005*. The bone, if human, could have derived from that source.

Eastern cremation group

Cremation pit *46027*, cut into the eastern side of the slight natural rise in the centre of the modern field, was almost circular in plan, 0.61m long by at least 0.58m wide, with steep sides and a concave base. It survived to a depth of 0.21m (Fig. 32). The pit contained the truncated and shattered remains of a semi-complete urn (SF 72913), from which 22g of cremated human bone was recovered. A sample of the cremated bone gave a radiocarbon date of 1430 to 1260 cal BC.

This cremation pit was truncated by a later pit, *46017*, on its northern side. This pit was circular, with a diameter of 1.11m, concave sides and a concave base 0.22m deep. It contained a truncated and fractured, though largely

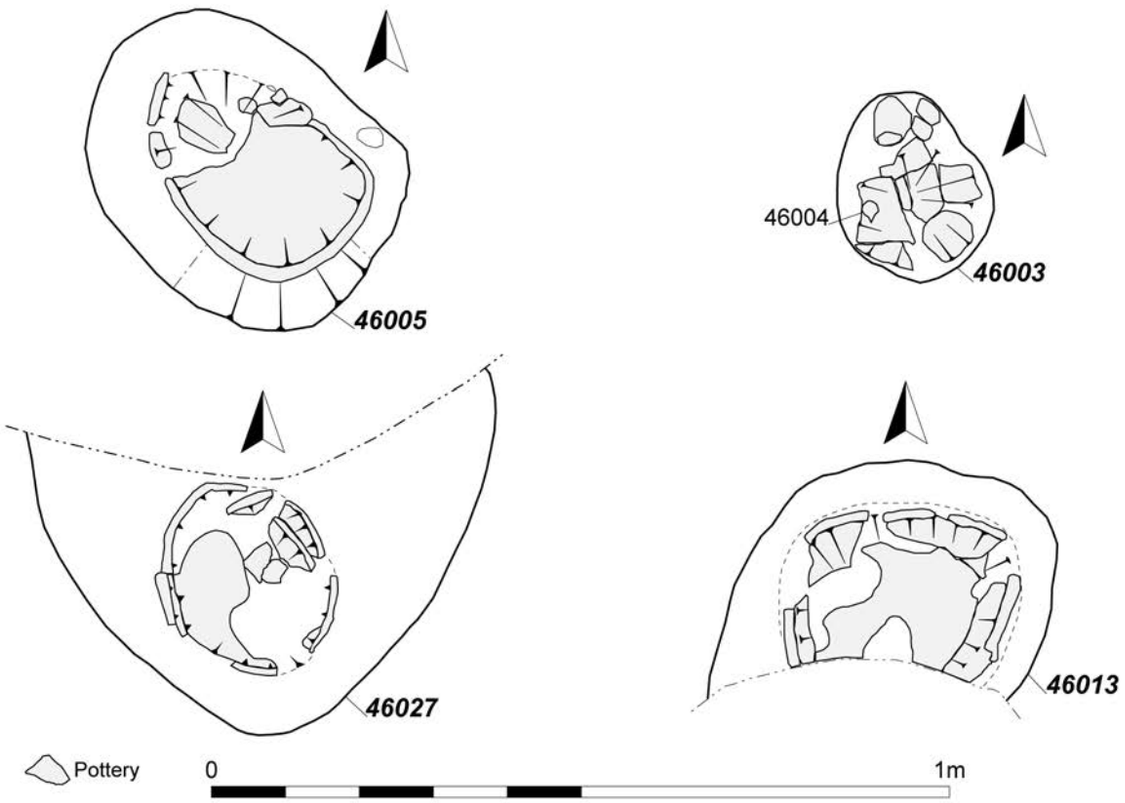

Figure 32 Plans of Phase 3 cremations at Cromer Road, scale 1:10

complete, Bucket Urn (SF 72914), from which was recovered 5g of cremated human bone. A third, smaller cremation pit, *46013*, also truncated by pit *46017*, was circular, 0.40m in diameter, with steep, slightly concave sides and a concave base 0.22m deep (Fig. 32). It contained the base of a large bucket urn (SF 72915), which contained 40g of cremated human bone. Neither the age nor sex of any of these three cremated individuals could be determined.

Pit *46035*, near these intercutting cremations, may have been a fourth member of this eastern group of burials. It was sub-circular in plan, 0.61m by 0.58m, and had very steeply sloping sides and a flat base, and with a similar fill to the other pits. It was devoid of datable finds but contained occasional fragments of cremated bone and charcoal. A tiny quantity of hammerscale from the processed sample of the fill might well be a later contaminant, but if not, would cast doubt on the Bronze Age date. Otherwise, the inclusions within the fill of this pit suggest that it belongs to the cemetery, although the burnt bone could not be positively identified as human.

Middle Bronze Age pottery
by Sarah Percival

Introduction
A substantial assemblage of 299 middle Bronze Age pottery sherds (6392g) and 484 sherds datable only to the Bronze Age (613g) was recovered from this site. The small cremation cemetery produced four urns of the middle Bronze Age Deverel-Rimbury tradition and one vessel of unknown date.

Description
A small fragmentary vessel in quartz sand fabric with fine grog inclusions (G1) was recovered from pit *46003* (SF 72911; Fig. 33.1). The vessel is mostly plain with a small area of fine comb impressions on the upper body. Comb impressions are common on earlier Bronze Age vessels, but are also found on middle Bronze Age urns such as those found at White Colne, Essex (Brown 1999, fig 73: 137). The angle of the base suggests a biconical or barrel-shaped profile; however, the sherds cannot be further classified to vessel type. One gram of cremated human bone was found with the vessel, but it is unclear if the pot is contemporary with the other middle Bronze Age urns found at the site, perhaps suggesting that it may have been an earlier Bronze Age accessory vessel.

An incomplete urn base and various body sherds were found in pit *46005* (SF 72912; Fig. 33.2). The urn is large with vessel walls up to 19mm thick and a diameter at the base of *c*.220mm. The fabric is coarse and crumbly, with pieces of sub-angular grog of up to 9mm long clearly visible within the fabric of the vessel (G1). The poor condition of the vessel prohibits close identification, but this base may be from a Bucket Urn (Bamford 2000, fig. 73: 18).

The base of a second urn, containing 40g of cremated bone, was recovered from pit *46013*, (SF 72915; Fig. 33.3). The urn is made of coarse grog-rich fabric (G1), and has a flat base and vertical walls that join the base at a right angle. The steep angle of the walls suggests a vessel with a straight or only slightly flaring profile. A possible parallel for the vessel was found at Witton, which lies about 14km to the east (Lawson 1983, fig. 95: 7 and 8).

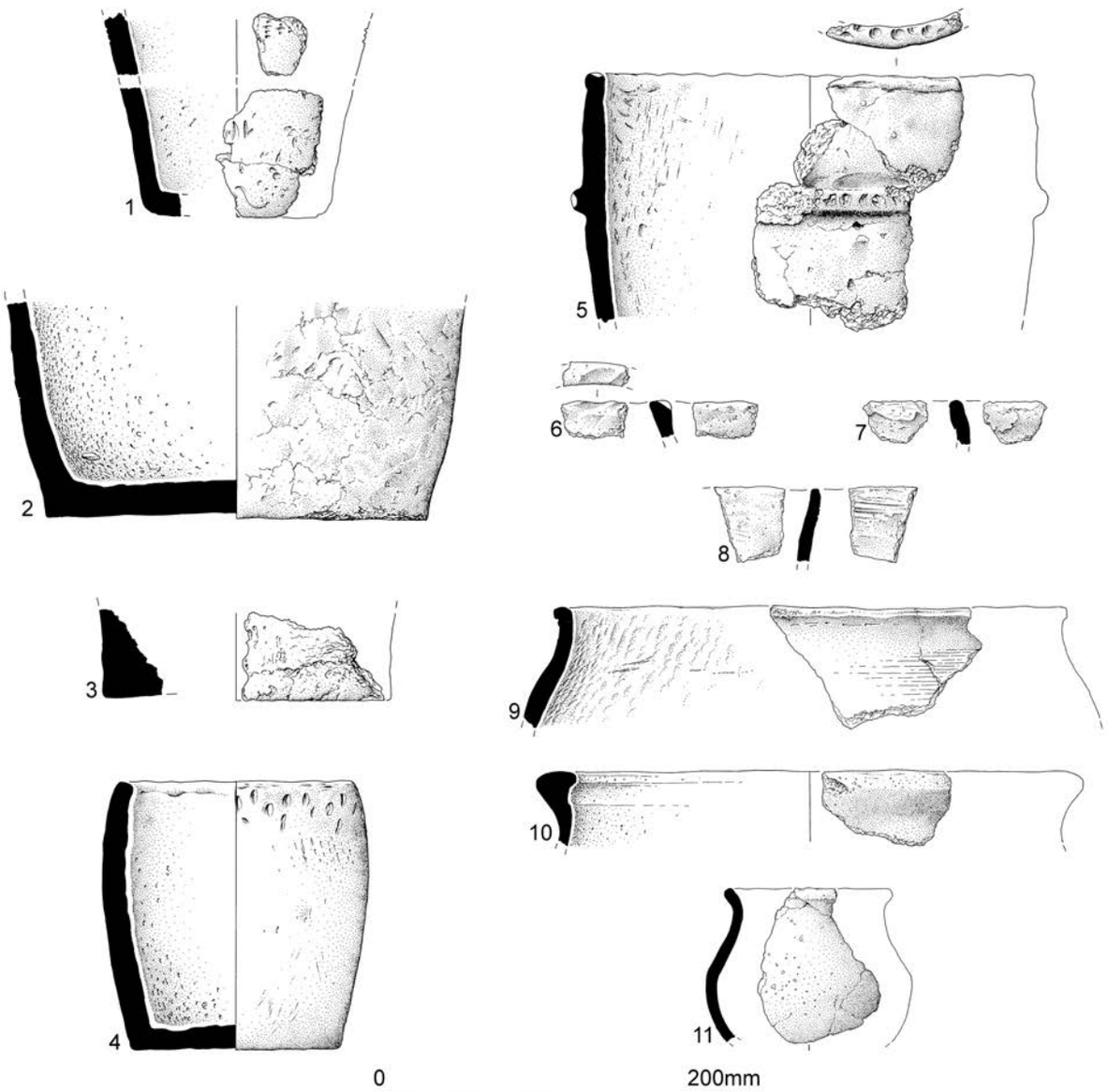

Figure 33 Prehistoric pottery from Cromer Road, scale 1:4

A small, semi-complete Bucket Urn (SF 72914; Fig. 33.4) was recovered from cremation pit *46017*. The fine grog-tempered urn (fabric G2) has walls 12mm thick and is approximately 160mm high, with a diameter at the rim of 111mm and at the base of 120mm. A single row of fingernail impressions runs around the urn below the rim, which is simple and bevelled. Examples of similar vessels have been found both at cremation cemeteries, such as Shouldham (Lawson 1980, fig. 4 A), and in domestic contexts (Healy 1996, fig. 82: 103). The presence of a small quantity of human bone within the fill of the urn suggests that this is definitely a cremation vessel.

The urn from cremation *46027*, also in heavily grog-tempered fabric (G1), is semi-complete with portions of the upper body and base surviving (SF 72913; Fig. 33.5). This bucket-shaped vessel has fingertip impressions along the rim top and an applied fingertip-impressed cordon 62mm below rim (Lawson 1980, fig. 5: B). The urn has a diameter at the rim of 200mm and at the base of 180mm. Vessel wall thickness is 12mm. Vessels of similar form have been found in domestic contexts at Grimes Graves (Longworth *et al*. 1988, fig. 37: 372), and also at the cremation cemetery at Ardleigh, Essex (Brown 1999, fig. 65: 98).

Discussion

The radiocarbon determination on the cremated bone from the urn in pit *46017* (Fig. 33.4), gave a date of 1430 to 1260 cal BC. This falls in the middle of the date range for Deverel-Rimbury pottery suggested by thirteen radiocarbon determinations associated with domestic pottery from Grimes Graves, which indicate that the pottery type was current between 1500 and 900 BC (Healy 1996, 116). Other published radiocarbon dates from the region include a coarse bucket-shaped vessel from Witton, dated to 720 to 1020 cal BC (Lawson 1983, fig. 95: 7, 8) and three radiocarbon dates from unurned cremations within the cemetery at Ardleigh, which produced a range of dates around 1510 to 990 cal BC (Brown 1999, 129).

The similarity between the ceramic vessels found within domestic assemblages (such as Grimes Graves) and those used in cemeteries is well attested, and it is likely that the same pot types fulfilled both utilitarian and sepulchral functions (Gibson 2002, 104; Bradley 2007, 197). The small quantities of cremated bone found in two of the vessels do not necessarily suggest a non-funerary function. Lawson notes that several proposed cremation cemeteries only contain very small quantities of cremated bone, suggesting that the deposits represent a 'selection of charred debris from the funerary pyre' rather than the complete cremated body (Lawson 1983, 29). Cemeteries are themselves frequently located close to settlement sites, often lying around 200m 'behind' the domestic settlement (Bradley 2007, 196).

Human bone

by Sharon Clough, edited by Kate Brayne

This assemblage consisted of six contexts representing at least five individual cremations. The results are summarised on Table 20. Bone preservation was poor and percentage recovery was very low as the cremations had been heavily truncated by ploughing.

Cremation	*Feature*	*Total wt/g*	*Age*	*No. individuals*
46004	*46003*	1	Unknown	1
46006	*46005*	297	Adult	1
46008	*46005*	13	Unknown	1
46014	*46013*	40	Adult	1
46018	*46017*	5	Unknown	1
46026	*46027*	22	Unknown	1

Table 20 Cremated bone recovered from Cromer Road

All the cremations, with the exception the of the burial in pit *46005*, were of extremely low weight and it is therefore not possible to make a reliable estimate the amount of bone collected after cremation, or discern whether particular bones were deliberately selected for burial. The fragmentary nature of the bone also makes it impossible to tell whether animal bones were included in the cremated deposit. All the cremated bone was buff white in colour which suggests that a high temperature of 645 to 1200°C was achieved in the pyre.

6.7 Phase 4: earlier Iron Age occupation

Palaeosols

A spread of greyish brown silty sand, *46034*, overlay the drift geology in the centre of the site. Dry conditions and time constraints prevented its full extent being defined and planned, but it covered an area at least 9m by 8m and it was 0.17m or more deep. It contained sixty-eight sherds of earlier Iron Age pottery in a range of fabrics. Unfortunately this soil had no direct stratigraphic links with any of the cut features, dated or undated, recorded on site.

A layer of similar material, *46053*, extended over much of the south-east part of the site, though again its full extent could not be determined. Although there was no stratigraphic relationship between these two palaeosol layers, it is likely that they were part of the same buried soil, subsequently truncated by agricultural activity. Layer *46053* produced thirty-seven sherds of earlier Iron Age pottery and was cut by two pits also containing earlier Iron Age pottery (see below). However, the palaeosol also contained thirteen sherds of later Iron Age pottery, most of which are from a single pot. This suggests that the soil layer was still developing in Phase 5, unless the later pottery was contained in an unrecognised intrusive feature.

Earlier Iron Age pits

An oval pit, *46054*, cutting palaeosol *46053* was 1.07m long and 0.87m wide with steeply sloping, concave sides and a flat base at least 0.17m deep. The fill, containing occasional charcoal fragments toward the top, produced eleven sherds of earlier Iron Age pottery, in three fabrics, and two iron finds: an axehead (SF 72909) with a solid blade and socketed head, and a 20mm-diameter ring (SF 74101). Hammerscale in the processed soil from this pit might indicate that metalworking was occurring somewhere in the vicinity at the time the fill was being deposited, but the quantity is so low that later contamination is perhaps a more plausible explanation.

A second pit, *46028*, also cut into palaeosol *46053*, was roughly oval in plan, 1.4m by 1m, with a shallow, irregular profile. It survived to a depth of 0.20m. The backfill contained around five per cent finely divided charcoal and produced forty-two sherds of possible later Bronze Age or earlier Iron Age pottery, all in the same fabric.

Deposit *46012*, excavated near pit *46054*, contained the base and lower parts of the sides of a single earlier pottery vessel, as well as charcoal fragments. It may have been the fill of a very plough-damaged pit, or simply the remains of a plough-scar. The deposit was originally thought to be a badly damaged cremation, but no burnt bone was recovered.

The occurrence of pit *46019* indicated that activity in the earlier Iron Age extended at least as far at the north-eastern limit of excavation. This pit was oval in plan; 0.60m long by 0.50m wide, and 0.18m deep. It had almost vertical sides and a flat base, and its fill contained charcoal-rich lenses and twenty pottery sherds.

Struck flint

by Sarah Bates

Sixty-two pieces of flint were recovered from this site, of which by far the majority, forty-four pieces, were very small spalls found in samples, some of which may be of natural origin (Table 21).

Eighteen pieces of flint from pit *46019* are mostly spalls, recovered from a sample, but also included is a

Type	*Number*
Core/tool	1
Shatter	3
Flake	8
Blade-like flake	2
Spall	46
Piercer	1
Retouched flake	1
Total	**62**

Table 21 Summary of the struck flint, Cromer Road

small abraded fragment which might have been used as a piercer. A small flake and two shatter pieces came from pit *46028*. One of the latter may have been retouched or utilised on one edge. Additionally, a few spalls came from samples from pits *46028* and *46054*. A flake and shatter piece were found alongside earlier Iron Age pottery in palaeosol *46053*.

Most of the flakes are quite small, slightly irregular and probably struck by hard hammer. Although two pieces have been classified as blade-like, neither of them are regular, neatly prepared, pieces. The nature of the flint assemblage, and also the recovery of a couple of irregular pieces of possible thermal origin that may have been retouched or utilised, suggest a later prehistoric date possibly consistent with the Bronze Age activity in the vicinity or with the Iron Age features in which some of the assemblage occurred. Flint use during the Iron Age has been a subject of controversy (Saville 1981) but, increasingly, evidence is being recorded from excavated sites of later Bronze Age and Iron Age date (Young and Humphrey 1999).

Unstratified pieces from the site include a cortical fragment which has had flakes struck from both faces on one edge and from one side at another edge. It may be a core or crude scraper type tool. A possible piercer and a retouched flake are also present.

Earlier Iron Age pottery
by Sarah Percival

Introduction
Two hundred and thirty-eight sherds of earlier Iron Age pottery weighing 2206g were recovered from seven excavated features, the majority by weight from subsoil layers and the remainder from pits. The assemblage contains few sherds with datable characteristics, but has some features in common with the pottery of the eighth to fifth centuries BC. One small sherd (1g) could be early or late Iron Age in date.

Description
The assemblage is almost entirely flint-tempered (Table 22), with a small number of undatable grog-tempered sherds, although the latter are probably residual within palaeosol *46053*. Flint-tempering is ubiquitous within Iron Age assemblages from East Anglia, being particularly common in the earlier part of the period. The lack of any quartz sand-tempered sherds confirms the earlier date, as the use of sandy fabrics became more common from the third century BC onwards (Percival 1999).

Vessel form was recorded using the classification for post-Deverel-Rimbury pottery devised by Barrett (1978). A minimum of eight vessels are represented in this assemblage. Vessel form is generally unclassifiable, as the sherds are small and diagnostic sherds are scarce. All the classifiable sherds are from coarse Class I jars (Barrett 1978) with the exception of one Class II jar (Fig. 33.9) that has a finely burnished surface, flattened rim and slack shoulder (Brown 1988, fig. 17: 79). An unusual hooked rim (Fig. 33.10) was found in palaeosol *46053*. A similar rim found at Lofts Farm, Essex dates from the eighth to fifth centuries BC (Brown 1988, fig. 17: 73). Other rims are either flattened (Figs 33.6 and 33.8) or slightly folded (Figs 33.7 and 33.9). Decoration is limited. One rim (Fig. 33.6) has impressed decoration forming a cable along the rim top, but the assemblage is otherwise undecorated. Impressed decoration to the rim top is widely found in earlier Iron Age assemblages such as Cunliffe's West Harling Staple Howe group, which dates from the eighth to sixth centuries BC (Cunliffe 2005, fig. A: 5).

Sixty-eight per cent of the assemblage (1494g) came from preserved soil layers. Palaeosol *46053* contained the remains of two vessels in fabrics F1 (Fig. 33.9) and F2 (Fig. 33.10) both tentatively dated to the eighth to fifth centuries BC and a single burnt vessel of possible later Iron Age date. Similar deposit *46034* contained a mix of sherds including several heavily-abraded grog-tempered sherds, which may be of Bronze Age date, and sixty-four small earlier Iron Age sherds.

Four pits produced earlier Iron Age pottery. Two pits, *46019* and *46054*, contained small quantities of undecorated body sherds. A third, *46028*, held forty-two sherds including seven rim sherds from three vessels in fabric F2 (Figs 33.6, 33.7 and 33.8) that are cautiously dated to the eighth to sixth centuries BC. Fill *46012* contained fifty-nine base and body sherds from a single earlier Iron Age vessel.

Discussion
The assemblage represents domestic vessels, principally coarse cooking jars dating from the earliest Iron Age: the eighth to fifth centuries BC. The vessels are clearly utilitarian, as shown by frequent soot deposits from cooking. The poor condition of many of the sherds within the pit fills suggests that the features were not the primary context of discard for the pottery. The pit fills are unlikely, therefore, to be primary rubbish depositories as these would contain many more partially complete vessels, and therefore represent a secondary place of deposit for domestic waste previously curated in a surface accumulation or other feature. This is a depositional

Main inclusion	*Fabric*	*Quantity*	*% of quantity*	*Weight (g)*	*% total weight*
Flint	F1	67	28%	357	16%
	F10	36	15%	521	24%
	F2	68	29%	543	25%
	F3	59	25%	752	34%
Flint Total		230	97%	2173	99%
Grog	G1	7	3%	30	1%
Grog Total		7	3%	30	1%
Undiagnostic	F	1	0%	3	0%
U Total		1	0%	3	0%
Total		**238**	**100%**	**2206**	**100%**

Table 22 Quantity and weight of earlier Iron Age pottery by fabric from Cromer Road

practice widely noted in the East Anglian Iron Age. Despite the ubiquitous nature of these pit deposits, however, their exact use or meaning remains uncertain.

Iron axehead
by John A. Davies
An axehead (SF 72909) from pit *46054* weighs 742g and has a solid blade and socketed head. It is 117mm long; 55mm high at the socket, tapering slightly to 55mm at blade end. The blade thickness is 25mm at the socket. The internal diameter of socket is 30mm and the external diameter 50mm.

Although heavily corroded with all external surfaces heavily encrusted and pitted, the shape of the axehead can be discerned (Fig. 34). The top and bottom of the blade are almost parallel. The narrow blade expands at the junction with the haft, where the head forms a ring-shaped socket, designed to accommodate a wooden haft. The narrowing towards the blade is a distinctive feature.

Although iron socketed tools are known from a number of sites, heavy axes of Iron Age date are not common finds nationally. The various uses of iron socketed tools centred on woodworking. Such a substantial axe would have been used for felling and shaping, although large adzes and picks could also sometimes be used to dig away ground features (Sellwood 1984, 354).

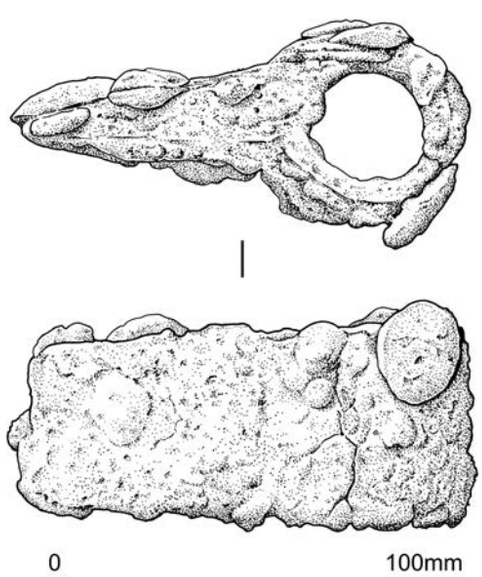

Figure 34 Iron Age iron socketed axe from Cromer Road

Iron ring
by Julia Huddle
An annular ring (SF 74101), 20mm in diameter, 6mm thick and weighing 6g, was recovered from pit *46054*. In use, it may have been attached to a double-spiked loop, similar to examples from Dragonby (Manning and McDonald 1996, 308, fig. 11.41, no. 125). Iron rings such as this would have had a variety of uses.

6.8 Phase 5: limited later Iron Age and Roman activity

Although no excavated features can be dated to this period, the thirteen sherds of later Iron Age pottery excavated from buried soil *46053* demonstrate that activity had not ceased completely on, or close to, the site at this time. Two abraded sherds (3g) of Roman pottery, not closely datable, in a sandy grey ware fabric were also recovered, one residual in post-medieval ditch *46056* and the other from the subsoil.

Later Iron Age pottery
by Sarah Percival
Thirteen later Iron Age pottery sherds (118g) were recovered. One more small sherd (1g) could be early or late Iron Age in date. A semi-complete vessel with rounded shoulder, long slightly everted neck and rounded rim was recovered from preserved soil *46053* (Fig. 33.11). The jar is made of fine flint-tempered fabric and had been heavily burnt. A similar vessel, found at Fison Way, Thetford (Gregory 1992) has been dated from the fourth to second centuries BC.

6.9 Phase 13: undated features

A few undated features are worthy of mention. Pit *46030* was notable because about ten per cent of its fill consisted of burnt flint and charcoal. Three closely-spaced post-holes, *46044*, *46048* and *46050*, in the centre of the site might have been part of a fence line or structure. Other features appear to be part of the post-medieval landscape, including an enclosed area visible on the 1888 six-inch Ordnance Survey map, defined by ditches *46037* and *46009*, and two ditches, *46056* and *46058*, parallel to and at a right angle to the modern road. Ditch *46037* produced one abraded body sherd of a Grimston-type jug (2g) with a vertical brown slip line, slight cordon at the neck base, and green glaze externally, the only evidence of medieval activity recovered from the site. The corner defined by ditches *46037* and *46009* was marked by large areas of disturbed ground, possibly indicating that there had been a gate in this corner of the field.

6.10 Environmental archaeology
by Gemma Martin and James Rackham

Samples from Phase 3 pit *46035* and from Phase 4 pits *46019*, *46028* and *46054* were selected for full analysis. The overall state of preservation of the charred remains is poor: the majority of the cereal grain is fragmented. The thirteen cereal grains recovered, (excluding fragments) are mostly barley, identified in the samples from pits *46019*, *46035* and *46054*. There are also three wheat grains from pit *46028*, one of which has been cautiously identified as emmer. Other remains of possible economic value include a fragment of hazelnut shell from pit *46019* and several corroded remains of legume cotyledons and fragments, possibly peas or beans, from pits *46019* and *46028*. The sample from Bronze Age pit *46035* yielded traces of barley, cereal chaff and pulse but provides no indication as to the function of the feature. The weed seeds are particularly abraded, preventing identification even to genus in many instances.

6.11 Discussion

Phase 3: middle and late Bronze Age
by Trevor Ashwin

The natural plateau above the valley of a tributary of the River Ant may have been regarded as a topographically suitable location for a cremation cemetery; if so, it is very possible that the burials extended beyond the area of the excavations to the north. The few cremations examined have seen considerable plough damage and other, shallower ones may have been lost. Clearly, the five excavated cremations could be only a small sample of those originally present.

There are no indications that there was once a barrow here: no ring ditch or records of a lost earthwork monument. Indeed, fewer barrows and ring ditches have been recorded in this particular tract of land than in many other parts of north-east Norfolk. However, the findings raise the possibility that this striking location was adopted as a 'ready-made' monument in prehistoric times. Elsewhere in Norfolk, a periglacial mound at Longham (Wymer and Healy 1996), a fen-edge sand hill at Hill Close, Feltwell (Healy 1996, 30–6) and an early Bronze Age burnt flint mound at Feltwell Anchor (Bates and Wiltshire 2000) all seem to offer examples of pre-existing mounds being adopted for burial or for ritual activity. It is possible, also, that the site may have functioned as a boundary marker or reference point in the locality, perhaps a natural focus of attention for valley-dwelling communities around the headwaters of the Ant and its tributaries, and that this made it an appropriate burial site.

Since none of the cremation pits survived to a depth greater than 0.22m, very little can be said about the spatial organisation of burials, except that there was clearly some intense clustering. While this might indicate family groupings, the very small assemblage of undiagnostic bone does not permit any detailed comment. While the extremely low bone weights from individual cremation deposits may be blamed upon truncation and post-depositional damage, some pre-deposition selection of bone had probably taken place: it is normal for intact Bronze Age cremations to represent only a fraction of the 2 to 3kg of burnt bone yielded by a typical adult corpse (Brück 1995; Mays 2000).

This site appears to join a very small number of middle to later Bronze Age cremation cemeteries so far known from Norfolk (Ashwin 1996a, 54), none of them examined extensively or under ideal conditions. Geographically, the nearest of these are the pair of 'urnfields' excavated by Owles, Tidder and Turner at Witton, fifteen kilometres to the north (Lawson 1983, 30–6). These sites were also recorded in plough-damaged condition, although the degree of truncation appears to have been less than at Cromer Road, and Lawson's discussion raises some points that may be of relevance. Bone weights were again low, and it appeared that some of the bucket and barrel-type urn pottery in individual pits at Witton had been deposited in broken or fragmentary form. One of the sites ('Urnfield I'), like Cromer Road in its striking location, was proposed by Rainbird Clarke as the site of a now-vanished barrow, although there seems to be no positive evidence to support this suggestion. Perhaps more serious is the possibility raised by Lawson that 'Urnfield I', with its extremely low bone yields, was not necessarily a cemetery at all. This must remain a concern when considering the degree of damage suffered by the Cromer Road landscape, which may have removed all trace of other pits or structural features, as well as the way in which human burials or 'token' deposits of human bone are found so frequently on occupation sites of this era, such as Game Farm, Brandon (Gibson 2004, 57–8).

Phase 4: early and middle Iron Age period
by Tom Wilson

The composition and condition of the pottery assemblages from the surviving earlier Iron Age pits suggest that this material did not derive from casual rubbish disposal, but may have been special or structured deposits. This is reinforced by the presence of the socketed iron axehead in one of the pits. This must have been a valuable and prized item at the time of its burial and would not have been discarded casually. Indeed, the pits, taken together, fit well Hill's (1995) definition of structured deposits, considered to have ritual or symbolic significance. Recently, Garrow (2006) has classified pit deposits, on Neolithic and Bronze Age sites, into three types: general, selected and arranged. The deposits in these earlier Iron Age pits would fit his 'selected' category, in that they appear to incorporate certain items deposited along with mixed cultural material from a pre-pit context, but which are in no particular order.

Although there is no indication that the site continued to function as a cemetery at this time, it is possible that evidence of its earlier function was still visible in the landscape, or was still remembered. If so, it is likely that the site would have continued to have special significance, a significance which was articulated in the structured deposition into the pits.

7. Earlier Iron Age settlement and early Anglo-Saxon metalworking at Spa Lane, Oulton

by Derek Cater and Tom Wilson

7.1 Summary

A small group of pits dating to the earliest part of the Iron Age indicate that a settlement was located on or near this site. The composition of the fills of the pits suggests that they were used for domestic rubbish disposal, and that some crop processing and possibly also flint working were taking place nearby. Two early Anglo-Saxon pits contained a small amount of metalworking slag as well as domestic refuse.

7.2 The site

The site (HER 37629) is within the parish of Oulton, although historically in Irmingland, at NGR 613500 329500. It is 100 metres west of B1354 Aylsham to Fakenham Road, between Blickling Hall and Saxthorpe village (Fig. 35). It occupies the end of a spur of higher land between the River Bure and a tributary stream running north-eastwards from Oulton Hall. Superficial glacial sands and gravels overlie the Boulder Clay in this area. The land here slopes almost imperceptibly down to the north-west, the gentleness of the gradient meaning that erosion of the slope following deep ploughing would have been minimal. After topsoil stripping, the top of the archaeological deposits was at 46.7m OD at the north-eastern end of the site and 46.5m at the south- western end. The site was in the centre of an arable field.

7.3 Pre-construction work

The pipeline route as originally proposed passed 270 metres to the south of this site, but the desk-based assessment highlighted its proximity to the site of St Andrew's Church (HER 7350), the parish church of the deserted medieval village of Irmingland, and recommended a modification to the route, which was subsequently implemented (Holgate 2002). In contrast to

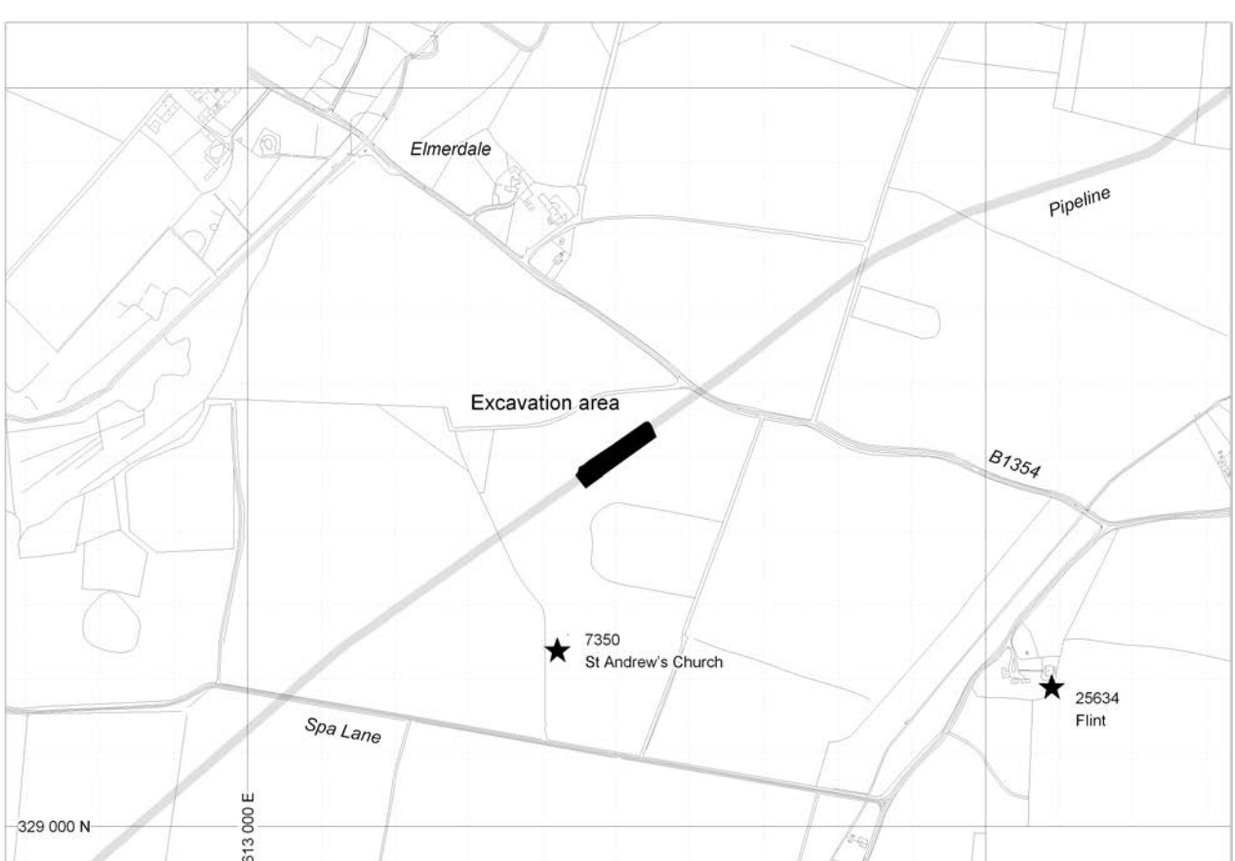

Figure 35 Spa Lane, Oulton, location of the excavation area and nearby HER and DBA sites mentioned in the text, scale 1:10,000

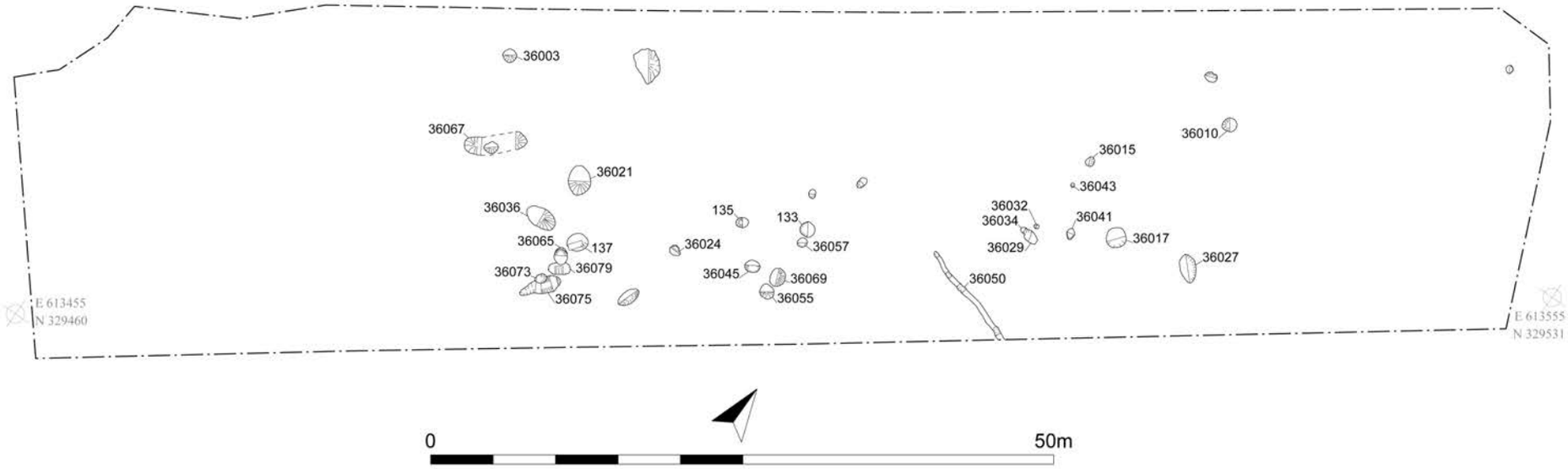

Figure 36 Plan of the excavation area at Spa Lane, scale 1:500

this medieval landscape close to the site, very little is recorded from earlier periods. Stray finds include worked flint (HER 25634) found 500 metres to the south-east during fieldwalking in 1986 and three flint axeheads found in 1969 and 1970 beside the railway 1.8 kilometres to the west (HER 7328, 7329; NGRs 611700 329490 and 611740 329460). A substantial group of cropmark enclosures and ditches crossing several fields about 1.2 kilometres to the south-west (HER 36407 and HER 36408; NGRs 612540 328470 and 613010 328200) are likely to be Iron Age or Roman in origin.

A flint scraper, seven flint flakes and nineteen burnt flints were found in the field containing the site during the fieldwalking survey. The geophysical survey identified several large pit-like features and relatively well defined curvilinear anomalies which appeared to define the northern edge of an enclosure. Magnetic susceptibility readings showed a rise toward the north-east with the highest values in the area corresponding to the curvilinear anomalies.

7.4 Excavation

Following the findings of the pre-construction surveys, three targeted evaluation trenches were excavated. These revealed the presence of archaeological features (Fig. 36) and the topsoil was stripped from the surrounding area, allowing excavation of the exposed features.

Almost all of the features were isolated discrete pits which did not form any clear patterns, so phasing has had to rely heavily on artefact dating. However, while residuality appeared to be negligible, the small quantity of material from many of the features prevented any reliable consideration of their dating. The analysis of the morphology and function of features has been limited by the degree to which they have been truncated by ploughing, obscuring their original form. The significance of the site rests largely on its provenanced artefactual assemblages.

7.5 Phase 0: natural deposits

The drift geology on site varied from coarse, orange-brown silty sand with frequent flint pebbles and cobbles, to orange-yellow sand. A discrete patch of pale brownish grey clayey silt filling a slight hollow in the centre of the site was probably also of natural origin.

7.6 Phase 4: earlier Iron Age settlement

Early Iron Age pits

Seventeen pits scattered across the site were datable to the earlier Iron Age phase. All were truncated by ploughing, to varying degrees, with surviving depths from 0.14m to 0.56m, and typically having steep, U-shaped profiles. Almost all were less that 1.5m across, though the largest was 2.6m. In addition to earlier Iron Age pottery, the pits all contained burnt flint and charcoal. The sides of the pits showed no signs of burning, which showed that the burnt material had not been produced *in situ* but was hearth or fire rake-out from elsewhere. Bulk soil samples, taken from seven of the pits, contained domestic and crop production waste and also yielded a quantity of struck flint, mostly spalls from tool manufacture and probably contemporary with the pits.

The sequences of fills in these pits indicated that they filled at different rates. Some appear to have been used for rubbish dumping immediately after they were dug while others were open long enough for silts to be washed in from around them, forming a basal layer, before waste was disposed into them. Others appear to have been left for

Plate 6 North-west facing section through the burnt flint-rich fill of earlier Iron Age pit *36065*; 1m scale

short periods while half full; some others contained a mixture of rubbish and natural material, incorporated at the same time. In no case was there evidence for structured deposition (Hill 1995) or special deposits to suggest that these were anything more than domestic rubbish pits.

The basal fill of pit *36045* (Fig. 37), a particularly charcoal rich dark brown deposit, yielded 660g of burnt flint from a twelve litre sample and also produced seventy-one hand-collected pottery sherds in four different fabrics. Some of the sherds were burnt, and one base sherd had multiple perforations for use as a strainer or colander. Two small lenses of paler sediment, perhaps a bucketful each, dumped into the pit when it was half full, contained eighteen sherds between them, one of which was a piece of perforated base almost certainly from the same vessel as that found in the basal fill. The fill of the rest of the pit was similar to the basal fill and contained 222 sherds of pottery in three different fabrics and a variety of forms. A forty litre sample of the upper fill contained 860g of burnt flint and a similar range of charred plant macrofossils to the primary fill. The close similarity of the fills and the absence of any sterile lenses, suggests that this pit was rapidly backfilled.

Six other pits appear to have been solely filled with domestic waste, but contained widely varying quantities of pottery. Pit *36065* (Plate 6, Fig. 37), which was exceptionally rich in burnt flint, pit *135,* pit *36015* (Fig. 37) and pit *36073* produced twenty-four, twenty-seven, thirty-four and forty-two pottery sherds respectively, while pits *137* and *36041* could only muster three sherds each.

Three pits appear to have had phases of disuse. Pit *36069* (Fig. 37) had a very dark basal fill, perhaps the dumped remains of a hearth, which including charcoal and fired clay along with three pottery scraps. A second fill, which produced one sherd, seems to have accumulated by silting, while the final fill, *36070*, contained charcoal, animal bone and twenty-four pottery sherds, four of which were burnt. In pit *36003* (Fig. 37) a charcoal rich layer, containing seven pottery sherds, overlay a sterile basal fill while pit *36024* (Fig. 37) had a similar sequence of fills, but did not yield any pottery.

Pit *36057* contained three fills all rich in burnt flint, the upper fill particularly so. The first two fills contained no datable remains while the darker upper fill contained sixteen pottery sherds in several fabrics. The upper fill is likely to have been wholly derived from the activity that produced the burnt flint. All three fills had been tipped in from the south-west, suggesting that the site of this activity lay in that direction.

Pit *133* contained six pottery sherds and moderate amounts of burnt flint in a mixed fill of domestic waste with layers of natural silting, indicating that it filled over a relatively long time. Pit *36027* (Fig. 37) contained a

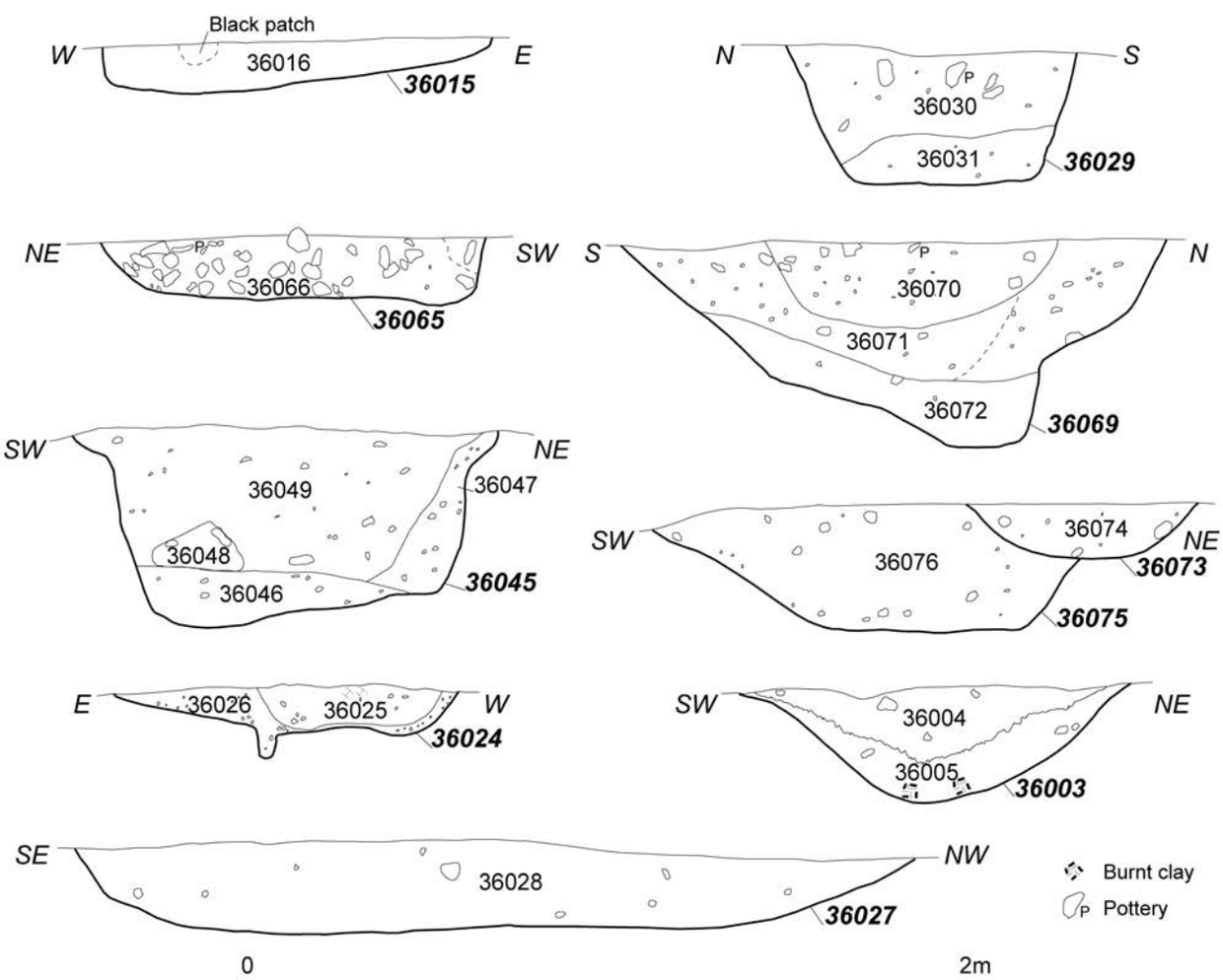

Figure 37 Sections through Phase 4 pits at Spa Lane, scale 1:20

similarly mixed deposit including 161 pottery sherds in five fabrics, but only a small amount of burnt flint.

Although pit *36029* (Fig. 37) contained no obvious hearth waste or similar material, it was nonetheless rich in pottery, 123 sherds from its two noticeably pale fills, along with a formless fragment of iron. The presence of significant amounts of burnt flint in these fills, despite the near absence of any charcoal or other evidence of burning, may reflect the manner in which heated flint was being used.

Three pits appeared to have infilled almost wholly by natural siltation: pit *36079*, cut by a later pit, *36065*, probably also of earlier Iron Age date; pit *36075* (Fig. 37) which produced three pottery sherds, and pit *36036*, which contained a single sherd of pottery.

Other earlier Iron Age features

Three small features with steep, regular profiles, up to 0.16m deep, were interpreted as postholes, though none displayed positive evidence of having held posts. Postholes *36043* and *36034* produced one and four earlier Iron Age pottery sherds respectively, but posthole *36032* contained twenty-eight sherds in three different fabrics. This large quantity suggests that it held a post in an area where general waste material accumulated, a domestic area rather than, for instance, a grain store (*cf.* Reynolds 1995).

An elongated feature at least 5m long, *36067* may have been a truncated ditch or two or more pits. It was at least 0.50m deep with a V-shaped profile. Ten pottery sherds were recovered from its western end.

Prehistoric pottery

by Sarah Percival

Introduction

Prehistoric pottery was recovered from thirty contexts (Table 23), principally pits and postholes. Although initially divided into later Bronze Age and earlier Iron Age phases, the pottery was reinterpreted as a homogeneous assemblage of earliest Iron Age date: the fifth to third centuries BC (Cunliffe 2005). The sherds are in variable condition, some being small and abraded, others being reasonably large and fresh. No complete vessels or vessel profiles are present. The mean sherd weight for the assemblage is 10.1g.

Twenty undecorated body sherds probably of Iron Age date but not otherwise closely datable were recovered from three pits of which one, *36029*, also contained sherds more closely datable to the earlier Iron Age. Nine more sherds (31g) are prehistoric, but are too small and abraded to be closely dated.

Description

The earlier Iron Age assemblage is predominantly flint-tempered (Table 24) in common with nearly all contemporary pottery from East Anglia. Flint-tempering is present in 91.5 per cent of the assemblage by weight (7541g). The flint temper is angular and white or grey in colour, and mostly small and evenly-sized. Quartz sand-tempered sherds make up 8.5 per cent (697g) of the assemblage, although these sherds often also contain flint or organic material. The remainder of the sherds are too abraded to be closely identifiable.

Flint-rich fabric types are common to all earlier Iron Age pottery from Norfolk, including the large assemblage from West Harling (Clark and Fell 1953, 24) which provides one of the site types for Cunliffe's West Harling Fengate group (Cunliffe 2005, 616). Quartz sand-tempered sherds are less common, but are present in small quantities in other earlier Iron Age assemblages (Martin 1993, 31).

The assemblage contains at least thirty-three vessels. These are predominantly utilitarian cooking and storage containers, a function demonstrated by the presence of soot marks on some sherds. The range of vessel sizes present within the jars and bowls suggest that they were intended to fulfil a number of utilitarian roles.

Vessel types consist of jar, bowl and cup forms, as defined by Barrett (1978), in a range of sizes and finishes. The most common classifiable vessels are medium coarse ware jars and jar/bowls equivalent to Barrett's Class I. One flattened rim from a medium jar of such type in fabric F1 was recovered from pit *36029* (Fig. 38.5). Part of a rounded, everted rim in fabric F2, with an external lip and a deep fingertip-impressed cordon applied on the shoulder (Fig. 38.12) and a base sherd in fabric F2 from a similar vessel form (Fig. 38.13) were found in pit *36073*. Fine wares include medium and small Class IV bowls, for example a small angular-shouldered bowl in fabric Q1 found in pit *36029* (Fig. 38.8), and Class V cups, one rim in fabric Q1 being found in pit *36024* (Fig. 38.1) and another in fabric F1 with a rounded external lip and upright profile recovered from pit *36073* (Fig. 38.14).

The Class I vessels most commonly have a flat rim, long slightly everted neck and angular shoulder (Fig. 38.6). These coarse tripartite jars and bowls are highly characteristic of later Bronze Age or earlier Iron Age assemblages, being particularly common at West Harling (Clark and Fell 1953, fig. 10.2). They are often decorated with fingertip impressions on the rim or shoulder (Fig. 38.12). Other jars from this site have rounded shoulders with flat rims and short necks (Fig. 38.11), similar to examples from Lofts Farm (Brown 1988, fig. 14: 22, fig. 17: 79) and Barham (Martin 1993, fig. 19: 3).

Decorative techniques are limited, being either impressed or incised. Typical impressed decoration consists of fingertip or fingernail impressions applied to the shoulder, rim edge or both (Fig. 38.12), which has parallels in the earlier Iron Age assemblage from West Harling (Clark and Fell 1953). Two jars have impressed cable motif applied to the rim top (Fig. 38.6, pit *36029*) and one vessel (also from pit *36029*) has deep fingertip wiping up the body of the pot (Fig. 38.2, Percival 2000,

Pottery Spot date	*Quantity*	*% quantity*	*Wt/g*	*% wt*	*MSW*
Iron Age	20	2.4%	315	3.7%	15.8
Earlier Iron Age	819	96.6%	8283	96.3%	10.1
Undatable prehistoric	9	1.1%	31	0.4%	3.4
Total	**848**	**100.0%**	**8599**	**100.0%**	**10.1**

Table 23 Quantity, weight and mean sherd weight (MSW) of prehistoric pottery sherds, Spa Lane

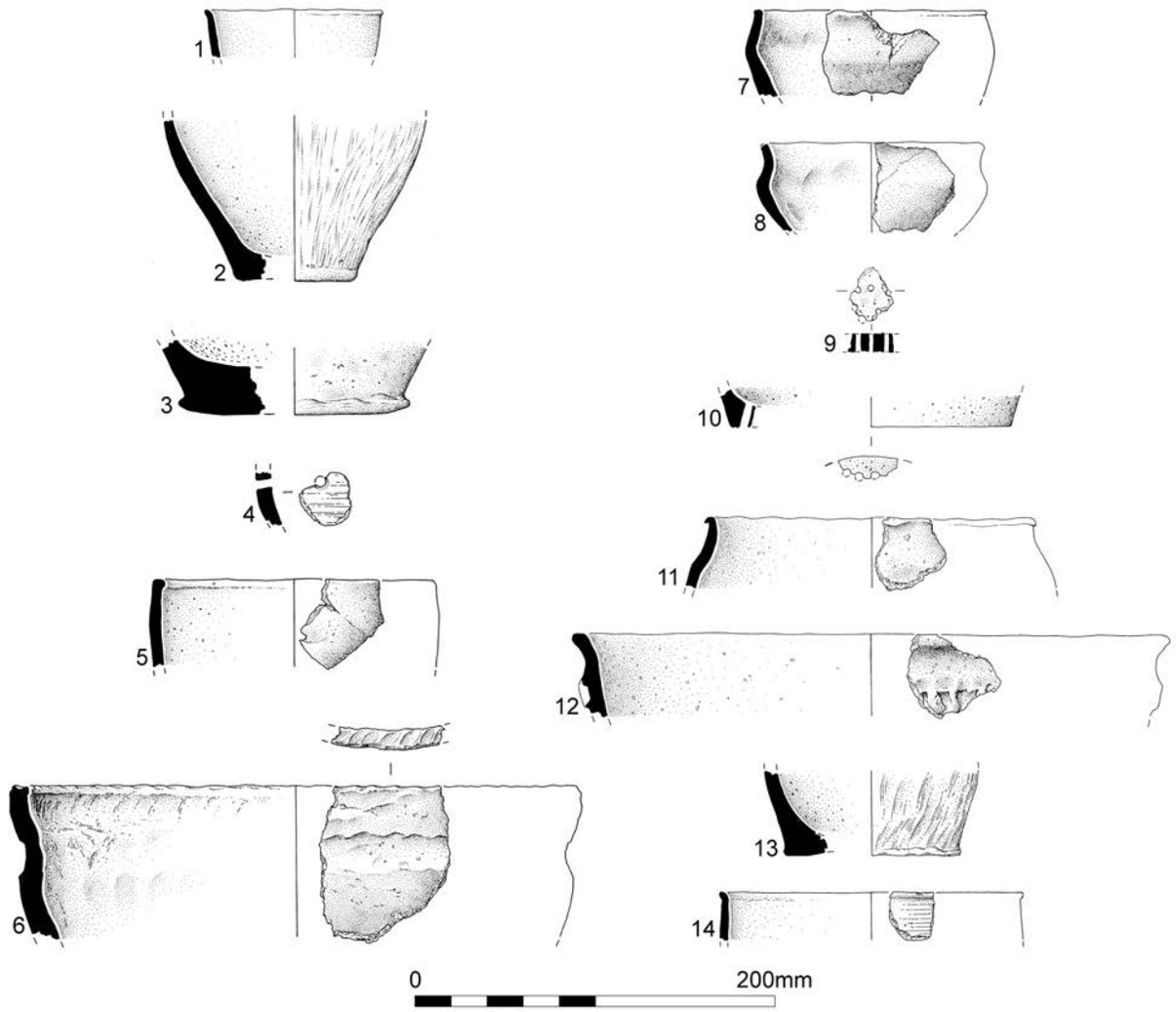

Figure 38 Prehistoric pottery from Spa Lane, scale 1:4

fig. 140: 108). The conservatism of the decorative techniques displayed within the assemblage contrasts with contemporary pottery from southern East Anglia, where incised and jabbed techniques are common (Cunliffe 2005, fig. A: 12).

Base forms within the coarse wares are mostly simple and flat, sometimes with a fingertip-impressed or pinched out frill (Fig. 38.3, in pit *36029*). Two base sherds have holes that appear to have been drilled after firing (Fig. 38.9 and Fig. 38.10, from pit *36045*), and a body sherd appears to have a pre-firing perforation (Fig. 38.4, in pit *36029*). Other finds of similar sherds are heavily encrusted with limescale, suggesting that these pierced vessels were used as steamers (Stilborg 2006, 79). Similar adapted vessels have been found during excavations at Weelsby Avenue, Grimsby, dating from the early to middle Iron Age (Elsdon

Fabric	*Description*	*Quantity*	*% quantity*	*Wt/g*	*% wt*
F1	Common small angular flint, occasional quartz sand	70	8.56%	500	6.06%
F2	Moderate small-medium angular un-burnt flint. Moderate quartz sand	477	58.31%	5807	70.42%
F3	Common medium to large angular white flint. Common quartz sand	78	9.54%	1126	13.66%
F6	Common medium to large angular white flint. Common quartz sand	10	1.22%	108	1.31%
O1	Quartz-sand fine burnished	1	0.12%	25	0.30%
Q1	Common rounded quartz sand. Sparse angular un-burnt flint Fine burnished	59	7.21%	156	1.89%
Q2	Common quartz sand, grog occasional angular flint	96	11.74%	350	4.24%
Q3	Moderate, quartz sand tempered fabric. Rare mica. Occasional voids suggesting organic component to fabric	11	1.34%	74	0.90%
Q4	Quartz-sand fine burnished	7	0.86%	85	1.03%
Q5	Common rounded quartz sand, sparse angular un-burnt flint. Irregular voids	1	0.12%	7	0.08%
U		8	0.98%	8	0.10%
Total		**818**	**100.00%**	**8246**	**100.0%**

Table 24 Quantity and weight of earlier Iron Age sherds by fabric, Spa Lane

Feature type	*Feature*	*Context*	*Quantity*	*Wt/g*
Linear features	*36050*	36051	3	15
	36067	36068	10	108
Pits	*133*	134	2	66
	135	136	27	178
	137	138	2	60
		139	1	28
	36015	36016	34	19
	36024	36025	19	67
	36027	36028	148	748
	36029	36030	110	2189
		36031	1	25
	36032	36033	28	170
	36034	36035	4	51
	36041	36042	3	12
	36043	36044	1	7
	36045	36046	69	1007
		36047	8	313
		36048	10	96
		36049	222	1948
	36057	36058	16	91
	36065	36066	24	275
	36069	36070	24	150
	36073	36074	42	487
	36075	36076	3	10
Total			**818**	**8246**

Table 25 Quantity and weight of earlier Iron Age pottery by feature, Spa Lane

1993, fig. C: 6) and in the fifth to third century BC assemblage from Fordham Bypass, Cambridgeshire (Percival forthcoming b).

By far the largest group of earlier Iron Age pottery came from the fills of pits (Table 25), which produced 97 per cent of the total assemblage (7997g).

Pottery quantity varied between pits; some contained large numbers of sherds, some few or none. This uneven distribution pattern is very common throughout the pit-rich Iron Age sites of Norfolk (*cf.* Ashwin and Bates 2000, 106), although the nature of the depositional practices which led to the filling of the pits is as yet poorly understood (Ashwin and Flitcroft 1999, 252).

Sherd size and condition also varied between pits. The largest single assemblage of pottery came from pit *36045* (Table 25) which contained the remains of approximately thirty-three vessels. Mean sherd weight (MSW) for this feature was 10g, which is also the average for the site assemblage and similar to that from the broadly contemporary site at Fordham Bypass, Cambridgeshire (Percival forthcoming b). Pit *36027*, which contained the second largest assemblage from the site, contained sherds from a maximum of eleven vessels and had a very small MSW of 5g. Pit *36029* also produced a large assemblage comprising the fragmentary remains of a maximum of seventeen vessels (Fig. 38.2 to 38.8), including several large sherds that gave the feature a larger MSW of 19g. The features are interpreted as rubbish pits, and the sherds certainly appear to have come from domestic vessels for general household use; however the highly fragmentary condition of the sherds and lack of complete or near complete vessels suggest that they did not enter the pits immediately after they were broken. A number of sherds had been heavily burnt after breakage, for instance those in fill *36049*, the upper fill of pit *36945*, further suggesting that they had not been immediately disposed of into the pits. Attrition or weathering of the surfaces of many sherds indicates a period between use and eventual deposition in the pits, during which the sherds were stored, possibly in a surface accumulation or midden containing other material such as flint or animal bone, this curated material later being used to backfill the pits. The pit fills do not therefore represent simple rubbish disposal, but a more complex depositional practice where material is curated in surface deposits and later dumped into the pits.

Discussion

The assemblage falls within Cunliffe's earlier Iron Age West Harling Fengate style group dating from the eighth or seventh to the fifth centuries BC (Cunliffe 2005, 624), and includes a range of fine ware bowls and coarse ware jars and bowls typical of those identified by Barrett as representing the post-Deverel-Rimbury tradition (Barrett 1978). Fine bowls with incised decoration are absent from the assemblage. Fine bowls of this type have been found at Fengate where they are believed to date towards the end of the West Harling Fengate tradition (Pryor 1974) and at Darmsden which has a fifth to third century BC date range (Cunliffe 2005, 96). The lack of this vessel type within the Oulton assemblage suggests that it falls towards the beginning of the West Harling Fengate tradition, perhaps around the seventh century BC.

The deposition of possible curated material including pottery sherds as backfill in pits appears to be a widespread practice on Iron Age sites in Norfolk. The exact function or meaning of these deposits is, however, unclear.

Struck flint

by Sarah Bates

Eight pieces of struck flint were recovered by excavation from the site and ninety-three pieces, mainly spalls, came from soil samples. The flints are mostly non-diagnostic small pieces. Only one retouched piece is present. The assemblage is summarised in Table 26.

Two pieces, including a thick flake, probably from the side of a rounded pebble, which has slight retouch forming a spurred scraper-like edge on one side, came from each of two pits *36027* and *36029* and a single piece was found in pit *36021*. A flake, a possible blade and a total of twenty-eight spalls were recovered from soil samples from these pits. Many of the spalls from pit *36029* were slightly larger and 'fresher' in appearance than the flint from most of the other samples, which might suggest that the material was contemporaneous with the pit, the presence of the spalls suggesting that the flint was struck nearby and deposited into the pits soon afterwards. Forty-one pieces of flint,

Type	*Number*
Shatter	2
Flake	7
Blade-like flake	2
Blade	2
Spall	87
Spurred piece	1
Total	

Table 26 Summary of the struck flint, Spa Lane

almost all spalls and some of them abraded, were recovered from the samples of pit *36057*. A single spall was found in a sample from pit *36065*.

The other excavated flints came from two undated pits, and a total of twenty-one pieces, almost all spalls, were found in soil samples from three other earlier Iron Age pits.

Apart from one burnt and patinated blade fragment, which might be of an earlier prehistoric date, the nature of the flint suggests that it is of later prehistoric date. Flint use during the later Bronze Age and Iron Age has been a subject of some controversy (Saville 1981) but, increasingly, evidence is being recorded from excavated sites (Young and Humphrey 1999) and it is possible that the material is contemporary with the features excavated at this site.

Botanical remains
by Gemma Martin

Description
Thirteen samples from Phase 4 pits were selected for analysis. The archaeobotanical remains are limited mainly to small assemblages of charred cereal grain, chaff and weed seeds. The densities of charred botanical remains are generally low (less than fifty charred items per litre), which is not unexpected for sites of early Iron Age date as studies of sites of these periods consistently demonstrate the scarcity of charred botanical remains (*e.g.* Murphy 1998). Quantitative analysis is not considered statistically appropriate at these concentrations. The overall state of preservation is also poor, with the cereal grain being particularly corroded and fragmented, preventing identification to species in most instances. There is evidence for contamination in each of the flots, which all contain small quantities of uncharred weed seeds as well as the burrowing blind snail *Cecilioides acicula*.

Cereal grain is present in every flot. Barley occurs with the greatest frequency overall, and is the dominant cultigen in nine of the flots. Where preservation permitted, hulled barley has been identified including two grains of hulled six-row barley, as well as several grains sharing similar morphological characteristics with either emmer or spelt. Only sixteen fragments of cereal chaff were recovered from the thirteen samples, all from a glume wheat species such as spelt or emmer, with three glume bases cautiously identified as emmer. From simple ratios of weed seeds to cereal grains, as used by Van der Veen (1992), it appears that the samples, notably the grain rich fills of pit *36057*, generally contain clean grain with assemblages indicating cleaning residues in pit *36045* in particular. It should be noted that these ratios are biased, as they were calculated using only the absolute counts of intact grains and weed seeds, and as many of the samples contain more cereal fragments to whole grains (or embryo ends) the cereal component is certainly under-represented.

Discussion
In contrast with most assemblages from Norfolk, where wheat is generally the major cultigen (Murphy 1998), this site appears to be dominated by barley, although with the cereal components chiefly consisting of unidentifiable fragments. Identifiable chaff is entirely wheat and is present in samples where no wheat grains have been recovered. The experimental study conducted by Boardman and Jones (1990) demonstrated that chaff is less likely to survive the charring process than grain, and that barley chaff, which is more fragile than wheat chaff, is even less likely to be preserved through carbonisation. Therefore, the absence of barley chaff is not unexpected, while the presence of wheat chaff in flots with no identifiable wheat grains implies that wheat may be under-represented, and by implication that wheat and barley were being treated differently.

Even though the weed seed components of the assemblages are undoubtedly derived from a range of sources, they are characteristic of the suite of species typically associated with crop processing residues, in particular the final stages of crop processing. The weed assemblage recovered from pit *36045* includes weed seeds that may have been removed manually or by fine sieving from semi-cleaned grain, and includes species such as fat-hen, oraches, black bindweed and pale persicaria. These weeds are annuals noted for persisting in disturbed ground, since they recover from soil disturbance better than perennials (Van der Veen 1992, 147). If the weed assemblage from pit *36045* is indeed associated with crop processing, the frequency of annuals suggests that the land under cultivation was subject to frequent disturbance, favouring the growth of annuals and inhibiting perennial weeds. This type of disturbance is expected from the practice of regular digging and hoeing generally associated with a horticultural type of cultivation, rather than large-scale, extensive cultivation (*ibid.*). The ard cultivation of the early Iron Age may well have created similar conditions to those resulting from digging or hoeing. Species such as fat-hen, pale persicaria, oraches and common chickweed are also associated with manuring because they increase with the application of manure (Van der Veen 1992, 138), whereas small legumes such as vetches are indicators of exhausted ground, depleted in nutrients (Jones 1984, cited in Van der Veen 1992, 138). Remains of vetches or vetchlings that occur frequently in pit *36045* may suggest a depleted soil due to intensive arable regimes, or perhaps the input of material such as hay.

There is no direct evidence for the earlier stages of crop processing and, as the assemblages have suggested that the arable activities were subsistence based, it appears that the cereals were being produced on a small scale locally, but the earlier stages of crop processing were taking place outside of the area of excavation.

The recovery of charred hazelnut shell fragments and a single sloe, plum or cherry stone fragment suggests that areas of scrub, woodland or hedgerow were being exploited by the inhabitants for food resources, although it is not possible to gauge the economic importance of such gathered foods. The upper fill *36058* of the three deposits in pit *36057* is the richest in botanical remains. The grain appears to be a cleaned product, with only traces of weed seeds and chaff, and the greatest number of hazelnut shell fragments was also recovered from fill *36058*. The three fills appear to be domestic waste derived from specific activities, perhaps linked to food preparation.

Heated flints from the fill could reflect activities involving heated water, such as soaking cleaned grain to soften the husks in order to aid in their removal, with the chaff then washed away and thus not preserved. There is

ethnographic evidence from Orkney for making porridge or thickening soup using threshed barley that is gently pounded with a little warm water to break the husks, the grains subsequently steeped in water to float the husks off (Renfrew 1993, 35). Containers of heated water were also used for cooking, with smaller vessels containing food, such as meat contained in hides, then placed within the larger container to boil (Renfrew 1993, 32; see also Hartley 1954, 36–9). Alternatively, the grain may have been spread over heated stones to be parched and then subsequently cracked and added to pottage to make a gruel, or parched to make the husks brittle for easier removal by re-threshing and pounding in order to be ground into flour.

The density of botanical remains from pit *36045* is lower than in pit *36057* but greater than the other pit fills. The botanical assemblage appears to represent cleaning residues, possibly from the final stages of crop processing. The pit includes domestic waste from multiple activities, which, considering the apparent rapid infilling of the pit, may have taken place concurrently. The densities of charred botanical remains in the other sampled pits are generally low compared to pits *36057* and *36045*. Charred grain and weed seeds occur consistently in the other flots, five of which contain at least one charred item per litre, and the frequency of fragmented grain suggests that the remains probably represent the general background of domestic rubbish on the site.

Animal bone
by James Rackham
In many cases only a few fragments of tooth enamel and degraded bone have survived. Of the early Iron Age contexts, two produced enamel fragments or whole cattle teeth (fills *36033* of pit *36032* and *36049* of pit *36045*). One produced a portion of a cattle scapula (fill *36031* of pit *36029*) and one produced a sheep/goat radius fragment (*36042*). The secondary fill of early Iron Age pit *36029* produced bones and teeth from at least two sheep. Both animals were immature, with their deciduous premolar 4s still present and the molar 3 probably unerupted. The epiphyseal and dental data suggest animals of between 1.5 and 2 years of age indicating slaughter in their second year. There is insufficient material to confirm a burial, as only fragments of two humeri, a complete metacarpus, a femur, an innominate, and two right mandibles were recovered, but the fragments carry no evidence of butchery. The bones in this pit are better preserved than elsewhere on site, and there is little evidence for suggesting any substantial loss of material from the context. The remains probably reflect the discard of material from two carcasses. The intact metacarpus indicates a gracile sheep with a withers height (height at the shoulder) of 606mm (using a factor recommended by Teichert published by Prummel 1983) while still immature.

7.7 Phase 7: early Anglo-Saxon pits

Two pits on the eastern side of the site date from the early Anglo-Saxon period. Aside from their pottery assemblages, these two pits are also distinctive in that they contained evidence of metalworking.

Pit *36010* was 0.25m deep (Fig. 39) and contained a very dark basal fill, above which was a dump of burnt flints. Three large sherds (58g) from a single Saxon jar were recovered, along with a piece of iron smelting slag (134g) and a piece of furnace slag (48g). This almost certainly indicates that industrial activity was taking place fairly near by, since these waste products are unlikely to have travelled far from the furnace.

Pit *36017* was larger and survived to a depth of 0.54m (Fig. 39). It contained two lower fills that were devoid of datable finds, but the upper fill contained sixty-two pottery sherds (448g). Six were flint-tempered (F1) earlier Iron Age sherds, and one 4g sherd in quartz sand temper (Q4) was also of this period. Thirteen sherds in fabrics Q2 and Q3 could be earlier Iron Age or Anglo-Saxon in date. Eight sherds were Anglo-Saxon, including four from the same fifth or sixth century vessel. A twelfth to fourteenth century medieval coarse ware jug rim (MCW1, 3g) was almost certainly intrusive. Fragments of iron slag were present in a sample from the upper fill, which also produced the charred remains of a wooden artefact. These consisted of numerous, thin, lath-like fragments of radially split oak heartwood. The object was unreconstructable and unidentifiable.

Early Saxon pottery
by Sue Anderson
Eleven sherds of early Saxon pottery (204g) recovered from pits *36010* and *36017* represent five vessels. Three body sherds from pit *36010* are from a small globular jar and are in a fine sandy (ESFS) fabric with occasional mica and chaff impressions. Four body sherds from pit *36017* are small and abraded; these are in early Saxon medium sandy, coarse quartz and fine flint wares (fabrics ESMS, ESCQ and ESFF). The remaining four sherds (ESMS) from the same pit are from a sub-biconical vessel with internal and external smoothing but no decoration. This form suggests a fifth or sixth century date.

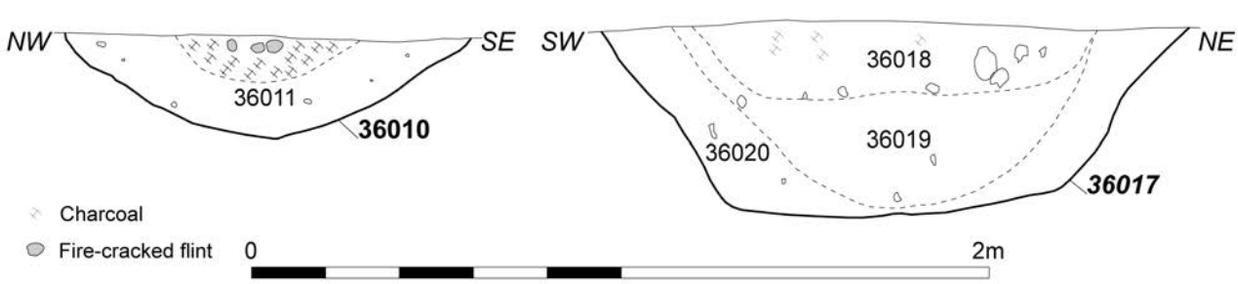

Figure 39 Sections through Phase 7 pits at Spa Lane, scale 1:20

7.8 Phase 11: possible late medieval pit

A single pit may have been of twelfth to fourteenth century date. Pit *36021* contained a flint flake and an abraded base sherd (5g) from a medieval Grimston-type vessel with an external kiln scar. The pit may be Iron Age, and the sherd may have arrived on site through manuring and become intrusive into it; however, the absence of burnt flint in its fill suggests otherwise.

7.9 Phase 13: undated features

Ten cut features remain undated: seven pits, two postholes and feature *36050*. This insubstantial linear feature was probably either an Iron Age ditch or a medieval furrow. Three sherds of earlier Iron Age pottery and a single abraded, undecorated body sherd of coarse, sandy grey ware pottery dated to between the late first and third centuries AD (A. Lyons in Cater 2004) were recovered from its fill.

7.10 Discussion

Phase 4: early Iron Age

The ceramic dating of the site is not entirely unambiguous but seems to be consistent with a settlement occupying the site in the earliest part of the Iron Age. With the limited evidence available, it is not possible to reconstruct adequately what that settlement would have looked like, but it is reasonable to presume that it was unenclosed and probably quite small, perhaps amounting to a couple of roundhouses at any one time. The excavated site reveals one part of that settlement, where domestic waste was discarded into small pits. These pits were quite possibly dug for that purpose but may have had a previous function before being backfilled. The only evidence for a possible structure is the group of three postholes; these could have been all that remained of a dwelling but other structures are equally plausible: a food store, drying rack or merely stakes to which livestock were tethered.

The pits have a similar range of sizes to the group of rubbish-filled pits at the western end of Weasenham Clumps Area B (see Chapter 5). By analogy, the Spa Lane pits may represent a similar intra-settlement area and, as with the Weasenham Clumps site, there may have been associated areas and features of a wide, unenclosed settlement beyond the pipeline working width. Some of the larger and less finds-rich pits at Spa Lane, such as pit *36036*, may be comparable in function to the pits in the group at the centre of Weasenham Clumps Area B, although they did not share the steep-sided profiles of those examples.

Artefacts within the pits reveal more about the activities of the people who lived at this site. It seems likely that they made flint tools near to this part of their settlement. The fires and hearths that produced much of the pit fills may have been nearby, though the ceramic evidence implies that rubbish was accumulated elsewhere before it was put into the pits or simply allowed to accumulate in less-used areas of the site. Certainly, the quantity of pottery in posthole *36032* suggests that gaps around the post caused by rotting or soil compaction were plugged with detritus. This material may have been deliberately gathered, or may have simply been present around the post or underneath the structure that it supported.

The environmental evidence allows us to speculate about how people used the local area in their farming economy. It is easy to imagine cows grazing on the on the floodplain of the River Bure below the site, and sheep pastured on the higher ground. The land around the settlement would have been used for arable farming, the charred botanical remains showing that barley and emmer or spelt wheat were the most important crops. Barley occurs with the greatest frequency and abundance, though the poor preservation of the grains and questions about whether different cereals were being processed differently preclude definite conclusions about their relative economic significance. The suite of weed species and occasional wheat chaff suggest that at least some of the crop was being processed on or near the site.

The tasks linked to food preparation and domestic activities seem to be concentrated within the central area of excavation, associated chiefly with pits *36057*, *36045* and perhaps *36069*. The heated flints that are concentrated in these central pits may have been related to cereal processing: perhaps drying or soaking grain for dehusking, producing cracked grain for use in cooking, or hardening grain for milling. The evidence suggesting the final stages of crop processing implies that semi-cleaned grain was fine-sieved and the larger weeds hand-picked out in the vicinity of the central pits, with the resultant cleaning residues burnt and discarded into pit *36045*. The cleaned grain may then have been parched for further processing or used directly for immediate consumption, with the heated flints and stray burnt grains also discarded into pit *36057* along with remains of hazelnuts which could have been consumed at the time of processing.

This small settlement area is likely to have taken its place within a larger agricultural landscape, of which the cropmark enclosures and ditches just over a kilometre to the south-west may have been contemporary elements.

Phase 7: early Anglo-Saxon period

Two rubbish pits provide very limited evidence of activity on the site during the early Anglo-Saxon period. These pits contained a mixture of domestic waste with some iron-smelting slag. The presence of the pits indicates only that people were living reasonably near by, and that there was at least some iron production somewhere in the broad vicinity. This spur of higher land, between the Bure and its tributary, would have offered the same advantages for the siting of a small and independent homestead or hamlet as it did to their early Iron Age forerunners.

8. Late Iron Age or early Roman metalworking near High Noon Road, Colby

by Tom Wilson

8.1 Summary

Pits and a hollow containing waste products from iron smelting and smithing were associated, in a second phase of use, with a group of postholes, perhaps representing a windbreak or screen. No readily datable artefacts were recovered from this site; however, radiocarbon dating indicates that this working area was in use around the end of the Iron Age or beginning of the Roman period.

8.2 The site

This site (HER 37972) was located at NGR 621250 330900, within the parish of Colby (Fig. 40). It was 800 metres west of St Giles Church and mid-way between the A140 Norwich to Cromer road and the minor road linking Colby and Banningham. The ground here is fairly level, at around 28.0m OD, and slopes very gently down to the east. The underlying glaciofluvial sands and gravels have produced coarse loamy soils, used for arable farming.

8.3 Pre-construction work

The desk-based assessment highlighted the frequent occurrence of burnt mounds recorded in this area, three of these having been recorded during construction of the A140 Aylsham bypass (HER 15070, 19709 and 19710; NGR 620670 330110). Iron Age pottery was found associated with two of these. The pipeline route crossed the parish boundary between Colby and Erpingham eight metres from the present western boundary of the field containing the site.

The field had unploughed stubble when the fieldwalking survey was carried out, limiting ground visibility, but no significant finds were noted. However, a scatter of forty-three burnt flints was found 500 metres to

Figure 40 High Noon Road, Colby, location of the excavation area and HER and DBA sites mentioned in the text, scale 1:10,000

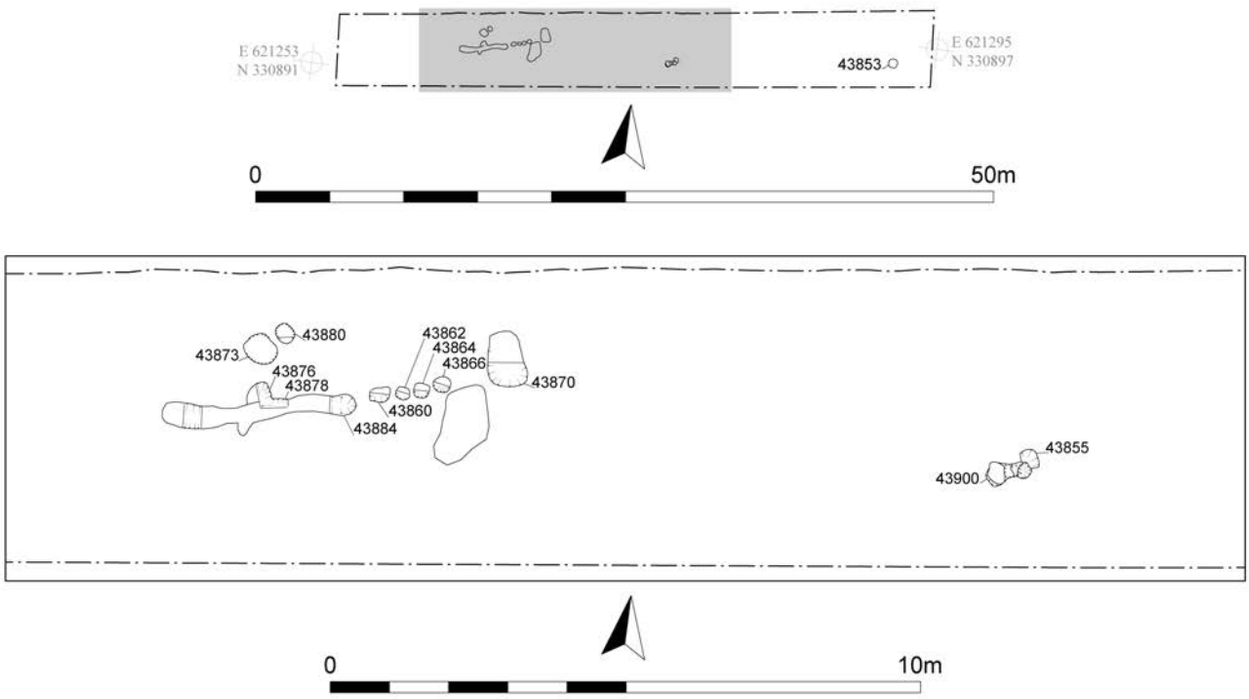

Figure 41 Plan of the excavation area at High Noon Road, scale 1:500 and 1:125

the west, close to the A140, and a concentrated group of ten burnt flints, together with one flint flake, was found beyond the road to the east. These two scatters are likely to have derived from ploughed-out burnt mounds close by. The purpose and significance of burnt mounds remain unknown; a widely accepted theory is that they were used primarily as open air cooking places; other suggested uses include: saunas or baths (Barfield and Hodder 1987), or industrial activities such as fulling and textile production (Jeffery 1991). There is likely to have been a communal and ritual element to these activities (Bradley 1978, 83; Buckley 1990).

The geophysical survey recorded a few small, discrete anomalies distributed across the field, thought to equate to spreads of magnetic material introduced among manure spreads, and closely spaced, faint linear anomalies probably representing modern plough scores (Bunn and Rylatt 2003).

8.4 Excavation

The results of the pre-construction surveys gave little indication of any significant archaeological remains in this area and it was not targeted for evaluation trenching. Only during observation of the topsoil strip was the site identified, as a group of small features containing burnt material. These features were confined to a narrow strip, 40m long by 5m wide, along the northern edge of the working width (Fig. 41); much more of the site may survive beyond the pipeline working width.

With almost no datable artefacts, analysis centred upon the industrial residues and any structures or features that could be identified accompanying them. Radiocarbon determinations on two charcoal samples provided dating for the remains.

8.5 Phase 0: geological deposits

During the excavations, the underlying drift deposits were noted to vary from mixed pale orange and yellowish brown clayey silts with occasional flint inclusions at the western end, to similarly coloured clayey sands with occasional flint inclusions towards the eastern end.

8.6 Phase 5: late Iron Age or early Roman metalworking

A broad, bowl-shaped scoop, *43900*, up to 0.49m across, survived to a depth of just 0.10m (Fig. 42, Plate 7). Reddish brown, charcoal-rich loam mixed with baked clay had accumulated in the base to a maximum depth of 0.15m. This was overlain by a brown clay soil containing very little charcoal, above which was a localised deposit of baked clay, 0.33m across and 0.05m deep. Although the base showed some blackening and reddening, this was not to the degree that would be expected in a feature used as a furnace or fire pit. It is considered more likely that this feature started as a working hollow, perhaps in a natural depression or a very truncated pit. Industrial deposits were then dumped into it, followed by a natural accumulation of sediment, with another final dump of burnt material. A radiocarbon determination on an oak roundwood charcoal sample from fill *43858* gave a date of 50 cal BC to 90 cal AD (92.3 per cent probability) or 100 to 120 cal AD (3.1 per cent).

A circular and steep-sided pit, *43855*, 0.53m deep by 0.28m diameter, was cut into the fills of hollow *43900* (Fig. 42, Plate 7). Pit *43855* was very regular with a flat base. Its sequence of fills seemed to show that some of the secondary fill, *43858*, from hollow *43900* had slumped into it while the dark, charcoal- and slag-rich loam fill was

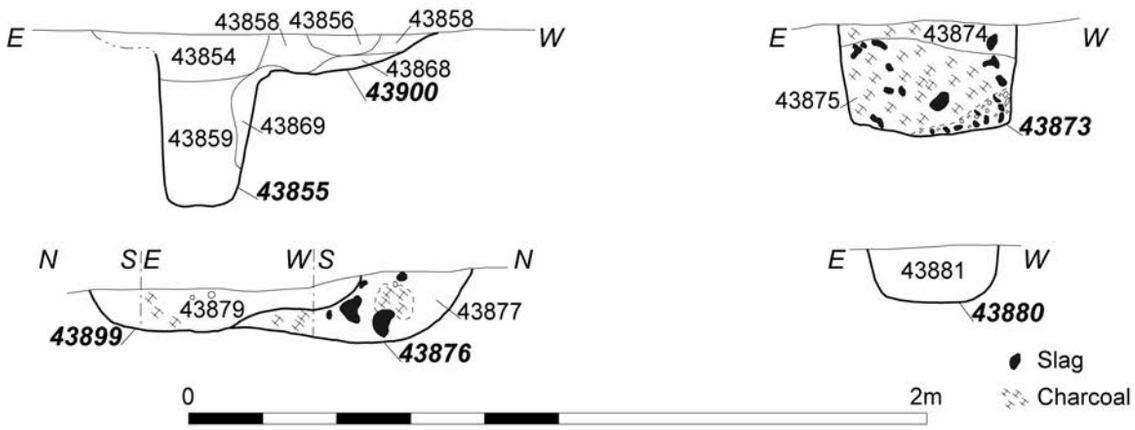

Figure 42 Sections through Phase 5 features at High Noon Road, scale 1:20

accumulating. Features *43855* and *43900* were originally interpreted as two elements of a smelting furnace, but it is not clear how they would have functioned together and their stratigraphic relationship suggests that they were not contemporary. Radiocarbon dating of a sample of oak roundwood charcoal from the lower fill, *43857*, (= *43859*, Fig. 42) of pit *43855* gave a date of 110 cal BC to 80 cal AD.

Two shallow pits *43876* and *43873*, located about ten metres to the west of *43855*, both had charcoal-rich fills incorporating around fifteen per cent slag. A posthole, *43880* (Fig. 42) close to this pair of pits had the same proportions as the aligned postholes described below, but contained frequent charcoal inclusions and a large quantity of slag, indicating that it was filled while the furnace producing the slag on site was in use.

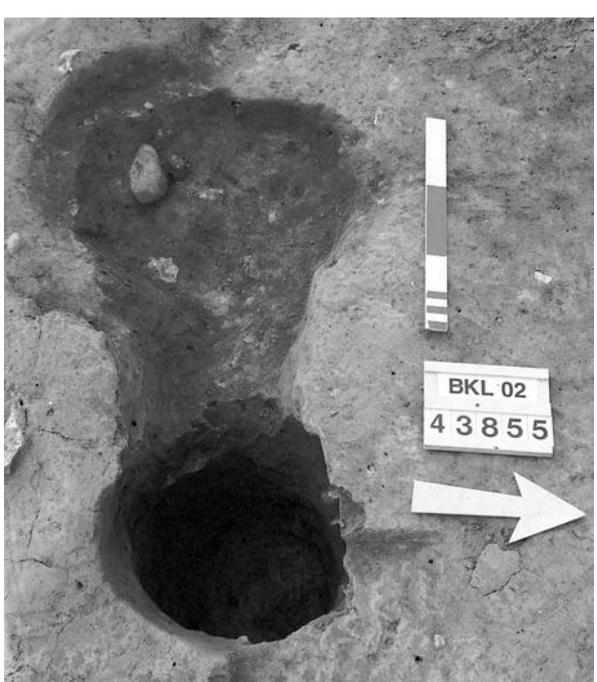

Plate 7 Late Iron Age hollow *43900* and slag-rich pit *43855*, fully excavated; west-facing shot, 0.3m scale

Slag and industrial technology
by Jane Cowgill

Introduction
In total, 22.3kg (3,375 pieces) of slag and associated finds were recovered. Six small samples were also processed. The samples were weighed and the volume recorded before they were washed in a bowl using a 2mm and 250µ sieve; no flot was taken off.

Description
The slag assemblage is mainly a by-product of iron smelting, the production of metallic iron from suitable ores, most commonly in this country in the form of bog ores. The size of the individual pieces catalogued is very small for a smelting site: the averages for the sampled contexts range from 2.8g to 13.7g. This is largely because the assemblage includes material from samples, rather than just hand collected pieces (Table 27), and therefore the whole range of types including small sized pieces. The majority of the slags are long, thin, twisted, intertwined flows. Small balls and droplets of slag are common. These droplets are occasionally magnetic, and the more rounded examples, as in pit *43873*, resemble very large spheroidal hammerscale. Medium and large flows are present, as in pits *43855* and *43873,* but are less common and some of the medium flows have formed oblong 'complete' pieces. Few are either dense or heavy and judging by the weight of even the larger pieces, central voids are probably present in most. The two largest and heaviest are both incomplete pieces from pit *43873*, weighing 313g and 185g. The slags generally range in colour from brown to mid- to dark grey. Many, when broken, have a pale grey core with frequent small voids.

There are no cakes or fragments of tap slag, the most common type of slag encountered on Roman sites, produced by slag within the furnace being tapped into a hollow alongside it. Instead, there are a number of possible small 'volcanoes' (slag shaped as the term suggests) made up of a myriad of small flows. These may have formed either within the furnace (as at the experimental smelt by the Wealden Forest Group, 15 Sept. 2002) or alongside it. Three were recovered from primary 'furnace' fill *43859* from pit *43855*, including a 181g piece with a flat base and straight back. The technology employed at this site was, therefore, not of the usual Roman slag-tapping type.

Context	*Feature*	*Sample*	*Fired clay*	*Furnace structure*	*Hearth Bottoms*	*Hammer-scale **	*Ore*	*Slag*	*Tap*
43857	Pit *43855*	71850	31: 19g	2: 27g					556: 4934g
43859	Pit *43855*	71852	8: 4g			++		1: 12g	260: 1218g
43869	Pit *43855*	71855				++		8: 9g	111: 565g
43858	Hollow *43900*	71853						12: 12g	67: 398g
43868	Hollow *43900*	71854	5: 2g		2: 250g	++		55: 62g	167: 468g
43874	Pit *43873*								6: 138g
43875	Pit *43873*	71857				+++		+: +	1318: 6170g
43877	Pit *43876*	71858	1: 1g			+++			153: 2094g
43881	Posthole *43880*	71859		3: 12g		+	3: 1g		495: 4519g
43879	Beam slot *43878*								3: 20g
43865	Posthole *43864*								1: 172g
43867	Posthole *43866*								2: 195g
43951	Subsoil			2: 11g					8: 247g
43850	Cleaning layer								10: 85g
43852	Cleaning layer								27: 479g

*Hammerscale quantity + 0-50; ++ 51-200; +++ >201

Table 27 Summary of the evidence for iron smelting and smithing, High Noon Road

There are surprisingly few charcoal imprints on the slag, and it does not appear to have been moulded by, or cooled within, a depth of charcoal as occurred at the possibly contemporary site at Wakerley, Northamptonshire (Cowgill 2006). The large pieces of oak roundwood and heartwood charcoal recovered by hand during the excavation are typical of charcoal assemblages recovered from early iron smelting sites. The most important factor that determines the location of a smelting site is the availability of an adequate fuel supply, and the presence of this site therefore implies that there was sufficient nearby woodland to supply this very hungry industry.

There is limited evidence for iron smithing among the slag assemblage, although the presence of plate hammerscale clearly indicates that smithing was undertaken at the site. Similar by-products are formed by primary smithing (squeezing slag out of the spongy bloom extracted from the furnace to forge a billet or bar) and secondary smithing. Only two plano-convex slag accumulations ('hearth bottoms') were found, both from fill *43868* of hollow *43900* and both are fairly small in size. It is possible that the pieces catalogued as 'amorphous slag lumps' are also bloom-smithing by-products, particularly as large pieces were also found in fill *43868*, but it is also possible that they formed in the furnace. Spheroidal hammerscale tends to dominate primary smithing assemblages because this type of scale is produced by welding, and bloom smithing in its early stages is primarily a welding exercise; they also form in the furnace. The hammerscale assemblages from fills *43859* of pit *43855*, *43868* of hollow *43900* and *43881* of posthole *43880* are all dominated by spheroidal scale, but fills *43869* of pit *43855, 43875* of pit *43873* and *43877* of pit *43876* have significant quantities of large, fresh pieces of plate. These latter three groups are all probably primary deposits, dumped into these features directly from wherever the primary smithing was undertaken, probably under some form of shelter.

Discussion

Pit *43855* and hollow *43900* were originally interpreted as together constituting a furnace. These are the right shape in plan and the right dimensions for this suggestion but the pit has steep sides and is 0.25m deeper than the hollow, allowing no access to the base of the 'furnace' to remove the slag and for maintenance. This could only have operated as a type of pit-furnace, a form of production commonly found in Europe. This method of iron smelting involved digging a pit, most likely lining it with clay to improve thermal properties, and filling it with some organic material such as wood, straw, or grass that would support the ore and charcoal charge during the smelt. A short shaft would be constructed directly above the pit. As the viscous liquid slag accumulated in the pit, the pit filling would burn away and the heat would scorch the pit sides. The metallic iron bloom would solidify above the slag. This means that after each pit was filled with slag, further smelting would require that a new furnace be constructed over another pit.

Furnaces with a large pit below them for collecting the slag are commonly found in Continental Europe, where the slag is often *in situ*, and vast numbers of slag-filled pits are found, the numbers reaching a peak between the second and fifth centuries AD. Thousands of these pit-furnaces have been excavated at hundreds of sites from the Holy Cross Mountains in Poland (Bielenin 1987), to Snorup in Denmark (Voss 1995) to Heeten in the Netherlands (Godfrey 2001). The pits average around 0.3m to 0.55m deep with a diameter of about 0.3m to 0.7m, and the blocks of slag can weigh well over 55kg. Evidence for Iron Age pit-furnace production has been found in Britain; however, a key issue distinguishing the British examples from those in Europe is that the British slags are all recovered from secondary contexts, not *in situ*

within a pit (Godfrey and McDonnell 2002, Cowgill *et al*, 1998). It is therefore possible that in Britain the pits were alongside and not below the furnace, or that access was available to the bottom of the furnace pit so that the blocks could regularly be removed without causing substantial damage to the furnace. There are two problems in trying to apply this hypothesis to the High Noon Road site: firstly there are no slag blocks from the site of the type associated with the pit-furnace technology and there is no access to the base of the pit, even if the furnace was alongside it. If heavy pit slags had been removed from the pit, the sides would have been damaged and would no longer be vertical. There is also no recorded indication that the sides of the pit were clay lined or severely heat affected.

The slags from the site are mainly small flows, although larger ones are present. They have not been tapped in the usual sense into a pit outside the furnace to form large cakes of slag. The volcano pieces suggest that instead the slag may have been tapped out of the structure in small quantities down a small drop, although these pieces could also have be formed within the furnace. Many of the smaller flows were probably raked out of the furnace to extract them and to clear the base of the structure. The lack of charcoal imprints demonstrate that they were not allowed to cool within the furnace on the residual bed of charcoal left after the smelt. This implies that the working hollow was actually at either the same level as the furnace base, or more probably slightly lower.

There appears to be very little fired clay from features associated with the slag, although the primary fill, *43868*, of hollow *43900* contained a 30 per cent baked clay content. This feature was sealed by baked clay layer *43856*, which had survived truncation from ploughing because it had slumped into the hollow when the fills below had settled. None of the fired clay pieces are vitrified; large quantities of vitrified clay, including significantly sized pieces, are normally found in the proximity of a furnace.

The quantities and small size of the slags suggest that a good ore was being used and successfully smelted. However, there is almost no roasted or unroasted ore from the samples or any recorded as being present on the site. The fine residue from posthole *43880* contained about 40 per cent fines (sand-sized particles of roasted ore) and fired clay, but this was the greatest quantity recorded in this element of the samples.

Slag was recovered in significant quantity from five features on the site, all of which were sampled, allowing a comprehensive range of the slags present to be recovered and recorded. Although the largest samples by count and weight were recovered from pit *43873*, the upper fill of pit *43855*, and posthole *43880*, it is uncertain whether this corresponds to the greatest concentration within the features on site. There is some variability of slag type between the features, but not enough to suggest where any working areas associated with iron smelting may have been located. Zones on the site may have included a charcoal storage and sorting area, ore bonfire roasting and sieving location, furnace or furnaces and smithing site, and the slag discard heap. The furnace would by necessity have to be covered by some type of structure to protect it from the weather. The slag from the smelts and smithing would originally have built up into a heap as it was discarded in a conveniently 'out of the way' place but probably only a throwing distance from the furnace. It is unlikely that pits would have been excavated specifically for slag discard and therefore all the pits infilled with slag and deemed contemporary with the smelting activity would probably have been excavated for some other purpose. Those with a high hammerscale content are the most likely to have received debris directly from a smelting or smithing activity area, the others may have been infilled from a slag heap.

Fired clay

by Sarah Percival

Five hundred and nineteen fired clay fragments weighing 1.944kg were recovered from four fills of a possible furnace or hearth. The pieces are poorly preserved, being highly abraded with worn surfaces and rounded edges. No structural pieces were identified. The pieces are made of two fabrics. The majority are of silt sand fabric (type 4) with a small number of pieces in coarser fabric (type 5). The colour of the pieces varies, most being of salmon pink to buff colour, the cores of the pieces are grey to black, suggesting that they were rapidly fired. No slag-lined surfaces are present and no pieces are vitrified, so it is unlikely that they were furnace lining (Chirikure and Paynter 2004, 42).

Charcoal

by Rowena Gale

Introduction

Eight charcoal samples were examined from hollow *43900*, pits *43855*, *43870*, *43873*, *43876* and posthole *43880*. The condition of the charcoal varied from reasonably firm to degraded and friable. The charcoal was fragmented in most samples, and entire sections of roundwood were infrequent. The charcoal-rich samples 71852, 71857 and 71859 were 50 per cent subsampled. The samples were prepared using standard methods (Gale and Cutler 2000), examined at magnifications up to x400 and matched to prepared reference slides of modern wood. When possible, whether the wood was heartwood or sapwood was assessed, and stem diameters were recorded. It should be noted that during the charring process wood may be reduced in volume by up to 40 per cent.

Description

The taxa identified are presented in Table 28. Classification follows that of *Flora Europaea* (Tutin *et al.* 1964–80).

Samples 71850 and 71852 from pit *43855* were particularly charcoal-rich. Sample 71852 included pieces of fragmented oak roundwood (heartwood) up to 35mm or more in radius, mostly from very slow-grown trees. Oak heartwood was also frequent in sample 71850, although narrow roundwood from oak (diameters: 10–11mm, 6–7 years old) and hazel was also present. The third sample 71855 from pit *43855* and 71854 from hollow *43900* that it truncated consisted entirely of oak, mainly from moderate- to slow-grown heartwood.

The group of pits and postholes a short distance away contained fairly abundant charcoal and, given the presence of slag, it is probable that at least part of it originated from metalworking waste. Samples 71856 (from pit *43870*) and 73857 (from pit *43873*) both consisted entirely of moderate- to slow-grown oak,

Sample	*Context*	*Feature*	*Corylus*	*Ilex*	*Pomoideae*	*Quercus*	*Ulex/Cytisus*
71850	43857	Pit *43855*	6r	-	-	59h, 28r, 1s	-
71852	43859		-	-	-	105h, 2r, 2s	-
71855	43869		-	-	-	51h, 5s	-
71854	43868	Hollow *43900*	-	-	-	17h, 1s	-
71856	43872	Pit *43870*	-	-	-	77h, 2s	
71857	43875	Pit *43873*	-	-	-	67h, 1s	-
71858	43877	Pit *43876*	-	6	-	15h, 7r	-
71859	43881	Posthole *43880*	-	-	9	36h, 27r, 41s	8r

Key: h = heartwood; r = roundwood (diameter <20mm); s = sapwood (diameter unknown)

Table 28 Charcoal recovered from samples, High Noon Road

probably from fairly wide roundwood, and are, therefore, similar in character to fuel debris from the furnace. The small quantity of charcoal in sample 71858 from pit *43876* included oak, heartwood and narrow roundwood, and holly. Multiple species were also identified in the abundant sample 71859 from posthole *43880*, which, in addition to very slow-grown oak heartwood, included a comparatively high proportion of narrow roundwood from oak, gorse or broom and the hawthorn or *Sorbus* group.

Discussion

Charcoal residues collected from within hollow *43900* and pit *43855* consisted almost exclusively of oak, although a small amount of hazel roundwood was also present in sample 71850. This sample also included a higher proportion of narrow oak roundwood than the other samples, perhaps representing kindling. It was clear that charcoal fuel was prepared mainly from oak heartwood obtained from slow-grown trees, probably from wide roundwood several decades old. When converted to charcoal, the dense structure of oak heartwood provides a higher carbon content, volume for volume, than most other species and thus provides a more efficient and longer lasting fuel.

Large deposits of charcoal in pits *43870* and *43873* were similar in character to those from the eastern group, consisting entirely of oak largewood. Deposits in pit *43876* and posthole *43880* were also rather similar, although, in addition, holly, gorse or broom and the hawthorn and *Sorbus* group were identified. The differences in species content could be related to the structural function of these features; thus some charcoal could represent waste from domestic activities, such as cooking or heating, which are more likely to have used smallwood.

The oak wood was consistently from slow-grown trees suggesting that fuel was obtained either from fairly dense woodland or from trees growing in stressed conditions. There was no evidence to indicate the use of coppiced or managed woodland. The frequency of oak throughout the deposits almost certainly reflects a bias towards species selection for charcoal-burning for industrial use. This in itself confirms that oak probably formed the dominant component of local woodland, as it would have influenced the decision to practise metalworking at this location.

8.7 Phase 13: undated features

A group of four postholes, *43860*, *43862*, *43864* and *43866* (Plate 8, Fig. 43), and a beam slot, *43884*, formed a regular alignment, ten metres to the west of the feature *43900* and extending for about five metres. The postholes varied in depth from 0.09m to 0.13m and all had shallow concave or U-shaped profiles. The beam slot was 3.3m long, 0.4m wide and 0.14m deep, with a U-shaped profile, and cut the southern side of Phase 5 pit *43876* (Fig. 43). A small quantity of abraded and partially oxidised tap slag was recovered from its fill.

Feature *43870*, continued the alignment of the four postholes to the east and might have been related to that group, but it had a very shallow profile, with a maximum depth of just 0.09m, and contained a fill containing distinct dumps of charcoal. Another undated pit, *43853*, located near the eastern end of the excavation area, had a similar charcoal-rich fill.

Although it was 75m beyond the western limit of excavation, it is worth noting that ditch *43886*, located during machine excavation of the pipe trench at NGR 621180 330871, corresponds exactly to the position of the parish boundary between Colby and Erpingham. The ditch was 0.83m wide and 0.35m deep, with a V-shaped profile. Two sherds of medieval coarse ware (R. Goffin in Cater 2004) were recovered from its fill.

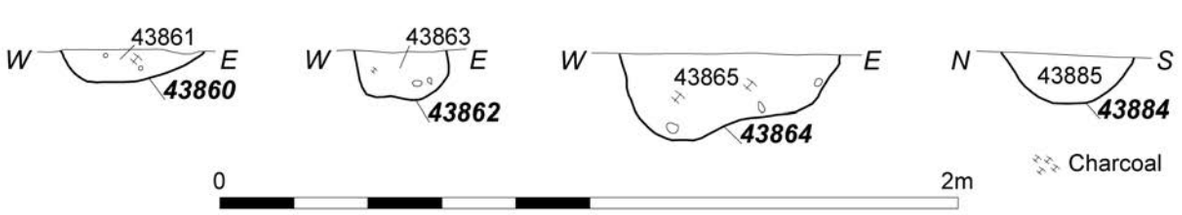

Figure 43 Sections through undated postholes at High Noon Road, scale 1:20

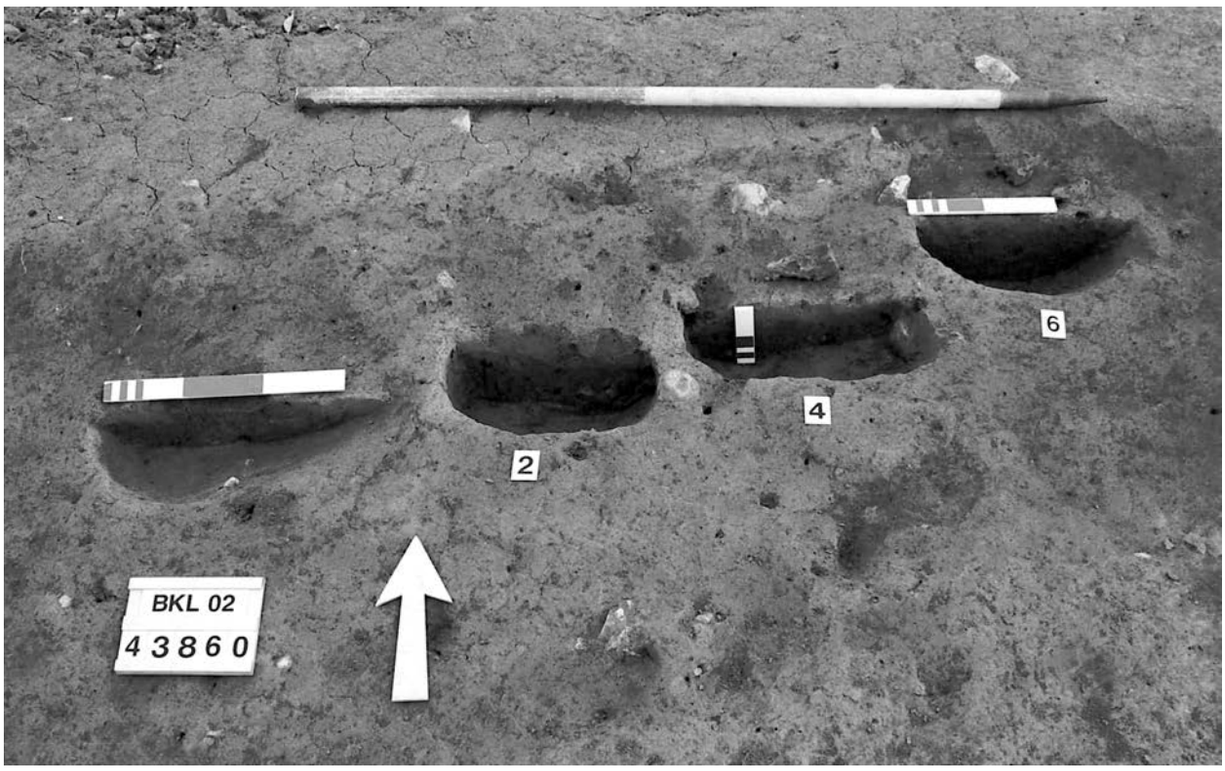

Plate 8 Late Iron Age or early Roman postholes *43860*, *43862* (labelled 2), *43864* (4) and *43866* (6); north-facing shot, 1m, 0.3m, 0.1m and 0.2m scales

8.8 Discussion

The radiocarbon dates indicate that the period of use of this site was in the first centuries BC or AD, most likely the time immediately before the Roman conquest. The slag recovered was not typical of the familiar form of Roman slag-tapping bloomery furnace and presumably results from an earlier technology. Specific activity areas could not be identified, though they may well have been beyond the area of the pipeline working width. The only candidate for a furnace was the area encompassing hollow *43900* and pit *43855* but the lack of extensive reddening of their sides and the lack of vitrified material among the fired clay assemblage suggest that these two features were part of a peripheral working area.

The quantities of hammerscale present in the samples indicate that smithing was talking place nearby, but it is not possible to say whether this was simply the consolidation of the bloom of newly smelted iron or working the iron into finished pieces.

The row of postholes presumably held some kind of structure, but in the absence of dating evidence it is by no means certain that this would have been broadly contemporary with the iron-smelting activity. Use as a windbreak to shelter an activity area beyond the northern limit of excavation has been speculatively suggested. The presence of an outlying feature, pit *43853*, highlights the possibility that the activity area may have been far more extensive than it appears, perhaps extending for thirty metres or more.

The presence of a smelting site at this location provides indirect evidence of the late Iron Age environment, as there must have been a plentiful wood supply for conversion to charcoal close to the site, if not all around it, as iron production sites are thought to have been often located within woods. There was no evidence to suggest the use of managed woodland with the charcoal found on the site coming almost exclusively from slow-grown mature oak trees.

The burnt mounds recorded along the route of the Aylsham Bypass, around 500m to the west of the site, are undated but it remains a possibility that they could have been contemporary with the industrial activity here. A relationship between the burnt mounds and the iron smelting site is an intriguing possibility.

9. Iron Age, Roman and Anglo-Saxon occupation at Foxley Road, Foulsham

by Chris Clay with Tom Wilson

9.1 Summary

The most significant feature on this site was tentatively identified as a drying oven, constructed in the Roman period and occupying a ditched enclosure. A trackway crossing the site and a group of pits were also associated with the drying oven. This group of features produced the bulk of the artefactual evidence from the site. Earlier features included pits, postholes and possible ditches from both the earlier and later Iron Age. A penannular feature is likely to have been a foundation trench or eaves-drip gully of an Iron Age roundhouse, but this feature is not well dated. Two features towards the west end of the site were dated to the early Anglo-Saxon period. Residual Neolithic and Bronze Age artefacts provide evidence of an earlier phase of activity.

9.2 The site

The site (HER 37892), centred on NGR 602850 323170, occupied the centre of a triangular field on the east side of Foxley Road, in the parish of Foulsham, 500 metres east of the A1067 Norwich to Fakenham Road (Fig. 44). Bintree village is one kilometre to the north-west and Foulsham rather more than that north. The land here is fairly level, at approximately 44m OD, but drains to the north where a network of ditches in the adjacent field form the headwaters of a small tributary of the Wensum.

The underlying chalky glacial till in this area has produced fine loamy soils, prone to seasonal waterlogging. At the time of the fieldwork, the field was used for growing cereals.

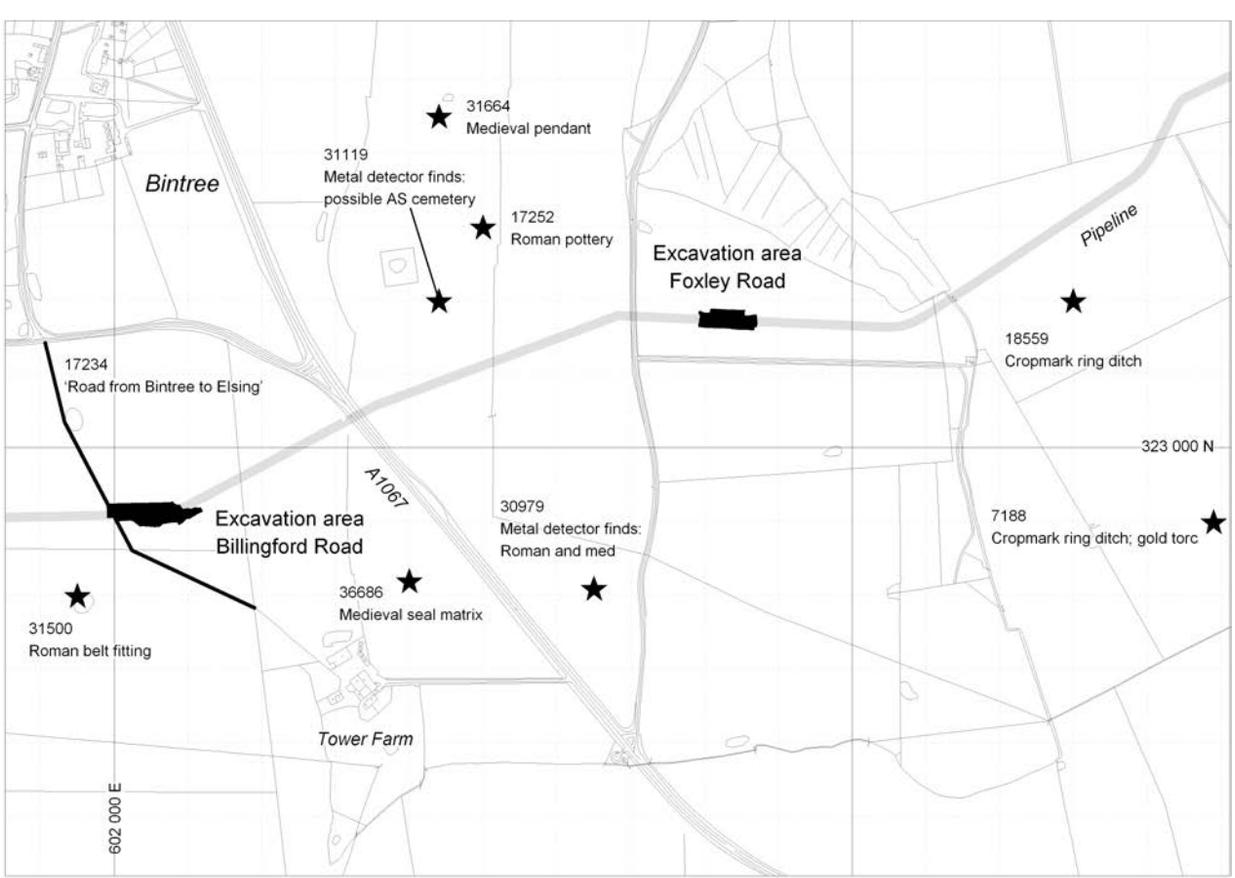

Figure 44 Foxley Road, Foulsham and Billingford Road, Bintree, location of the excavation areas and nearby HER and DBA sites mentioned in the text, scale 1:10,000

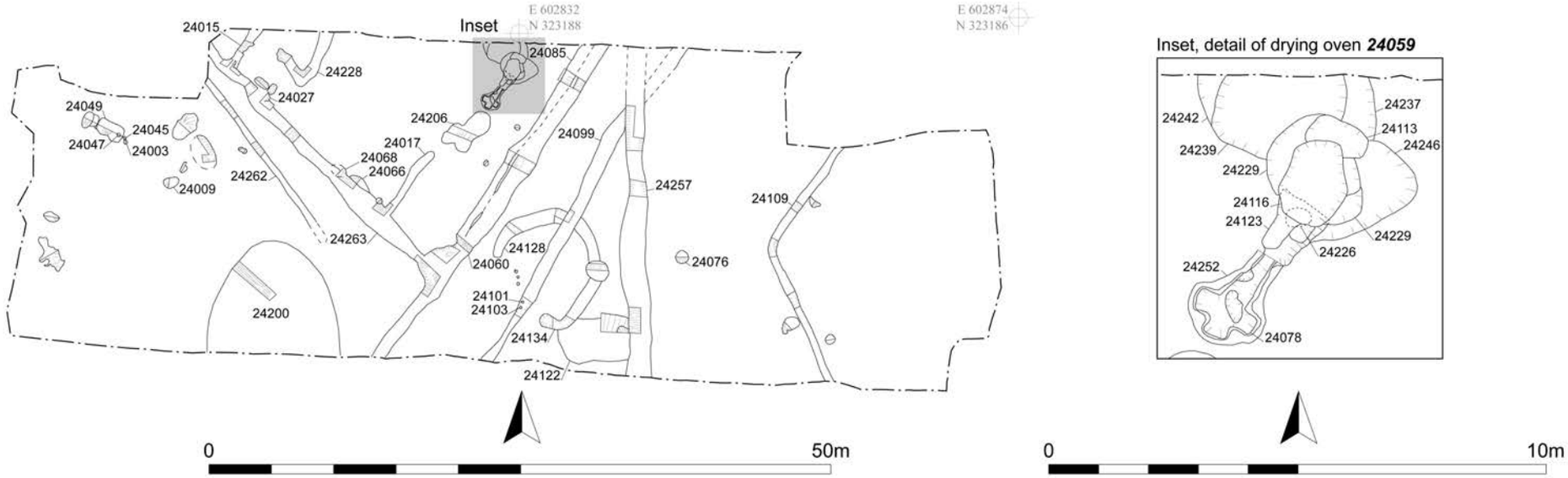

Figure 45 Plan of the excavation area at Foxley Road, scale 1:500 and 1:125

9.3 Pre-construction work

Two cropmark ring ditches (HER 18559 and HER 7188; NGR 603490 322900) were noted by the desk-based assessment, 400m and 800m east of the site, the latter believed to be the location where a gold torc was found in 1846. An area 400m to the west of the excavation area (HER 31119) was highlighted; metal detecting here, in 1995 and more recently, has produced a wide range of artefacts, a brooch, a furniture fitting and a vessel all of Roman date; a brooch, girdle hanger and strap fitting from the early Anglo-Saxon period; and a variety of medieval and post-medieval finds. The quantity of finds indicates the presence of a Roman settlement and an Anglo-Saxon cemetery. Further to the south, in the same field, another extensive area (HER 30979) has produced Roman coins, medieval buckles and seal matrices and a variety of post-medieval finds. Other stray finds in the same general area include a large sherd of Roman coarse ware found after ploughing in 1981 (HER 17252), a medieval copper alloy heraldic pendant (HER 31664) and another medieval seal matrix (HER 36686).

Five prehistoric worked flints and three burnt flints were recovered during fieldwalking of the pipeline route through this field. No finds of Roman date were identified, while the Anglo-Saxon and medieval periods were each represented by a single pottery sherd.

A small number of relatively weak linear anomalies were identified by the geophysical survey and were considered to represent former boundaries or to be the result of localised geological variation. A stronger linear disturbance towards the centre of the field was thought to be a ditch containing ceramic and ferrous debris or an isolated land drain.

9.4 Excavation

The few finds identified during the fieldwalking and metal detector surveys of the site and the lack of clear geophysical anomalies suggested a limited archaeological significance for this field and, as a result, evaluation trenching was not recommended. The topsoil stripping, however, exposed the remains of a kiln-like feature, interpreted as a drying oven; other features became apparent when the site was cleaned Fig. 45).

9.5 Phase 0: geology

The natural drift geology consisted of orange-brown sand and gravel, with patches of compact yellow clay and pale grey sand.

9.6 Phases 1 to 3: traces of Neolithic and Bronze Age activity

Small quantities of pottery and worked flint, all residual in later deposits, were recovered. The majority of the worked flint was recovered from features around the drying oven at the north side of the site. This might suggest a focus of activity here in the Neolithic period or the Bronze Age periods but the numbers are biased by the inclusion of sixty-eight fragments from soil samples taken from that area, which was sampled more comprehensively than anywhere else on the site. Five residual Neolithic or Bronze Age pottery sherds found in Roman ditch *24060* are described with the Iron Age pottery under Phases 4 and 5 (Section 9.7 below).

Struck flint
by Sarah Bates
In total, 111 pieces of struck flint were recovered from the site. These include sixty-eight pieces, mainly spalls, from soil samples and one retouched flake from the watching brief. The assemblage is summarised in Table 29.

Type	*Number*
Single platform blade core	1
Shatter	1
Flake	20
Blade-like flake	1
Blade	7
Spall	66
End scraper	1
Piercer	4
Notched flake	1
Oblique arrowhead	1
Retouched flake	4
Utilised blade	2
Utilised flake	1
Polished flake	1
Total	**111**

Table 29 Summary of struck flint, Foxley Road

Most of the excavated assemblage consists of unmodified flakes, many of them showing evidence for having been struck by hard hammer. Several flakes are quite thick with wide areas of platform present and pronounced bulbs of percussion. A number of small blades are also present.

Part of a probable oblique arrowhead of later Neolithic date was found in Roman ditch *24085* (Fig. 46). Its distal end is missing and its tip is broken, and it is bifacially retouched along the left edge. Another flake has been struck from a polished implement likely to have been of Neolithic date. Part of the polished surface survives on the dorsal face of the flake which may represent trimming of the original tool or the re-use of a broken tool as a core.

Other retouched pieces include four possible piercers and a possible notched flake, all of them quite irregular, an end scraper on a thick blade-like piece and a small number of miscellaneous retouched and utilised pieces. One small neat utilised blade with an abraded platform may be of earlier Neolithic date.

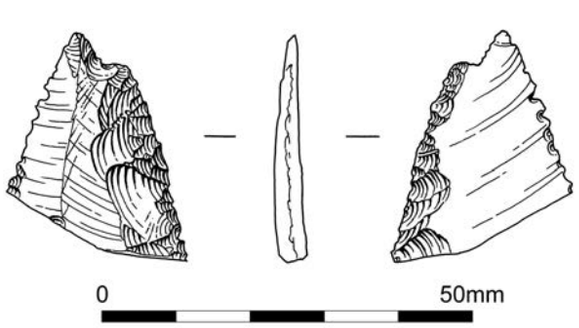

Figure 46 Struck flint tool from Foxley Road, scale 1:1

Twelve spalls were recovered from the fill of ring gully *24128*. Two blades and a fragment of burnt flint came from the fill of earlier Iron Age pit *24076*. One blade is small, thin and quite sharp. The other is a small neat piece with an abraded platform and signs of utilisation on one edge. The flint is, typologically, most likely to date to the earlier Neolithic period and that fact that it was found alongside pottery of Iron Age date suggests that it was residual in this pit. Eighty-five residual flints were found in contexts assigned to Phase 6. Of these, fifty-six pieces, mainly spalls, were recovered from soil samples. The excavated flint included flakes, blades, a blade-like flake, and a few spalls. A few retouched or utilised pieces included an end scraper, an oblique arrowhead, two piercers, two retouched flakes, two utilised pieces and a flake fragment with polish on part of its surface. A very small piece, possibly a tiny blade core, was found in a sample from drying oven *24059*. Eleven flints from undated contexts include a piercer, a possible notched flake and another retouched flake.

The flint found at the site appears to be from more than one period. A few small blades may be of earlier Neolithic date and the polished flake and the arrowhead are likely to be of later Neolithic. Some of the hard hammer struck flakes and the irregular retouched pieces could date to the Bronze Age or even the Iron Age. A couple of features excavated at the site are of possible Iron Age date but, where typologically diagnostic, the flint from these features seems most likely to be of an earlier date and therefore residual.

9.7 Phases 4 and 5: Iron Age occupation

Introduction

The evidence for activity on site during the Iron Age is scant and poorly dated; however, it appears that at some point in the Iron Age a building stood on the site. One pit can be confidently dated to this phase. A ditch and line of postholes are of less secure provenance.

Earlier Iron Age features

Pit *24076*, located towards the eastern side of the site (Fig. 47) produced five earlier Iron Age pottery sherds in addition to three residual flints. The fill contained frequent charcoal and burnt flint fragments and was thought likely to be derived from dumped domestic waste. Although undated by artefactual evidence, pits *24066* and *24027* probably also dated to Phase 4 or 5, since they were cut by Roman enclosure ditch *24263*. Pit *24066* had a very concave profile, 0.85m wide and 0.65m deep. Pit *24027* was a shallow-sloping concave bowl, over 0.4m wide and 0.24m deep. Both had sterile fills.

Ditch *24109* near the eastern end of the excavation area, extended from the southern site boundary and turned through an obtuse angle before continuing to the northern site boundary. It had moderately steep sides and a concave base, to a depth of 0.26m. A single small sherd of pottery, dated to the earlier Iron Age, was recovered but similarity of its fill to that of other prehistoric features on the site, and lack of similarity to later features, supports ascription of the ditch to this phase.

Roundhouse

Ring gully *24128* was sub-circular, and enclosed an area of approximately 6.4m by 7.4m. The ditch itself varied between 0.9m and 1.1m in width and was up to 0.3m deep (Fig. 47). The south-western terminal had a U-shaped profile (*24134*, Fig. 47) but the feature became very shallow to the north-west and any corresponding terminal, on the opposite side of probable entrance, had been lost.

The ring gully produced fourteen sherds of prehistoric pottery. None could be confidently dated to a specific period. A clear stratigraphic relationship showed that the ring gully pre-dated Roman ditch *24099*. Since pit *24076* nearby showed evidence of occupation taking place during the earlier Iron Age, it is most likely that this ring gully surrounded a building from this period, rather than the Bronze Age or later Iron Age.

Five small postholes forming a rough north to south alignment close to the ring gully produced no dating evidence, but two of them, *24101* and *24103*, were cut by ditch *24099*. The position of these postholes in the possible roundhouse entrance suggests that they were associated with it, but this cannot be confirmed in the absence of dating evidence or stratigraphic relationships.

Buried soil or midden *24122*

In the central area of the site, near the southern site boundary, a large, sub-rectangular spread, *24122*, was investigated. This may have been a dump of midden material, or a remnant of a buried soil surviving in a natural hollow, the rest being truncated by subsequent ploughing. The spread measured approximately 5.8m east to west and 3.5m north to south and survived nowhere to more than 0.1m deep. A total of 186 pottery sherds were recovered from it, largely comprising two near complete but fragmentary vessels. A triangular loomweight was also recovered from this deposit. There is some doubt about the date of the pottery as Iron Age and Anglo-Saxon ceramics in this area use very similar or identical fabrics but the forms of these vessels are more typically Iron Age. To the west, this layer became vanishingly thin and it was not possible to determine its stratigraphic relationship with ring gully *24128*.

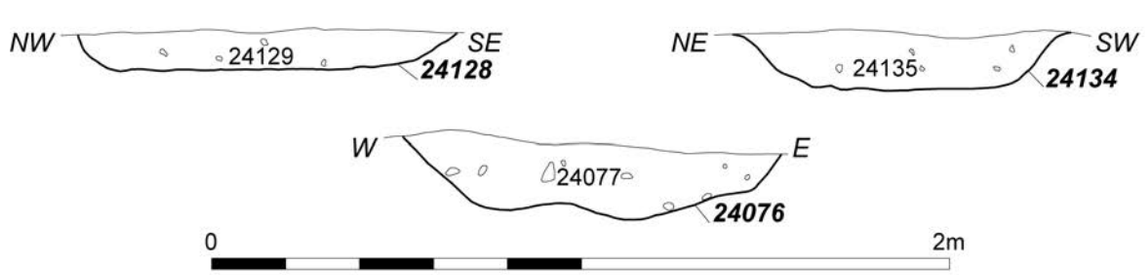

Figure 47 Sections through Phase 4 or 5 features at Foxley Road, scale 1:20

Later Iron Age finds
Later Iron Age activity was very limited, although it is possible that some of the features attributed to Phase 4 in fact dated from Phase 5. Posthole *24047* (Fig. 49), towards the western end of the site, contained three sherds of mid- to late Iron Age pottery and two other small postholes nearby, *24003* and *24045*, which together seemed to form a group, probably belong to this phase.

Small quantities of residual later Iron Age pottery were recovered: a single sherd each from pits *24009* and *24116* and ditch *24262*.

Prehistoric ceramic finds
by Sarah Percival
Five fragments (597g) of an incomplete triangular loomweight (SF 72506) were found within layer *24122*. The lower third of the object is missing. The weight was probably perforated three times, once through the top of each corner. One complete perforation survives intact along with partial remains of the others. The weight is made of a partially-fired poorly-mixed quartz sand-rich fabric with large flint inclusions. The flints within the weight have not been affected by heat, suggesting that low temperatures were achieved during firing. This loomweight corresponds to Danebury type 1 (Poole 1984, 403, fig. 7: 74 and 57), the most common to be found on Iron Age sites. The form is believed to date to the later Iron Age but beyond this is not closely datable.

Excavations produced a prehistoric assemblage of thirty-one prehistoric pottery sherds weighing 407g (Table 30). The later Neolithic or early Bronze Age sherds all came from the fill of Phase 6 Roman ditch *24060*. These sherds are all made of grog-tempered fabrics. One example is decorated with a comb-impressed geometric motif.

Ceramic Period	*Quantity*	*Wt/g*
Later Neolithic to early Bronze Age	5	26
Earlier Iron Age	6	45
Iron Age	2	12
Later Iron Age	4	42
Undetermined	14	282
Total	**31**	**407**

Table 30 Quantity and weight of prehistoric pottery sherds by ceramic period, Foxley Road

The earlier Iron Age assemblage included six sherds (45g) all of coarse flint-tempered fabric. Five of these sherds were found in Phase 4 pit *24076*, the sixth being from the otherwise undated ditch *24109*. Four mid- to later Iron Age sherds were found, three from posthole *24047* and one from pit *24009*. The assemblage included one rim with rounded rim-ending and long everted neck. The remainder of the sherds are undiagnostic body sherds, all are in quartz sand-tempered fabrics.

Two fragmentary vessels from layer *24122* almost certainly belong here although the possibility that they derive from the Anglo-Saxon phase of activity on the site cannot be completely ruled out. There were fifty-five sherds of a wide-mouthed shouldered bowl with finger-tip impressions in the vertical rim (Fig. 48.2) and three sherds from a fairly coarse baggy jar (Fig. 48.1) with a very short, coarsely formed rim and grass-wiped body.

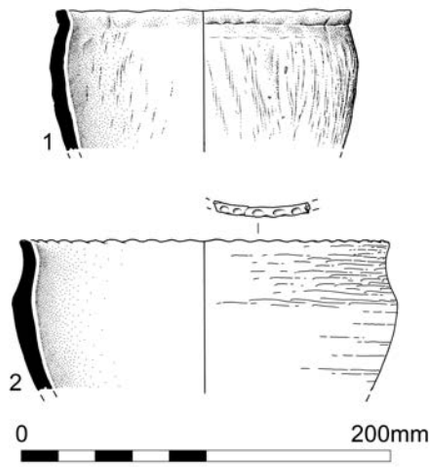

Figure 48 Iron Age pottery from Foxley Road, scale 1:4

9.8 Phase 6: Roman industrial activity

Cruciform drying oven
The principal feature of Roman date was drying oven *24059* on the northern side of the site. An initial construction cut, *24252*, contained a lining of bluish-grey clay, which was reddened in places by heat from the oven (Plates 9 and 10, Fig. 49). The oven itself had two distinct chambers: a cruciform southern chamber, *24078*, which opened out into a sub-rectangular northern chamber, *24123*. The construction cut and clay lining were only evident around the southern chamber. The long axis of the structure was aligned south-west to north-east. It is likely that firing took place within the cruciform southern chamber, while the northern chamber was a rake-out pit. To aid in the description of the oven, stratigraphically equivalent contexts have been grouped together.

Three distinct fills were identified within the cruciform chamber. The earliest fill, contained within a slight hollow in the base, was a dark grey silty clay containing patches of burnt clay and frequent charcoal. It is likely that this fill (Group 1) represents burnt material that accumulated during the working life of the drying oven. The overlying fill, a similar deposit of charcoal-rich material (Group 2), was in turn sealed by a brown silty clay deposit that extended into the northern chamber (Group 5) and may represent deliberately dumped backfill after the final firing of the drying oven. A small hollow in the passage between the two chambers, *24226*, had a particularly charcoal-rich fill: this is also assumed to date from the use phase of the oven (Group 1).

In the northern chamber, the final backfill layer sealed a series of deposits, accumulated during the life of the structure. A grey silty clay fill (Group 3) was overlain by a small lens of brown silty clay and another dark grey silty clay deposit (Group 4). The profile of these deposits, sloping downwards towards the southern chamber, is consistent with the interpretation of the northern chamber as a rake-out pit.

The fills of the drying oven produced 83 per cent, by weight, of the Roman pottery assemblage from this site. Although much of this material was undiagnostic, overall the assemblage dated the fills fairly securely to the period

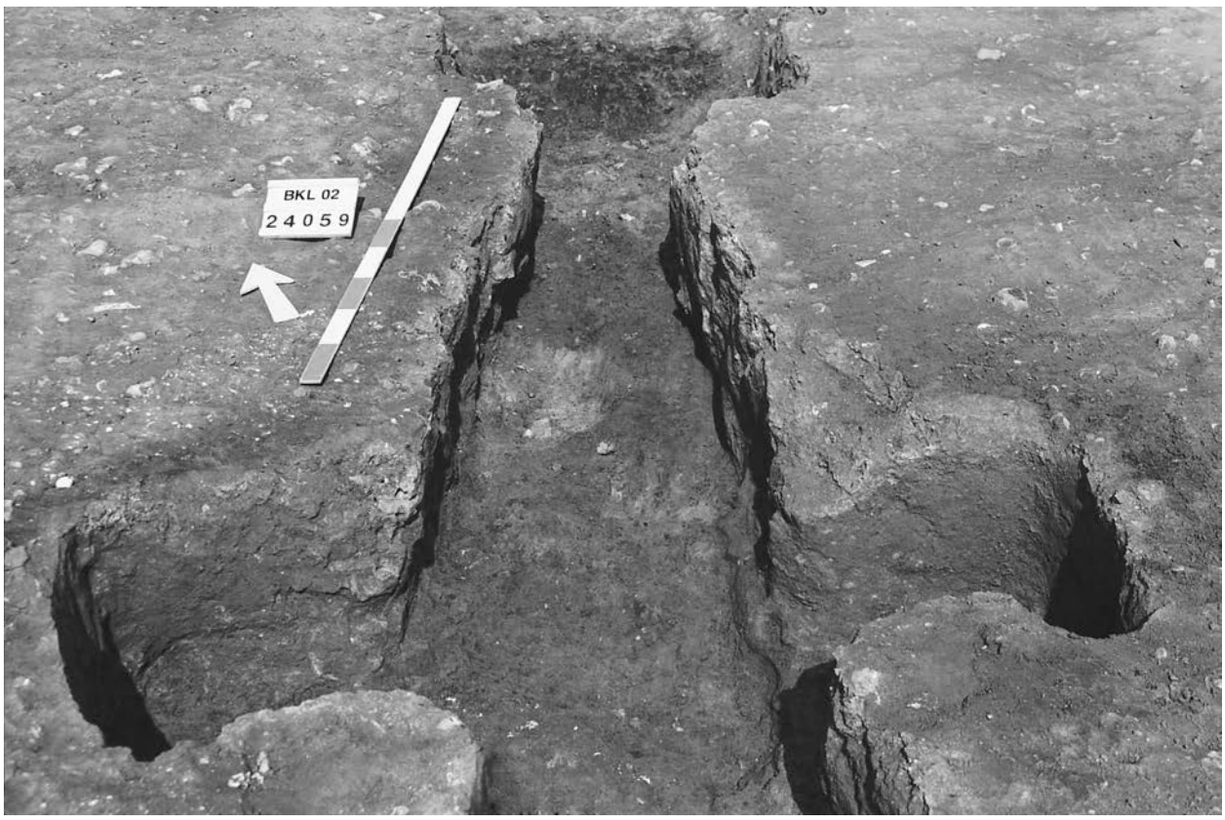

Plate 9 Cruciform drying oven *24059* showing part of southern chamber *24078* and partially excavated northern chamber *24123* in the background; north-east facing shot, 1m scale

Plate 10 Cruciform drying oven *24059* after removal of box section through southern quadrant of southern chamber, showing heat-affected clay lining; north-facing shot, 0.5m and 1.m scales

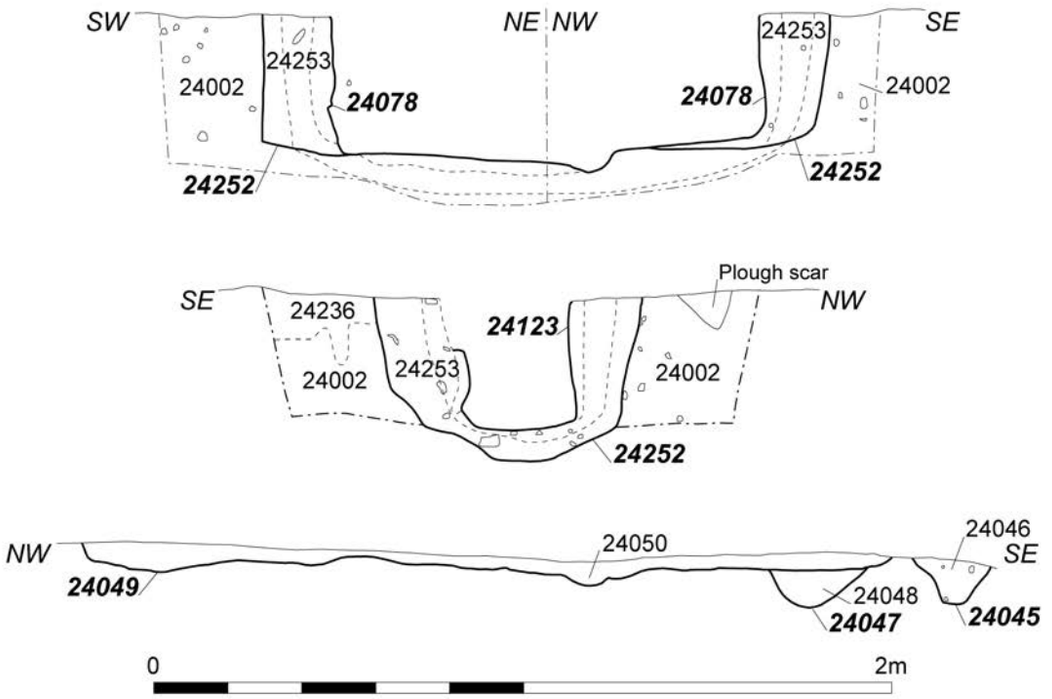

Figure 49 Sections through Phase 6 drying oven and Phase 7 pit at Foxley Road, scale 1:20

from the later second to third century AD. This date was confirmed by archaeomagnetic dating (Geoquest 2003) which suggested a date in the range AD 170 to 230 for the final firing of the structure.

The charcoal from the lowest fill was dominated by slow-burning oak and hazel, and was markedly different from the charcoal assemblage of faster burning gorse from the upper fill. Charcoal from pit *24226* in the base of the drying oven (Fig. 50) was dominated by alder, another slow burning wood suited to a function such as the drying of pots before firing.

The southern chamber contained numerous charred cereal grains and weed seeds, which may indicate a crop processing function, but could simply be the result of burning crop processing waste for fuel. There was noticeably less of this material from the upper backfill deposits.

Pits

The area around the north-eastern end of the drying oven was marked by a sequence of large, shallow pits. One of these pits, the latest in the stratigraphic sequence, *24116* (Group 7), was cut into the fills at the end of the drying oven northern chamber; in doing so it had removed any stratigraphic relationships of the oven with any of the other pits: *24229, 24113* and *24242, 24244* (not visible on plan), *24246, 24237* and *24239* (Group 6, Fig. 50). It is therefore possible that some or all of these pits were contemporary with the drying oven.

The fills of all of these pits were generally similar, consisting of grey and greyish brown silty clay deposits containing charcoal flecks. Most produced Roman pottery, the majority of the assemblage deriving from the stratigraphically latest pit, *24116* (Fig. 50), which also contained a single sherd of residual Iron Age pottery. An unidentified iron object (SF 72504) retrieved from pit *24237* was possibly the shank of a nail.

Soil samples from pits *24113*, *24116* and *24246* had a much smaller assemblage of charred botanical remains than those from the drying oven, and it is likely that the material from these pits is a background scatter associated with the drying oven structure, rather than direct evidence of a function for the pits.

A large, thin sandy silt layer, *24235* (not on plan), extending from the eastern side of the pit group and drying oven as far as ditch *24085*, was considered to be the possible remains of an earlier buried soil. Dating evidence was restricted to two adjoining sherds of first century AD pottery, offering a tentative early Roman date for this deposit. Another possible remnant of this buried soil, *24206*, to the south of the drying oven, contained a single Roman pottery sherd.

Other features dating to the Roman period

Ditches *24060* and *24099* ran across the site, parallel to one another and to the main axis of the drying oven. They were between 5m and 7m apart, a separation that prompts an interpretation as trackside ditches. There was no indication of a metalled or eroded surface between the two ditches but any such surface, had it existed, is likely to have been ploughed away.

The earliest cut of the western trackside ditch, *24085*, was U-shaped in profile, 1.3m wide and 0.5m deep at its northern end but becoming narrower and shallower to the south. Seven broadly Roman pottery sherds were recovered. The ditch was recut, *24060*, the new ditch varying from 0.95m to 1.6m wide and 0.3m to 0.5m deep. The recut contained forty-four Roman pottery sherds and five residual later Neolithic or early Bronze Age sherds. It is notable that the upper fill of recut *24060* contained lumps of burnt clay and significantly more pottery and

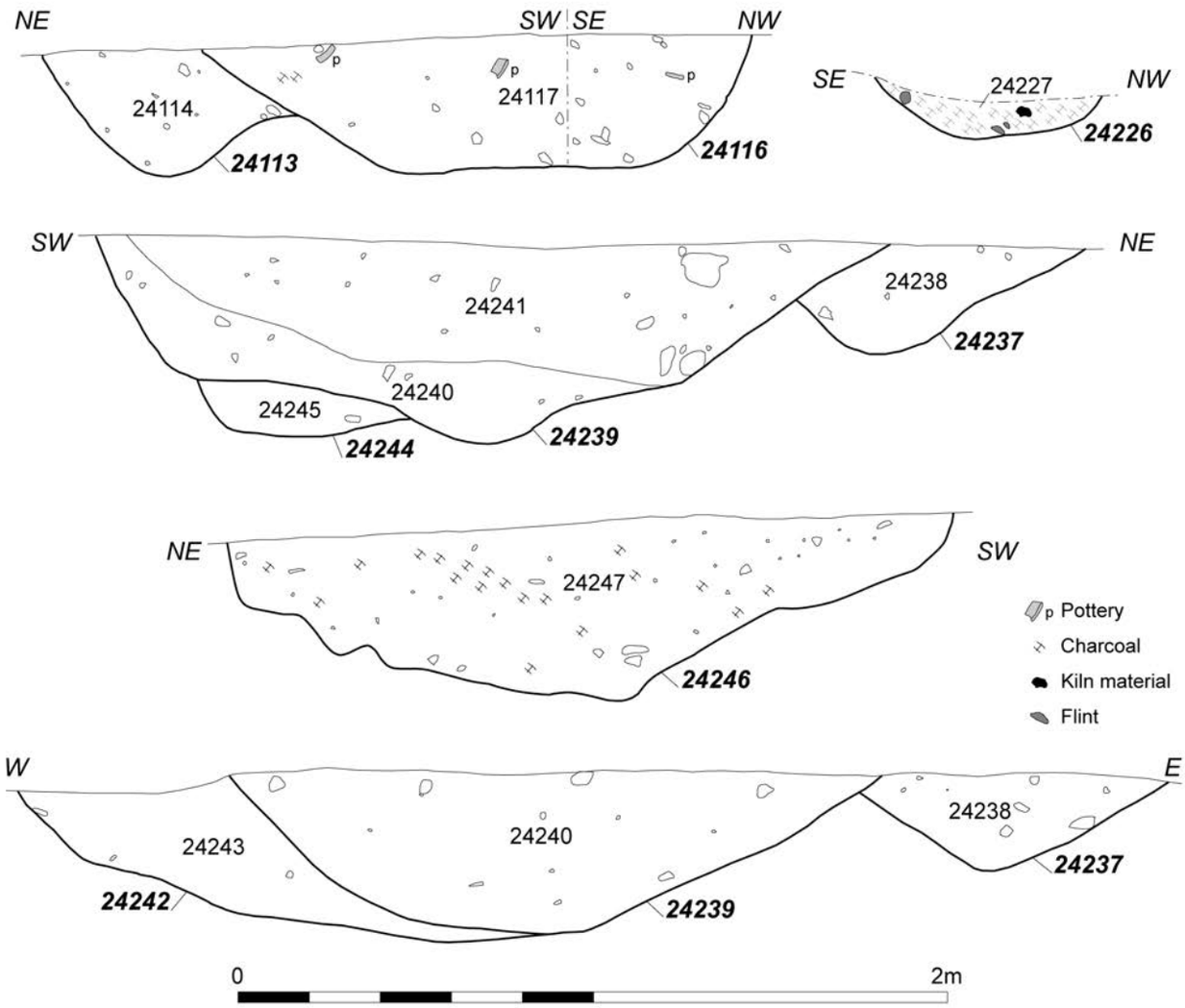

Figure 50 Sections through Phase 6 pits near drying oven 24059 at Foxley Road, scale 1:20

charcoal than the original ditch *24085*. This suggests that the first ditch had gone out of use prior to the construction of the adjacent drying oven, and that the second ditch was open during the working lifetime of the drying oven. The eastern ditch, *24099*, had a similar U-shaped profile but was slightly smaller: between 0.5m and 1.35m wide and 0.2m to 0.28m deep. It had a similar silty fill to ditch *24085* but produced no artefacts.

Another large ditch, *24263* running almost at right angles to the other two, formed a junction with ditch *24060* and seems to have been part of the same ditch system, dividing the land west of trackside ditch *24060* into two. Its single homogeneous fill had probably accumulated by natural siltation. Dating evidence included two sherds of Roman pottery. Twenty sherds of early Anglo-Saxon pottery from the slot excavated at the intersection with pits *24066* and *24068* were also ascribed to this ditch but are more likely to have originated in pit *24068* and been intrusive or misattributed during the excavation. Near the northern end of the site, ditch *24015* formed a right-angled junction with ditch *24263* and was probably another element of the field system.

Another short section of ditch, *24017*, also formed a right-angled junction with ditch *24263.* Ditch *24017* appeared to terminate after five metres, but had it continued, it would have intersected the drying oven and surrounding features. This suggests the possibility that it was dug specifically to drain the area around the drying oven into a pre-existing system of drainage ditches. Another shallow ditch, *24262*, close to the western side of *24263* had a steep profile, and was 0.55m wide and up to 0.34m deep. The northernmost section excavated through it produced two Roman and one Iron Age pottery sherds. As it did not run on exactly the same alignment as the other ditches, it is quite possible that this feature was a later drain, and all of the pottery was residual.

A group of pits, postholes and natural features towards the west side of the site were largely undated but one pit, *24009*, produced five Roman sherds in addition to one of later Iron Age date.

Roman pottery
by Alice Lyons

Introduction
A total of 366 sherds (5.269kg) of Roman pottery were recovered from this site (Table 31). Nearly all of the pottery consists of locally produced coarse wares (both

Fabric	*Forms*	*Quantity*	*Wt/g*	*% Wt*
Sandy grey ware (Brampton/Spong Hill type)	2.1, 3.1, 4, 4.1, 4.4, 4.5, 4.5.1, 4.5.2, 4.5.3, 4.8, 4.13, 4.14, 5, 5.4, 6.18, 7.11.3, 8.1	331	4982	94.55
Sandy oxidised ware	-	23	160	3.04
Sandy reduced ware	-	4	49	0.93
Black surfaced red ware	-	1	25	0.47
Sandy grey ware, with flint inclusions	8.1	1	22	0.42
Samian	Dr33	5	21	0.40
Sandy grey ware with flint and grog inclusions	-	1	10	0.19
Total		**366**	**5269**	**100.00**

Table 31 The Roman pottery fabrics, Foxley Road

oxidised and reduced) found in various utilitarian vessel types including narrow-mouthed jars (Type 2.1), a funnel-necked beaker (3.1), various medium-mouthed globular jars (4, 4.1, 4.4, 4.5, 4.5.1, 4.5.2, 4.5.3, 4.8 and 4.13), storage jars (4.14), wide-mouthed jars (5 and 5.4), a straight-sided dish (6.18) and lid (8.1). Five fragments of southern and central Gaulish samian were retrieved, although only one form was identified: a cup (Dr 33) dated to the second century. Of this pottery, around 83 per cent (by weight) was recovered from the cruciform drying oven and associated features (Group 1–8).

An overview of the pottery assemblage recovered from the cruciform drying oven and associated features

Pottery recovered from deposits associated with the cruciform drying oven (Groups 1–8) totalled 284 sherds (4.347kg, 5.18 EVE). Two coarse ware fabrics were found, consisting of sandy grey and oxidised wares, similar to those produced at the nearby drying oven sites at Spong Hill (Gurney 1995, 101) and Brampton (Green 1977, 31–92). The sherds are slightly abraded (average sherd weight *c*. 15g), but no evidence of use, such as wear marks, soot or lime residue, survives. One sherd has been fumed after it was broken. These wares are mid-Roman in date, diagnostic of the later second to third century AD.

Sandy grey ware formed the majority of this assemblage (263 sherds, 4.135kg, 5.18 EVE) and was found in a range of globular medium-mouthed jars: Types 4.1, 4.5.1 (Fig. 51.1), 5.4.2 (Fig. 51.2) and 4.5.3 (Figs 51.3 and 51.4). A more substantial storage jar rim sherd of Type 4.14 (Fig. 51.5) was also found, as well a simple jar lid of Type 8.1 (Fig. 51.6). Most of these vessels are undecorated, while several are adorned with numerous thin horizontal burnished lines or incised bands of combed wavy lines. Also found were wide-mouthed jars (Types 5 and 5.4) and straight-sided dishes with triangular rims (Type 6.18).

A single waster sherd from a medium-mouthed jar with a finger-tip frilled rim, Type 4.8 (Fig. 51.7), was identified, and another so badly distorted it could not be assigned to type (Fig. 51.8). A grey ware bead and flange mortarium, Type 7.11.3 (Fig. 51.9), is also a waster, distorted near the base. Grey ware mortaria were only produced in East Anglia (Darling and Gurney 1993, 193–4) and are known to have been made at Brampton (Green 1977, fig. 30.81; fig. 33.149 and 150). Six sandy oxidised body sherds were also retrieved from these deposits, several of which may have been misfired grey wares. These sherds were undecorated and bore no signs of wear or use.

Three of the five pieces of samian ware from this site were recovered from within the drying oven feature group. A single southern Gaulish undiagnostic base sherd was found, but worthy of note are the three fragments of central Gaulish (Les Martes de Veyre) material recorded. Although none of the fragments can be assigned to a vessel type, two of the pieces join together either side of a rivet hole that has been used to repair the vessel. Moreover, Roman numerals, an 'I' and an 'X' have been etched into the surface of the pot, post-firing, as a graffito. It is not known whether this inscription is complete or what it refers to. The samian can only be broadly dated to the second century, which is consistent with the mid- to late second century date that the remainder of the assemblage indicates.

Group 1: use phase of the cruciform drying oven

Only a very small amount of pottery constituting fifteen sandy grey ware sherds (0.172kg, 0.27 EVE), was recovered from the charcoal-rich fill thought to have accumulated in the base of the cruciform drying oven during its later firings. Most were undecorated body sherds, although one example of rusticated decoration was recorded. Two vessel types were found: a misfired narrow-mouthed jar with a slight lid-seating (Type 2.1) and a medium-mouthed jar with an out-turned square rim (Type 4.5.2). These vessels are consistent with a mid-Roman date.

Group 2: post-abandonment fill of the drying oven

Twenty-one sherds (0.272kg, 0 EVE) were recovered from the charcoal-rich deposit that represents the immediate post-abandonment of the drying oven. Most of the material consists of sandy grey ware body sherds (nineteen fragments, weighing 0.250kg), one of which is a waster. Single examples of combed wavy line and rusticated decoration were also recorded. Two darker sandy reduced ware body sherds (22g) were also found. These vessels are also consistent with a mid-Roman date.

Group 3: lower post-abandonment fill of the northern chamber

Thirty-seven sherds (0.653kg, 0.61 EVE) were recovered from the immediate post-abandonment lower fill of the northern, or rake-out, chamber. Nearly all this material consists of undecorated sandy grey ware body sherds (thirty-five fragments, weighing 0.636kg). However a high-shouldered (Type 4.1) and a frilled rim medium-mouthed jar (Type 4.8) forms were recorded, as well as an undiagnostic wide-mouthed jar (Type 5). Where decorative motifs were present they consisted of single

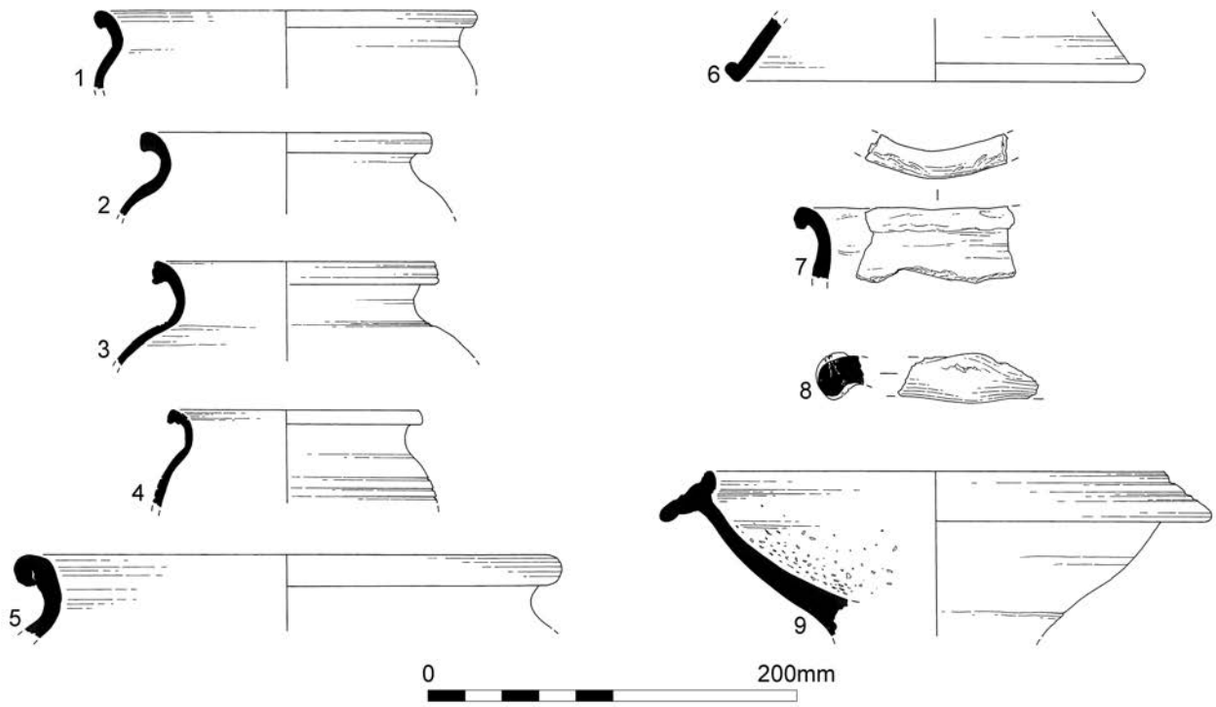

Figure 51 Roman pottery from Foxley Road, scale 1:4

examples of thin burnished horizontal lines, a band of combed wavy lines and a single horizontal groove. Although some of the sherds were minimally abraded, one showed signs of use. These vessels are also consistent with a mid-Roman date.

Group 4: upper post-abandonment fill of the northern chamber

Only ten sherds (0.112kg, 0.34 EVE) were recovered from the upper fill of the northern chamber which may be the final backfill of the drier. This material consists exclusively of undecorated sandy grey ware sherds. Two globular medium-mouthed jar types were recognised, one with a squared rim (Type 4.5.2) and one with an undercut rim (Type 4.5.3).

Group 5: upper fill of drying oven, extending into northern chamber

Twenty-eight pottery sherds (0.330kg, 0.75 EVE) were recovered from the upper, final, backfill of the drier. Sandy grey wares were again the most common (twenty-six sherds, weighing 0.315kg (0.75 EVE)) found in three vessel types. A grey ware funnel-necked beaker (Type 3.1), a lid-seated medium-mouthed jar (Type 4.4) and a globular medium-mouthed jar with an out-turned square rim (Type 4.5.2) were also found. Several of the Sandy grey ware body sherds recovered within this layer had been misfired and were possible seconds or wasters. Two undiagnostic body sherds (weighing 0.015kg) of sandy oxidised ware were also found. These wares are identical in fabric and do not differ in date from the material found within the drying oven, which suggests the back fill of the feature happened quickly after it went into disuse.

Group 6: fills of pits to north of drying oven and thought to post-date it

Fifty-four sherds (0.656kg, 0.91 EVE) were recovered from the pit complex post-dating the drying oven, located over the northern end of the rake-out pit. The majority of the pottery (forty-seven fragments, 0.613kg, 0.91 EVE) consists of sandy grey ware sherds in the form of medium-mouthed jars (Types 4.1 and 4.13), a wide-mouthed jar (Type 5), a straight-sided burnished dish with a triangular rim (Type 6.18) and a lid (Type 8.1), as well as body and base sherds. Decoration is rare with one example of burnishing and another of a single incised groove. However, evidence for use does survive on these sherds, three of which retain a sooty residue, which indicates they have been used over an open fire as cooking pots. Four sandy oxidised coarse ware body sherds were also recorded.

Group 7: latest of the pits, definitely post-dating the drying oven

Eighty-five sherds (1.499kg, 1.19 EVE) were recovered from the latest member of the pit group at the northern end of the drier rake-out pit. As is typical of this feature group the majority of the pottery (eighty-one sherds, 1.481kg, 1.19 EVE) consists of undecorated sandy grey wares. A number of vessel forms were identified including a range of medium-mouthed jars (Types 4.1, 4.5.1, 4.5.2 and 4.5.3), also a storage jar (Type 4.14) and a waster grey ware bead and flange mortarium (Type 7.11.3). Where decoration did occur, single examples of numerous thin burnished horizontal lines and a band of combed wavy lines were recorded. Four undiagnostic Sandy oxidised ware sherds were also found.

Group 8: unstratified finds surface finds found in the area of the drying oven

Thirty-four sherds (0.653kg, 1.11 EVE) of sandy grey wares were recovered from unstratified cleaning deposits in the area of the cruciform drier. The range of vessel types found comprised a narrow-mouthed jar (Type 2.1), medium-mouthed jars (Types 4.1 and 4.5.3), a wide-mouthed jar (Type 5.4), a storage jar (Type 4.14) and a straight-sided dish (Type 6.18). Only one decorated sherd was found, it had a combed wavy line motif.

Pottery from other features

In addition to the material found in, and associated with, the cruciform drying oven, pottery was also recovered from several ditches.

A single body sherd of Romano-British sandy grey ware (0.005kg) was recovered from the north-west to south-east aligned ditch *24005*, while two severely abraded body sherds (3g) were retrieved from the fill of truncated linear gully *24262*. They were not deliberately placed within this feature and may be residual or intrusive.

Six pieces of Romano-British pottery (0.068kg) were found within the north-west to south-east aligned ditch *24060*, interpreted as part of a Roman trackway. They consist of five sandy grey ware sherds (43g) that include a rim fragment from a high-shoulder medium-mouthed jar (Type 4.1) and a single misfired black-surface red ware body sherd (25g).

Sixteen sherds of pottery (0.095kg, 0 EVE) were recovered from ditch *24085*, later recut by *24060*. The material is severely abraded, with an average sherd weight of only c. 6g. The majority of the pottery (fourteen sherds, weighing 87g) consists of undecorated sandy grey ware body and base sherds, one of which is carinated. However, unusually for this site, two fine ware sherds were also recovered. One is a rouletted sandy oxidised ware with sparse mica: a local copy of an early Roman Gaulish import (Lyons 2000, 218; fig. 6.29). The other is a southern Gaulish samian rim fragment from a dish (Dr 18); this vessel type was imported in the mid- and late first century AD. Together these sherds suggest a date of the late first to early second century AD and therefore pre-date the cruciform drying oven; however, these sherds are severely abraded and probably not in their original site of deposition.

Discussion

This small but well recorded assemblage is remarkable for consisting almost entirely of locally produced coarse wares, constituting sandy grey ware material (94.55 per cent by weight), with a small amount of sandy oxidised material (3.04 per cent) also found. Traded or imported wares are very scarce with only five scraps of samian retrieved. Although a limited supply of traded goods on low order settlements in this area is not unexpected, comparison to a farmstead at Spong Hill (approximately 9km to the south-west) indicates that this assemblage is particularly restricted (Gurney 1995, 121–6, fig. 125).

The limited source of supply was not due to isolation or poor communication routes, as the small town of Billingford was located only around 5km to the south-east (Wallis 2011), as was the main east-to-west Roman road between the industrial complex and small town at Brampton and the fens (Wallis 2002, viii, fig. 1). It is possible that this community was not producing enough surplus to trade goods from elsewhere. However, it is more likely that the restricted range of fabrics and forms, together with the presence of wasters, indicates that this assemblage represents a local site of pottery production. The range of forms found was limited and consisted mostly of medium-mouthed jars, although the grey ware mortarium waster is of particular interest, as mortaria are not easy to make and usually required specialist manufacture (Lyons 2003, 50–1).

The uniform nature of the pottery fabrics, the limited range of forms present, and the lack of evidence for use combined with the presence of waster sherds suggests that this pottery was produced on site and has not travelled far from its point of production. It is very unlikely, however, that this pottery was manufactured within the drying oven in which it was found. The 'cruciform' shape of the structure is not consistent with firing large numbers of pots at temperatures high enough to produce successful vessels. It is worthy of note though that 'T-shaped' or cruciform driers are a standard feature on a number of kiln sites (Swan 1984, 47–8), where they were used to dry wet pots till they were 'leather-hard' and tough enough to be stacked within a kiln and fired. Given the untidy way in which potters operated and disposed of their rejects, wasters might well be found in the drying plant (Vivien Swan pers. comm.).

Analysis of the assemblage by group (see above) does not show a progression of fabrics and forms through time, indicating that this assemblage is largely contemporary, deposited over a relatively short time between the mid- to late second and early to mid- third century AD.

Roman tile

by Lucy Talbot

A large fragment of bonding tile, broken into two pieces, was recovered from separate deposits, *24079* and *24081*, in the southern chamber, *24078*, of the drying oven. The tile is 390mm long, 287mm wide and 35 to 37mm thick (Fig. 52.1). Evidence from other Roman sites shows that similar tiles were often re-used in the drying oven superstructure (Swan 1984, fig. X). However this example does not have signs of post-firing burning and therefore was not exposed to high temperatures within the drying oven superstructure, perhaps suggesting that it was re-used in a subsidiary structure.

Fired clay

by Sarah Percival

The fired clay assemblage from drying oven *24059* comprises 119 pieces (4.805kg) from twenty contexts. This relatively small quantity of material probably represents a small fraction of the original quantity that made up the drying oven superstructure. Two fabrics were identified. The majority of the pieces are of silt-rich fabric (type 4) which has few visible inclusions. Many of the pieces in fabric 4 are of a homogeneous dark grey colour, indicating that they had been exposed to a reducing atmosphere in the drying oven and probably represent firing-chamber lining. The clay pieces appear to have been smoothed onto the chamber walls producing pieces with one finger-smoothed and one rough surface (Fig. 52.2). A fragment of possible oven floor with the partial remains of a vent hole is also made of silty reduced fabric 4 (Fig. 52.3). Similar vent-hole floors have been excavated at the second century mortaria kiln at Ellingham (Gurney and

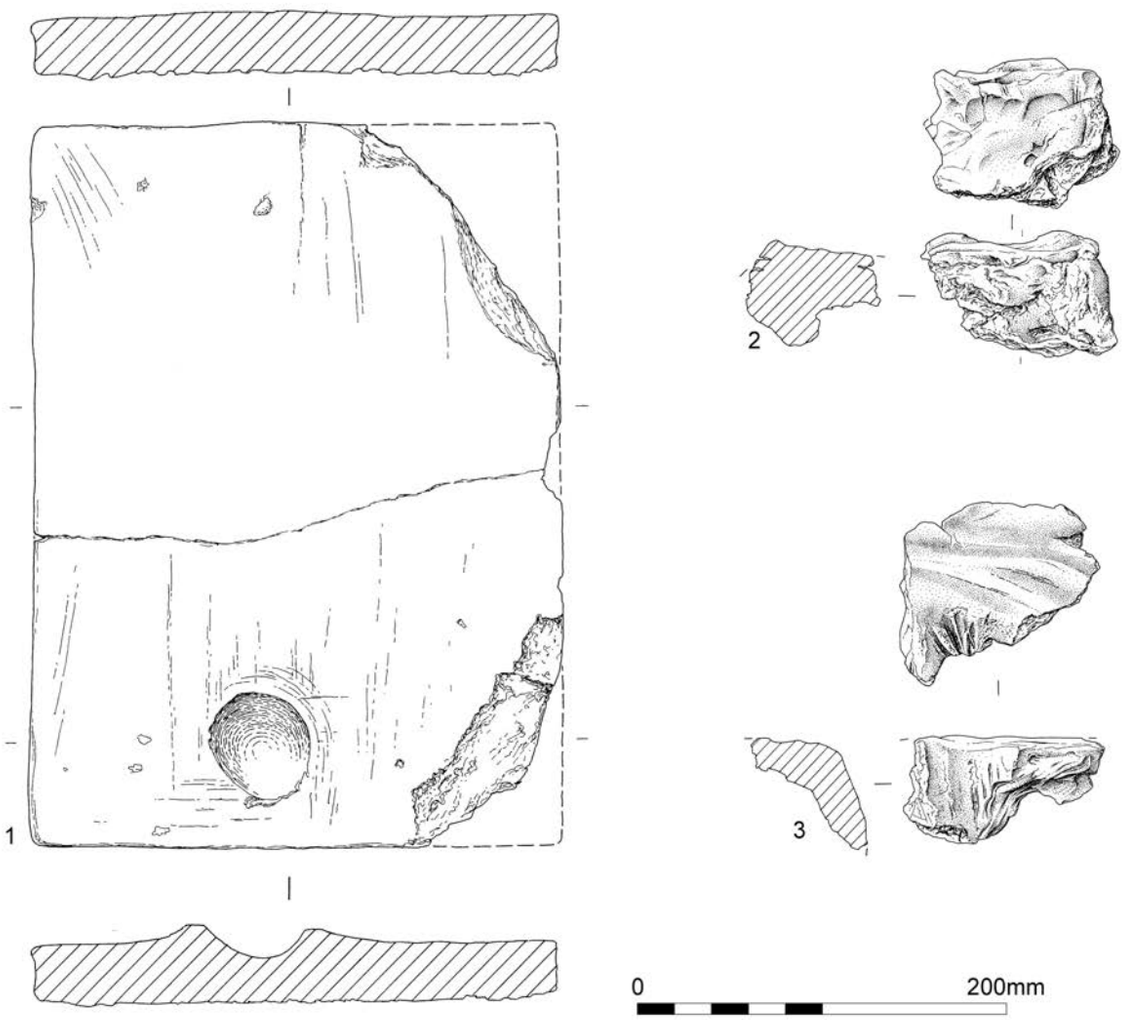

Figure 52 Roman tile and fired clay objects from Foxley Road, scale 1:4

Rogerson 1997, fig. 2) and at kiln 906 at Heath Farm, Postwick (Bates 2003, fig. 21) which also dates to the second century.

The remainder of the assemblage is made of sandy fabric with moderate medium to small chalk and inclusions up to 5mm and sparse flint inclusions. The pieces have numerous vacuoles indicating where chalk has been lost during firing. This fabric is similar to that used for the superstructure of the kiln at Heath Farm, Postwick (Lyons 2003, 51). Calcareous inclusions are commonly found in the fabrics used for kiln construction and may represent a deliberate addition to the clay (Williams 2003, 51). The flint inclusions are probably naturally occurring material within the clay source.

9.9 Phase 7: early Anglo-Saxon occupation

On the western side of the site, a large shallow sub-rectangular pit, *24049*, (Fig. 49) contained a charcoal-rich fill that produced fifty-eight grog-tempered pottery sherds. Because of the possibility of confusion between local Anglo-Saxon and Iron Age pottery types, a radiocarbon determination was carried out on a charred barley grain (identified by M. Hastie, pers. comm.) from the fill of the pit; this gave a date of AD cal 410 to 570. In addition to charred grain, the soil sample from the pit also produced burnt animal bone, hammerscale, and a small piece of non-ferrous slag, suggesting that it was composed largely of dumped domestic waste incorporating some contamination from industrial activity taking place nearby.

Twenty sherds of similar pottery attributed to Roman ditch *24263* probably originated from pit *24068*. This small feature, which was about 20m east of pit *24049*, was just 0.69m across and 0.21m deep, with a concave profile and a pale yellowish grey sandy fill.

Anglo-Saxon pottery
by Sue Anderson

Introduction
In total, 304 sherds of pottery (2335g) were collected from four contexts. Table 32 shows the quantification by fabric.

Plain sandy or sand and mica fabrics are common. The next most significant inclusion in this group is grog, found occasionally in most vessels, but more frequently in those categorised as ESGS, ESGG and ESGO. The grog is generally red, and is likely to derive from Roman tile. The majority of grog-tempered sherds came from pit *24049*. The fact that it is present in most vessels from this site

Description	*Fabric*	*Code*	*No.*	*% No*	*Wt/g*	*% Wt*	*eve*
Early Saxon indeterminate fabric	ESHW	2.00	40	13.3	19	0.8	
Early Saxon grass and sand	ESO2	2.02	7	2.3	94	4.1	
Early Saxon coarse quartz	ESCQ	2.03	4	1.3	81	3.5	
Early Saxon fine sand	ESFS	2.04	1	0.3	1	0.0	
Early Saxon grog and sand	ESGS	2.05	15	5.0	170	7.4	0.05
Early Saxon grog and organic	ESGO	2.06	33	11.0	101	4.4	
Early Saxon fine sand and mica	ESSM	2.08	26	8.7	422	18.4	0.12
Early Saxon granitic	ESCF	2.10	6	2.0	56	2.4	0.10
Early Saxon grog and granite	ESGG	2.19	15	5.0	100	4.4	
Early Saxon medium sandy	ESMS	2.22	151	50.3	1243	54.2	0.70
Early Saxon fine abundant quartz	ESFQ	2.24	2	0.7	6	0.3	
Total Early Saxon				*98.7*		*98.2*	*0.92*
Thetford-type ware	THET	2.50	4	1.3	42	1.8	0.23
Total			**304**	**100**	**2335**	**100**	**1.15**

Table 32 Saxon pottery by fabric, Foxley Road

tends to suggest that the pottery was all made locally, as it is not a particularly common inclusion at most sites. This provides further support for the suggestion that granitic inclusions were being sourced from the boulder clay in East Anglia, and that the vessels in which it is found are not necessarily from Charnwood Forest in Leicestershire. Organic inclusions, although present, are not abundant in any of the sherds in this group, and it seems unlikely that the site continued very long into the seventh century. Many sherds show signs of smoothing during manufacture, but some have been heavily worn on the outer surface during use. Very few are sooted, although two have slight sooting internally.

This early Saxon group has an MNV of 47. There are no cross-matches between the four contexts. Ten vessels are identifiable to form. There are two hemispherical bowls in pit *24049* (Figs 53.1 and 53.2), one small (110mm diam) and one of medium size (190mm diam). This form is more common in the sixth and seventh centuries at Mucking, although it occurs throughout the early Saxon period. A jar rim from probable Roman ditch *24263* is plain upright and appears to come from a shouldered or carinated vessel, possibly indicating a fifth or sixth century date for the context. A decorated body sherd with incised horizontal lines and a rectangular stamp (see below, Fig. 53.3) from the same deposit is probably part of a small, thick-walled globular vessel. There are also four body sherds, probably from a single vessel, with bands of incised horizontal lines above and below the carination. This vessel probably dates to the fifth century.

Layer *24122* produced a single sherd of a small jar which had a short vertical rim with a flat top. Sixteen sherds from a fine black jar included the complete flat base and two sherds of the vertical tapering rim, but it was not possible to determine the form of the vessel in between. Seventy-five sherds from a vessel with a flat base and fairly globular body were oxidised externally; none of the rim survived. This layer also contained Iron Age pottery in very similar fabrics, so there is considerable doubt about the dating of these vessels.

Four sherds from three late Saxon Thetford-type ware vessels were recovered from the topsoil. They consist of two sherds from a medium jar with a type 5 rim, a small abraded rim sherd from a medium jar with a type 3 rim, and a flat base with wire marks. The two rims are both early types, but fabrics ranged from fine to coarse. The group is not large enough to allow precise dating.

Pit *24049* contained eighty-eight sherds representing twenty-four vessels, indicating a sixth or seventh century date. Thirty-three sherds are from a single vessel tempered with red grog and chaff (ESGO), but the form is not identifiable as most sherds are spalled and laminated. Fifteen sherds from a grog and granitic-tempered vessel with a flat base were recovered. Other fragments consist of six in fabric ESCF, three ESCQ, one ESFS, eight ESGS, ten ESHW, five ESMS and seven ESO2. One of the granitic tempered sherds is a bowl rim, and there is a hemispherical bowl in fabric ESGS.

Layer *24122* contained 186 sherds from eleven vessels that suggest a sixth century date. Thirty sherds were tiny, and were simply categorised as ESHW. Sixteen sherds were part of an ESSM jar with a short upright rim, slight shoulder and flat base. Three sherds of a baggy vessel with a short rim and containing one large flake of gold mica was in fabric ESMS. Seventy-five sherds came from the base and body of another ESMS vessel. A small jar was represented by one ESMS sherd. Fifty-five sherds of a slightly shouldered globular vessel with an upright rim

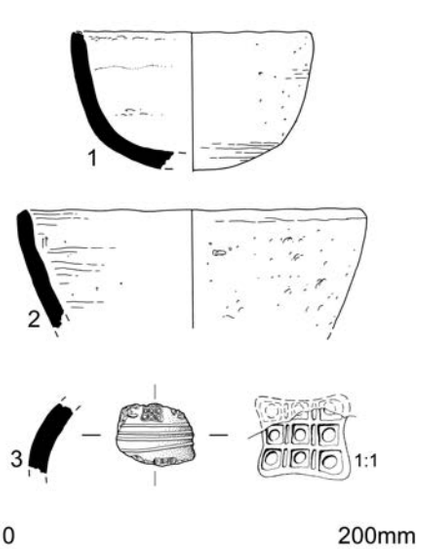

Figure 53 Saxon pottery from Foxley Road, scale 1:4

decorated with finger-tip impressions were also in ESMS. Six sherds of other vessels in ESMS were also present.

Ditch *24263* produced twenty-four sherds of probable fifth century date, representing eleven vessels. This included one upright jar rim in ESMS, and four sherds of a carinated vessel in ESGS decorated with incised horizontal lines. One ESMS sherd had a partial stamp and incised lines. All other sherds were undecorated body fragments consisting of one ESCQ, two ESFQ, three ESGS, two ESMS and ten ESSM.

Discussion

This small group of pottery appears to span most of the early Saxon period, including decorated sherds of probable fifth century date, baggy vessels of the sixth century, and hemispherical bowls of the sixth or seventh centuries. Some organic-tempered pottery, also probably of later sixth or seventh century date, is present. The variety of forms and fabrics present, together with the sparseness of decoration, is typical of domestic assemblages in the region.

This assemblage can confidently be assigned to the early Saxon period, despite some similarities with Iron Age fabrics, due to the presence of granitic tempered sherds and a stamped vessel. However, it is difficult to interpret because it does not represent a restricted area of activity within an otherwise earlier site, the three features being dispersed in the east, central and western parts of the excavated area. The sherds appear to be domestic debris and suggest occupation in the vicinity.

Saxon stamped pottery

by Diana C. Briscoe

The site produced one pottery sherd displaying a single stamped motif (Fig. 53.3). It is of Briscoe Type C 2ei, and measures 9mm by approximately 11mm. Category C covers all square and rectangular stamps; C 2ei describes a positive cuspoid rectangle containing a gold-foil pattern. Of the twelve sites within an approximate 15 mile radius of the site that have produced stamped Saxon pottery, only Spong Hill, about three miles to the south-west, has provided any comparable stamps. This motif has only been found at Spong Hill to date, and there are twenty examples recorded in the Archive. Of these, fourteen are so close in size and so similar in design to make this author confident that they were all made by the same die and that this Spong Hill die also made the stamp on the sherd under discussion.

It is extremely rare to be able to identify a specific die, and even rarer to be able to identify so many examples of stamps made by one die. This stamp appears on eight urns and six sherds or collections of sherds from Spong Hill, so it was clearly a popular item. The urns are illustrated in the Spong Hill cemetery catalogue, published in *East Anglian Archaeology*. Hills 1977, fig. 66 shows urns 1070, 1200 and 1373; fig. 67 shows urns 1201, 1364 and 1366. Hills and Penn 1980, fig. 159 shows urn 2271, while urn 1783H is referred to in the text (p.34).

9.10 Phase 13: notable undated features

A large, sub-circular feature, *24200*, extended about 9.1m from the southern site boundary to the west of ditch *24060*. A slot excavated through its fill exposed a shallowly sloping edge, to a depth of 0.6m. The feature may have been a quarry pit, possibly associated with the Roman drying oven.

A small section of a curvilinear ditch, *24228*, extended from the north side of the site, on a north-north-east to south-south-west alignment. After about 4.5m the ditch turned to a north-west to south-east alignment for another 3m, ending with an irregular steep-sided terminal. It may form part of a small sub-enclosure within the area enclosed by ditches *24015*, *24263*, and *24085*. The ditch appeared to have been recut at least once.

To the east, ditch *24257* ran north to south across the site, meandering slightly, and was 1.3m wide and 0.35m deep, with a shallow, bowl-shaped profile. The alignment of this ditch corresponds to the present pattern of field boundaries, and it is fifty metres to the west of a parallel field boundary shown on the 1838 Tithe Map, suggesting that it was an element of post-Roman land division. For this reason, the four small sherds of Romano-British pottery in its fills were judged to be residual.

9.11 Environmental archaeology

Charcoal analysis

by Rowena Gale

Charcoal from the primary and upper fills of the northern chamber of drying oven *24059* was examined (Table 33). Distinct differences were noted in the character of the fuel in these deposits. The primary deposit, sample 73406, contained charcoal predominantly from oak sapwood, probably fragmented roundwood, but also included a small amount that compares to hazel, whereas the later deposit, sample 73405, indicated minimal use of oak and much more dependence on shrubbier species, particularly gorse or broom and willow or poplar but also birch and blackthorn. The use of markedly different fuel types may have related either to the supply of firewood or, perhaps more likely, the type of firing undertaken. Gorse burns fiercely, and quickly provides an intense heat source, leaving little ash. Traditionally, gorse was particularly valued for kilns and ovens (Edlin 1949). Thus, despite the suggestion that the drying oven structure would have been unsuited to pottery firing, the use of gorse may have compensated. In order to prevent pots from cracking in the initial stages of drying, long exposure to a low heat is required. The use of gorse in such a context would probably have resulted in too high a temperature, although this may have been tempered by the inclusion of willow or poplar, which burn sluggishly, emitting little heat (Porter 1990). This deposit may represent one or more firings, depending on the frequency of rake-outs. If ashes from previous firings using, for instance, only gorse were left on the bed of the drying oven during subsequent use, this could explain the otherwise, apparently, wasteful use of high energy fuel by mixing it with less efficient firewood.

Charcoal was also examined from the fill of pit *24226*, one of several associated with the drying oven *24059*. Sample 73410 consisted of fragments measuring up to 30mm in length and 15mm in (incomplete) radius. The charcoal consisted almost entirely of alder, probably from roundwood exceeding 40mm in diameter and of moderate growth rates; a small quantity of oak was also present. Since alder was not recorded in either the primary fill or the upper fill of the rake-out chamber of the drying oven *24059*, it seems likely that this deposit originated either from firing of a different character or from some other

Sample	*Context*	*Feature*	*Description*	*Acer*	*Alnus*	*Betula*	*Corylus*	*Pomoideae*	*Prunus*	*Quercus*	*Salix/ Populus*	*Ulex/ Cytisus*	*Ulmus*
73401	24050	*24049*	Fill of pit *24049*	1	-	-	-	1	2	26h, 19s	12	-	1
73405	24115	*24078*	Upper rake-out: kiln *24123*	-	-	3	-	-	7	1h, 1s	31	21	-
73406	24126	*24078= 24123*	Primary rake-out: kiln *24123*	-	-	-	cf 2.	-	-	1h, 2r, 27s	-	-	-
73410	24227	*24226*	Fill of pit *24226*	-	61	-	-	-	-	9h, 8s	-	-	-

Key. h = heartwood; r = roundwood (diameter <20mm); s = sapwood (diameter unknown); u = unknown maturity (*Quercus* only); the number of identified fragments is indicated

Table 33 Charcoal recovered from samples, Foxley Road

activity. Alder wood burns slowly and, unless very well seasoned, provides poor quality firewood (perhaps more suited to pot drying).

The charcoal-rich fill of large sub-rectangular pit *24049* also included small amounts of charred cereal grain, burnt animal bone and hammerscale. The deposit is interpreted as domestic waste. The charcoal, sample 73401, was in poor condition, but nonetheless indicated use of firewood from a wide range of species. This charcoal is mainly from oak and willow or poplar but also including field maple, hazel, the hawthorn and *Sorbus* group (Pomoideae), blackthorn and elm.

Environmental conclusions

by James Rackham and Gemma Martin

The drying oven *24059* and its associated pits *24116*, *24113*, *24226* and *24246* produced little charred botanical material from which to glean any reliable economic or ecological information. However, taking into consideration the extremely low densities of charred botanical remains, it would appear that drying oven *24059* did not function as a corn drier as one would expect more cereal remains, particularly from a drying oven of Roman date (*cf.* Van der Veen 1989; Rackham and Martin 2005). The very small quantities of cereal grain, chaff and weed seed, perhaps saved from crop processing activities, along with the herbaceous plant remains, may have been used as fuel or kindling for the drying oven. This evidence suggests that glume wheat or wheats, such as emmer or spelt, as well as possibly barley and oats, were processed and the residues reserved for use as fuel, or conveniently discarded into the drying oven.

The distinctive character of the charcoal from the drying oven and associated features, while not clearly giving an indication of the function of the drying oven, does suggest that a series of different activities may have taken place on the site. Different fuel sources have different properties, and specific selection is often made depending upon the requirements. The assemblage from the Anglo-Saxon pit *24049*, for instance, suggests opportunistic collection of a variety of wood resources typical of a non-specific collection of wood for domestic cooking fires. The three assemblages from the drying oven and pit *24226* are significantly different from each other (Table 33). The primary rake-out deposit is dominated by oak sapwood fragments suggesting a steady slower burning fuel. The upper rake-out is composed primarily of gorse and willow or poplar, which suggests a much faster and hotter burning fire and could indicate a secondary or final use of the drying oven unrelated to its main function. The dominance of alder, a relatively poor fuel, suggests yet another function associated with the debris in pit *24226*.

The presence of hammerscale, although in low densities, in all the Roman samples indicates that iron smithing was undertaken somewhere nearby. It is possible that some of the charcoal may have derived from charcoal used to fuel a smithing hearth, or perhaps the drying oven itself may have been used, as a casual or incidental function, to heat iron for smithing, although little of the resultant hammerscale has been recovered. If the latter were true then the oak assemblage would be more typical of this usage.

9.12 Discussion

Phases 1 to 3: Neolithic and Bronze Age periods

No features could confidently be assigned to the earliest phase of activity on the site. A number of worked flints and pottery sherds of Neolithic or early Bronze Age date were recovered from the site, particularly from the area around the Roman drying oven. This distribution may simply be due to bias caused by greater sampling in that area, but the incidence of hand-collected pottery also concentrated there suggests otherwise. This artefact scatter may suggest a focus of activity such as a temporary camp, or an episode of tool manufacture.

Phases 4 and 5: Iron Age period

Most of the features tentatively dated to the Iron Age cannot be separated into early or later Iron Age, but a single feature, pit *24076*, could be confidently dated to the early Iron Age, Phase 4. This feature contained dumped domestic waste, including pottery, burnt flint and charcoal. This indicates the presence of a nearby settlement, and adds weight to the interpretation of adjacent ditch *24128* as a Phase 4 roundhouse.

Ring ditch *24128* has been dated broadly to the Iron Age. It was almost certainly an eaves-drip gully surrounding a roundhouse. The terminal to the south-west indicates an unusual, but not unheard of, orientation for a roundhouse doorway. The small size of the building matches that of either late Bronze Age or early Iron Age dwellings, or later Iron Age ancillary buildings. The relative quantities of material on site suggest that an early Iron Age date is far more likely. Curvilinear ditch *24109*, adjacent to the ring gully, contained a single early Iron

Age pottery sherd and may have been an enclosure or drainage ditch dated to this period.

No features could be assigned confidently to the later Iron Age. Small quantities of residual pottery, however, attest to a limited degree of activity in this period.

Phase 6: Roman period

The Roman period witnessed organisation of the landscape through creation of field boundaries and a trackway. A small amount of pottery that might have been later first century AD may indicate that these changes took place early in the period. However, most of the Roman pottery was dated to the second or third century AD. There was little or no evidence of fourth century activity.

The site contained elements of a wider Roman landscape, including fields or enclosures alongside a trackway. Ditches *24085* and *24099* were created on either side of the trackway, running roughly from north-east to south-west, and to their west the land was divided into two areas by ditch *24263*, running at right angles to *24085.* This system of enclosures or land divisions appears to have been further divided by smaller ditches. Ditch *24015*, at the north-western end of ditch *24263*, would have enclosed the area in which drying oven *24059* stood, making that enclosure 22m long by over 21m wide. It is notable that there is no such division to the south of ditch *24263*, so the pattern was irregular. The higher incidence of pottery and other inclusions in recut *24060* of ditch *24085* suggests that the adjacent drying oven was in operation at the time that the recut, rather than the original ditch, was filling.

The cruciform drying oven

by Alice Lyons

Cruciform (or T-shaped) drying ovens are not unusual finds in the excavated farmsteads of northern East Anglia in the Roman period, and several similar structures have been excavated in Norfolk. Of the several designs known, the cruciform is the simplest and the most common (Mackreth 1996, 78). Their internal structures are usually poorly preserved, as is the case at Foxley Road, but their method of construction and internal furnishing for successful use is discussed by Mackreth (1996, 80). It is interesting that the drying oven at Foxley Road is smaller than most of the parallels found. This indicates that it was probably designed for use by a single farmer to meet his own needs, a smaller drier being easier to operate.

A comparable cruciform drying oven was excavated at Burnham Market, Norfolk (Percival and Williamson 2005) around thirty kilometres to the north-west of Foulsham. This structure was a larger version of the Foxley Road example, with a 3.5m-long flue and each arm of the cross 1.4m long. It had evidence for repair and longevity of use. The environmental evidence suggests that the feature had been primarily used for cereal drying with malting as a possible secondary function. Pottery found within the demolition layers indicates that the structure was decommissioned some time between the mid-second to late third centuries AD.

A similar drier excavated at Snettisham, Norfolk, around thirty-five kilometres to the west of Foulsham has been dated, speculatively, to the early to mid- second century (Flitcroft 2001, 37). Its flue measured around 3m and the structure had been repaired and re-used. Environmental evidence suggested the relatively large number of charred sprouted cereal grains in the lower deposit may indicate malt drying, while the presence of chaff and a few cereal grains in the upper deposit are likely to represent fuel residues rather than the material being dried.

Another possible cruciform drying oven dating from the second and third centuries was excavated at the fen-edge site of Watlington (Whitmore in prep.) in west Norfolk, forty-five kilometres west of Foulsham. This structure consisted of a reddened clay-lined flue 3m long and 1.24m wide. A large number of stakeholes sunk into the clay were recorded; they were interpreted as the support for some form of superstructure or shelter. Unfortunately, the excavation recovered no fills deposited at the time of use of the kiln so environmental analysis could not be undertaken (John Ames pers. comm.).

Later Roman examples of drying ovens of similar type include single examples from the Saxon Shore forts of Caister-on-Sea and Brancaster. The substantial oven at Caister-on-Sea was 4.7m long and fell into disuse by the fourth century AD. It was a variation on the cruciform design, with an additional circular oven halfway along the flue (Darling and Gurney 1993, 34, fig. 19). At Brancaster, only an incomplete tile-lined flue around 2m long survived but was interpreted as the remains of a cruciform oven. This was also dated to the later Roman period (Hinchliffe 1985, 32). No evidence for use was retrieved from either of these examples.

It is worth noting that these features have been found located within barns or other means of shelter (Swan 1984, 48). The stakeholes in the Watlington example are particularly interesting and may represent some kind of temporary cover to shelter the oven from the rain. Driers located within barns include an H-shaped example found at Orton Hall farm, near Peterborough in Cambridgeshire (Mackreth 1996, 75–84), and a cruciform example found at Beck Row, Mildenhall in Suffolk (Bales 2004, 17–18). More pertinent to the example at Foxley Road are those found within zones demarcated by associated ditches and trackways, such as those at Snettisham and Watlington, which would have protected these features from wandering livestock.

Although of a common design, the Foxley Road example is exceptional as it has been successfully archaeomagnetically dated, since often these features have not been heated to a high enough temperature or they have been too disturbed for analysis of this type. The mid-Roman date of 170–230 AD (Geoquest 2003) provides an interesting comparison with the closest parallels found at Burnham Market, Snettisham and Watlington. These driers are all of a similar date, which suggests this technology was commonly in use in this area between the mid-second and mid-third centuries. The later Roman example found at the Saxon Shore fort at Caister-on-Sea is of a slightly different design, which suggests the simple cruciform shape may have been adapted by this time.

The presence of large amounts of pottery, including wasters, points to the use of the Foxley Road drier in the manufacture of pottery. It would not have been used to fire the pots themselves, but rather to heat the vessels gently, removing excess water, so that the leather-hard pots could be stacked and successfully fired. Such features have been found on a number of Roman sites in association with pottery kilns (Swan 1984, 47), although none have

previously been recorded in Norfolk. The presence of a pottery kiln nearby producing sandy grey ware utilitarian medium-mouthed jars is almost certain. It is likely, however, that most driers, including the Foxley Road example, were multi-purpose and used either to dry crops for storage, sprout malting barley for brewing, part-roast cereal for milling or prepare pots depending on the season and what was required (Swan 1984, 48).

The charcoal from the soil samples supports interpretation of the feature as a drying oven with secondary functions. The three samples produced three different assemblages of charcoal, perhaps indicative of three different processes. The samples from the lower fills were dominated by slow burning woods, such as oak, alder and hazel, consistent with a use such as drying of pots. The upper fill had larger quantities of shrubby material like gorse, which burns more quickly with a higher temperature, and is more suited to a kiln or oven. However, this deposit was the final fill in the sequence and may represent a secondary use or be a dump of material from elsewhere used to backfill the drying oven after it had gone out of use.

A group of intercutting pits close to the drying oven contained charcoal, fired clay fragments, and pottery indicating that they were broadly contemporary with the drying oven. However, it was not clear exactly what function the pit group served in relation to the adjacent structure. It is possible that the earlier pits were used for clay extraction, subsequently being backfilled with waste material from the oven. Pit *24116* cut the northern end of the rake-out pit, but this would not necessarily prevent operation of the drying oven. It may be that some of the pits post-date the final firing of the drying oven, and the area became a site for the dumping of other waste.

The drying oven had gone out of use by the first half of the third century AD (between AD 170 to 230), and the pottery sequence from the site also tails off in the mid-third century.

Phase 7: early Anglo-Saxon period

Activity had resumed on the site by the early Anglo-Saxon period, as indicated by pit *24049* and, probably, pit *24068*, after its apparent abandonment in the fourth century. If the interpretation that pit *24068* was a Saxon feature cutting ditch *24263* is accepted, the system of Roman land division must have long been abandoned by Phase 7.

The presence of hammerscale on the site during this phase indicates strongly that metalworking was taking place in the vicinity, an interpretation supported by the recovery of slag. However, the deposits datable to this phase generally have the appearance of those derived from domestic waste. It seems most probable that people were living on or near to the site during the early Anglo-Saxon period, or at least using it as an area for waste disposal.

10. Bronze Age, Roman and medieval agriculture at Southrepps Road, Bradfield

by Tom Wilson

10.1 Summary

A Bronze Age pit with a fill which probably included domestic rubbish was the earliest feature on this site. The remains of two ditched enclosures, created during the Roman period, were overlain by a series of medieval ditches, those towards the western end of the site corresponding to the edge of a wood shown on the first edition Ordnance Survey map. Several pits also date to the medieval period.

10.2 The site

Location and topography

This site (HER 37996) was centred on NGR 627500 333130, within the parish of Swafield. It was located towards the north-east corner of a thirty-one hectare field occupying the angle between Southrepps Road and Common Road, Bradfield, three kilometres north of North Walsham (Fig. 54). The site occupies the lower and middle reaches of a gentle, east-facing valley slope, an area of relatively higher ground at about 23.6m OD, between two tributaries of the River Ant that meet at Swafield to the south-east. On the eastern boundary of the field, a narrow belt of woodland marks the former course of Bradfield Beck, which now runs in a channelled drain 150m to the east.

The area is on sandy till lying over Norwich Crag, producing deep, well drained, coarse loamy soils, while peaty alluvium has accumulated in the base of the valley of Bradfield Beck, immediately to the east. A sugar beet crop was being harvested at the time of the pre-construction surveys. Deep ploughing is likely to have significantly altered the natural topography, with the sandy soils producing colluvium deposits where the gradient of the slope levels out.

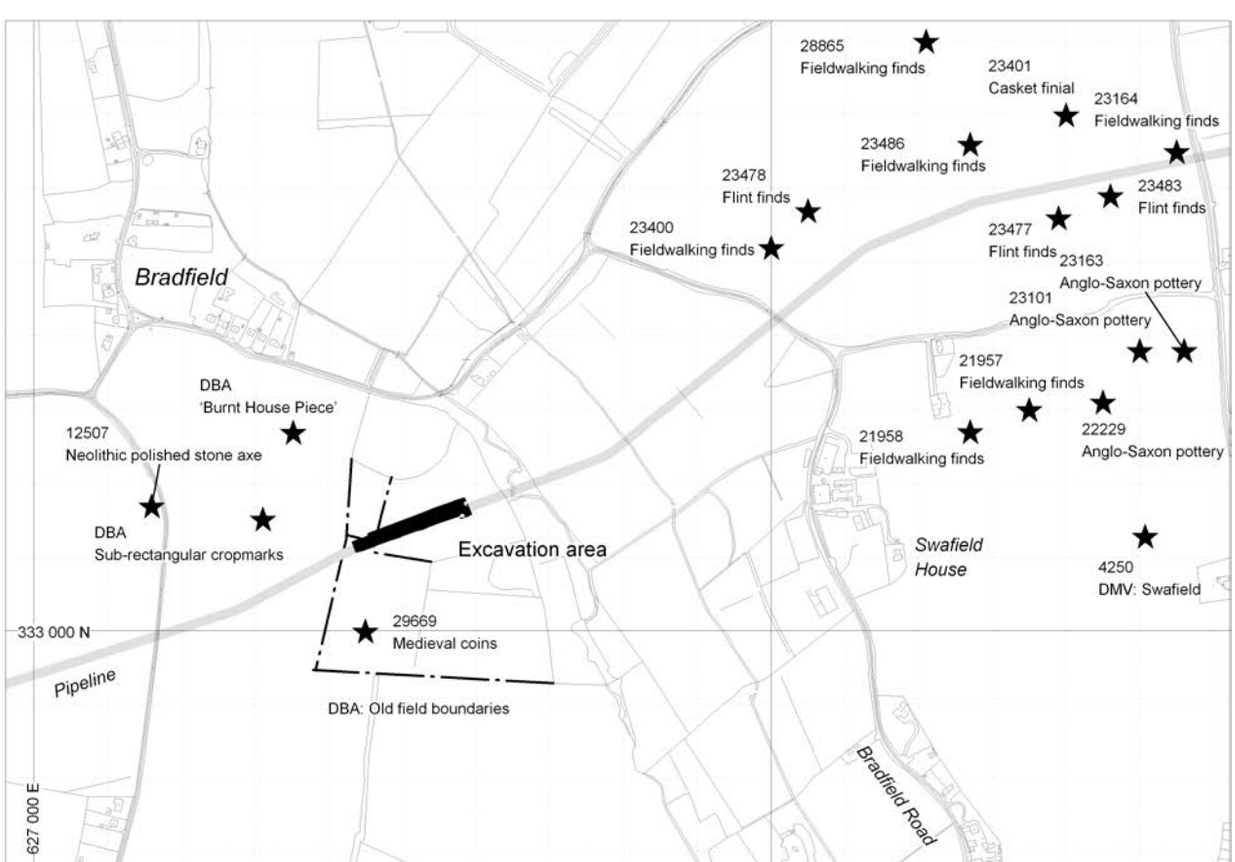

Figure 54 Southrepps Road, Bradfield, location of excavation area and nearby HER and DBA sites mentioned in the text, scale 1:10,000

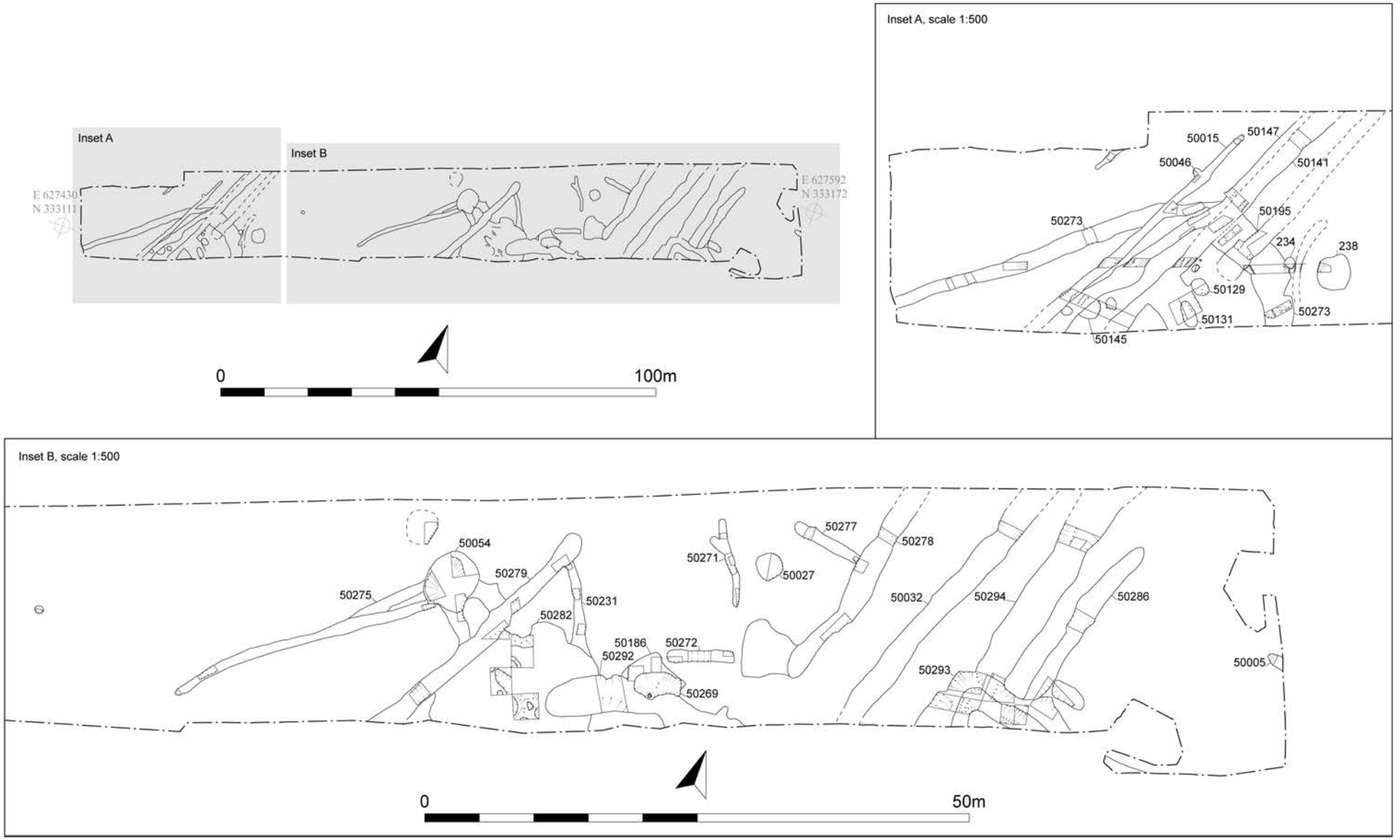

Figure 55 Plan of the excavation area at Southrepps Road, scale 1:500 and 1:125

10.3 Pre-construction work

The desk-based assessment drew particular attention to two sub-rectangular cropmarks close to the pipeline route in the western side of the field that contained the site, visible on aerial photographs taken in June 1976 (MAL/76053-023). These were thought to mark former enclosures, possibly of Iron Age or Roman date. Metal detector finds from this field include medieval coins (HER 29669). Further away from the site, sherds of Roman colour-coated and coarse ware pottery have been noted (HER 6845, not shown on Fig. 54). A Neolithic polished stone axe is also recorded as having been found alongside Southrepps Road, 200 metres to the north-west (HER 12507).

The 1840 tithe map for Bradfield shows that part of the field to the north was, prior to modern hedge removal, a separate field known as 'Burnt House Piece'. This name perhaps provides evidence that Bradfield village once extended beyond its present southern limits. Across the valley of Bradfield Beck, the medieval village of Swafield has shrunk to a much greater extent, and is now no more than a parish church, a scatter of farms and a mass of cropmarks and earthworks, the modern village being centred on Swafield Bridge, a kilometre to the south.

Fieldwalking and metal detector surveys by local groups in the area of the deserted medieval village of Swafield (HER 4250), and the fields to the north and west, have produced a multitude of stray finds, including Mesolithic, Neolithic and Bronze Age flints (HER 23478, 23477, 23483) as well as Anglo-Saxon pottery (HER 22229, 23163 and 23101) and metalwork, including a possible casket finial (HER 23401) and medieval artefacts and coins (HER 23164, 23486, 28865, 23400, 21957 and 21958).

Both the fieldwalking survey and geophysical surveys undertaken along the route of the pipeline identified substantial evidence for past activity within this field (Crutchley and Riley 2003a, Bunn and Rylatt 2003). Fieldwalking recovered one Roman, one Anglo-Saxon, thirty-eight medieval and four post-medieval pottery sherds, as well as a flint core and flake. The pottery scatter was loosely clustered on two patches of dark soil, both approximately 20m in diameter, in the eastern half of the plot.

There were linear geophysical anomalies throughout the field but, in the eastern part, the geophysical survey highlighted two relatively strong, parallel linear features and a cluster of linear, curvilinear and discrete anomalies 50m further to the east. High magnetic susceptibility levels in this area suggested that it has been subject to more than merely agricultural activity. Further potentially significant pit-like anomalies were detected at the eastern end of the field.

10.4 Excavation

Seven evaluation trenches were subsequently excavated, leading to the discovery of archaeological features in the eastern part of the field (Fig. 55). This part of the pipeline working width was then stripped of topsoil. The site had been heavily truncated by ploughing with many of the features surviving only as shallow remnants.

10.5 Phase 0: natural deposits

During the excavation, the natural deposits were described as predominantly mottled, orange-brown sandy clay, with similarly coloured silty clay towards the east. This suggests that the site crossed the boundary between the glacial tills and the palaeochannel associated with Bradfield Beck to the east.

10.6 Phases 1 to 5: early Bronze Age pit and residual flints

A single large, oval pit, *50269*, up to 0.60m deep, produced thirty-seven sherds of Bronze Age pottery. This pit was poorly defined, being truncated by medieval features, including hollow *50186* and ditch *50292*. In addition to the pottery, its backfill contained material which could be derived from domestic waste: charcoal, including three pieces that were large enough to identify as alder, burnt clay lumps, and occasional burnt flint fragments. A single medieval sherd ascribed to the basal fill is likely to have been intrusive from ditch *50292*.

A significant struck flint assemblage, residual in later contexts, demonstrates that there was activity occurring in the near vicinity during the later prehistoric periods, though no features of these dates were recorded. A single Iron Age pottery sherd, in a flint-tempered fabric and not closely datable, was also recovered.

Bronze Age pottery
by Sarah Percival
Pit *50269* produced an interesting assemblage of thirty-seven sherds (494g) of Biconical Urn. The urns are made from coarse, chunky grog-tempered fabric. They included the base and body sherds from a single vessel, and an angular body sherd in similar fabric. Both examples are undecorated. The Biconical Urn form dates to around 1800–1300 BC (Healy 1996, 115). This site lies six kilometres north-west of Witton, where charcoal from a pit containing sherds of plain, grogged biconical vessels produced a radiocarbon date of 1495 to 1135 cal BC (Lawson 1983, 14).

Struck flint
by Sarah Bates

Introduction
Part of a small Neolithic polished axe (Fig. 56) was found during the evaluations, in the upper fill of medieval ditch *50147*. It has shallow bifacial flaking from its edges and traces of polished surface surviving. Its cutting end is finely polished on both faces to a sharp edge with a couple of tiny chips, which might be post-depositional rather than use-related.

Ninety-one flints were recovered during the excavation (Table 34) and one further piece was found during the watching brief. A variety of flint seems to have been utilised: mottled grey/orange smooth cortex; an abraded grey pebble type cortex; and a creamy orange cortex from gravel lumps, which is sometimes abraded. It seems that different types of surface-collected flint were used as a raw material.

No flint came from the features assigned to Phase 2, but flints were found residually, in fairly small numbers, in

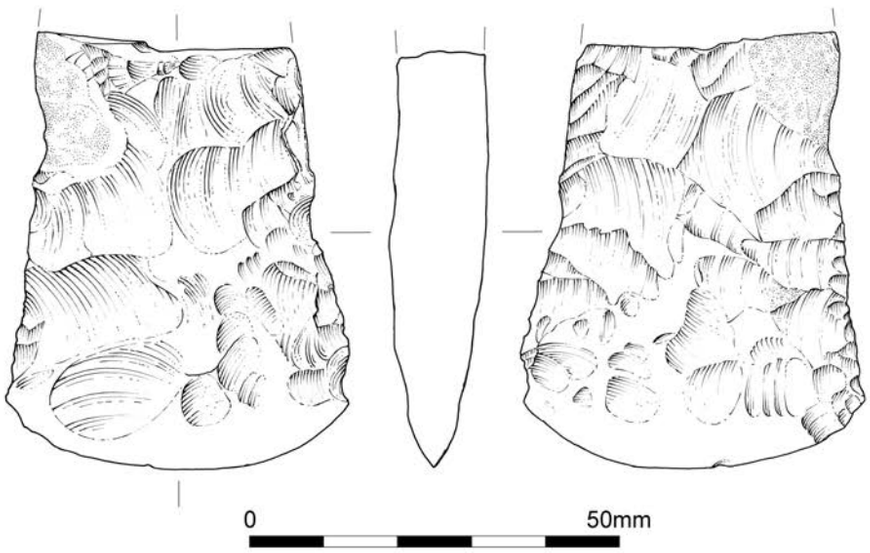

Figure 56 Polished flint axe from ditch *50147*, Southrepps Road, scale 1:1

Type	*Number*
Multi-platform flake core	1
Core on flake	1
Struck fragment	2
Flake	53
Blade	1
Blade-like flake	2
Shatter	1
Spall	15
Scraper	2
Thumbnail scraper	2
Denticulate	1
Retouched flake	4
Retouched fragment	3
Utilised blade	1
Utilised flake	1
Building fragment	1
Total	**91**
Burnt fragment	1

Table 34 Summary of struck flint, Southrepps Road

a ditch of Roman date and in ditches, pits and a hollow which dated to the medieval period.

Description

Two cores are present: a multi-platform flake core on a square 'blocky' piece and a flake which has been used as a core. Neither is diagnostic. The assemblage consists largely of unmodified flakes and many of these are small thick hard hammer struck pieces which were probably struck from small pebbles and lumps of gravel. A couple of blade-like flakes are present and a small neat blade was found during the watching brief.

There are four scrapers in the assemblage: a small chunky flake with retouch forming a steep rounded dorsal surface, a small curved blade-like flake with both edges retouched, and two classified as 'thumbnail' types. One of the thumbnail scrapers is quite neat with pebble type cortex; the other is on an irregular cortical fragment. Thumbnail-type scrapers are often associated with Beaker-type pottery (Healey 1988, 46) and are most likely to date to the later Neolithic to early Bronze Age period. There is also a small flake with a slightly retouched denticular edge and small numbers of miscellaneous retouched and utilised pieces.

A single flake was found residually in the fill of Roman enclosure ditch *50275* and eighty-four flints were found residually in the fills of ditches, pits and a hollow of medieval date. Two possible utilised pieces, a flake and a blade, came from the L-shaped medieval ditch *50293*, in the south-eastern part of the site.

Fifty-one struck flints, in total, came from fills of features located near the western end of the site. The flint includes two flake cores. Most of the material consists of flakes, many of them small and including a few thick hard hammer struck pieces, some from small pebbles. There are also a number of spalls. Retouched pieces include two small steep-sided scrapers, one of which was on a flake from a pebble, a denticulate tool and three miscellaneous retouched pieces, of which one was on a fragment of thermal origin. Thirty-one of these flints came from features located just to the west of the early Bronze Age pit *50269*. These are mostly flakes, mainly small and several of them heavily abraded. There is one blade-like flake, one small thick scraper and three miscellaneous retouched pieces.

Apart from the thumbnail scrapers, the rest of the flint is not closely datable, but the small size and hard hammer struck nature of much of the debitage and the absence of any evidence for the careful preparation of cores suggest that the material is likely to date to the later prehistoric (later Neolithic to Bronze Age, or possibly Iron Age) period and to represent activity in the vicinity of the site during this period.

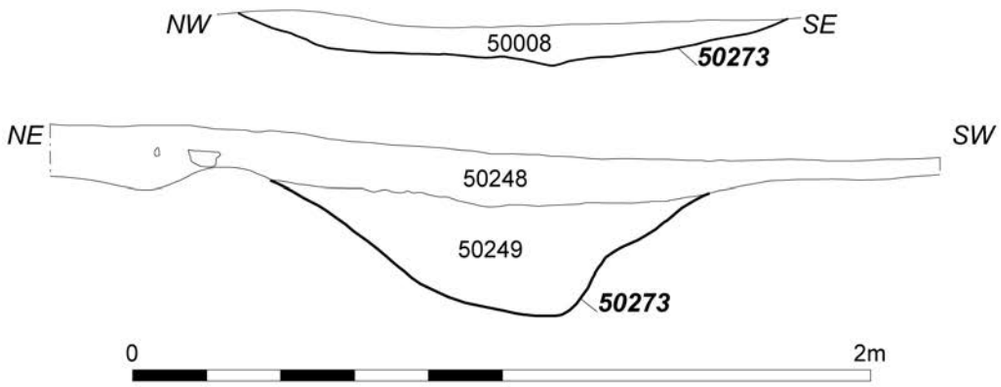

Figure 57 Sections through the western and eastern arms of the Roman enclosure ditch *50273* at Southrepps Road, scale 1:20

10.7 Phase 6: Roman agriculture

Ditch *50273* ran north-east into the site before turning south-east, this right-angled bend suggesting that it formed the corner of an enclosure. Its western arm (Fig. 57, top) was shallower than the section to the east (bottom). Eight pottery sherds were recovered from its silty fills of which five came from possible recuts of the eastern arm.

A second ditch to the east, *50275*, appeared to turn to southward at it eastern end, mirroring the form of ditch *50273*, but the corner had been lost to a later pit, *50276*. If this interpretation is correct, it would have formed the northern corner of a second enclosure. Its western arm had been recut on a slightly displaced alignment. The ditches of both possible enclosures were silty and incorporated little cultural material, which suggests that no settlement or industrial activity took place on the site. It is likely that these were aspects of a rural landscape managed for livestock.

A later pit, *234*, cut into the eastern end of ditch *50273*, contained two Roman pottery sherds. Another large pit, *238*, located nearby, contained a single Roman sherd. Two other undated pits, *50046* and *50145* (Fig. 58), pre-dated the medieval field ditches and might therefore also relate to this phase. Roman pottery was also found redeposited into medieval ditches *50147* and *50141*.

Roman pottery
by Alice Lyons
Twenty-five sherds of Roman pottery (0.134kg) were recovered from this site. All of the assemblage was of locally produced (unsourced) utilitarian coarse wares and no individual vessel types were identified. All but two of the sherds were in sandy grey ware (130g, 97 per cent), with the other two sherds in sandy reduced ware.

10.8 Phases 7 and 9: residual Anglo-Saxon pottery
by Sue Anderson

Four sherds of redeposited Saxon pottery (23g) were collected at this site. One abraded body sherd of possible gritty Ipswich Ware was found (6g, 26.1 per cent), although it may be a well-fired medieval coarse ware as the vessel is relatively thin for this ware. Three sherds (17g, 73.9 per cent) are probably Thetford-type ware, although only a rim sherd (EVE 0.05) from medieval field ditch *50141* is distinctive enough to be certain. This sherd is an eleventh-century type (type 7) from a medium jar. With the exception of the possible Ipswich Ware, this is the earliest post-Roman pottery from this site, though some of the early medieval wares, and possibly some of the other medieval coarse wares, described in the following phase may be contemporary with it.

10.9 Phase 10: medieval

Introduction
Four small gullies and a large hollow in the eastern half of the site, which survived only as fragmentary remains, were superseded by two groups of parallel ditches, those near to the western end of the site corresponding to the former extent of the edge of the wood which still survives in the north-east corner of the field. Two or more ditches on a different orientation are possibly part of later stock enclosures.

Gullies
Gullies *50231* (Fig. 58) and *50271* were parallel and appeared to have a similar curvature at their heavily truncated northern ends so are likely to have been contemporary: they are dated by four medieval pottery sherds from gully *50231*. Another very similar gully, *50272*, ran at right angles to the southern end of gully *50231*, possibly forming the third side of a rectangular 14m-wide stock enclosure.

Although sharing similar dimensions, profile and fills with these three gullies, gully *50277* was on a different orientation and does not seem to fit easily into the same system of land division. It may be better considered in relation to the larger field boundary ditches described below. It produced four medieval pottery sherds and part of an eroded lava quernstone (see discussion in Section 13.8).

Western ditch group
Of the four ditches on the western side of the site, three were stratigraphically associated. The first ditch in this sequence, *50015*, was 0.25m deep, with a steep-sided, rounded profile (Fig. 58, two sections) and a silty alluvial fill which contained two medieval pottery sheds. This had been replaced by ditch *50147* (Fig. 58) which had concave

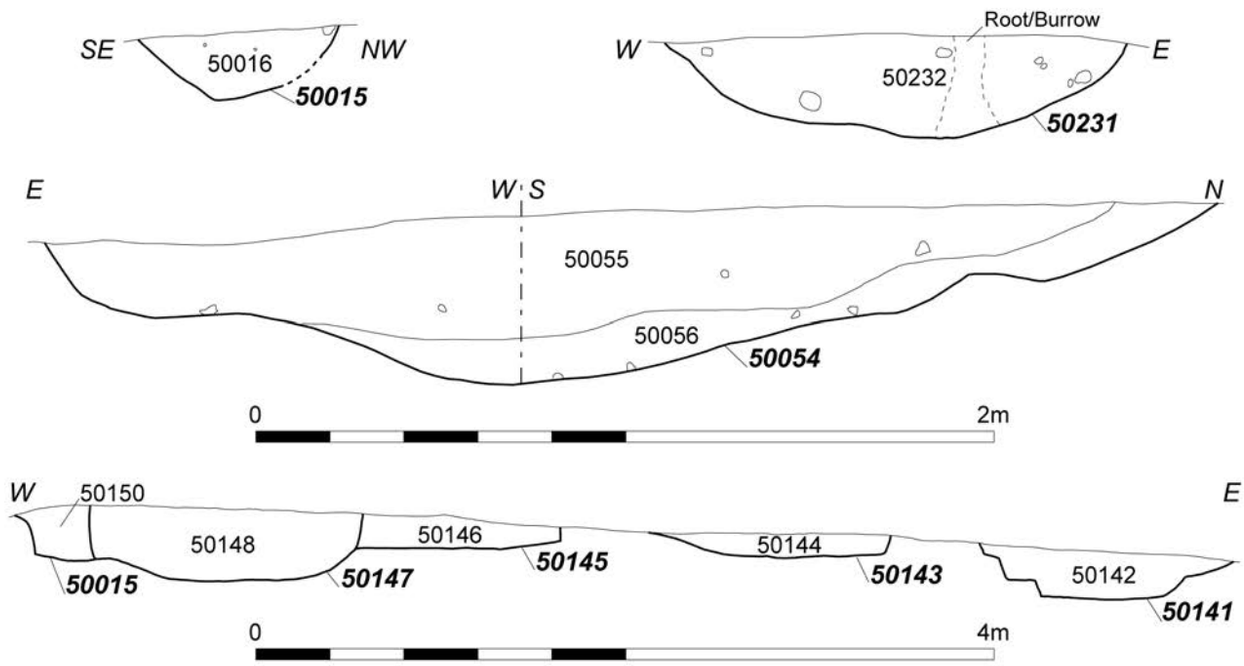

Figure 58 Sections through Phase 10 features at Southrepps Road, scale 1:20 and 1:40

sides and a flat base. Its sandy silt fill contained five medieval and two Roman pottery sherds. The third ditch in the sequence, *50141*, was the deepest, and produced nine medieval and six Roman pottery sherds. The medieval pottery suggested a thirteenth or fourteenth century date. A fairly large flint fragment deposited in the fill of ditch *50141* was probably a piece of building material, having been flaked slightly to a squarish shape and retaining traces of mortar adhered to its surface. The remains of a fourth ditch, *50195*, were highly fragmentary and features *50131* and *50129* may have been remnants of its southward continuation.

Eastern ditch group

The westernmost of the four eastern ditches, *50278*, had a shallow, concave profile. In the northern intervention, it was over 0.45m deep, but it was only 0.13m deep towards the south. Its sequence of fills, silts and thin pale sandy lenses, suggested seasonal accumulation. It contained three medieval pottery sherds and part of an eroded lava quernstone (see Section 13.8). The southern end of ditch *50278* may have been turning to the west. There was no clear distinction in the fills of this ditch and those of gully *50277*, and the gully did not continue beyond the larger feature suggesting that they were in contemporary existence. Ditch *50277* contained part of a lava quern, as well as four medieval pottery sherds.

The other three broadly parallel eastern ditches were unremarkable. The ditches had slightly convex sides and flat bases, and survived to a maximum depth of 0.70m. All were filled with sandy silts. Ditches *50294* and *50286* each produced four medieval pottery sherds, and a late twelfth- to mid-thirteenth-century sherd was recovered from the single slot through ditch *50032*. Ditch *50294* also contained ten fragments of lava quern (SF 74100). Two recuts of ditch *50294* were recorded.

A single ditch, *50279*, ran across the centre of the site parallel to those to the east and west. It was over 0.33m deep with 45 degree sides and a slightly concave base, with a loamy fill. Eleven medieval pottery sherds were recovered from four excavated slots, indicating that it was open in the thirteenth or fourteenth century.

Possible later medieval stock enclosures

Ditch *50292* contained an assemblage of twenty-nine pottery sherds dating it to the thirteenth or fourteenth century. It extended for 13m into the site, possible curving to the south towards its western end. Up to 3.30m wide and 0.70m deep, with a U-shaped profile, it had a dark brown loam fill containing large flint cobbles.

A second later medieval ditch *50293* ran in a northerly direction for 12m from the southern limit of excavation before turning to the east, back to the edge of the site. Much of its fill seems to have accumulated by silting, but it contained thirty-five medieval pottery sherds. It was recut slightly further to the south of its original position, the later ditch containing large amounts of burnt flint cobbles.

Pits

The most notable of the pits was feature *50054*, which was 4.15m in diameter and 0.85m deep, with steep sides and a flat base (Fig. 58). The base was covered with a pale grey silt deposit containing thin lenses of orange clay. Above this was deposited a brown sandy silt fill containing charcoal and fragments of burnt flint. This upper fill contained eleven medieval pottery sherds that suggest a thirteenth- or fourteenth-century date. This sequence of fills suggests that the pit was kept open as a waterhole for some time before rubbish was allowed to accumulate in it. Five other features produced medieval pottery: two widely separated discrete pits, *50027* and *50131*; an element, *50186,* of the complex of pits and hollows near the

Description	*Fabric*	*Code*	*No*	*% No*	*Wt/g*	*% Wt*	*eve*
Early medieval ware	EMW	3.10	12	7.4	62	7.5	0.22
Early medieval ware gritty	EMWG	3.11	1	0.6	1	0.1	
Medieval coarse ware 1	MCW1	3.201	48	29.6	194	23.6	0.20
Medieval coarse ware 2	MCW2	3.202	10	6.2	32	3.9	
Medieval coarse ware 3	MCW3	3.203	4	2.5	11	1.3	
Medieval coarse ware 4	MCW4	3.204	2	1.2	8	1.0	
Medieval coarse ware 5	MCW5	3.205	45	27.8	181	22.0	0.50
Medieval coarse ware 6	MCW6	3.206	13	8.0	53	6.4	0.24
Local medieval unglazed (Norwich type)	LMU	3.23	18	11.1	256	31.1	0.23
Grimston-type ware	GRIM	4.10	7	4.3	18	2.2	0.05
Yorkshire glazed wares	YORK	4.43	2	1.2	6	0.7	
Total medieval			**162**	**100**	**822**	**100**	**1.44**

Table 35 Medieval pottery by fabric, Southrepps Road

southern edge of the site; and a pit or a ditch terminal, *50005*, at the eastern end of the excavation area.

Hollow *50282* was in a complex area, not fully resolved, against the southern baulk of the site. It was amorphous, up to 13m across and 0.48m deep. Its fill was very similar to the natural subsoil, compounding the difficulty in defining its edges, but thirteen pottery sherds, one of which could be confidently dated to the thirteenth century, were ascribed to its fills.

Medieval pottery
by Sue Anderson

Introduction
One hundred and sixty-two medieval pottery sherds (822g) were collected from this site. Table 35 shows their quantification by fabric.

Description
Local coarse wares formed 94.5 per cent of the eleventh- to fourteenth-century pottery assemblage group by count, with local glazed wares making up 4.3 per cent and other English glazed wares 1.2 per cent. Medieval coarse wares types (MCW1 and MCW5) are the most common. Twenty-three coarse ware vessels are identifiable to form from their rims. The classification of rim types is that used for Dragon Hall, Norwich (Anderson 2005), a modified typology based on the original jar forms for local medieval unglazed Norwich-type (LMU) wares (Jennings 1981). The vessels consist of three bowls, sixteen jars or cooking pots and three jugs. One coarse ware handle was recovered. Table 36 shows the distribution of rim and vessel forms based on the minimum number of vessels (MNV). Codes used throughout this volume for medieval pottery rim and vessel forms are given in Table 37.

Most of the rims are the earlier simple everted (SEV) types (eleven vessels), which date from the eleventh to thirteenth centuries. The more developed types, thickened everted (THEV) and collared (COLL), are represented by eight vessels. The majority of flared simple everted (SEV1) rims are in coarse ware fabrics MCW5 and MCW6, while more of the THEV rims are in MCW1 (*e.g.* Fig. 59.2) and LMU. The acute simple everted type (SEV2) is represented only by one LMU vessel in this assemblage. This distribution of rim forms may indicate that activity was in decline by the fourteenth century.

Decoration is not common. Two jar rims have thumbed decoration and one handle was similarly treated along the edges. One THEV bowl has a band of short incised diagonal lines along the centre part of the rim (Fig. 59.1). Two body sherds have applied thumbed strips, which is relatively uncommon on medieval coarse wares in Norfolk but much more a feature of north-east Suffolk wares. As the fabrics are very similar, it may be that some Suffolk wares are present but indistinguishable from the main pottery groups in this assemblage.

Very little glazed ware is present in this assemblage, the majority of the sherds being Grimston-type, with only a few more typical Grimston products. Only one rim is present, and the form is uncertain but appears to be a small lid (100mm diameter) with slashed line decoration on the outer surface, from which the glaze has largely been lost (Fig. 59.3). Two body sherds from a Yorkshire glazed ware jug are also present.

Form	*BD*	*COLL*	*SEV1*	*SEV2*	*THEV*
Bowl					3
Jar			10	1	5
Jug	1	1			
Jug?		1			

Table 36 Medieval coarse ware rim and vessel forms, Southrepps Road

Code	*Description*
BD	Beaded
COLL	Collared
FTBD	Flat-topped bead
FTEV	Flat-topped everted
FTTH	Flat-topped thickened
INT	Inturned
SEV	Simple everted slight wedge;
SEV1	Simple everted plain flared
SEV2	Simple everted acute
THEV	Thickened everted
TRBD	Triangular bead
UPPL	Upright plain
UPFT/TH	Upright flat-topped, thickened
UPBD/PL/TH	Upright beaded, plain, thickened
UPFT/PL/TH	Upright flat-topped, plain, thickened
UPBD/FT/PL/TH	Upright beaded, flat-topped, plain, thickened
UPFT/PL/BD/TH	Upright flat-topped, plain, beaded, thickened

Table 37 Rim and vessel form codes used for medieval pottery in this volume

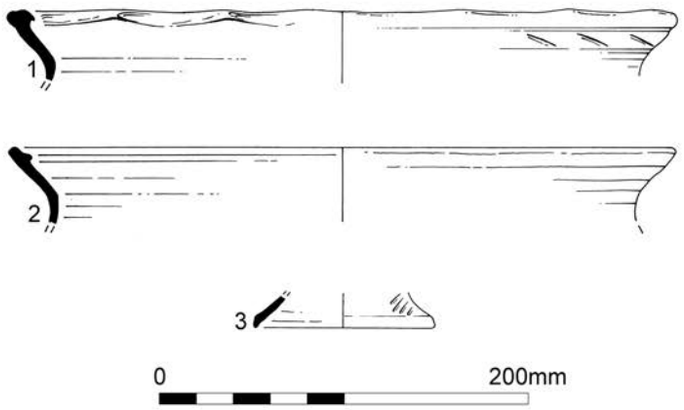

Figure 59 Medieval pottery from Southrepps Road, scale 1:4

Discussion

The bulk of this assemblage was recovered from medieval features, with very little redeposition in later periods, only eighteen sherds having occurred in features dated to subsequent phases. Based on rims, and to a certain extent on fabrics, there appears to have been more pottery on site in the first half of this phase than the second. However, the assemblage certainly continued into the thirteenth century and probably beyond. The relative proportions of vessel types and glazed to unglazed wares are typical of medieval rural sites in East Anglia, and the forms are typical of the Norwich area. The presence of a non-local ware on an inland rural site is relatively unusual, but other sites along the pipeline have also produced small quantities of pottery from the Yorkshire kilns. The small quantities of pottery recovered from open features probably indicate that any settlement was not close to the excavated area. Pottery may have reached the site through manuring activity, an interpretation corroborated by the degree of abrasion that many sherds have suffered. The high MNV (137 vessels) in comparison with the sherd count also suggests that most sherds were redeposited from their original place of disposal.

10.10 Discussion

The shape and size of pit *50269* suggests that it may have been a water source for livestock or people and that livestock management or limited settlement was taking place in the vicinity of the site during the late Neolithic or early Bronze Age periods. The relatively large number of casual and redeposited finds in this area, implying considerable prehistoric activity nearby, provides a wider context for this activity. In keeping with the known prehistory of the area, evidence for Iron Age activity was scant. It seems reasonable to suppose that this area was less populous at that time than during the Bronze Age.

During the Roman period, the area was being utilised for agriculture, with linear features perhaps surviving from a series of small enclosures. The only evidence for early Anglo-Saxon activity is a single sherd of questionable attribution; the later Anglo-Saxon material seems to be from very late in the period. It appears, therefore, that the landscape was being under-utilised until after the time of the Norman Conquest, when a new pattern of settlement and agriculture was initiated.

The area in which the site was located is still known as Bradfield Common. The medieval linear features suggest that this area of common land was being enclosed or demarcated into separate arable plots at an early date. The quantity of medieval finds might be a result of manuring as the land came under the plough but it may also indicate that domestic habitation had begun to encroach onto the common land: the group of small gullies in the centre of the site may be the remnant of an ultimately unsuccessful attempt at encroachment.

The western group of ditches seems to have marked a woodland boundary which survived at least until the end of the nineteenth century, but there was no indication that the ditches had continued to be maintained beyond the fourteenth or early fifteenth century. It is likely that the land reverted to pasture at that time, with hedged boundaries. The surviving wood is not classified as being ancient woodland, and it may have been established much later within the boundaries of an existing field. The eastern group of ditches went out of use at the same time and were presumably part of the same arable landscape. It is not clear if this group of ditches were contemporary with each other; if so, they may have drained an area of strip cultivation, or were the result of successive re-establishment of a particularly mobile boundary.

11. Iron Age and Romano-British field systems south of Massingham Road, Rougham

by Chris Clay

11.1 Summary

This small site consisted of a scatter of pits and postholes together with two small gullies towards the south-western end of the excavation area and several larger linear features in the north-eastern half. Pottery finds, mostly residual, suggested that there was Iron Age activity on the site, but the majority of the features dated to the Roman period. A subsequent phase of activity was suggested by a small pit group, the earliest of which contained early Anglo-Saxon pottery.

The excavation area produced twelve pieces of worked flint of broadly Neolithic date. A pit containing Neolithic pottery was found during the watching brief, 650 metres to the south-west of the excavation site, providing further evidence of activity in the area during this period.

11.2 The site

The excavation area (HER 37821), centred on NGR 582850 318250, was in the parish of Rougham, the south-western limit of the site lying alongside the boundary with Castle Acre parish. The village of West Lexham is one and a half kilometres to the south-east and Castle Acre three kilometres to the south (Fig. 60). The land here is on a slight spur projecting from the south-facing slope of a dry valley leading down to the River Nar to the south-east, but the site itself was on fairly level ground, at a height of approximately 70m OD.

The site was underlain by chalky till and flinty gravels, over the Cretaceous Upper Chalk formation, which has produced deep, well drained, coarse loamy soils.

Figure 60 Massingham Road, Rougham, location of the excavation area and nearby HER and DBA sites mentioned in the text, scale 1:10,000

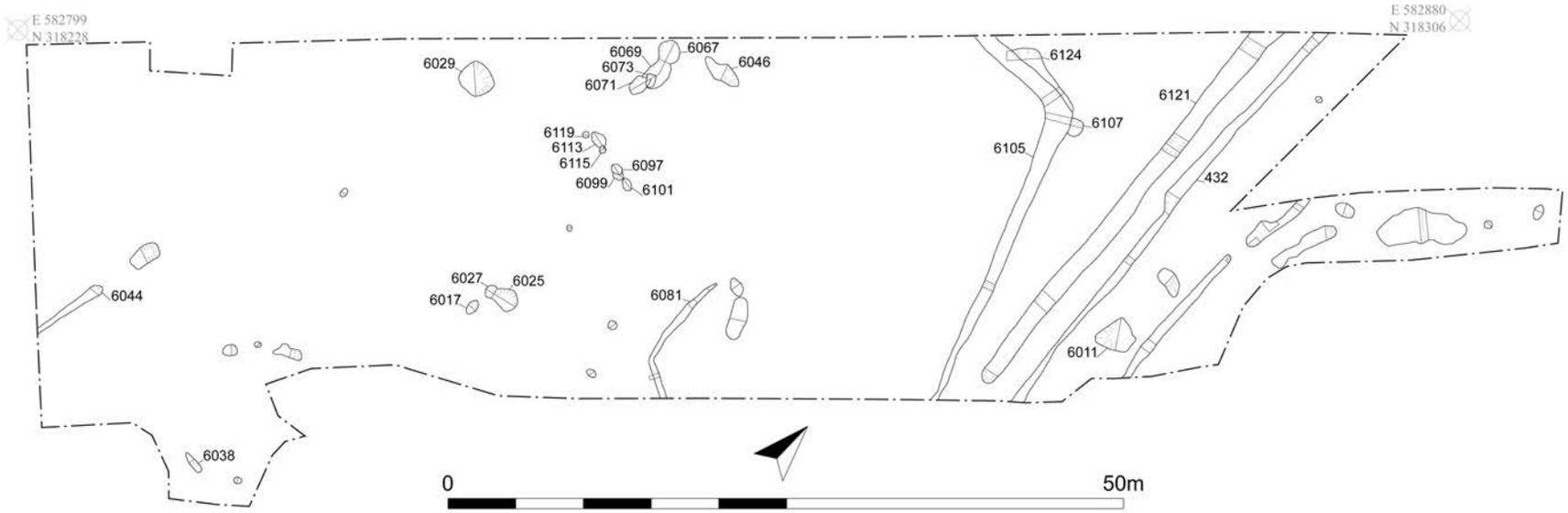

Figure 61 Plan of the excavation area at Massingham Road, scale 1:500

11.3 Pre-construction work

Systematic fieldwalking by local groups in the early 1970s recovered relatively large quantities of worked flint, much of it characteristically Neolithic in date, from fields around Rougham village. These included the field which contained the site (HER 16908) as well as six other fields on, or very close to, the pipeline route (HERs 16907, 16911, 16915 and 16898 shown on Fig. 60, and 16920 and 16919 to the north). Finds included a number of arrowheads, one axehead and a flint knife. Other finds from the area, including a Neolithic flint knife and sherds of Roman and medieval pottery, were found during topsoil stripping for gravel extraction in 1977 (HER 12453, 12952).

Bronze Age finds in the area include two socketed axeheads, one found in the early 1950s and a second 1962 (HER 4031), and a barbed and tanged arrowhead found in 1959 (HER 4061). Mesolithic axes and Neolithic scrapers and blades were recovered from Lodge Farm in 1956, but the precise findspots are not recorded (HER 11230, NGR 582500 317100). During the course of the desk-based assessment, a circular cropmark adjacent to the findspot of the two axeheads was noted on the pre-construction air survey of the route, and a minor modification to the route was implemented to avoid this feature (Holgate 2002).

Air photographs from 1946 show a cropmark of a rectangular enclosure in one of the fields to the east of the site (HER 11348), variously interpreted as a Roman temple or a medieval warrener's lodge. Recorded post-Roman finds from the area include a sixteenth- or seventeenth-century silver finger ring found by metal detecting (HER 18029).

The pre-construction fieldwalking produced a single flint flake from the field in which the site was located, along with four sherds of Roman and a single sherd of medieval pottery.

The geophysical survey recorded a series of anomalies thought to represent archaeological remains. Three linear features toward the southern end of the field shared the alignment of the adjacent parish boundary. Interspersed among these ditch-like features were discrete anomalies that appeared to indicate the location of pits, or areas of burning.

11.4 Excavation

Following the results of the pre-construction surveys, three targeted evaluation trenches were excavated revealing archaeological features, and an area of the pipeline working width stretching for over 110m from the south-western field boundary was stripped and excavated (Fig. 61).

Truncation by ploughing and the paucity of stratigraphic relationships have constrained the interpretation of the site, but it has been broadly phased on the basis of the datable finds.

11.5 Phase 0: geology and natural features

The natural geological deposits were mid-orange-brown sand with frequent poorly sorted flint gravel and occasional patches of clay.

11.6 Phase 1/2: Neolithic flint scatters

The excavation site produced twelve pieces of struck flint, ten of which came from a large sub-circular pit *6011*, which also contained a small, abraded sherd of Roman pottery and one Iron Age sherd. It is possible that the feature is of Neolithic date but contains intrusive later pottery, or the ten flint fragments may have been residual. Either way, the evidence indicates small-scale Neolithic activity, such as a temporary camp or flint knapping area in the immediate vicinity.

A large pit of Neolithic date, *6850*, was recorded during monitoring of the construction topsoil stripping at the far side of the adjacent field, 650m to the south-west of the excavation area, at NGR 582312 317784 (Fig. 60). This pit was sub-circular, 2.1m by 2.0m across, with steep sides breaking gradually to a flat base, 0.32m below the level of the subsoil surface. Its lower fill of pale clay contained occasional charcoal flecks but no artefacts. Ten pottery sherds were found in a lens of dark, charcoal-rich material up to 0.05m thick on the concave upper horizon of the lower fill. Above this, the pit had filled with stony silt containing only small amounts of charcoal which yielded forty-five more pottery sherds.

Struck flint

by Sarah Bates

Two shattered fragments, possibly knapping debris, were found during the evaluation. One of these is quite large and has damage to one edge, some of which is retouch and some of which may be due to use. Twelve struck flint pieces were recovered during the excavation of the site (Table 38).

Type	*Number*
Flake	2
Blade-like flake	2
Blade	6
Shatter	1
End scraper	1
Total	**12**

Table 38 Summary of flint, Massingham Road

The assemblage is small, and is notable for the preponderance of blades and blade-like pieces. Most of these are small, thin, neat pieces and several from pit *6011* have the same speckled pale brown cortex, and may have been struck from the same core. One larger, thicker blade has slight retouch along the edge of its sloping distal edge and has been classified as an end scraper. A quite large 'slab' of abraded and battered flint may have been burnt, although its crazed appearance may be due to other thermal processes, such as frost.

As the features and deposits excavated at the site date predominantly to the Roman period, it would seem likely that the struck flint is residual, but the similar type and nature of the flint from pit *6011* would argue for the material being contemporary with the fill. The small neat blades are likely to be indicative of an earlier Neolithic date and suggest activity in the vicinity during that period.

Neolithic pottery
by Sarah Percival
A small assemblage comprising fifty-five sherds (293g) was recovered from pit *6850*. The pottery is a homogeneous assemblage containing two rolled rim sherds from a single carinated bowl, though it is likely that around three vessels are represented. The sherds are of flint tempered fabrics, the majority are of medium fabric (F8; 46 sherds, 259g), the remainder fine (F7; 9 sherds, 34g), with small inclusions and burnished surfaces. Vessel form is likely to be similar to the larger assemblage from Stocks Farm (this volume, chapter 3), comprising 'S' shaped or baggy bowls with rolled rims (Herne 1988, 15; Thomas 1999, 99) and dating to around 3600 BC (Gibson 2002, 72). The dark, charcoal-rich fills capped with a clean layer of natural found in this pit suggests that it was backfilled with midden-like material and then sealed, a pattern often repeated on earlier Neolithic pit sites (Garrow 2006, 36).

11.7 Phase 5: Iron Age activity

Two sizeable sherds of Iron Age pottery were recovered from a sub-oval pit, *6017*, on the western side of the site. The stratigraphy suggests that two more features may be assigned to this phase: a sub-circular pit-like feature, *6107*, and a 6.5m-long shallow linear feature, *6124*, both cut by ditch *6105*. This ditch produced pottery suggesting deposition in the late first or second century AD as well as a single Iron Age sherd.

Residual or poorly stratified Iron Age sherds were recovered elsewhere on the site: from pit *6011*, which also produced Neolithic worked flint and a sherd of Roman pottery; from Roman ditches *6121* and *6105*; from ditch *432* during evaluation trenching; and from context *6859* during the monitoring of topsoil stripping in the adjacent field to the north-east.

Iron Age pottery
by Sarah Percival
Investigations on and around this site produced a small prehistoric assemblage consisting of nine sherds (123g). One sherd from the adjacent field (context *6859*) was made of flint-tempered fabric, and was possibly of earlier Iron Age date. The remaining sherds were of quartz sand tempered fabric and appear to date from the middle or later Iron Age. The assemblage included two base sherds, both from simple, undiagnostic forms. No rim sherds or decorated pieces were present. This assemblage does not suggest any substantial Iron Age presence at the site.

11.8 Phase 6: Roman pits and ditches

The Roman features on the site formed two distinct zones. With the exception of one fourth century vessel, the pottery from all of these features is consistent with an early to middle Roman date, so the distinction between the two zones is likely to have been functional rather than temporal.

The south-western half of the site comprised pits, postholes, and two small linear features. Ditch *6044* ran from the south-western limit of excavation, ending in a terminal with a U-shaped profile. This terminal yielded five sherds of pottery. Towards the southern corner of the site, feature *6038*, an elliptical pit with an irregular base, had a dark sandy fill containing frequent flecks of charcoal and red heat-affected natural clay or daub. It produced four pottery sherds. A second linear feature towards the centre of the site, curvilinear gully *6081*, extended from the southern site boundary and turned through an obtuse angle, becoming increasingly shallow before being lost to truncation. A single small pottery sherd tentatively suggested a Roman date for the feature.

There were several groups of pits clustered towards the centre of the site. A large sub-circular 0.82m-deep pit, *6029*, had a clean lower fill, interpreted as silting and collapse from the pit walls. This fill produced two pottery sherds. The upper dark loam fill, containing frequent charcoal flecks, yielded twenty-two further sherds. The accumulation of silt in the base of the pit suggests that this pit was left open for some time and the presence of cultural material in the upper fill could indicate deliberate dumping of domestic waste to backfill the pit.

Pit *6027* produced a single small sherd of sandy grey ware and was cut by a larger and deeper pit, *6025*, which yielded four sherds of Roman pottery. Further to the north, pit *6113* was undated, but was cut by a possible posthole, *6115*, which contained a single small sherd of Roman pottery. This posthole contained a dark fill with frequent charcoal fragments, which might suggest that a post had burnt *in situ*. Posthole *6119*, which produced two small sherds of pottery, seemed to form a pair with posthole *6115*. Three more features immediately to the east were poorly dated. Pit *6099* was cut by pit *6097*, both of which had similar dimensions in plan but pit *6097* was considerably deeper, at 0.30m, compared to only 0.07m for pit *6099*. Pit *6097* produced a single Roman sherd. An irregular feature, *6046*, close to the north-western edge of the site, produced two sherds Roman pottery and an iron nail.

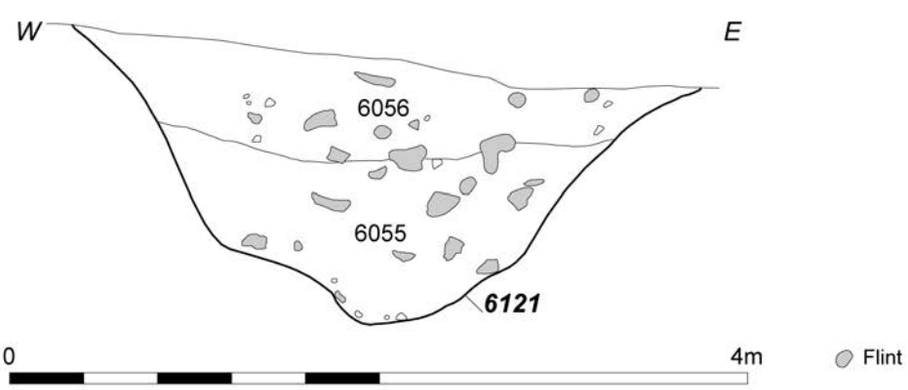

Figure 62 Section through Phase 6 ditch *6121* at Massingham Road, scale 1:20

The features towards the north-eastern end of the site formed the other distinct zone, dominated by linear features. Rectilinear ditch *6105* was a substantial feature, 2.10m wide and 0.43m deep, at the north-western edge of site but became narrower and shallower towards the south-east. The other features in this part of the site showed similar variation, indicating that truncation of the site had been greater on its southern side. The single fill of ditch *6105* was clean and silty but incorporated nine pottery sherds.

For most of its length, the ditch *6121* (Fig. 62), to the north-east of ditch *6105*, contained gradually accumulated silts, from which three Roman sherds and an Iron Age sherd were recovered. However, an excavated section in the centre of the site contained a very different deposit, perhaps the result of a single episode of dumping of domestic waste. This fill, a black silty sand containing frequent charcoal fragments and flecks and visible as a dark spread of material along a 3.5m length of the ditch, produced eighty-two Roman pottery sherds. These included four sherds from a fourth century Nene Valley Colour Coated vessel. Five small sherds could be late Anglo-Saxon Thetford-type ware, but this identification is far from certain.

Roman pottery

by Alice Lyons

In total, 182 sherds (3.380kg) were retrieved from this site (Table 39). Most derive from locally produced, unsourced, utilitarian coarse ware forms. These include narrow-mouthed jars (types 2.1 and 2.5), a funnel-necked beaker (3.1), various globular medium-mouthed jars (4, 4.5.3 and 4.5.4), storage jars (4.14), wide-mouthed jars (5.2 and 5.3), dishes (6 and 6.21) and a lid (8.1). Fine wares were also recovered, consisting of samian body sherds and a Nene Valley funnel-necked beaker (3.1) and dish with an out-turned rim (6.15).

The majority of this pottery (eighty-seven sherds, 2.055kg) was recovered from ditch *6121*. The pottery consistently dates from the early to middle Roman period, with a possibly intrusive fourth century Nene Valley beaker fragment the only late Roman material recovered.

Environmental archaeology

by James Rackham

An environmental sample from ditch *6121* produced a small charred botanical assemblage consisting of cereal grain, several fragments of chaff and a small collection of weed seeds. The cereal component is dominated by barley with only one possible wheat grain recovered. Many of the grains are distorted and corroded in appearance suggesting that the grains may not have fully ripened at the point of harvesting. The chaff assemblage is dominated by barley rachis nodes, which unfortunately are not suitably intact to determine the variety of barley represented. The single wheat glume base is from either emmer or spelt. Other remains of food plants include two fragments of hazelnut shell. The weed seed assemblage is small and dominated by sedges. Other identifiable weed species include campion, dock, grasses and possible field madder, but are represented by one or two seeds only and provide little environmental or economic information. The charcoal assemblage consists of large wood charcoal, as well as twisted woody herbaceous stem fragments, some of which have been identified as heather.

Some inferences can be made, even from this meagre assemblage. The distorted appearance of the grain may be attributed to the crop being harvested when under-ripe or 'milk-ripe'. This might occur in a poor growing season, with the grain harvested early in order to salvage the crop and prevent it spoiling. Conversely, the residues of naturally spoiled grain could have been picked out, perhaps during the final stages of crop processing, and subsequently discarded. If harvested early, the grain would need to be dried in order to prevent further spoiling, and it is feasible that the assemblages were derived from such activities. However, a greater density of material might be expected from the rakings out of a corn drier, and there is no evidence for any such structures on the site, unless the activity was carried out on a small scale using pots or spreading the grain out on stones. The small weed seed assemblage may be associated with crop processing activities: there are slightly more cereal grains than weed seeds and chaff, suggesting that the cereal may be derived from semi-cleaned grain. However, the preponderance of sedges might imply that the weeds were being brought in with other material such as the heather (see below), making it difficult to interpret this small assemblage.

Charcoal is a significant component in the flot, and includes frequent herbaceous material identified as heather, either *Erica* or *Calluna*. The stems and roots of heather have been used for bedding, thatch, fuel, baskets and ropes, as well as dyeing (Gale and Cutler 2000, 61 and 103), but in this instance the large wood charcoal, smaller comminuted charcoal and domestic residues suggest that heather was used as fuel, and that the deposit is possibly derived from hearth sweepings discarded into ditch *6121*. In the past, heather has been used to fire clay baking ovens because it burns quickly, giving off a high heat. On a broader scale, the presence of heather implies that heathland was available and was used at the very least as fuel or tinder.

Fabric	*Forms*	*Quantity*	*Wt/g*	*Wt. %*
Sandy reduced ware	2.1, 3.1, 4.5.3, 4.5.4, 5.2, 5.3, 6.19, 6.19.6, 8.1	111	1918	56.75
Sandy grey ware	2.1, 4, 5.3, 6, 6.21, 8.1	26	551	16.30
Sandy oxidised ware	2.1, 2.5, 4.14	20	362	10.71
Sandy grey ware with flint inclusions	6.19	3	214	6.33
Black surfaced red ware	2.1, 6.19	5	95	2.81
Micaceous grey ware	5.2, 6.4	2	74	2.19
Samian		6	70	2.07
Nene Valley colour coat	3.1, 6.15	8	58	1.72
White ware		1	38	1.12
Total		**182**	**3380**	**100.00**

Table 39 The Roman pottery, Massingham Road

Taking into consideration the density of charred botanical remains, the presence of potentially semi-cleaned grain and the traces of other probable food residues including hazelnut, the botanical evidence implies that the remains are likely to be domestic residues with cereals including barley and perhaps emmer or spelt being prepared on a piecemeal basis and their charred remains deriving from a domestic hearth or oven, possibly fuelled in part by heather.

11.9 Phase 7: early Anglo-Saxon activity

by Sue Anderson

The earliest member of a group of four intercutting pits (*6067*, *6069*, *6071* and *6073*) on the north-western side of the site, *6073*, contained two body sherds (29g) from a single early Saxon medium sandy (ESMS) vessel, with occasional coarse unburnt flint inclusions. In addition, five small sherds from sample 71550 of ditch *6121* appear to be Thetford-type ware, although they may be Roman.

11.10 Discussion

A number of Neolithic flints recovered from the site indicate very limited activity in the area, such as the establishment of a temporary hunting camp nearby, or an episode of tool manufacture. The pit from the nearby field to the south is more significant, and may suggest a more sustained form of activity, such as a seasonal meeting place, or possibly a pit used to mark a territorial boundary.

The early to middle Roman period is by far the most well represented period of activity on the site, although even for this period, there is not a particularly dense concentration of finds or features. The two distinct zones identified could suggest that both domestic and agricultural activity were occurring. The south-west end of the site, characterised by a series of small pits and postholes, may have related to domestic activities taking place within a large enclosure defined by the rectilinear ditch *6105*. Of the ditches to the west, only one produced Roman pottery, but it seems likely, given their shared alignment, that these ditches were contemporary. They could be interpreted as ditches flanking a droveway, which perhaps allowed controlled access to meadows in the floodplain of the River Nar.

Evidence for continued use of the site beyond the second century is limited, although the Nene Valley vessel indicates that there was some activity in the fourth century. Two sherds of probable early Anglo-Saxon pottery may also provide evidence for post-Roman activity but the Anglo-Saxon and Iron Age pottery from this area are so similar that it remains possible that this material was Iron Age in date. The absence of other Anglo-Saxon or medieval dating evidence from the site suggests that it reverted to waste ground or pasture.

12. Iron Age, Roman and medieval settlements at Green Lane, Foulsham

by Tom Wilson

12.1 Summary

A substantial amount of pottery from the Iron Age and Roman periods was found at this site. Most of it was residual, and only a few features could be dated to these early phases, although enough evidence was found to indicate that domestic activity was taking place. The majority of the datable features were medieval pits and ditches. During the medieval period, an early ditch layout gave way to settlement in part of the site. Numerous postholes indicate that structures stood here, but it is not possible to determine their forms.

12.2 The site

This site (HERs 37624, to the west of Green Lane, and 37625 to the east) was located at NGR 604630 323890. The excavation area extended over two fields, either side of Green Lane, within Foulsham parish. It was just over one kilometre west of St Andrew's Church, Themelthorpe and one and a half kilometres south-east of Foulsham village (Fig. 63). The bulk of the archaeological features were on the eastern side of the Green Lane, which is a track with permissive public access at this point.

The land at this point is fairly level, at about 44.5m OD, with a very gentle slope down to the south-west, into the valley of a small tributary stream which flows into the Wensum at Lenwade. Immediately to the north of the site, a slight spur of higher ground forms the watershed with a second tributary of the Wensum, flowing westward toward Bintree Mill.

The site was on chalky clay till deposits with patches of glacial sands and gravels, which have produced fine loamy soils. Both of the fields over which the excavation area extended were arable, newly ploughed at the time the pre-construction surveys took place.

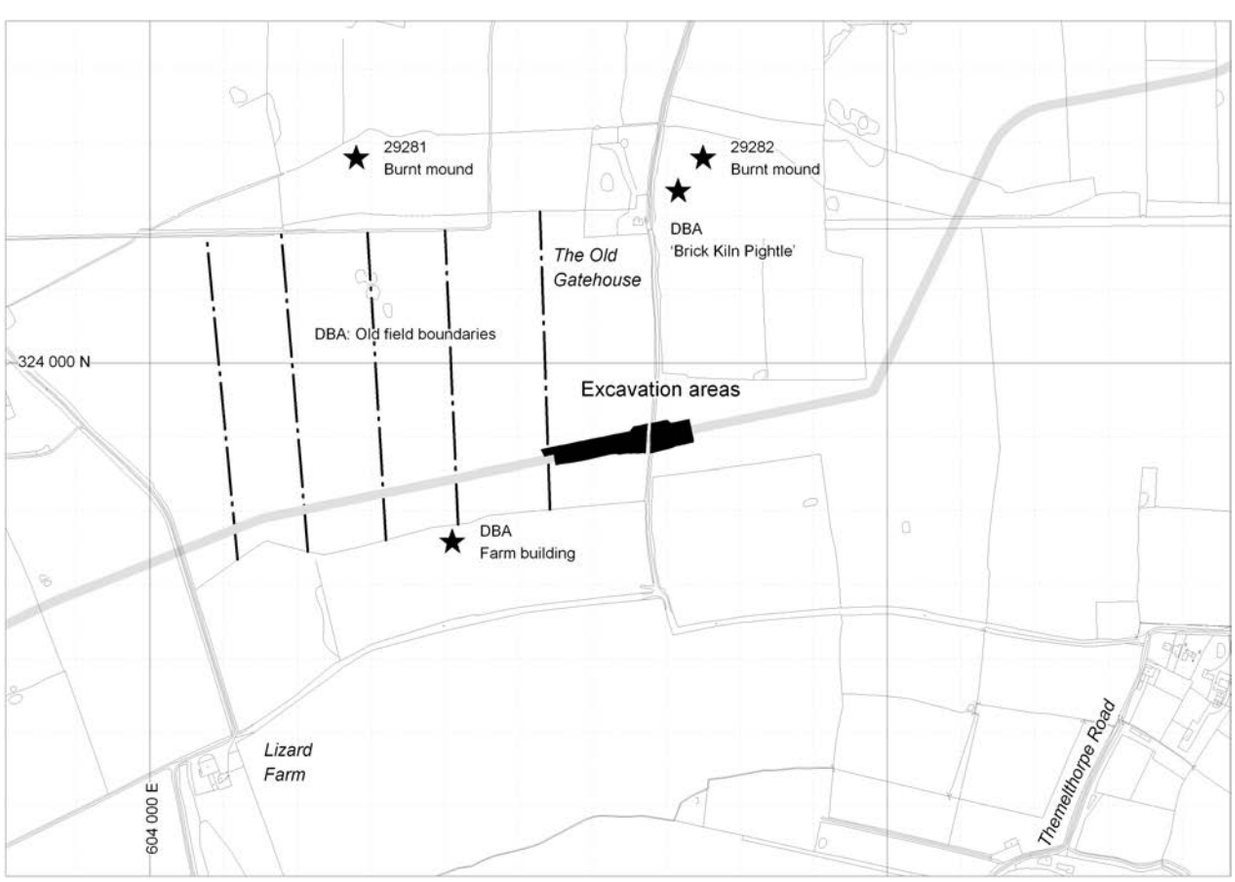

Figure 63 Green Lane, Foulsham, location of excavation area and nearby HER and DBA sites mentioned in the text, scale 1:10,000

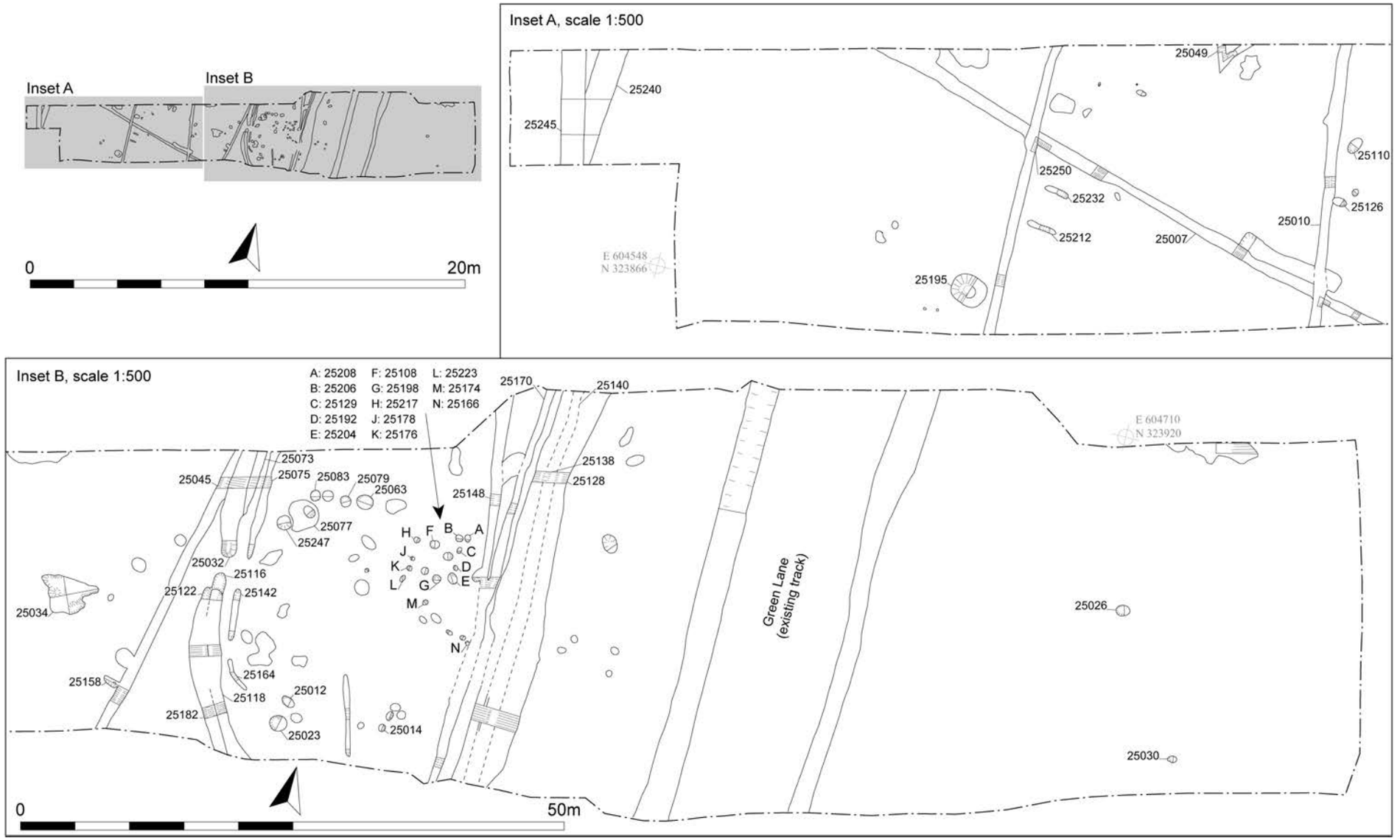

Figure 64 Plan of the excavation area at Green Lane, scale 1:2500 and 1:500

12.3 Pre-construction work

There is a general paucity of known archaeological remains close to the excavation area, although two burnt mounds have been recorded within 500 metres of the site (HER 29281 and 29282). The desk-based assessment pointed out that one of these mounds was close to a small field named on the 1838 tithe map as 'Brick Kiln Pightle' (Holgate 2002), and raised the possibility that it could have been a by-product of eighteenth or nineteenth century industrial activity.

The two fields, either side of Green Lane, were much sub-divided on the 1885 and 1906 Ordnance Survey maps, which also showed a farm building, since gone, 300m south-west of the site, in the next field. Fieldwalking recovered two worked flint flakes; three sherds of Roman, one sherd of Anglo-Saxon and twenty-eight sherds of medieval pottery as well as post-medieval finds and twenty-one burnt flints. Following the fieldwalking survey results, the geophysical survey width was increased in the area immediately to the west of Green Lane. Two well defined, curvilinear anomalies were detected in this area. Slightly raised magnetic susceptibility readings were found in conjunction with the curvilinear anomalies.

Evaluation trenches were excavated on either side of Green Lane footpath, with three further trenches placed to investigate the geophysical anomalies to the west of the path and to determine the extent of any archaeological remains.

12.4 Excavation

The site was extended to an open area excavation when the archaeological features became apparent in the evaluation trenching; allowing it to be excavated and recorded in advance of pipeline construction (Fig. 64).

12.5 Phase 0: natural features

The natural drift geology varied from orange clay with frequent flint inclusions at the western end of the site, to pale yellowish-brown clay with frequent chalk flecks in the east. The archaeological deposits were at a height of 46.2m OD at the eastern end of the site, falling to 43.0m OD at the western end. Seven parallel linear features recorded running across the site from north-east to south-west (not shown on plan) were irregular in size and shape, and contained no anthropogenic components in their fills. They are highly likely to have been geological features, similar to the corrugated laminae of glacial deposits found at Stocks Farm (Section 3.14).

12.6 Phases 5 and 6: late Iron Age and early Roman occupation

A large assemblage of prehistoric pottery was recovered from this site, almost all of it residual in later contexts. One ditch, a possible well and four pits could be dated to prehistoric or Roman phases. At least one pit appears to have been used for cooking or some industrial process. Since most of the prehistoric and Roman artefacts were found in later agricultural features, they may have moved some distance from their original site of deposition.

Ditch *25049*

The corner of small ditch *25049* extended into the site from the north, turning at an acute angle. It was 0.22m deep, with a generally even, concave profile (Fig. 65). This was thought to be possibly the corner of an enclosure, but too little of it lay within the site boundary to make any firm interpretation. Its dark grey fill contained three Iron Age pottery sherds, although these were very small and abraded, and cannot be assumed to provide a reliable date for the ditch.

Pits

Pit *25014*, near the southern boundary of the site, had an asymmetric profile (Fig. 65). Five struck flints and a quantity of fire-cracked flint were recovered from the dark greyish brown sandy clay lower fill, which had accumulated in the base and against the northern side of the pit. A similar fill had then accumulated in the south side of the feature before being partly dug out. A darker, charcoal-rich fill, containing a higher proportion of burnt flint subsequently filled the feature. An interpretation as a fire pit could account for the large amounts of burnt flint, with the shape of the pit and soil horizon profiles resulting from raking out ash. However, dumping or recutting might have caused the same soil horizons, and there was little charcoal present in the lower fills and no scorching around the cut. The deposits might alternatively have derived from burning activity nearby or, since the natural deposits would have been reasonably impermeable, a third possibility is that this was a water-filled pit, with hot flints dropped in it to heat the water.

Another possible fire pit, *25026*, was the only datable feature found east of Green Lane. This pit was 0.21m deep and the lower parts of its sides and its base were scorched red, apart from the centre of the base which was seemingly unaffected. The fill was very dark clay containing a very high proportion of charcoal, especially towards the base. The sampled charcoal was exclusively oak, nearly all from heartwood. In contrast to pit *25014*, this pit contained very little flint. Another pit in the same part of the site, *25030*, was undated but its fill consisted largely of burnt flint and it may have been related to the same activity as the other fire pits. By contrast to pit *25026*, there was no evidence of burning *in situ*, so the stones were probably dumped into

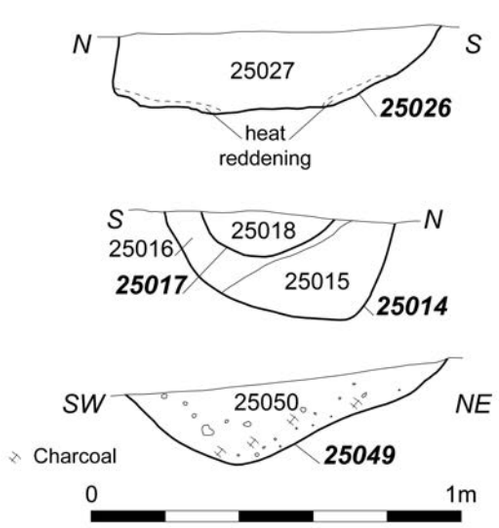

Figure 65 Sections through late Iron Age or Roman features at Green Lane, scale 1:20

Plate 11 West facing section through partially excavated well or solution feature *25195*; 1m scale

the pit after use nearby. Only a small amount of charcoal was present in its fill.

Pit *25126*, near the centre of the site, had a steep-sided profile and was 0.23m deep. Its dark fill contained six small undecorated body sherds of Iron Age pottery.

Possible Iron Age well

Feature *25195* in the western end of the site was circular with a shallow, convex upper profile, becoming almost vertical at a depth of 0.65m (Plate 11, Fig. 66). This feature was initially thought to be natural: a shake hole over a solution feature in the underlying chalk. However, the stepped sides, especially a definite shelf on the north-west side, seem to have been deliberately cut to facilitate access to the base and an interpretation as a waterhole or shallow well is quite plausible.

The lower half of the feature was filled with a series of silty clay layers. Three Iron Age pottery sherds were found in one of its lowest fills. Another deposit contained three Roman pottery sherds, one worked flint and a piece of glassy, leached slag (J. Cowgill in Cater 2004), while the next fill above it contained one Roman sherd, one worked flint and a tiny pointed curved rod made from copper alloy. This object (SF 74103), only 7mm long and with a diameter of less than 1mm, was possibly part of a hook. Part of a possible crucible was also found in this deposit. This ceramic object weighed 3g, was partly vitrified and had a copper-alloy droplet adhering to it.

The sample from this fill included a number of burnt sheep bones probably from a single animal, the high temperature of burning suggesting that it had been deliberately cremated. This sample also contained small amounts of charred wheat, barley, pulse, and possibly oats. Apart from the sheep bones, the domestic animal and crop plant assemblages suggest that this last Phase 5 deposit was composed of domestic household refuse. A small number of snail shells belong to species typical of open country or grassland. The uniform yellowish brown silty deposit filling the upper part of the feature produced medieval finds and is discussed under Phase 10, below.

Struck flint

by Sarah Bates

Twenty-three flints were recovered during the evaluation trenching and a further eight pieces of struck, or possibly struck, flint during the excavation (Table 40).

Type	*Evaluation*	*Excavation*
Spurred piece	1	-
Utilised fragment	1	-
Flake	11	3
Shatter	8	1
Retouched fragment	2	1
Struck fragment	-	1
Blade-like flake	-	1
Blade	-	1
Total	**23**	**8**

Table 40 Summary of struck flint, Green Lane

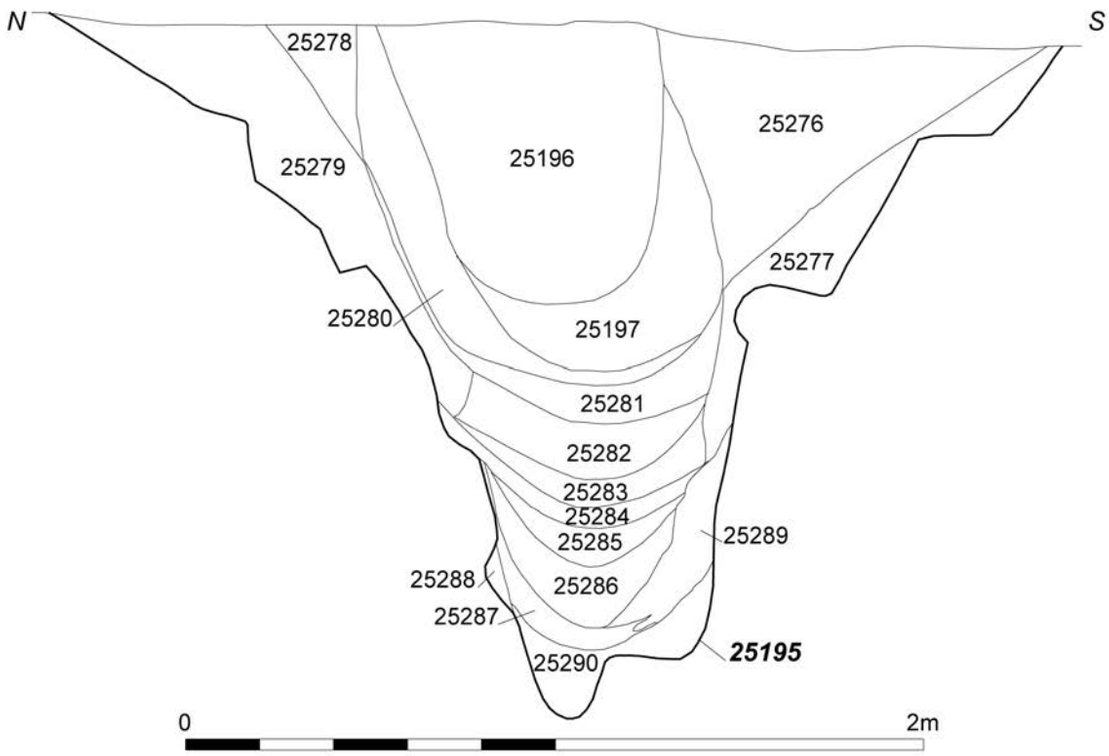

Figure 66 Section through Iron Age well at Green Lane, scale 1:20

The assemblage from the evaluation consists mainly of unmodified flakes and shatter pieces, some of which are of uncertain origin. These may be debris from knapping or could be of thermal origin. A thick, hard hammer struck flake, with abrupt retouch forming a slight spur on one edge, was also found. The flint assemblage from the excavation includes a small patinated blade and a blade-like flake, both from feature *25195*. It is likely that the small blade dates to the earlier Neolithic period. Three possible flake fragments, a small shatter piece and an irregular chalky fragment may be non-struck, but a quite large thermal flake has slight retouch or accidental damage on one edge. If retouched, the piece may have been used as a scraper.

Iron Age pottery and possible loomweight
by Sarah Percival

Introduction
One hundred and seventy-one sherds (781g) were recovered from thirteen excavated features. The assemblage is principally of later Iron Age date. Twenty-six sherds (just 11g) are prehistoric but cannot be more closely dated. The bulk of the assemblage was residual within Phase 10 features. The mean sherd weight (MSW) of these sherds is extremely small (3–5g) and they are in poor condition.

Description
The assemblage is predominantly composed of quartz sand-tempered sherds, which make up over 98 per cent of the total weight of the assemblage (758g). Two sandy fabrics were identified: Q1, which is often smoothed or burnished and may be considered a 'fine ware' and Q2, which contains sparse, small to medium flint temper in addition to quartz sand, making the fabric somewhat coarser. The remaining 2 per cent of the sherds are made of fabric that is principally flint tempered (12g) and may be of an earlier Iron Age date. The assemblage includes three wheel-made sherds from the same vessel, found in feature *25195*.

The predominance of sand-tempered fabrics is typical of later Iron Age assemblages from Norfolk (Gregory 1992, 155). Sand-tempering became increasingly prevalent from the third century BC onwards; however, some flint-tempered vessels continued to be used well into the middle Iron Age (Percival 1996).

Ten vessels are represented within the assemblage, based on basic rim count. Many of the sherds are too small to assign to a vessel form, but the assemblage appears to be primarily composed of jars and bowls of 'S' shaped profile with rounded shoulders. The vessels have wide-mouthed rims with rounded rim endings and long everted necks. One larger rim, from the fill of irregular feature *25034* (Fig. 67.1) is similar to jars from Phase II at Fison Way (Gregory 1992, fig. 145: 146) dated to the mid-first century AD. A small number of sherds in Romanising or transitional forms are present (Fig. 67.2). These are

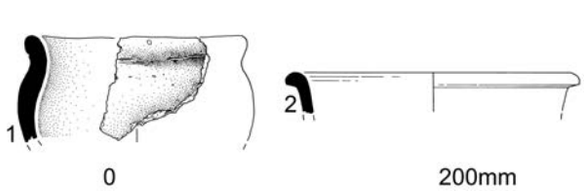

Figure 67 Late Iron Age pottery from Green Lane, scale 1:4

characteristically handmade vessels in sinuous carinated Roman forms, made from fabrics originally used in the Iron Age (Lyons 2000, 222).

Three fired clay fragments, recovered from the subsoil, weigh 97g in total. One incomplete circular perforation survives, suggesting that they are probably from a loomweight, dated to the Iron Age. The pieces are made from low-fired sandy fabric with some possible grog inclusions and are not closely datable.

Discussion

Recent research suggests that the late Iron Age to early Roman transition was characterised by a lengthy phase during which handmade and wheel-made vessels were in use contemporaneously, a practice which may have continued until the early second century AD (Lyons 2000, 222). The Green Lane assemblage is predominantly of handmade wares, with a small proportion of wheel-made and transitional forms, all of which are medium- or wide-mouthed jars. The predominance of handmade sherds suggests that the assemblage is still essentially Iron Age in character, and indicates a date around the first centuries BC and AD, contemporary with a handful of other transitional sites in Norfolk including Fison Way, Thetford (Gregory 1992), Spong Hill, North Elmham (Rickett 1995), Saham Toney (Bates 2000), and Holme Hale (Bates in prep). Flint-tempered sherds were only found in redeposited and unstratified contexts, suggesting possible earlier Iron Age activity nearby.

Roman pottery

by Alice Lyons

Sixty-four sherds of very abraded Roman pottery (0.482kg) were recovered from this site (Table 41). The majority of the pottery consists of sandy grey ware wide-mouthed jars (forms 5, 5.2 and 5.3) and a jar lid (8.1). Similar vessels were also discovered in other fabrics, such as the sandy reduced ware (5) and the micaceous reduced ware (5). Samian and a fine white ware fabric were also identified, but no forms found. This pottery is consistent with an early Roman date and quite different in character from other site assemblages found as part of this project.

The greater proportion of this pottery (thirty-five sherds, weighing 0.172kg) was redeposited into medieval ditches *25007* and *25045*.

Fabric	*Forms*	*Quantity*	*Wt/g*	*Wt %*
Sandy grey ware	5, 5.2, 5.3, 8.1	54	357	74.07
Sandy reduced ware	5.3	3	83	17.22
Samian		3	20	4.15
Micaceous grey ware	5	2	18	3.73
White fine ware		2	4	0.83
Total		**64**	**482**	**100.00**

Table 41 Roman pottery, Green Lane

12.7 Phase 7: residual early Anglo-Saxon pottery

by Sue Anderson

A small quantity of early Saxon pottery was identified in this assemblage. Table 42 shows the quantification of sherds by fabric.

The majority of sherds are small, abraded body pieces. Sherds from two vessels show signs of burnishing, and several have oxidised surfaces. One unstratified sherd is a small fragment of a possible everted rim. The most interesting find, however, is a large rim fragment from an early Saxon medium sandy (ESMS) long-necked globular jar with a short, everted rim and sooting around its outer edge (Figure 69.1), recovered from posthole *25108*. This form was common in the seventh century in the region. Unfortunately, as with most of the sherds in this group, it was residual in a medieval context. Otherwise, the fabrics are all sandy with few other inclusions and not diagnostic for dating purposes. This material was scattered across the site in several features of generally medieval date, with no particular concentrations other than the eight sherds recovered from feature *25034*.

12.8 Phase 10: medieval settlement

Three different sub-phases of medieval land use can be discerned. Two ditches, oriented differently from the other linear features on the site, were stratigraphically earlier than a group of curvilinear features which seemed to mark the western boundary of a settlement area. Later in the period, ditches aligned with the present Green Lane seem to mark the end of settlement activity and a return to agricultural land use. Green Lane itself probably had it origins in this period.

Possible enclosure ditches

Two ditches in the western half of the site would have formed a right-angled intersection or bend just beyond the southern limit of excavation. Ditches *25007* and *25045* had similar V-shaped profiles and dimensions (Fig. 68). Two small gullies running parallel to ditch *25007* are probably of the same sub-phase. Both of these gullies, *25212* and *25232*, were very shallow and may have been the remnants of a more extensive system of parallel cultivation features lost to later ploughing elsewhere, lazy-beds perhaps, or narrowly spaced ridge and furrow.

The fills of ditches *25007* and *25045* contained quantities of fired clay, probably from daub, implying that there were clay-walled buildings in the near vicinity. The quantity of pottery recovered from them is also more than might be expected from a purely agricultural feature: ditch *25007* producing fifty-one medieval pottery sherds, along with residual Iron Age, Roman and early Saxon material, and ditch *25045* yielding twenty-one medieval sherds. Gully *25212* also contained one Roman and two medieval pottery sherds. If these two ditches were part of an

Description	*Fabric*	*Code*	*No*	*% No*	*Wt/g*	*% Wt*	*eve*
Early Saxon coarse quartz	ESCQ	2.03	5	21.7	17	8.4	
Early Saxon fine sandy	ESFS	2.04	5	21.7	34	16.8	
Early Saxon medium sandy	ESMS	2.22	13	56.5	151	74.8	0.38
Total early Saxon			**23**	**100**	**202**	**100**	**0.38**

Table 42 Early Saxon pottery by fabric, Green Lane

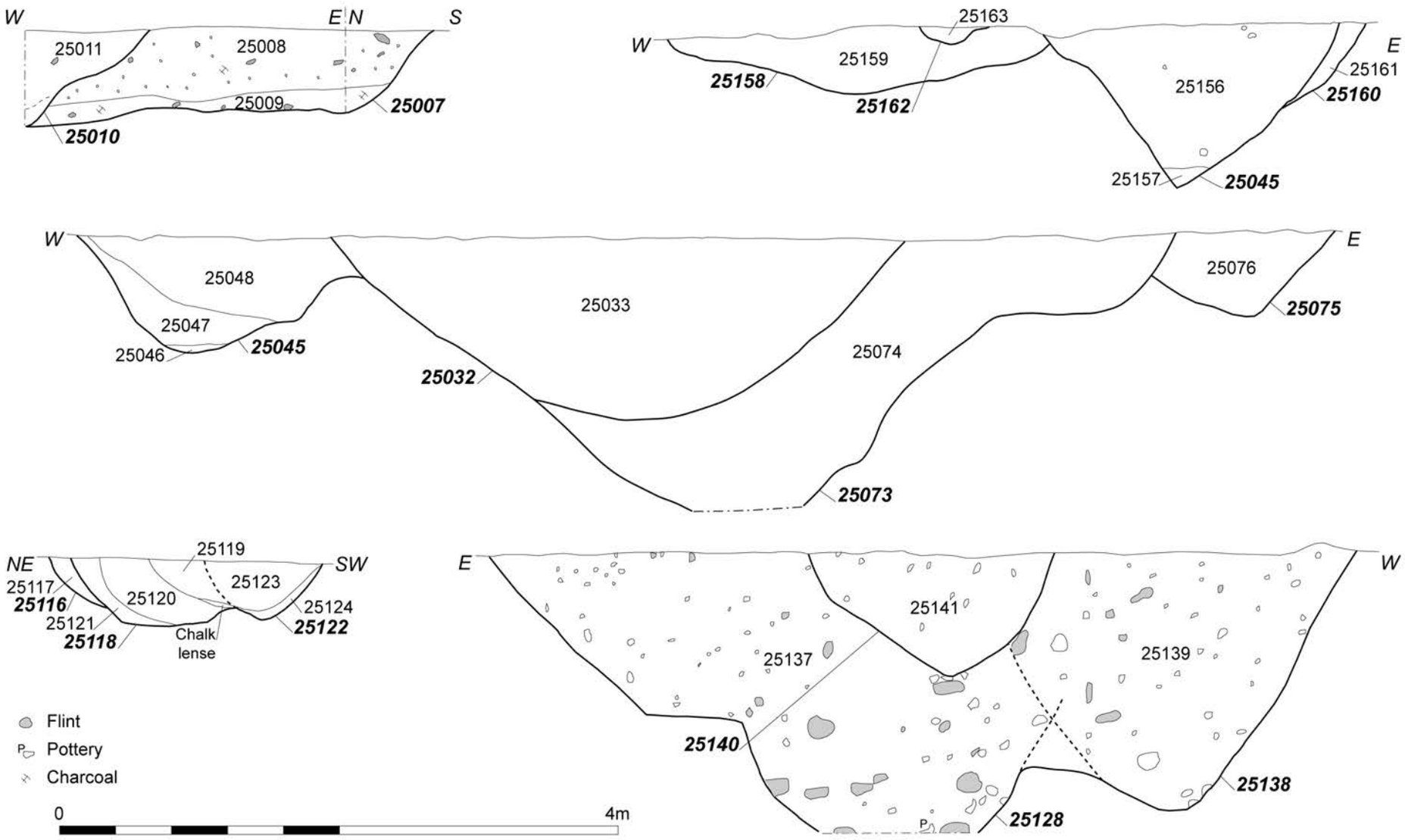

Figure 68 Sections through Phase 10 features at Green Lane, scale 1:40

enclosure, they may perhaps have surrounded a domestic settlement area with a focus beyond the northern limit of excavation.

Curvilinear boundary ditch

A large curvilinear ditch consisting of two segments separated by a narrow gap, seemed to form the boundary of the area of pits and postholes to the west of Green Lane. Three construction phases were identified on the northern arm, *25073*, (Fig. 68), while a fourth recut could be discerned in the southern arm, *25116* (Fig. 68). The entrance gap between the two parts of the ditch was 2.9m wide in the later recut sub-phases but would originally have been wider. The bases of both ditches were at a similar, uniform height, except at the terminals, where the southern arm in particular became much shallower. They had broadly similar fills of naturally accumulated greyish sandy clays containing chalk and flint and incorporating material typical of domestic rubbish deposits: large amounts of pottery and other artefacts as well as evidence of the consumption of wheat, barley, hazelnuts, peas and beans, sheep, pig, shellfish, and eggs, probably of chicken and geese. These rubbish-rich deposits appeared to be concentrated around the entrance.

Finds from original fill of the northern arm of the curvilinear ditch included two medieval pottery sherds, a fragment from the simple everted rim of a copper alloy vessel with sooted surfaces (SF 70652), and an iron U-shaped staple with one arm incomplete (SF 70653). Iron staples such as these could have supported tethering rings or have held chains and hasps in place around buildings. The southern arm produced twenty-one medieval pottery sherds.

On the northern side, ditch *25073* was recut by the shallower but wider ditch *25032* (Fig. 68), which also cut ditch *25045*, the more easterly arm of the possible enclosure ditches. In addition to 109 medieval pottery sherds and a residual flint flake, the fill of ditch *25032* also produced two metal finds: an incomplete copper alloy buckle plate with a notch for the pin and one surviving hole for a rivet (SF 70650) and a fragment from a copper alloy strip with a rebated rivet hole and notched edges (SF 70651). One side of this strip is decorated with incised dotted lines, and it may have been a mount.

Two recuts were noted on the southern side. A sample from the earlier of these, *25118*, included material tentatively identified as carbonised peat. The rich snail assemblage from this sample consists mostly of damp open grassland species, but includes two aquatic species and one or two shells of species more typically found in shaded or woodland habitats. This recut also contained fifty-one medieval pottery sherds and a probable horseshoe nail (SF 70661). A second recut, *25122*, contained seven medieval pottery sherds. In the more southerly intervention through this ditch, only a single cut was recorded; this produced twelve medieval sherds and shells of mussel, cockle and oyster.

The northern arm of the curvilinear ditch cut a smaller feature, *25075*, (Fig. 68), which probably terminated to the south, forming an entrance at the same point as the other ditches, but as this ditch is very shallow, it may merely have been truncated by ploughing at this point. This part of the feature contained five medieval pottery sherds and mussel, cockle and oyster shells. There was a gap of 2.9m between ditch *25075* and its southern ditch, *25142*, which survived to 0.4m wide and 0.1m deep, with a rounded profile. A sample from ditch *25142* contained a rich snail assemblage with a mix of damp, open grassland species, similar to the assemblage from its larger neighbour. Ditch *25142* was truncated to the south, but another fragment of it survived, *25164*, suggesting that it turned east more sharply than did the larger ditches.

Pottery from the curvilinear boundary ditch

by Sue Anderson

The various fills of the curvilinear boundary ditch produced 244 sherds of pottery. Of these, two are early Saxon, sixteen are early medieval (fabric types EMW, GRCW), and the rest are medieval. The medieval coarse wares are dominated by fabric types MCW1 (125 sherds) and MCW3 (seventy-two sherds) with only small quantities of MCW2, MCW4 and LMU. There are twenty-two sherds of Grimston-type ware.

The fills of the earliest sub-phase of the ditch produced small quantities of pottery: the northern ditch, *25073*, yielded two sherds, one of which is a jug rim of possible thirteenth century date while the twenty-eight sherds from southern ditch, *25116*, have an overall date range of the eleventh to thirteenth centuries, but the range of fabrics and forms could indicate a twelfth century date for the fill. In the second phase, the northern ditch, *25032*, produced fifty-three sherds that suggest a thirteenth century date and the southern ditch, *25118*, contained sixty-seven sherds, many of which were residual, but again with a probable thirteenth century date for deposition. The terminal of recut *25118* contained sixty sherds with a thirteenth and fourteenth century date range, and six sherds of the same date came from recut *25122*. The same recut, or more probably a third recut of the same ditch, was recorded as feature *25182* and produced twelve sherds from three fills, the uppermost of which contained a Grimston-type ware skillet or pipkin handle, which suggests a fourteenth century date for the final backfilling.

From the narrow ditches which ran parallel to the boundary ditch, six sherds, dated to the eleventh to thirteenth century, were collected from the southern ditch, *25142*. A similar date can be suggested for the single sherd found in the terminal of northern ditch, *25075*. However, further north, ditch *25075* contained nine sherds that were probably deposited in the thirteenth or fourteenth century.

Evidence of structures

The group of postholes to the east of the settlement boundary ditch generally produced little dating evidence, although posthole *25108* contained eight pottery sherds, including an Anglo-Saxon rim sherd but also a piece of Grimston-type ware, dating the feature to the thirteenth or fourteenth century. Postholes *25166*, *25174*, *25198*, *25204* and *25206* contained one sherd each, and twelve postholes in this area had no datable artefacts. The postholes were all oval or circular, with dimensions ranging from 0.34m in diameter and 0.05m deep to 0.92m across and 0.31m deep.

Some of these features could be interpreted as a rectangular structure, with postholes *25176*, *25178*, *25217* and *25223* holding the western wall, *25129*, *25192*, *25204* and *25208* forming the eastern wall, and *25206* the possible remnant of a northern wall. This would have formed a structure about 4.4m wide by at least 5.3m long. However, this pattern is not entirely convincing and the

postholes could well represent more than one construction in the same location.

Pits with medieval finds

Of the various pits scattered across the site, eight could be dated to the medieval period, but a high proportion of the undated examples are also likely to have had their origins at this time.

Pit *25158* (Fig. 68) can be dated to the earliest sub-phase as it was cut by ditch *25045*. Its fill of redeposited silt contained one early Anglo-Saxon and one medieval pottery sherd. In the same part of the site, pit *25110* was 1.65m long and just 0.15m deep. Its dark, charcoal-rich fill produced thirty-seven medieval sherds.

Seven medieval pits were recorded in the area between the curvilinear ditch and Green Lane. Three of these, together with another undated example, formed an alignment in the northern part of the area. These all had similar dimensions, being 0.40 to 0.45m deep with regular straight-sided profiles and all had dark, finds-rich fills. Pit *25063* contained eighty-eight pottery sherds, the assemblage indicating a date no earlier that the thirteenth century. Other finds included large amounts of daub, a nail shank (SF 70654), and mussel, cockle and oyster shells. A slab of sandstone measuring 100mm by 80mm by 18mm was also recovered, which had one very smooth face and possible polish on the edges, probably from use as a whetstone (Major 2007). A second, slightly smaller pit, *25083*, produced 103 pottery sherds and a horseshoe nail (SF 70657), while the third pit, *25079*, contained the broken blade and tang of an iron knife (SFs 70655 and 70656) and a tiny fragment of post-medieval brick, presumed to be intrusive.

Two pits to the south may also belong to this group although their fills were not as dark or rich in finds. Pit *25247* yielded only four sherds of pottery from a single eleventh to thirteenth century vessel while pit *25077*, which was larger, shallower and more irregular, produced eleven sherds of pottery of which five were small undecorated Iron Age body sherds. Further south within the enclosed area, pit *25012* contained a dark fill incorporating three pottery sherds. Most of adjacent pit *25023* contained similar material, but the top had been filled with dumped chalky redeposited natural soil containing five medieval pottery sherds.

Upper fills of feature *25195*

The upper fills of the Phase 5 feature *25195* produced six sherds of medieval pottery. There was a distinct interface between the lower and upper sequences of fills which suggested that the feature was partially re-excavated with the west side undercut (Plate 11, Fig. 66). The recutting and subsequent infilling with silty clays may have occurred on several occasions. If this interpretation is correct, this patch of land is likely to have remained as a hollow in a waterlogged area throughout the intervening centuries. However, if the feature originated as a solution hollow, perhaps modified to facilitate access to water accumulating in its base, then the medieval phase could have resulted from a further collapse of the underlying chalk.

Feature *25034*

The irregular profile of feature *25034* in the centre of the site suggested that it was a natural hollow in which refuse material had been dumped or accumulated. The fills, up to 0.42m deep, included eleven Iron Age or Roman pottery sherds, twelve Roman sherds and seven medieval sherds, together with handmade undecorated sandy pottery that is considered more likely to be of Anglo-Saxon date than Iron Age. A sample of the upper fill contained small amounts of charred wheat, barley, pulse, and possibly oats, as well as a single cockle shell, all of which suggests that it derived from domestic household food residues. A small assemblage of snail shells consisted of species typical of an open country, grassland environment.

Green Lane

A sequence of ditches ran parallel to Green Lane, about 16m from its current path. These features could have all been post-medieval, since three artefacts from that period were found in them and they pass through an area of medieval activity, where residual pottery might be expected. However, if they were post-medieval, the relative lack of contemporary pottery and building material would be remarkable, since the fieldwalking survey recovered equally abundant quantities of medieval and post-medieval artefacts (Crutchley and Riley, 2003a). The most likely interpretation is that these were trackside ditches that began in the medieval phase after the settlement area was abandoned, and that the pottery assemblages are partly residual from that settlement and partly derived from manuring. This interpretation implies that the route of Green Lane was a feature of the medieval landscape, if not as a route-way then as a boundary ditch which influenced the route of the lane when it was subsequently established.

Ditch *25128* was the earliest feature in this sequence (Fig. 68). This was a substantial ditch, well over one metre deep with stepped sides. It contained sixteen medieval pottery sherds and an iron horseshoe fragment (SF 70660) of a type used from the late thirteenth century and universal in the fifteenth. A lump of post-medieval brick was also found but is considered to be intrusive. Ditch *25138*, cutting the western side of the earlier ditch had a distinctive fill which contained twenty sherds indicating a thirteenth century date, a residual worked flint, and an iron disc found by metal detecting and probably an intrusive modern washer. Charcoal samples from this ditch were identified as oak heartwood. The third ditch in this sequence, *25140*, was smaller, with a rounded profile (Fig. 68), and produced no finds.

Immediately to the west, ditch *25148* was probably a fourth member of this sequence but its relationship to the three ditches described above was not recorded. It was a small feature, just 0.74m wide and 0.19m deep, with a regular concave profile. It produced a clay pipe fragment but no pottery. It was cut by ditch *25170* which contained nine medieval pottery sherds, presumably all residual.

Ditch *25240*

At the western end of the site, a 0.93m-deep ditch, *25240*, was on a parallel alignment to Green Lane. The silty fill contained five Roman and seven medieval pottery sherds, and an oyster shell. It was cut by ditch *25245* which corresponded to a ditch shown on the first edition Ordnance Survey map of 1885.

Description	*Fabric*	*Code*	*No*	*% No*	*Wt/g*	*% Wt*	*eve*
Early medieval ware	EMW	3.10	72	11.3	274	7.1	0.40
Medieval coarse ware 1	MCW1	3.201	246	38.4	1385	35.8	1.05
Medieval coarse ware 2	MCW2	3.202	3	0.5	15	0.4	
Medieval coarse ware 3	MCW3	3.203	258	40.3	1721	44.5	1.01
Medieval coarse ware 4	MCW4	3.204	7	1.1	13	0.3	
Grimston coarse ware	GRCW	3.22	2	0.3	4	0.1	
Local medieval unglazed	LMU	3.23	3	0.5	46	1.2	0.19
Grimston-type ware	GRIM	4.10	49	7.7	409	10.6	0.06
Total medieval			**640**	**100**	**3867**	**100**	**7**

Table 43 Medieval pottery by fabric, Green Lane

Medieval pottery
by Sue Anderson

An assemblage of 640 pottery sherds was collected (3867g). Table 43 shows the quantification by fabric. The pottery had suffered from post-depositional erosion and many sherds are abraded or have lost their outer surfaces.

Local coarse wares form 92.3 per cent of the group by count, with local glazed wares making up the remaining 7.7 per cent; no imports are present. The medieval coarse wares consist almost exclusively of fabric types MCW1 and MCW3.

Thirty-seven coarse ware vessels are identifiable to form from their rims. The vessels consist of nine bowls, twenty-four jars or cooking pots, and four jugs. In addition to the jug rims, two coarse ware handles were recovered, both strap types. One of these is a fragment from the lower part of the handle, and a short circular-section peg survived which would have attached it to the body of the vessel. Table 44 shows the distribution of rim and vessel forms by minimum number of vessels (MNV).

Most of the rims are simple everted types (SEV), associated with the earlier part of the medieval period in Norfolk, as are the upright types and probably also the bead-rimmed bowl and, in this assemblage, the flat-topped everted bowls. The more developed type (THEV) is represented by eight vessels. The majority of SEV1 rims are in fabric MCW3, while more of the THEV rims are in MCW1. The distribution of rim forms may indicate that the settlement was in decline by the fourteenth century. The only decoration found on the coarse ware pottery from this site is thumbed or 'pie-crust' decoration on the rim (Fig. 69.2).

The 'Grimston-type' ware fabric in this group is the same as that identified in the Old Hall Farm assemblage (see Section 14.7). Only one jug rim was found, an upright plain type. There are four handles, of which one is a rod, two are wide straps and one, from settlement ditch *25182*, is a 'straight' type with a slightly hooked end and light green glaze on upper surface only (Figure 69.6). This handle may have come from a small pipkin or skillet, which is an unusual form in typical Grimston Ware, although some are known from Norwich (*e.g.* Jennings 1981, no. 391). It may indicate that settlement ditch *25182* filled during the fourteenth century. Most body sherds are small and abraded, and forms could not be determined. The few bases are generally sagging, but one small flat one was found in association with the skillet handle and is another indication of a relatively late date. One base showed signs of widely-spaced thumbing. Apart from the thin green glaze on most sherds, the only decoration present in this group is a single example of brown slip lines from post-hole *25174*.

Phase 10 features produced 543 sherds of Saxon and medieval pottery. A further ninety-three medieval sherds were recovered as unstratified finds, or from the topsoil and subsoil layers. Medieval wares dominate the assemblage. The range of vessels is fairly typical for rural medieval settlements, consisting of more jars or cooking pots than other forms, and including a small proportion of glazed wares. While the lack of these can be attributed to lower status, as has been demonstrated in urban medieval assemblages in Norfolk and Suffolk, on a rural site it could also relate to a decline of the settlement during the later stages of the medieval period, when these wares were more commonly in production.

The impression gained from studying this assemblage, and others recovered from along the pipeline, is that MCW3, often handmade and coarser than MCW1, is the earlier of the two fabrics and may have gone out of use in the thirteenth century. The stratigraphic sequence at this site was therefore of value in determining whether this impression was valid. In the curvilinear ditches, the first cut produced only a small quantity of pottery, but 35.9 per cent by weight was MCW3, compared with 61.4 per cent MCW1. However, when quantified by MNV, fabric MCW3 was more common, with seven vessels, compared with only two of MCW1. In the second ditch of the series, 52.3 per cent of the two fabrics were MCW3 (forty-nine vessels compared with twenty-five MCW1). When the third ditch filled up, MCW3 had decreased to 14.5 per cent of the total (three vessels, five of MCW1). There was less pottery from the sequence of ditches associated with Green Lane, but MCW3 made up 60.7 per cent by weight in the earliest ditch, falling to 17.9 per cent in the second

Form	*BD*	*FTEV*	*INT*	*SEV?*	*SEV1*	*THEV*	*UPFT*	*UPPL*	*UPTH*
Bowl	1	2				4	1		1
Jar			2		16	3			
Jar?				2	1				
Jug						1		1	
Jug?								2	

Table 44 Medieval coarse ware rim and vessel forms, Green Lane (see Table 37)

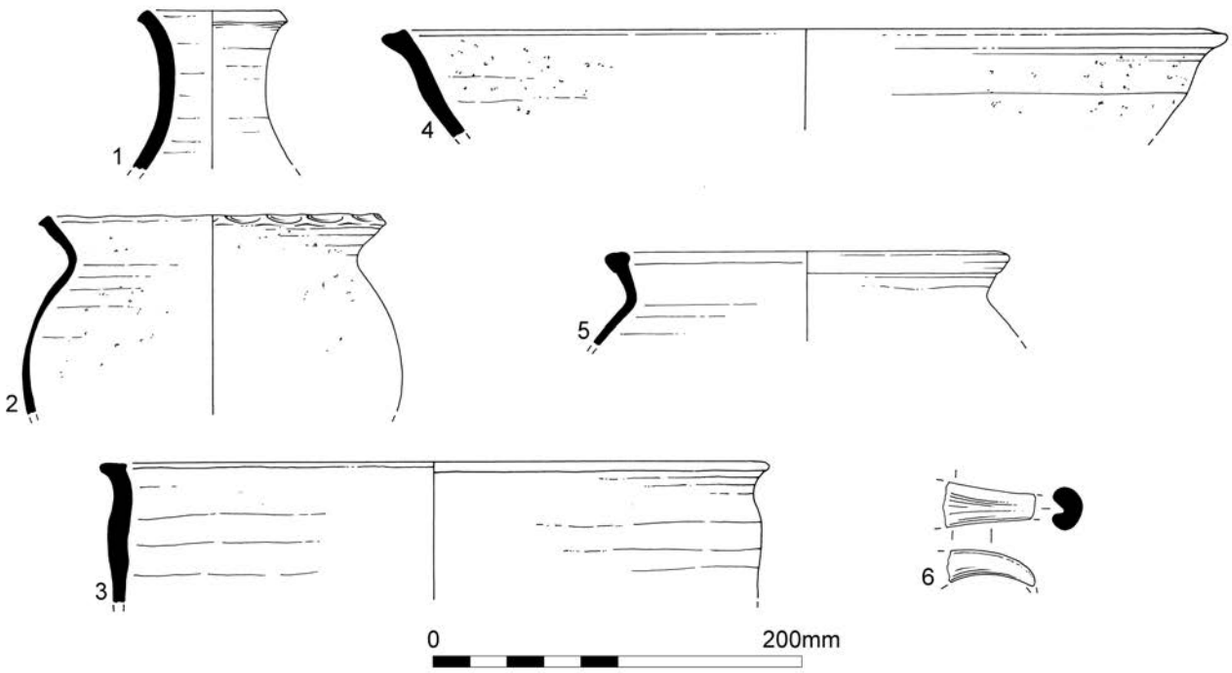

Figure 69 Early Saxon and medieval pottery from Green Lane, scale 1:4

No	*Description*	*Context*	*Feature*
1	ESMS long-necked globular jar; short everted rim, sooting around outer edge of rim	25109	Pit *25108*
2	MCW3 jar, buff to dark grey surfaces, slightly thumbed SEV1 rim	25084	Pit *25083*
3	MCW3 bowl; FTEV rim, handmade, external surfaces dark brown-black, black internally, red margins, knife-trimming	25115	Ditch *25114*
4	MCW3 bowl; FTEV rim, handmade, dark grey surfaces, buff margins, knife trimming	25115	Ditch *25114*
5	MCW1 jar, THEV rim, generally dark grey but; a large oxidised patch externally	25119	Ditch *25118*
6	GRIM skillet handle, worn, light green glaze on upper surface only	25183	Ditch *25182*

Table 45 Illustrated early Saxon and medieval pottery, Green Lane

(albeit with an anomalous increase of MCW3 to 48.6 per cent in the last ditch). Thus, there may have been a general decline in the use of MCW3 during the later stages of the medieval period. MCW1 is more commonly found in developed forms and was generally wheel-made, but the presence of some SEV1 rims in this fabric indicates that it also started early in the period, probably continuing in production later than the handmade MCW3 wares.

In general, where stratigraphic sequences could be studied, the pottery types were deposited in chronological sequence. The main exception to this was identified in one of the Green Lane ditch recuts, which produced earlier pottery in its upper than its lower fill, suggesting that the fill had been deliberately taken from a nearby midden rather than deposited accidentally over the life of the ditch. Despite the fact that the overall sequence of dates is correct, the general mix of pottery types in most fills may indicate similar use of midden deposits to backfill open ditches, but perhaps over shorter time periods.

The majority of pottery was recovered from the curvilinear enclosure ditch, most notably from the terminals adjacent to the entrance. Work at a clayland site in south Suffolk (Anderson forthcoming) has shown that communal middening may have taken place during the medieval period, so perhaps the disposal of mixed pottery types in these ditches may result from the use of a convenient dump of midden material close by when the time came to backfill them. There were several pits which produced large quantities of pottery, however, so it is clear that rubbish disposal into pits was also in use here.

Fired clay

by Richenda Goffin

In total, 476 fragments of fired clay weighing 2064kg were recovered. Some fragments of probable daub found in ditch *25007* have flat surfaces, and one has slight evidence of possible surface treatment. Several fragments from this ditch have a flat worn surface, and one appears to have been lightly covered with the very worn and insubstantial remains of an external coating. No fragments were identified that have indisputable deposits of visible surface limewash, such as would have been applied to protect external walls from the elements. Limewashed fragments have been identified on daub from Roman and Anglo-Saxon excavations, and are more commonly found from the remains of clay and timber buildings of the medieval period, for example the middle Saxon settlement at Maiden Lane in London (Goffin 1986, 115). The rest of the assemblage, which was found in medieval ditches and pits, may be residual.

Feature Type	*Feature*	*Small find.*	*Material*	*Count*	*Wt/g*	*Comments*
Ditch	*25032*	70650	Copper alloy	1	4	Incomplete buckle plate with notch for pin and one surviving hole for (missing) rivet
Ditch	*25032*	70651	Copper alloy	1	1	Decorated strip fragment with rebated rivet hole and notched edges; one side decorated with incised dotted lines, possibly a mount
Ditch	*25073*	70652	Copper alloy	1	6	Vessel rim fragment, with a simple everted rim; possessing sooted surfaces
Ditch	*25073*	70653	Iron	2	7	U-shaped staple; one arm incomplete. Iron staples such as these could have supported tethering rings, or have held chains and hasps in place around buildings
Pit	*25063*	70654	Iron	1	11	Nail shank, slightly bent and of square section.
Pit	*25079*	70655	Iron	3	42	Knife fragment with an incomplete blade and broken whittle-tang
Pit	*25079*	70656	Iron	1	38	Knife fragment with an incomplete blade and whittle-tang
Pit	*25083*	70657	Iron	1	5	'Fiddle-key' nail, with a double-clenched shank. For discussion of this type of horseshoe nail from early medieval deposits see Clark (1995, 86, fig. 64)
Ditch	*25032*	70658	Iron	1	4	Incomplete strip, found during metal detecting
Trackside ditch	*25138*	70659	Iron	1	83	Disc with central hole, possibly a washer. Diameter: 56mm; Thickness: 10mm; central hole diameter: 25mm. Found during metal detecting. Possibly intrusive
Trackside ditch	*25128*	70660	Iron	1	98	Horseshoe fragment, broken at the toe, with wide web and three rectangular nail holes, one on worn edge. Calkin present. Possibly of Clark's Type 4 (1995, 85–91). Those from London suggest an introduction of this type during their ceramic phase 9 (1270–1350), and universal usage by the fifteenth century. Found during metal detecting
Ditch	*25118*	70661	Iron	1	6	Nail, possibly a horseshoe nail with clenched shank and sub-rectangular head. Found during metal detecting

Table 46 Medieval metal finds, Green Lane (by Julia Huddle)

12.9 Phase 13: undated features

Twenty-two pits or postholes were excavated that cannot be attributed to any phase. These features were all oval or circular, and ranged from 0.25m long, 0.19m wide and 0.10m deep to 0.95m in diameter and 0.21m deep. Two linear features, *25250* and *25010*, were parallel to field boundary ditch *25245*, shown on the 1885 Ordnance Survey map and were probably post-medieval field drains.

12.10 Environmental archaeology

by Gemma Martin, Rowena Gale and James Rackham

Introduction

Five bulk samples were selected for analysis: two from Phase 5 deposits and three from Phase 10. An assemblage comprising 917 bone fragments and a small number of marine shells, collected by hand, was assessed (Rackham, in Cater 2004).

Botanical remains

by Gemma Martin

The five flots produced 224 identifiable charred botanical items, indicating the relatively low density of remains in each of the samples (0.11–3.99 quantified items per litre, excluding fragments). The overall state of preservation is generally fair and the remains consist of small quantities of cereal grain and weed seeds. There are slightly more weed seeds to cereal grains in the flots, excepting that from medieval ditch *25118*, which is the richest sample of the group both by density of remains and plant species diversity. No cereal chaff has been recovered from any samples; the fragile elements of chaff are less likely to survive the charring process compared to the more robust cereal grains (Boardman and Jones 1990) and are also more prone to mechanical damage following deposition.

The cereal assemblages include wheat, barley and oat, and overall there is slightly more barley relative to wheat grains, although oat dominates the very small cereal assemblages from the two Phase 5 flots. Specific identifications include hulled barley, a single grain of which is lateral ('twisted') in appearance indicating six-row barley, as well as bread-type wheat and two grains of emmer-type wheat. Of other plant species, the remains of legume cotyledons in medieval settlement ditch *25118* could be pea or broad bean from their general shape, but with no surviving diagnostic features it is not possible to confirm these identifications. Remains of hazelnut shell are present in three flots, from both Phases 5 and 10.

Charcoal, present in each of the flots, is mostly comminuted. The flot from Phase 5 fire pit *25026* is the richest in charcoal, mainly oak (see below), despite being the least productive in terms of other environmental finds. Vegetative remains including rhizomes and culm bases were noted in the two Phase 10 settlement ditch fills, as well as material cautiously identified as carbonised peat within ditch *25118*. Traces of uncharred weed seeds provide limited evidence for contamination by later material. Species include goosefoots, knotgrass and possibly violet.

Charcoal

by Rowena Gale

The charcoal-rich fill of the rectangular fire-pit *25026* consisted entirely of oak, mostly heartwood (73 pieces out of 74), probably from fairly wide roundwood. Although very friable, some fragments were up to 25mm in length. Feature *25195* contained a charcoal assemblage that was fragmented but indicated the use of oak (18 pieces

heartwood, 26 sapwood) supplemented with ash, blackthorn (one piece each) and species from the hawthorn or *Sorbus* group (Pomoideae: 3 pieces).

Snails

by James Rackham

The analysed snail assemblages derive from three bulk samples (Table 47). Snails survived with reasonable frequency only in the medieval deposits, and the soil conditions may have been detrimental to their survival in older sediments.

The small assemblage from feature *25195* indicates a damp, open landscape around the feature, the only shade-loving taxa being a single shell of *Punctum pygmaeum*, a species catholic in habitat and not restricted to wooded or shaded environments. The two medieval ditch samples also show a mollusc suite characteristic of open grassland with a large number of *Lymnaea truncatula* shells and the presence of *Vallonia pulchella* indicating a damp grassland habitat.

The presence of *Lymnaea* and three facultative aquatic species in ditch *25118* indicates that it carried water, at least seasonally, and the winter water table was probably at a depth of less than 0.9m. The shade-loving taxa in this ditch sample may readily have found a habitat along the ditch banks or in scrub or hedgerow growing on the bank.

Context	*25281*	*25143*	*25120*
Feature	*25195*	*25142*	*25118*
Phase	*5*	*10*	*10*
Open country			
Cecilioides acicula		+	
Vertigo pygmaea	2	2	2
Vertigo sp.		5	3
Pupilla muscorum		1	3
Vallonia excentrica		10	16
Vallonia pulchella		4	10
Vallonia sp.	8	30	24
Catholic			
Trichia hispida		2	4
Cochlicopa lubrica			2
Cochlicopa sp.		2	3
Helix aspersa			1
Shade loving			
Discus rotundatus			1
Oxychilus cellarius			1
Oxychilus alliarus			12
Oxychilus sp.		1	
Euconulus fulvus			1
Punctum pygmaeum	1	1	
Carychium tridentatum		1	
Vitrea sp.			1
Aquatic			
Bithynia tentaculata			2
Planorbis leucostoma			1
Lymnaea truncatula	4	8	35
Valvata cristata			2
Valvata cf. *macrostoma*			2

Table 47 Snail taxa identified from samples selected for analysis, Green Lane

Animal bone and marine shell

by James Rackham

This site produced the largest collection of animal bones from the whole project. The post-excavation analysis of the assemblage was carried out on material from phased contexts: a total of 727 bone fragments and fifty-three marine shells (Table 48). The bulk of the collected bone and shell was recovered from deposits assigned to medieval Phase 10, with only small assemblages from Phases 5 and 13. The preservation of the animal bone is variable: of the catalogued material, 4 per cent has been recorded as class 2 (bone very severely pitted and thinned, tending to break up; teeth with surface erosion and loss of cementum and dentine), 81 per cent as class 3 (surface pitting and erosion of bone, some loss of cementum and dentine on teeth) and 15 per cent as class 4 (surface of bone intact, loss of organic component, material chalky, calcined or burnt). This indicates some loss of bone from the deposits, particularly those from juvenile animals and fragile bone.

The frequency of identified fragments from each taxon or identification category is summarised in Table 48. Additional species that have been identified from the samples include dog, field vole, bank vole, house mouse, small birds and fish, and eggshell fragments of chicken and probably goose.

The Phase 5 material includes chopped, cut and burnt bone, but only one fragment showing evidence of dog gnawing. The bulk of this material was recovered from three contexts: the fill of Iron Age pit *27126* and two deposits in feature *25195* (*25281* and *25282*). The sample from fill *25281* also produced animal bone, including a large number of burnt fragments. Of the 228 white-calcined fragments, 220 could have derived from the cremation of a single sheep carcass. The degree of fragmentation and shrinkage during burning prohibits the reconstruction of the pieces but no duplicates occur among the remains, which include fragments from all parts of the skeleton. It is evident that if all this material does derive from a single carcass, then the animal was adult, since the distal radial epiphysis is fused and several of the recordable vertebral epiphyses are either fusing or have fused, although one or two lumbar epiphyses remain unfused. The rather better survival of animal bones in these contexts than those from Phase 10 could be accounted for by their burial in deeper features.

Apart from the cremated sheep very little data has survived on the age at death of the animals from Phase 5. Immature sheep are indicated by a couple of fragments with their epiphyses unfused, while a maxillary molar 2 only just in wear indicates an animal of perhaps 12 to 18 months age being killed. A single pig jaw suggests slaughter of a sub-adult animal, and the teeth of cattle indicate calves, adult and aged beasts being culled.

In Phase 10, the surviving identified bone fragments from the major species show similar degrees of fragmentation with both fragment counts and zone counts indicating similar proportions of cattle (56–57 per cent), sheep (26–27 per cent), horse (5 per cent) and pig (12 per cent) in the assemblage. Slightly over fifty per cent of the recovered bones derive from the large irregular feature in the centre of the site, *25034*. Unfortunately, nearly half the pottery in this feature was Iron Age or Roman, suggesting that a proportion at least of the animal bone may also be residual. This feature contained a much higher proportion

Phase	*5*	*10*	*13*
Horse		11	1
Cattle	11	115	3
Cattle size	17	155	6
Sheep/goat	6	49	8
Sheep	1	7	
Goat		10	
Sheep size	22	73	22
Pig	5	24	
Roe deer		1	
Fox		1	
Goose size	1		
Small mammal	1	4	
Unidentified bird		2	
Unidentified bone	17	172	4
Cockle		4	31
Mussel		6	8
Oyster		2	2
Total	**81**	**636**	**85**

Table 48 Hand-collected bone fragments and marine shells, Green Lane

of cattle than other contexts from Phase 10 (Table 48) but it is not possible to say whether this is a result of factors specific to the feature, the presence of residual material, or an earlier inception date for this deposit compared to the remainder of Phase 10.

The majority of the cattle bones from this irregular feature indicate animals slaughtered when adult or aged, with only one mandible and a distal metacarpus indicating immature beasts. The sheep include adult and immature animals, while the only ageable pig bone is from an immature animal. The remainder of the Phase 10 assemblage includes both immature and adult cattle, second year and adult sheep and immature pigs. Overall, the age structure of the stock might imply the production of meat, dairy produce and wool and also use for draught, but a juvenile component in the cull may not have survived the burial environment or the depredations of scavengers, so interpretation of the husbandry of the stock is problematic.

A proportion of the bones show evidence of butchery, several have been burnt and a number have been gnawed by dogs. A small group of cattle and goat horns in the medieval component of Phase 10, and other bones, indicate that horn and bone working was being undertaken on the site. All ten of the identified goat bones are fragments of horn core and some of these have been chopped from the skull and subsequently sawn transversely. No other ovicaprid bones have been specifically identifiable as goat, so the horn was probably brought onto site for working. The same contexts have produced several cattle horn cores, including some that have been sawn through, the distal shaft of a cattle metatarsus that has been sawn off the remainder, and the proximal end of a horse metatarsus that has been sawn from the shaft. Both these last two 'waste' pieces are characteristic of bone waste where the long straight tubular shaft of the metatarsus is used for making handles, bone plates or pins. These finds were recovered from pits *25083*, settlement ditch *25116*, posthole *25166*, and ditch *25128*, with the bulk in pit *25083*. This must be the debris from at least some craft activity on the site.

The occurrence of marine shells only in contexts from Phase 10 may be significant, but could reflect loss of material through dissolution in the soil.

Environmental conclusions

Little evidence has been recovered from the later Iron Age and early Roman deposits. The samples have produced probable barley and oats, and hazelnut. Bones of cattle, sheep, pig and small fish have been recovered from samples and by hand collection. These represent the only food taxa identified, although emmer wheat is tentatively identified from later features. These remains probably represent domestic rubbish and, with house mouse in the earlier fills of feature *25195*, support the interpretation that buildings stood close by. The probable cremated sheep carcass in this feature suggests a ritual event, since an adult sheep would be very difficult to burn to this degree unless on a pyre, a fire probably largely fuelled by oak wood.

The richer Phase 10 samples and the relative abundance of animal bone indicate more activity on the site during the medieval period, although the assemblages from hollow *25034* may include material from earlier periods of activity. The presence of a grain of emmer in both this deposit and a later medieval ditch fill suggests that there was residual environmental material, unsurprising given the presence of residual pottery. The bulk of the cereals recovered from Phase 10, mostly barley, oats and bread-type wheat, are typical of the medieval period (Greig 1991). The potential exploitation of local peat resources for fuel is suggested by the charred amorphous organic material and herbaceous remains from ditch *25118*, and may have fuelled domestic hearths, although the botanical assemblages are likely to have been derived from a variety of sources not distinguishable in the archaeobotanical record and therefore possibly resulting from unrelated activities.

Bread wheat, six-row hulled barley, oats, probable pea or bean, hazelnut, cattle, sheep, pig, roe deer, cockle, mussel, oyster, chicken and probably goose eggs, and presumably the chickens and geese themselves are identified food items. With the absence of any cereal chaff or significant numbers of weed seeds, this material also appears to be derived from domestic rubbish. The bone assemblage indicates a dominance of cattle, although if irregular hollow *25034* is Saxon in inception, sheep and pig may have become more important in the later medieval period. The assemblage is almost certainly biased by relatively poor preservation and it may be unwise to take the recorded data at face value. The lack of juvenile animals in the assemblage may be due to their loss from the soil. The few fragments of goat horn core, sawn cattle cores and two sawn cattle and horse metatarsals indicate that both horn working and at least small scale bone working was being undertaken, but not necessarily at a 'professional' level.

12.11 Discussion

There is evidence, though limited, of occupation during the late Iron Age, probably continuing until after the Roman invasion. The large number of residual finds indicates that a substantial focus of activity existed nearby, probably beyond the site boundaries although it is possible that evidence from within the excavation area itself has

been lost to later ploughing. While some pottery may have been earlier, all of the Iron Age sherds that could be closely dated were from the later Iron Age. With a few exceptions, the Roman pottery is all from the early or middle Roman periods.

The difficulty in distinguishing early Anglo-Saxon from Iron Age pottery makes it difficult to judge the scope of activity in the immediate post-Roman period, but there is a limited amount of evidence for some activity in this period, agriculture rather than anything that would indicate that the site itself was occupied at this time.

The medieval period witnessed more activity on the site than at any time before or since. Initially, an agricultural landscape with ditched fields or enclosures seems to have been established, though these ditches received a large volume of domestic waste, suggesting that settlement was taking place nearby. The eastern part of the site was then settled for a while in the middle of the phase, encroaching on the earlier landscape. A boundary ditch was created beside a living area that probably contained post-built buildings of wood and daub, together with associated rubbish pits. It appears that midden material was also allowed to accumulate near the entrance to the enclosure, before being discarded into the enclosure ditches.

No indication of the enclosure was found on the eastern side of Green Lane, so the settlement may have been very small, perhaps a single dwelling. However, the fieldwalking survey recovered medieval pottery from the area immediately east of Green Lane, and none of the surviving features were of any great depth, so it seems likely, given the orientation of the enclosing ditches, that the settlement extended for some distance into that field, but that modern deep ploughing has destroyed all trace of it.

The settlement was abandoned during the fourteenth century, and the settlement boundary ditch was replaced by another boundary, probably part of a late medieval field system. The line of the field boundary that crossed the remains of the old settlement perhaps provided a convenient route across the countryside from Foulsham to Foxley, and at some stage this route seems to have become fossilised as Green Lane.

13. Medieval activity at Billingford Road, Bintree

by Chris Clay

13.1 Summary

A metalled trackway and accompanying roadside ditches covered much of the western end of the excavation area. The trackway had medieval origins, but the trackside ditches were still partially open in the nineteenth century. A system of rectilinear enclosure ditches to the east of the trackway and groups of postholes and small pits in the central part of this site, interpreted as the remains of timber buildings, probably date from the thirteenth or fourteenth centuries. Numerous large intercutting pits occupied much of the rest of the site.

Residual early Neolithic, Bronze Age, Roman and Anglo-Saxon artefacts indicate that there was limited earlier activity on the site in these periods.

13.2 The site

The site (HER 37623) lies within the parish of Bintree, 500 metres south of the village (Fig. 44, Chapter 9). This part of the pipeline route crossed open arable land, bounded to the west and north by Billingford Road and to the east by the A1067 Norwich to Fakenham road. The site, centred on NGR 60205 32291, occupies an area of slightly sloping ground, running downwards to the north-east, from an elevation of approximately 51m OD towards the western end of the site, to 49m OD at the east. It overlooks the valley of the River Wensum to the south and west. This area is on chalky glacial tills which have produced fine loamy soils.

13.3 Pre-construction work

The desk-based assessment drew attention to a cropmark of a linear feature (HER 17234) interpreted as a track, and correlating with a track on Faden's map of 1797 and with the 'road from Bintree to Elsing' marked on the estate map of Beck Hall, Billingford, dating to around 1600. The line of this road was not easily avoidable but the desk-based assessment pointed out that the pipeline would affect only a small section of it (Holgate 2002).

Metal detector finds from the broader area include a Roman belt fitting (HER 31500) from the field to the south of the site, a Roman brooch and other finds from the field to the west of Billingford Road (HER 31065; centred on NGR 601530 323380), and the Roman, Anglo-Saxon and medieval finds from the field beyond the A1067, already mentioned in respect of the Foxley Road site (Section 9.3 above), which was just over 700 metres to the east.

Fieldwalking along the pipeline route within this field recovered largely post-medieval building material and pottery, along with a single medieval pottery sherd and five worked flints. Of the eleven objects recovered by metal detector, four could be dated to the post-medieval period and one was a modern button.

The geophysical survey identified the line of the Bintree to Elsing Road as a pair of strong parallel linear anomalies. Further anomalies that were interpreted as pits and ditches were recorded to the east of this, as well as faint linear anomalies at the west end of this field.

13.4 Excavation

Three evaluation trenches were excavated, positioned over the geophysical anomalies to the east of the road. Archaeological features were noted in the two trenches closest to the line of road and this area was subsequently expanded into an open area excavation (Fig. 70).

13.5 Phase 0: natural geology

All exposed features were cut into a natural geology of orange-brown sandy clay, with occasional banding of greyish clay and frequent flint nodules.

13.6 Phases 1 to 4: residual prehistoric finds

by Sarah Bates and Sarah Percival

Forty-eight residual struck flints were recovered during excavation of the site (Table 49). Over half of the pieces are small spalls, thirty of which derived from the fill of pit *22331*. Also present are very small numbers of flakes and blade-like pieces, and three very small chunky fragments which appear to have been struck, although it might be that these have been accidentally damaged. A small 'thumbnail' type scraper, of probable late Neolithic or early Bronze Age date was found in ditch recut *22100*, and part of a blade-like flake with a possible denticular edge

Type	*Number*
Struck fragment	3
Flake	7
Blade-like flake	1
Blade	2
Shatter	1
Spall	24
Thumbnail scraper	1
Denticulate	1
Retouched flake	2
Utilised blade	2
Utilised flake	3
Utilised fragment	1
Total	**48**

Table 49 Summary of the struck flint, Billingford Road

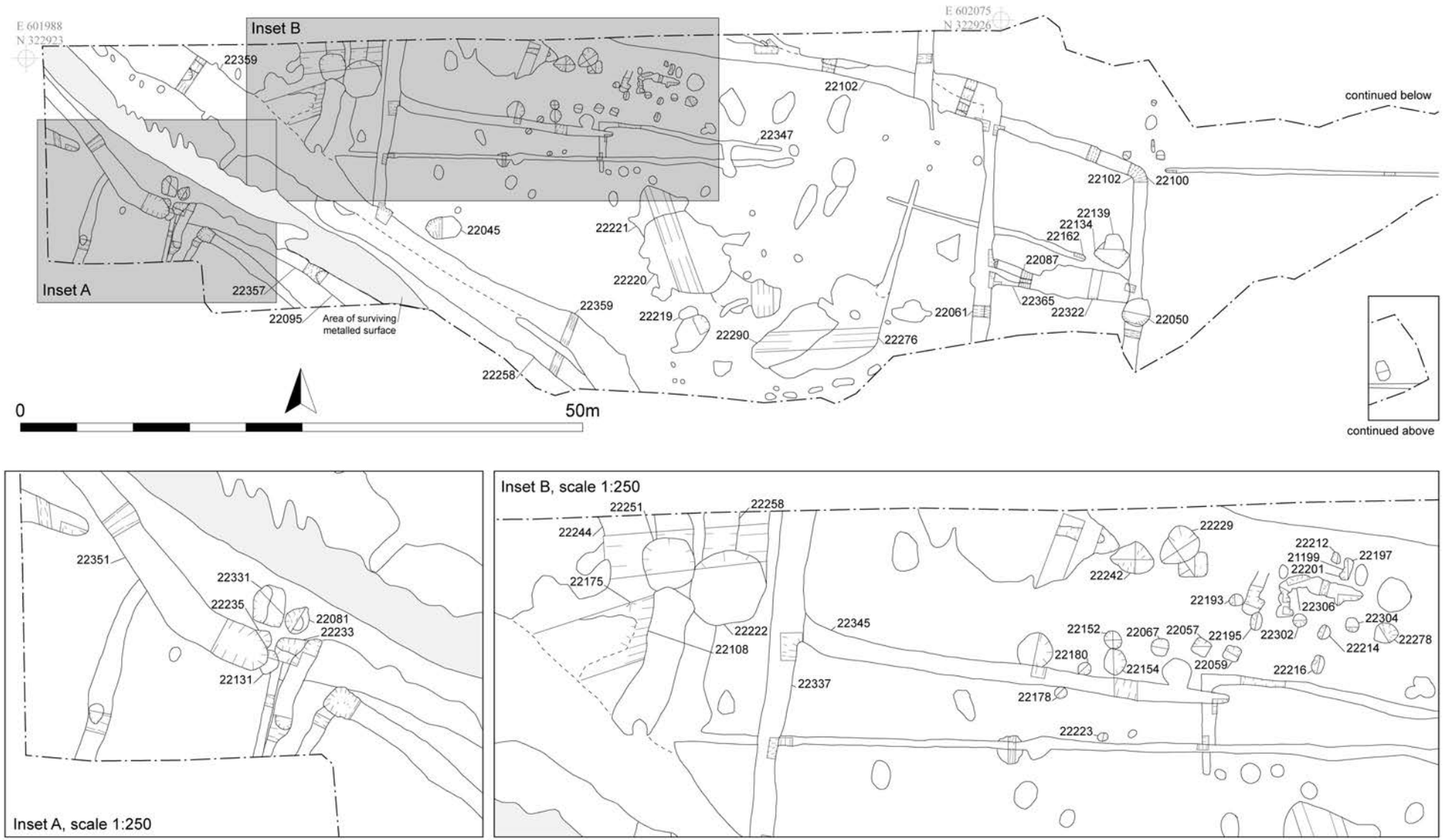

Figure 70 Plan of the excavation area at Billingford Road, scale 1:500 and 1:250

was found redeposited into pit *22108*. This struck flint represents activity in the vicinity during the prehistoric periods.

The excavation produced a small mixed residual prehistoric pottery assemblage of twelve sherds (39g), provisionally dated by fabric type (Table 50). No diagnostic forms or decorative traits were present and the assemblage is not closely datable.

Ceramic Phase	*Quantity*	*Wt/g*
Earlier Neolithic	1	26
Later Neolithic to early Bronze Age	1	5
Bronze Age	7	4
Iron Age	1	1
Indeterminate	2	3
Total	**12**	**39**

Table 50 Quantity and weight of prehistoric pottery sherds by ceramic phase, Billingford Road

13.7 Phases 5 to 9: residual Roman and Anglo-Saxon pottery

by Alice Lyons and Sue Anderson

A single severely abraded sherd (1g) of Roman pottery was retrieved from late medieval pit *22045*. It is a sandy grey ware and not closely datable.

Thirteen Saxon pottery sherds (98g) were collected, all residual in medieval contexts. Table 51 shows their quantification by fabric. Four are heavily abraded body sherds of probable early Saxon date. One sherd contains a thick deposit of burnt food residue. Sherds of Thetford-type ware identified in a few medieval contexts included two medium jars with later type rims, and a Grimston-type bowl with a thumbed rim. Although classified as late Saxon, they are likely to be contemporary with some of the early medieval wares in this group and form a continuum with the medieval pottery discussed below.

13.8 Phases 10 to 12: medieval to post-medieval ditches, buildings and quarry pits

All of the securely dated features had their origin in the medieval period although a small number of contexts produced dating evidence that suggests a continuation of activity into the post-medieval phase. The site can be divided into a series of feature groups that define distinct functional zones, although more detailed chronological phasing has not been possible.

Early enclosure ditches

Several ditches on the western side of site are demonstrably earlier in date than the trackside ditch alongside the 'road from Bintree to Elsing'. These early ditches appear to have been boundaries of a series of small enclosures in the centre of the site. The southern end of one of these ditches, *22258* (Fig. 71), was parallel to the trackside ditch, showing that the road, or at least its subsequent alignment, was an established feature of the medieval landscape. At its northern end, ditch *22258* turned through an obtuse angle to follow a north-to-south alignment, at which point it was running parallel to a ditch to the east, *22337*. Two other ditches, *22244* and *22175*, running south from the northern site boundary may have been earlier phases of ditches *22258* and *22337*. Both of these ditches were truncated by the trackside ditch *22359* and were not visible on its southern side, so they too may have turned to run on the same alignment as the later track. The trackside ditch had also removed the stratigraphic relationship between ditches *22258* and *22337*.

A narrow gully, *22345* (Fig. 71), which was cut by ditch *22337*, ran eastwards for about 19m before ending in a clearly defined terminal. This terminal was recorded as cutting an L-shaped gully, *22347*, although as with many of the stratigraphic relationships on the site, this relationship was uncertain. The feature is likely to have been more extensive originally, having been subject to substantial truncation. Gully *22347* produced a single sherd of pottery, dated to the eleventh to fourteenth centuries. Gully *22162* was a similar feature, continuing eastward on a slightly different alignment after a 10m-wide gap; it contained three similarly dated sherds.

Other enclosure ditches

The eastern and northern sides of two more ditched enclosures were present toward the eastern end of the site. Their similar morphology and orientation implies that both of these enclosures were part of the same phase of land use; both are likely to have dated to the early part of medieval Phase 10. They might also have been contemporary with the trackway and, if so, the trackway is likely to have formed their southern boundary, though this could not be confirmed within the confines of the excavation. The pottery assemblages recovered from the ditches of each of these enclosures suggest that both were in use during the thirteenth century.

As well as thirty sherds of medieval pottery, the single fill of the earlier, easternmost enclosure ditch, *22102*, (Fig. 71, two sections) produced a residual prehistoric sherd, possibly of early Neolithic date. This ditch had a recut, *22100*, along its eastern and northern sides, dated to the fifteenth to sixteenth century by an assemblage of twenty-seven sherds of pottery. The enclosure bounded by

Description	*Fabric*	*Code*	*No*	*% No*	*Wt/g*	*% Wt*	*eve*
Early Saxon coarse quartz	ESCQ	2.03	1	25.0	4	11.1	
Early Saxon medium sandy	ESMS	2.22	3	75.0	32	88.9	
Total early Saxon			*4*	*30.8*	*36*	*36.7*	
Thetford-type ware	THET	2.50	7	77.8	34	54.8	0.12
Thetford-type ware (Grimston)	THETG	2.57	2	22.2	28	45.2	
Total late Saxon			*9*	*69.2*	*62*	*63.3*	*0.12*
Total Saxon			**13**	**100**	**98**	**100**	**0.12**

Note: percentages in sub-total rows are of the entire post-Roman assemblage; those referring to individual fabrics are of the total phase group

Table 51 Saxon pottery quantification by fabric, Billingford Road

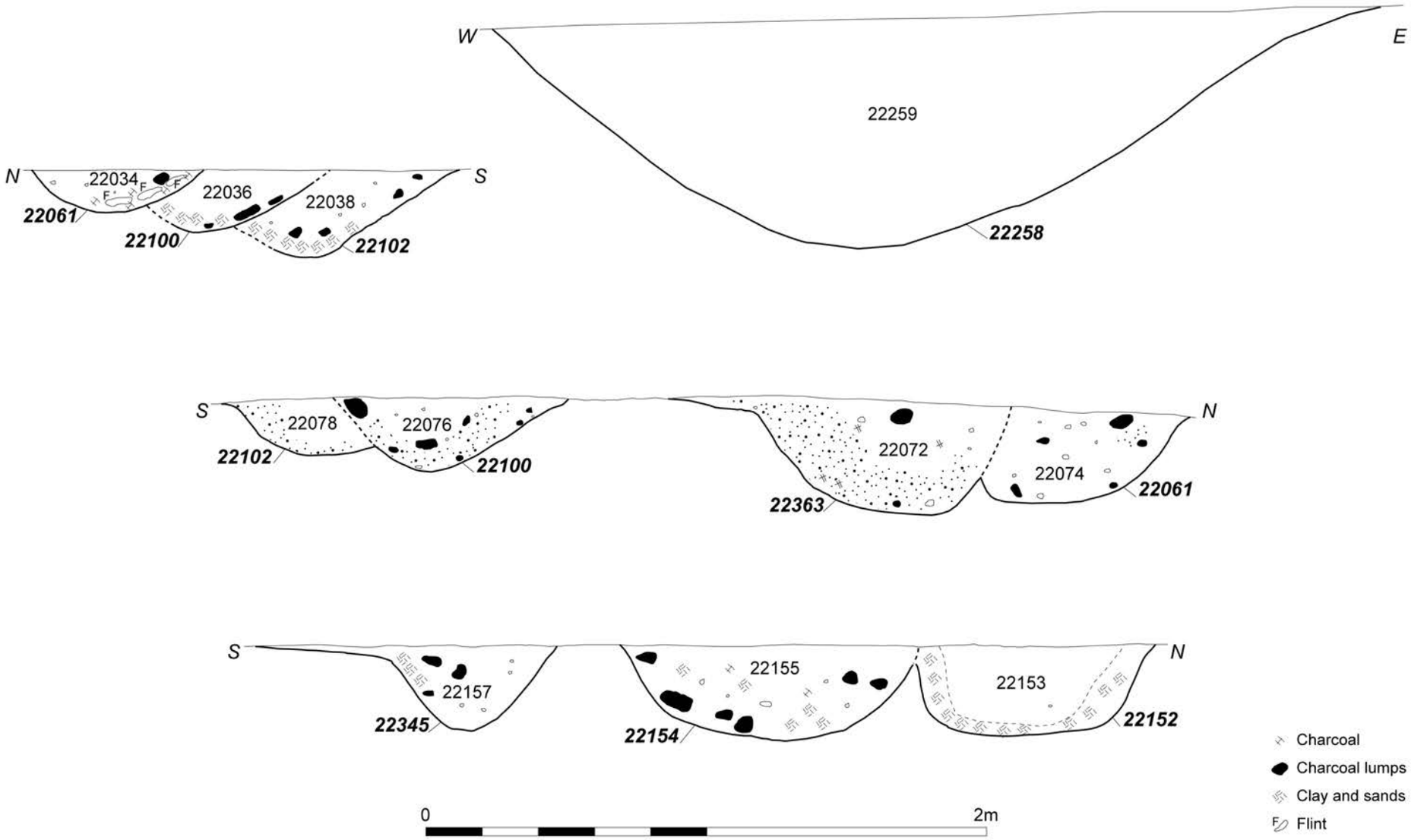

Figure 71 Sections through Phase 10–12 ditches at Billingford Road, scale 1:20

ditch *22102* was subsequently modified by the cutting of ditch *22061*. The northern arm of this ditch followed the same line as the earlier ditch but the eastern arm was displaced around 15m to the west, implying either a migration or subdivision of the enclosure. This later enclosure ditch produced thirteenth century pottery sherds and a single residual early Anglo-Saxon sherd. It was recut, *22363*, along the east side of the north to south arm of the enclosure ditch, and the south side of its northern return (Fig. 71).

Three intercutting parallel gullies were recorded within the enclosure bounded by ditch *22102*. The western terminal of the northernmost of these gullies, *22087*, and the southernmost gully, *22365*, could both be dated to the thirteenth to fourteenth centuries. To the east, large sub-rectangular pit *22322* had truncated these gullies.

Pits

Pit *22050* (Fig. 72), cut the eastern arm of enclosure ditch *22102*. Pits *22134* and *22139* nearby were similar in appearance suggesting that these too post-date that enclosure. Pit *22134* and the stratigraphically later pit *22139* both produced large quantities of pottery, in both cases consistent with a fourteenth century date. This quantity of pottery and the nature of their fill suggest that they were backfilled with domestic waste, although they may originally have served other purposes. There were cross-matches with the pottery from these two pits, and, surprisingly, also with some sherds from pit *22045*, located 60m to the west, suggesting a broadly contemporary date for all three of these pits.

Possible timber buildings, north-central part of site

Two groups of postholes provided possible evidence of medieval timber buildings or other structures. The first identified group comprised postholes *22057*, *22059*, *22178*, *22180* (all on Fig. 73), *22152* (Fig. 71), *22067* and *22223*. Dating evidence from this group was limited to three pottery sherds, one each from features *22152*, *22180* and *22223*. This group may be the remains of a building whose north side was defined by postholes *22152*, *22067*, *22057* and *22059* with *22223* marking the south-west corner and *22178* and *22180* representing a porch or external structure. A more likely interpretation is that these features were the remains of two or more building phases on different alignments: one defined by east-to-west aligned postholes *22057*, *22059*, *22067*, and the other by features *22178*, *22180* and *22223*. Posthole *22152* could fit comfortably into either group.

A second group of postholes comprised features *22197*, *22199*, *22201*, *22212, 22214*, *22216*, *22193*,

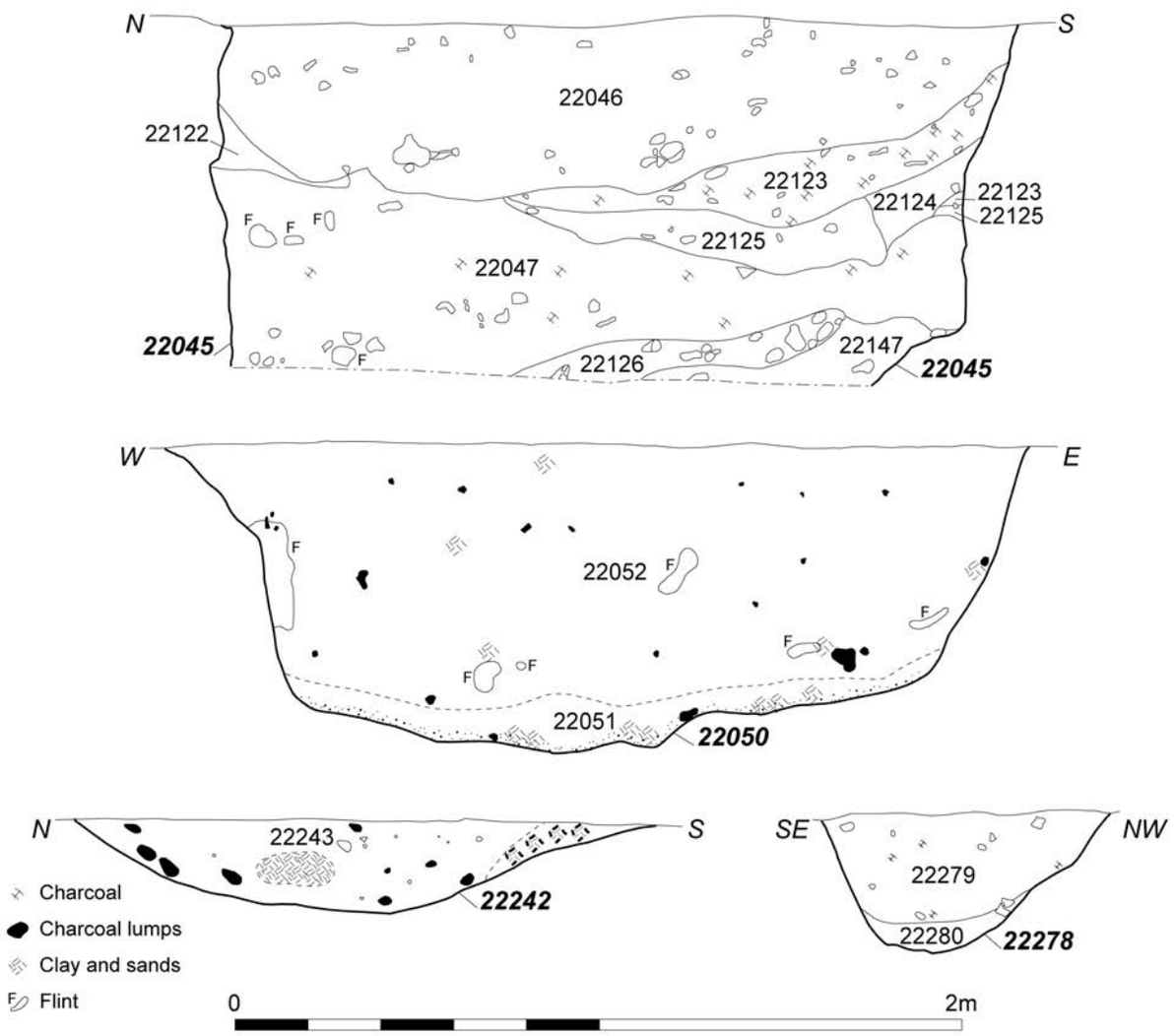

Figure 72 Sections through Phase 10–12 pits at Billingford Road, scale 1:20

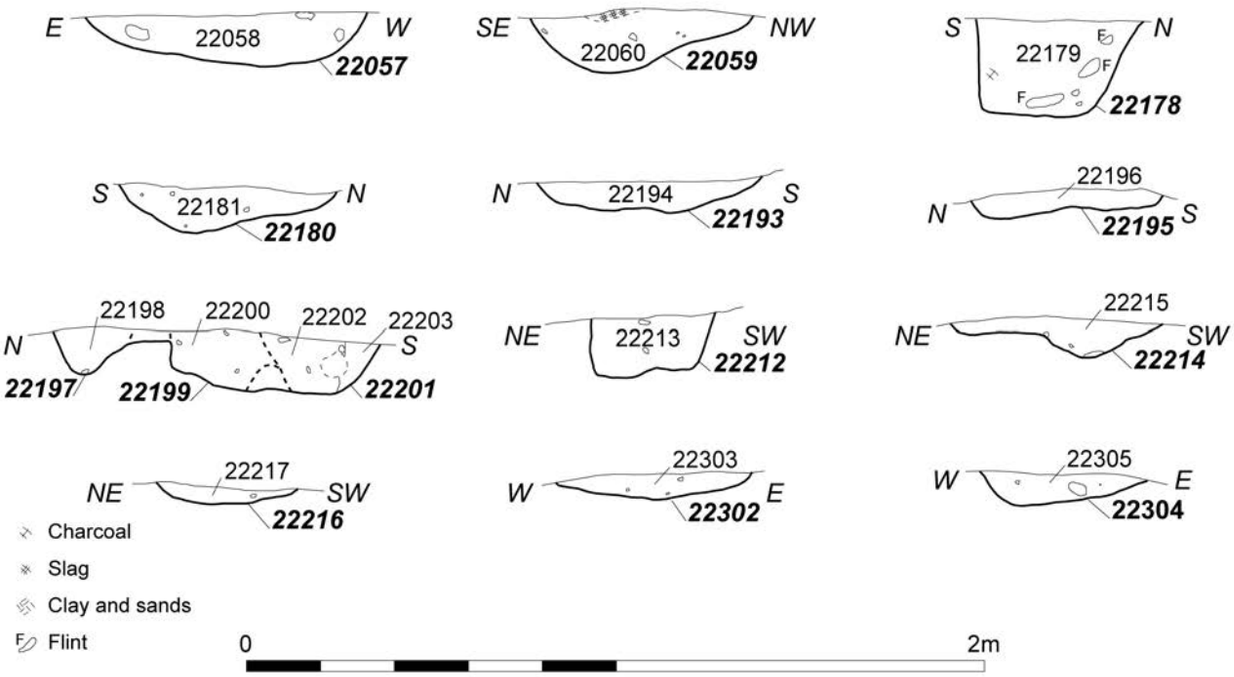

Figure 73 Sections through Phase 10–12 postholes at Billingford Road, scale 1:20

22195, *22302* and *22304* (all on Fig. 73) together with a possible beam slot, *22306*, together forming a rough square with sides of approximately 5m. This group almost certainly represents a structure of some kind, which had seen several episodes of rebuilding or repair. Dating evidence was again sparse: single sherds of pottery from postholes *22302* and *22304* and three from beam slot *22306*, including a residual prehistoric sherd.

A number of nearby pits may have been associated with these structural remains. Pits *22229*, *22242* (Fig. 72) and *22278* (Fig. 72) contained small quantities of pottery but otherwise the fills of the pits in this part of the site had

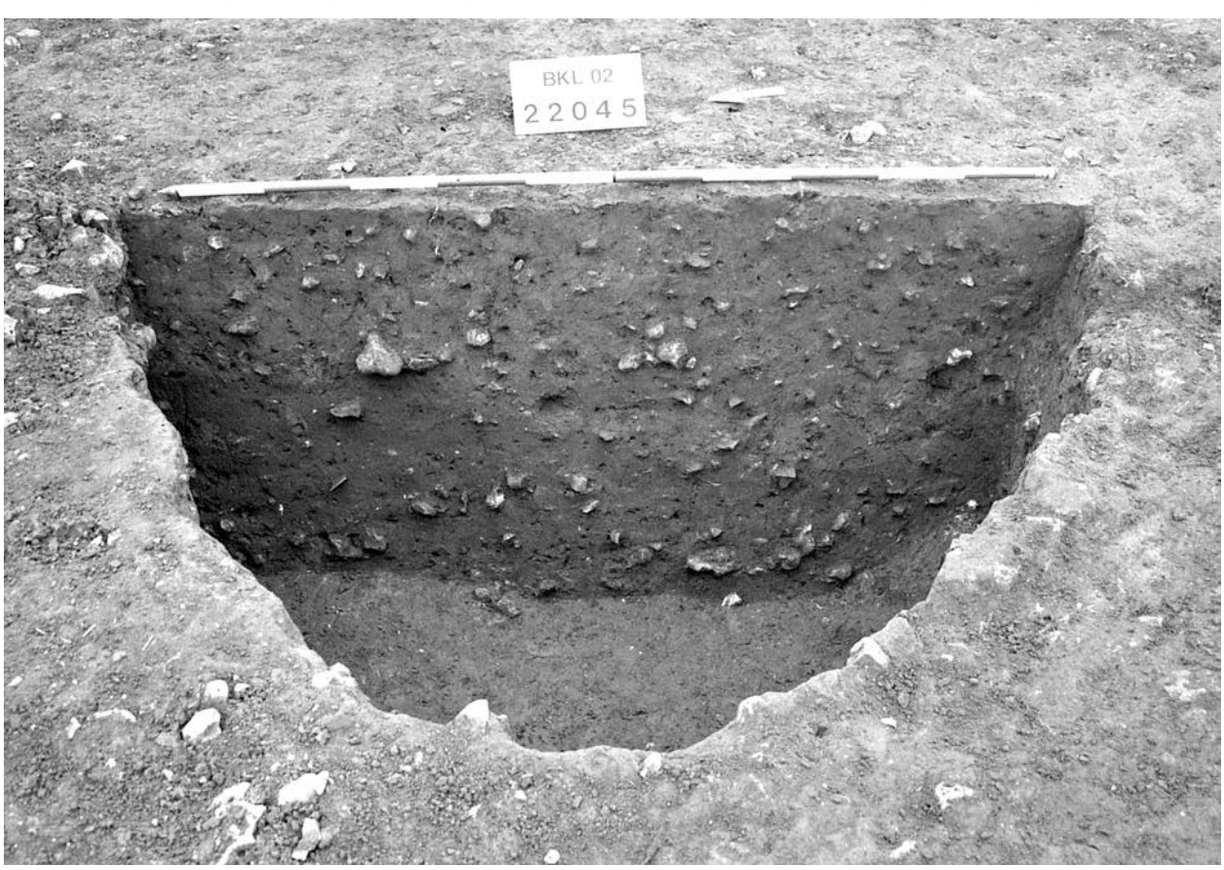

Plate 12 West-facing section through partially excavated medieval pit *22045*; 2m scale

little to suggest that they were used for the dumping of rubbish. Pit *22242* was an exception however, as it contained frequent charcoal and burnt clay, possibly waste from a domestic hearth or fire.

The 'road from Bintree to Elsing' and associated features

A track, defined by its largely ploughed-out gravel metalling between flanking ditches, ran obliquely across the western side of the site. This corresponded almost exactly with the position of the road (HER 17234).

The prominent roadside ditch on the north-east side of the track, *22359*, could be dated stratigraphically to the fourteenth century or later as it cut the large and well dated pit *22108*. At least two recuts were visible, the second of which contained nineteenth century creamware and a fragment of post-medieval brick. Each episode of cutting had shifted the ditch westwards, narrowing the track, and the final episode of recutting was considerably wider and deeper than the original ditch had been. Only this latest cut could be traced across the full width of the excavation area, the two earlier cuts only surviving towards the northern baulk.

The corresponding ditch on the south-west side of the track had a slightly meandering course and a narrow gap in its length, separating the northern half, *22351*, from its increasingly shallow southern continuation, *22357*. Three medieval pits, *22131*, *22235* and *22233*, formed a tight grouping cut into the terminals either side of the gap. Feature *22331* nearby contained three medieval pottery sherds, seven small prehistoric, possibly Bronze Age, sherds, and worked flint. It also contained many small tuyère fragments and abundant hammerscale, implying that iron-smithing took place in very close proximity. Small quantities of hearth bottom fragments were also recovered from an adjacent undated pit, *22081*. Further to the south, pit *22095*, pre-dating ditch *22357*, contained quantities of burnt material.

Although not fully excavated, pit *22108* was shown to be over 1.5m deep (Fig. 74). It was filled by silty layers interspersed with deliberate dumps of material which produced considerable quantities of pottery. The assemblage from the lowest excavated fill suggests a deposition date in the twelfth to fourteenth centuries and includes a small residual prehistoric component, while the top fill was could be more closely dated to the fourteenth century. The pit also contained small fragments of smithing slag, and proto-hearth bottom fragments. Two other pits on the north-east side of the former road, *22222* and *22251* (Fig. 74) had simpler sequences of fills and fewer finds but may have been the result of similar activity.

Further south, pit *22045* was also deeper than 1.5m (Plate 12, Fig. 72). It appeared to have at least a partial clay lining, and had been filled by periodic dumping of domestic waste, interspersed with episodes of gradual natural silting. The pit produced fifty-nine sherds of pottery, indicating a thirteenth to fourteenth century date. It also contained a fragment of a possible iron knife blade (Table 52).

In the centre of the site, two complex areas of intercutting pits were recorded in section following excavation of machine slots through them. These features have been interpreted as possible quarry pits, because of their large size and the nature of their silty fills. Pit *22221*, which produced no dating evidence, was cut by pit *22220*, which contained two thirteenth to fourteenth century sherds. To the south were two smaller intercutting pits of which one*, 22219*, contained a single sherd of similarly dated pottery. Two other large intercutting pits, *22276* and *22290*, appeared to be elongated sub-oval features, in excess of 10m long and about 4m to 6m wide. Neither pit was bottomed but the excavated fills of both were archaeologically sterile.

Slag

by Jane Cowgill

About 3kg (593 pieces) of slag and associated finds were recorded. There are two distinctive iron-smithing slag assemblages from the site. One is very fresh in appearance, while the second appears to have suffered from some kind of post-depositional process.

The smaller group consists mainly of small proto-hearth bottoms. Their density is surprising given that coal was the only fuel used in the smithing hearth. All these pieces appear to be in a fresh condition and show no signs of abrasion arising as a result of, for example, being weathered on the ground surface. They were all recovered from fills interpreted as natural silting in roadside ditch *22359* and in twelfth to fourteenth century quarry pit *22108*. The condition of the slag, however, and the fact that it definitely appears to constitute a single assemblage, indicate that the quarry was infilled fairly rapidly.

Feature	*Small find*	*Material*	*Count*	*Wt/g*	*Comments*
22045	70152	Iron	6	36	Undated possible knife blade fragment, broken at both ends, plus possibly associated fragments
22108	70155	Copper alloy	1	2	Incomplete medieval buckle plate with a slot for a pin, three rivet holes (one with the rivet *in situ*). Front is decorated with a stamped eight petalled flower within beaded border
	70156	Copper alloy	1	3	Undated bent and crumpled sheet fragment
	70157	Iron	1	6	Possibly medieval possible Fiddle-key nail with an incomplete shank
	70158	Copper alloy	2	2	Two undated sheet fragments; one with two rivet holes, one with a single rivet hole; these are possibly buckle plate fragments
	70159	Iron	1	592	Horseshoe with three square nail holes on either side, four with nails *in situ*. One possible right angled calkin remains on one side but is possibly broken. Possibly Type 4 following Clark (1995, 85–91), and those from London suggest an introduction of the type during ceramic phase 9 (1270–1350), although it is universal by the fifteenth century

Table 52 Metal finds, Billingford Road

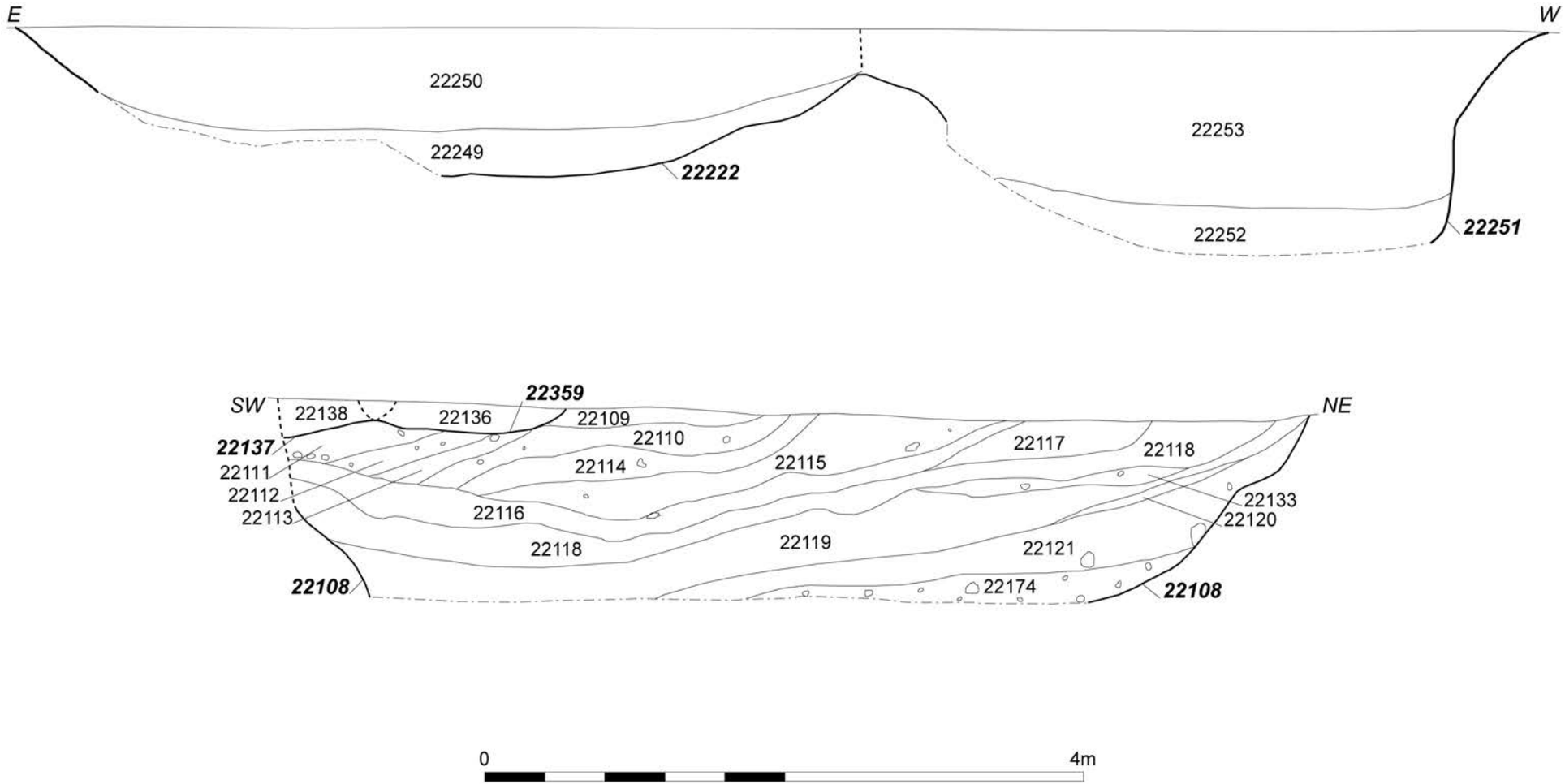

Figure 74 Sections through Phase 10–12 quarry pits at Billingford Road, scale 1:40

The second group, from pit *22331*, is much more cindery in character, and many of the pieces appear to have high silica content, with sand grains visible in some cases. Few pieces are complete, but these slags are quite crushable and not as robust as most smithing slags. There are very few hearth bottoms and only seven proto-hearth bottoms, the assemblage being dominated by iron-rich cinder. Though few imprints were visible within the slags, charcoal seems to have been the only fuel used. If this was so, it suggests that the smithy was functional during the earlier part of the date range suggested by the pottery. Norfolk probably had very little woodland by the medieval period (T. Williamson pers. comm.), and imported coal was perhaps a more available and cheaper resource by the late thirteenth and fourteenth centuries.

There are numerous small fragments of tuyères (the plate or cylinder that protects the nozzle of the bellows from the heat of the fire). These are all made from a very sandy clay fabric, and this perhaps partly accounts for the high silica content of the slags, because the iron within them will react with the sand in the tuyères. The high number of fragments could suggest that the tuyères needed replacing or repairing regularly, perhaps implying that they were progressively denuded by the slags. A large quantity of both plate and spheroidal hammerscale was recovered from sample 71152, including some large pieces of plate (up to 6mm by 9mm) and several spheroids of over 3mm diameter. The presence of the fragile tuyère fragments, many weighing less than one gram, and the large quantity of hammerscale implies that the smithy was nearby, and that this material may have been dumped directly from it into the pit.

The slags in this large group range in colour from browns through to mid- or pale greys and creams, and most are matt, unlike the more usual glossy dark pieces that formed the first group. This is the result of a post-depositional process: this effect is usually an indicator that the burial context was subjected to flooding and waterlogging, often on a seasonal basis. Although slags are often thought to be completely stable, recent archaeological study is proving otherwise. This effect on slags was noted in an extreme form at the Scole bypass excavations on the Norfolk/Suffolk border, where some slags had become soft and gained powdery surfaces (Cowgill and McDonnell forthcoming). Most of the Billingford Road assemblage was recovered from pit *22331*, although a few small pieces were found in pit *22081*, which was cut by pit *22331*. It is suggested, on the basis of the condition of the slags, that this feature was subjected to an irregular water table, but if not, some other process must have affected the appearance of these slags.

Worked stone
by Hilary Major, with Robert Ixer

Medieval lava querns and millstone
Fragments of lava quern were recovered from this site (Table 53) and also from the sites at Southrepps Road, Lyngate Road, Church Lane, Old Hall Farm, and Itteringham. The condition of the stone was variable, and many pieces were badly fragmented. Some, however, survived in relatively good condition, including a millstone from this site. Medieval querns are not as common as Roman querns, but they are being increasingly recognised on rural sites. The relative lack of querns on medieval sites is, no doubt, partly the consequence of the proliferation of watermills and windmills, as milling increasingly came under the control of the lord of the manor. In some cases, the use of querns for grinding corn was forbidden. Querns were, however, also used for grinding malt for brewing, and this seems to have been their main domestic use by the end of the Middle Ages.

One quern fragment is from a lava upper millstone that has part of the edge of the hopper present (Fig. 75.1). The top has very coarse pecking and the slightly angled grinding surface has finer pecking, worn fairly smooth in places. The original edge appears to have been cut down to straighten it, and the adjacent broken edge is also straight, and at right angles. The broken stone was probably trimmed for re-use as, for example, a flagstone. There is a shallow hole in the top, which may have formed the seating for a clamp, although apparent vitrification of the surface is probably natural. The stone measures over 600mm in diameter and the hopper is about 120mm in diameter. It was not securely stratified as it was retrieved from the subsoil, but is likely to be medieval, and had probably been re-used, perhaps as a flagstone. Fragmentation can make distinguishing millstone fragments from querns difficult, and few other definite millstones of medieval date have been recorded from Norfolk: exceptions include a large millstone from Castle Street, Norwich (Wilson and Hurst 1965, 196) and a possible millstone from a retting or tanning site at Corpusty (Goffin 2003).

Almost all medieval querns from Norfolk and elsewhere in East Anglia were made from lava imported from the Cologne area. Of the numerous querns and millstones found during excavations in Norwich over the past ten years, only one has been made from material other than lava (D. Buckley pers. comm.). This contrasts with the Roman period when, although lava querns predominated, at least in the earlier part of the period, querns made from a number of other stone types were also in use. The trading pattern for querns was clearly very

Context	*Description*
Ditch	Lava quern fragment with a grooved grinding surface. Other surface is irregular, and possibly eroded. Thickness suggests that
22244	this might be part of a pot quern. Probably part of the same quern as that in *22375*. Thickness 41mm
Unstratified	
22002	Lava upper millstone fragment with part of the edge of the hopper present
22375	Lava upper stone edge fragment with an angled grinding surface. Grinding surface has bold grooves, possibly harp dressing, and the top is fairly rough and stepped. Thickness at edge 50mm. Minimum thickness 36mm. Diameter about 350mm
	Lava fragment; probably part of the same stone as the upper fragment from the same context. Thickness 25–38mm
	Three joining lava fragments and two lumps with no original surfaces. Signs of heat damage on some pieces
824	Shelly limestone mortar rim, flat topped, with a slight neck. Rim width 34mm

Table 53 Worked stone, Billingford Road

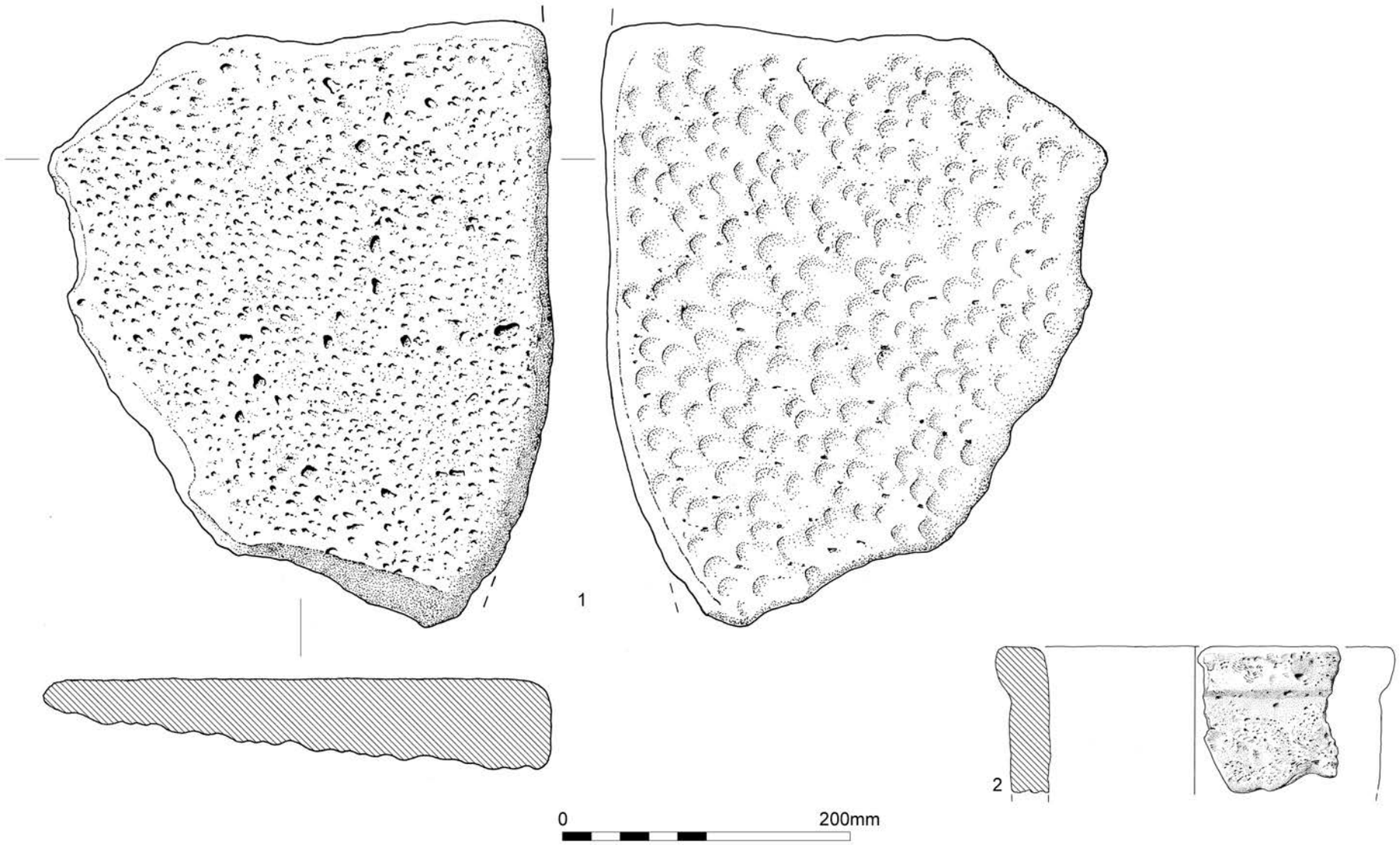

Figure 75 Medieval mortar rim and millstone from Billingford Road, scale 1:4

different during the Middle Ages. The development of large ports along the eastern seaboard, such as Norwich and Ipswich, with extensive trading links to the continent, enabled large scale import of querns at the expense of British stones such as millstone grit. The dominant role of these cities in the provision of non-local goods to their rural hinterlands is reflected in the distribution of quernstones, and probably other stone goods such as the whetstones and mortars.

Stone mortar

A fragment of a medieval stone mortar (Fig. 75.2) from an unstratified context is from a flat topped mortar rim with a slight neck, made from shelly limestone and 34mm wide. Mortars found in twelfth to sixteenth century deposits in Norwich were made from shelly Jurassic limestone of unspecified source, although Dorset and Lincolnshire are cited as possible origins (Margeson 1993, 196). The illustrated example from Norwich, which is dated to the fifteenth century, has a very similar profile to this example from Billingford Road and it is likely that they both derived from the same source. At Winchester, this rim form is particularly associated with mortars made from Purbeck stones other than Purbeck marble, such as Purbeck burrstone, and broken shell limestone (Biddle and Smith 1990).

This mortar is a relatively rare find. Even in Norwich, only five mortars were found during the Norwich Survey excavations of 1971–78 (Margeson 1993, 196). There are few excavated examples from outside Norwich, and the only other site with significant numbers of fragments is Castle Rising Castle (Morley and Gurney 1997, 101). A stone mortar would probably have started its life as a relatively expensive and probably high status object, and they tend to be found at towns, abbeys and castles. Mentions of wooden mortars in contemporary inventories show that wood was also used as an alternative, and probably cheaper, material and wooden mortars were probably more common at lower status sites than metal or stone mortars.

Stone mortar petrology

by Robert Ixer

The mortar is made from a fossiliferous, crystalline, Jurassic limestone and probably of Middle to Upper Jurassic age. The fossil assemblage is not diagnostic enough to give a good provenance and although a Purbeck origin cannot be ruled out, the limestone is more likely to be part of the Lincolnshire Limestones. The mortar fragment has weathered to a pale greyish-orange (10YR 8/4 on the 'Geological Society of America rock-color chart'). The surface shows abundant, densely packed bivalves and bivalve fragments up to 7mm in length and fossil moulds of a similar size. Gastropod moulds are also present (A. Hallam pers. comm.). The cut surface is pinkish grey (5YR 8/1). Two bands within the internal surface of the artefact are smooth, and contrast with the rough surface of the rest of the fragment. The limestone in thin section is yellowish grey (5Y 8/1) and comprises very densely packed bivalve shells up to 5mm in length.

A thin section was examined microscopically, and the rock can be identified as a crystalline, clast-supported, clastic limestone, namely a biosparrudite in Folk's classification. It is almost entirely composed of sparry bivalve shells within a sparite matrix. Subhedral to euhedral single quartz grains are very rare and both micrite and ooids are absent. Locally coarse grained sparite has darker brown cores. Few, fine grained, original structures have survived the recrystallisation of the limestone.

This limestone is from a shallow-water, marine, condensed sequence within the Jurassic Period, but neither lithology nor fossil content are diagnostic enough to determine exactly where it belongs in the Jurassic sequence. It is probably from the Middle to Upper Jurassic and is more likely to be part of the Lincolnshire Limestones (themselves part of the Inferior Oolite Series) than part of the younger Portland or Purbeck Beds (A. Hallam pers. comm.). If the mortar is made from a stratum in the Lincolnshire Limestones then its geographical origin must be north of Kettering and most probably somewhere in Yorkshire, assuming that it was not manufactured from an erratic. Lincolnshire Limestone erratics are known from East Anglia; however, the size of the mortar suggests that it was manufactured from rock that had been quarried or mined.

The vuggy nature of the limestone seems an unusual choice for a mortar, and the fragment suggests that the mortar would be large and heavy. The local smoothing of the inner surface could be due to some sort of rotational wear.

Medieval pottery

by Sue Anderson

Introduction

In total, 681 medieval and post-medieval pottery sherds (5553g) were collected from sixty-eight contexts. Table 54 shows their quantification by fabric.

Description

Most of this assemblage dates from the eleventh to fourteenth centuries. Local coarse wares form 75.5 per cent of that group by count, with regional glazed wares making up the remaining 24.5 per cent. The medieval coarse wares are dominated by local medieval unglazed (LMU) and early medieval wares (EMW), with a relatively large group of medieval coarse ware fabric MCW3 also present. Other coarse wares are few in number. Earlier sherds include four heavily abraded body sherds of probable early Saxon date, one of which contains a thick deposit of burnt food residue. All were residual in medieval contexts. Residual sherds of Thetford-type ware were identified in a few medieval contexts. They included two medium jars with later type rims, and a Grimston-type bowl with a thumbed rim. Although classified as late Saxon, they are likely to be contemporary with some of the early medieval wares in this group and form a continuum with the medieval pottery discussed below.

Forty-three coarse ware vessels are identifiable to form from their rims. The vessels consist of fourteen bowls, twenty-five jars or cooking pots, and four jugs. In addition to the jug rims, two coarse ware handles were recovered, both wide strap types. Table 55 shows the distribution of rim and vessel forms based on the MNV.

Nineteen rims are of early type (eleventh to thirteenth centuries) and twenty-four are of more developed forms (thirteenth or fourteenth centuries), indicating a fairly even distribution through the phase. Early rims are in

Description	*Fabric*	*Code*	*No*	*% No*	*Wt/g*	*% Wt*	*eve*
Early medieval ware	EMW	3.10	120	18.7	644	14.9	1.12
Medieval coarse ware 1	MCW1	3.201	27	4.2	121	2.8	0.16
Medieval coarse ware 2	MCW2	3.202	7	1.1	78	1.8	
Medieval coarse ware 3	MCW3	3.203	70	10.9	528	12.2	0.34
Medieval coarse ware 5	MCW5	3.205	3	0.5	6	0.1	
Medieval coarse ware 6	MCW6	3.206	16	2.5	54	1.2	0.19
Grimston coarse ware	GRCW	3.22	5	0.8	61	1.4	
Local medieval unglazed	LMU	3.23	237	36.9	1372	31.7	1.31
Grimston-type ware	GRIM	4.10	156	24.3	1458	33.7	
Ely glazed ware	ELYG	4.81	1	0.2	10	0.2	
Total medieval			*642*	*94.3*	*4332*	*78.0*	*3.12*
Late medieval and transitional	LMT	5.10	19	95.0	1096	98.8	0.70
Late Grimston-type ware	GRIL	5.30	1	5.0	13	1.2	
Total late medieval			*20*	*2.9*	*1109*	*20.0*	*0.70*
Refined white earthenwares	REFW	8.03	17	2.5	101	1.8	0.22
Unidentified	UNID	0.001	2	0.3	11	0.2	
Total			**681**	**100**	**5553**	**100**	**4.16**

Note: percentages in sub-total rows are of the entire medieval and post-medieval assemblage, while those referring to individual fabrics are of the total phase group

Table 54 Medieval pottery by fabric, Billingford Road

fabrics EMW, LMU, MCW3 and MCW6; developed rims are mainly in LMU with a few in MCW1. A few rims may belong to the fourteenth or fifteenth centuries, and may therefore be contemporary with the small quantity of late medieval pottery recovered (see below). Decoration found on the coarse ware pottery includes fourteen examples of thumbed or 'pie-crust' decoration on the rim, a bowl with combed wavy lines on the rim (*cf.* Jennings 1981, no. 260), and an MCW3 bowl with an applied thumbed strip on its slightly inturned rim edge (Fig. 76.4). This last example is oxidised brick red internally with black (sooted) external surfaces, and was found in quarry pit *22045* fill *22047*. Upper fill *22046* in that pit also produced an MCW3 bowl with a simple everted wedged rim with thumbing, sooted black on its external surfaces and oxidised brick red internally (Fig. 76.3). A large body sherd of Grimston coarse ware from enclosure ditch *22061* is decorated with lines of square rouletting.

Grimston-type ware in this group is often more like the 'normal' Grimston fabric which is found in King's Lynn and Norwich, although sherds with similarities to those identified further to the east along the pipeline are also present. The 156 sherds represent up to seventy-seven vessels. Only two rims were found, an inturned form and a triangular bead form, both typical of the ware. At least three large globular jugs are present, including fragments of a base, from large pit *22108*. A kiln scar from a jug whose rim would have been 105mm in diameter was present at the centre of the base. Body sherds from a globular jug with a cordon at the neck and groups of vertical brown slip lines were found in pit *22134*, and body and handle sherds of a plain globular vessel were found in both pits *22134* and *22139*. A fragment from a small vessel in pit *22134* may be from a bottle with a flat base, which would indicate a fourteenth century date. The break along the inner edge of the base appears to have been deliberately smoothed, suggesting a secondary use for the vessel, open at the base. Thick-walled sherds from a large vessel with incised horizontal lines came from two fills in pit *22108*. Other decorative schemes are represented by a fragment of an unstratified vessel with closely-spaced brown pellets which were probably intended to resemble feathers, and small fragments of vessels with vertical brown slip lines or horizontal incised lines. A few bases are thumbed. Two handles were recovered, one rod and one wide strap.

There was one sherd of Ely-type glazed ware. This fabric, which is similar to Grimston Ware but calcareous, was originally described as 'Grimston software' in King's Lynn (Clarke and Carter 1977) but is now known to have been made in Ely and at other fenland production centres (Spoerry 2008). It is relatively common in West Norfolk, and was probably distributed to rural sites via King's Lynn.

Two unidentified sherds are probably medieval. One is a moderately coarse whiteware body sherd from quarry pit *22108*, with a grey surface, which may be Stamford Ware or a Flemish greyware (EMW or late THET? jar with upright flat-topped rim, slight thumbing, dark grey, Fig. 76.1). A sherd with a burnt surface deposit, possibly glaze,

Form	*INT*	*SEV*	*SEV1*	*SEV2*	*THEV*	*FTEV*	*UPFT*	*UPTH*	*FTBD*
Bowl	1	1			6	2			
Bowl?	2				1	1			
Jar	1	6	4	2	8	2		1	
Jar?			1						
Jug							1		1
Jug?	1					1			

Table 55 Medieval coarse ware rim and vessel forms, Billingford Road (see Table 37)

was recovered from unstratified material. This greyware is coarser than Grimston and may be a non-local glazed ware. However, it appears to be a waster rather than a sherd damaged in cooking, as there is no evidence that burning had affected the clay itself.

A small amount of later material is grouped with this assemblage. One possible late Grimston Ware sherd from pit *22108* has combed horizontal lines, which are common features on late medieval handled vessels. The possible bottle base mentioned above could also be classified as late Grimston. The nineteen sherds of late medieval and transitional ware (LMT) were all part of a single storage jar with applied horizontal strap handles (*cf.* Jennings 1981, no. 441). The vessel was partially glazed inside and out, the glaze being olive green in colour. The fabric is not micaceous and the vessel is likely to be a product of the Hopton kiln site in North Suffolk. Later still are seventeen sherds from a plain refined whiteware plate found in ditch *22359*, possibly a late creamware of nineteenth century date.

Evidence of use was recorded where possible. Of the maximum 406 vessels of medieval date in this group, 182 are sooted (44.8 per cent). Lime was noted inside a few vessels, including some glazed jugs; there is burnt food residue inside two jars, and one jar is sooted on the upper interior surface. One LMU body sherd from pit *22322* has an unusual pink stain on the interior, perhaps from a dye. One Grimston jug and a Grimston coarse ware vessel show signs of burning.

Deposition

Only nine sherds were recovered from features south of the track. Pit *22331* to the north side of the roadside ditch appears to be earlier (twelfth to thirteenth century) than the fill of the ditch (thirteenth to fourteenth century). Ditch *22351* produced six sherds from a single thirteenth or fourteenth century EMW vessel and a body sherd of GRIM from a jug with a cordoned shoulder.

Features to the north of the track produced forty-one sherds, of which seventeen were from a nineteenth century refined ware plate. Some contexts in this area are not closely datable, including the roadside ditch, but pits *22222*, with two MCW1 sherds and one each of MCW2, MCW3 and Grimston-type ware (GRIM), including a thickened everted (THEV) jar rim, and *22251*, with LMU and MCW1 THEV jar rims and an LMU body sherd, were both probably filled in the thirteenth or fourteenth centuries. Ditch *22175* contained one EMW, one MCW3, three LMU and three GRIM sherds, dating it to the thirteenth or fourteenth centuries. The nineteenth century plate was from the final recut of roadside ditch *22359* (alongside four sherds of LMU) and may indicate the end date of this feature. Since the ditch cut quarry pit *22108* which contained fourteenth century pottery (see below) the road may be later than the fills on its south side suggest.

Pits and postholes in the north-central part of the site produced only nineteen sherds. The possible structures were not closely datable, although the presence of EMW may indicate an early date for their initial construction. Sherds from most features are only datable to the medieval phase as a whole. Three postholes in one group (*22152*, *22180* and *22223*) produced three body sherds in fabrics EMW, MCW3 and LMU that could date to between the eleventh and fourteenth century. Two sherds in eleventh to fourteenth century fabric LMU were found in pits *22242* and *22278*. Pit *22229* was the more closely datable exception, containing five sherds of LMU, including two THEV bowl rims that date the feature to the thirteenth or fourteenth centuries. In another structural group, postholes *22302* and *22304* and beam slot *22306* produced five sherds of EMW, LMU and GRIM. The latest pottery in this area came from the beam slot, suggesting that these features were demolished during the thirteenth or fourteenth centuries.

In total, 232 sherds were collected from four quarry pits, but most of these were from two large pits, *22045* and *22108*, which together produced approximately one third of the total assemblage from this site. Pit *22108* yielded the largest assemblage. These 170 sherds comprise one Thetford ware (THET), twenty EMW, three Grimston coarse ware (GRCW), eight MCW1, one MCW2, nine MCW3, three MCW5, 61 LMU, 62 GRIM, one late Grimston-type ware (GRIL) and one in unidentified fabric. Coarse ware vessels include three bowls, two jars and two jugs with SEV1, FTEV and THEV rims, and there are at least three GRIM jugs. Pit *22045* produced fifty-nine sherds: one early Saxon sherd, two THET, one THETG, five EMW, one MCW1, twenty-two MCW3, twelve MCW6, nine LMU and six GRIM. Fragments of a simple everted bowl rim were scattered through several fills, and other vessels include at least six jars with simple everted (SEV), inturned (INT) and flat-topped everted (FTEV) rims, and a jug and a bowl with inturned rims. By contrast, pit *22220* contained just one large body sherd of GRIM and a tiny fragment of LMU, and just one body sherd of GRIM was recovered from pit *22219*. These features were all dated to the thirteenth and fourteenth centuries, with the latest infilling of *22108* probably taking place in the fourteenth century.

The enclosure ditches produced 105 sherds between them. Evidence from the earliest cut of the enclosure ditch suggests that it may first have been dug in the twelfth century, with alterations made during the thirteenth century and fifteenth or sixteenth century pottery in a late recut. Thirty sherds were collected from fills of the first enclosure ditch, *22102*. There are two THET, seventeen EMW, two MCW1, three MCW3, three MCW6, one LMU and two GRIM sherds. Fifteen of the EMW sherds belong to a jar coloured buff to red externally and grey internally, with a SEV rim (Fig. 76.2). The only other identifiable form is a medium THET jar. The feature may therefore have begun infilling during the twelfth century, but had probably filled by the thirteenth or fourteenth centuries. Enclosure ditch *22061* produced a thirteenth century assemblage of nineteen sherds, consisting of three EMW, one GRCW, one MCW2, two MCW3, ten LMU and two GRIM. Three jars of SEV1 and SEV2 type are present. Enclosure ditch *22061* recut *22363* produced twenty-two thirteenth or fourteenth century sherds comprising one THETG, one EMW, one MCW3, sixteen LMU and three GRIM. The only identifiable form was a THETG bowl. One Grimston sherd is from the same vessel as one found in a fill of ditch *22061*. A later recut, *22100*, produced twenty-seven sherds: two THET, one MCW1, one MCW3, three LMU, one GRIM and nineteen LMT. The LMT sherds are from a single handled jar from the fifteenth or sixteenth century.

Pits and gullies associated with the enclosure ditches produced a further 214 sherds. Two large pits, *22134* and

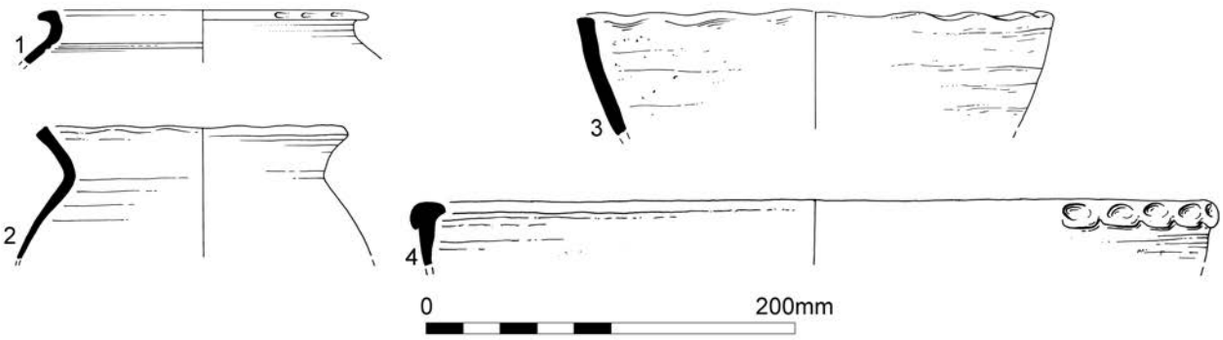

Figure 76 Medieval pottery from Billingford Road, scale 1:4

22139, close to the eastern end of the enclosure, contained pottery that suggests they filled during the fourteenth century. Pit *22134* produced 128 sherds, consisting of forty EMW, six MCW3, forty LMU and forty-two GRIM. Four jars and a bowl are present amongst the coarse wares, and Grimston-type wares include two jugs and possibly a bottle. Pit *22139*, which cut *22134*, contained sixty-seven sherds in a much wider range of material than in *22134*, consisting of one ESMS, fourteen EMW, one GRCW, two MCW1, two MCW2, five MCW3, one MCW6, thirty-seven LMU and four GRIM. Three bowls, four jars and two jugs were identified, most with developed rims. There were cross-links with pit *22134*, indicating some redeposition of material, but also more surprisingly with pit *22045*. Pit *22050* also dated to the thirteenth or fourteenth century, containing one each of EMW, MCW2, MCW3 and Ely glazed ware (ELYG) sherds, and five of LMU. Pit *22322* was of the same date, and contained one early Saxon, four LMU and two GRIM sherds. Seven thirteenth or fourteenth century sherds (of EMW, MCW3, LMU and GRIM) were recovered from ditch *22087*. Three sherds of LMU recovered from gully *22162* can only date it broadly to the medieval period (eleventh to fourteenth century).

Discussion

The earliest significant activity indicated by pottery can be dated to the eleventh century, and appears to have continued well into the fourteenth with no apparent hiatus. Final infilling of the enclosure ditch occurred no earlier than the late fourteenth century and probably slightly later, while the trackway may have continued in use into the nineteenth century. The possible structures were less closely datable but may have had an early inception.

The coarse wares in this group are dominated by EMW and LMU. The other medieval coarse wares which are relatively common on sites further along the pipeline are noticeably less so at this site. This suggests that the LMU production sites were probably more accessible in this part of the county, whether the pots came by way of Norwich or directly from the source.

This site has a relatively high proportion of glazed wares for a rural site. While this can be an indicator of status, perhaps suggesting that some of the material could be derived from a nearby manor, it is more likely in this case to be related to the continuation of the site well beyond the end of the thirteenth century. Many rural sites were abandoned in the early fourteenth century, which may result in a lower frequency of glazed wares in proportion to the coarse ware assemblage. All but one of the glazed wares were of local manufacture, the exception being Ely-type glazed ware. A few of the glazed sherds in this assemblage were much more typical of products of the Grimston kilns themselves, which may indicate direct contact with King's Lynn, a possible source for the Ely ware too, as it is relatively common in the town.

13.9 Environmental archaeology

Botanical remains

by Gemma Martin

Two samples, from an upper and lower fill of pit *22095*, were analysed. The overall preservation of the remains is generally fair, although many of the grains and the remains of legumes are particularly abraded in appearance, impeding identification. The assemblages are dominated by cereal grain, mostly barley, followed by wheat, with oat and rye forming minor components. Aside from the few grains of rye, only the wheat could be identified to species, the majority of grains being identified as bread-type wheat. In addition, some of the barley appears to be hulled. No chaff was recovered so the grain identifications could not be confirmed or extended and it could not be established if the oats are a wild or cultivated variety. The weed seed assemblages are dominated by legumes, which have been categorised by size as, overall, they lack diagnostic features. The majority of the legumes are large and are likely to be peas, and a number of the cotyledons are flattish in appearance and are possibly lentils. In addition, two seeds of possible flax are present in the upper fill, but the seeds are much distorted and could not be positively identified. Other species which form minor components of the weed assemblages are in numbers too small to provide reliable economic or ecological information.

The botanical remains from both pit-fills appear to be domestic in nature. There is no evidence for the earlier stages of crop processing, since no chaff or straw has been recovered, and although these components are less likely to survive the charring process (Boardman and Jones 1990), the dominance of grain compared to weed seeds suggests that the grain is certainly semi-cleaned if not fully processed. The assemblages may be residues from the final stages of crop processing, with the larger seeds such as oat, dock and pea-sized legumes that could not be sieved out, being removed by hand on a piecemeal basis prior to immediate consumption or storage as a fully

processed crop. Conversely the assemblages may be a cleaned product, which includes oat and legumes that were possibly burnt accidentally during activities related to food preparation.

Based on these two samples alone, it is not possible to say whether the grain counts directly reflect the economic importance of the various crops, or whether other factors are responsible for the composition of the cereal components, such as differential processing. It should be noted, though, that free-threshing bread wheat requires less processing than hulled barley, which needs to be parched and re-threshed in order to release the grain from the glumes.

Despite pit *22095* remaining unphased, it is stratigraphically associated with the medieval roadside ditch *22357* and the range of crops represented are consistent with those typical of the medieval period which includes free-threshing wheats, including bread wheat and rivet wheat, along with hulled barley. Oats and rye also emerged as important cereal crops from the Anglo-Saxon period, as well as peas and beans, including broad bean (Greig 1991). Preservation of the legumes is too poor to ascertain whether they are vetches, which are generally considered a fodder crop (Campbell 1988), or are remains of peas or beans, which were cultivated for human consumption.

The frequency of fragmented grain suggests that the assemblages have been exposed to mechanical forces such as trampling prior to final interment, and so were perhaps not burnt *in situ* and may be sweepings from around a hearth or fire debris left exposed to the elements before being discarded.

13.10 Discussion

The pottery assemblage suggests that the main phase of activity on the site was restricted to the thirteenth and fourteenth centuries, although there may have been some activity as early as the eleventh century. Small amounts of later material could be the result of infilling of abandoned features that survived as slight hollows in the landscape. This range of dating evidence accords well with the nearby site of Old Hall Farm, Themelthorpe, four kilometres eastwards along the pipeline.

Unfortunately, interpretation of the site is hampered by extensive truncation, very limited dating evidence, and the lack of any clear patterns to the surviving structural remains, which may represent several phases of building at the same location, within a ditched enclosure beside a metalled track. The lack of domestic waste found from the deposits around these buildings would argue against them having been dwellings. Conversely, if they were dwellings, it would suggest that domestic waste was discarded outside the enclosure, in the pits to the east, several of which contained large assemblages of material that could be derived from the detritus of occupation. Metalworking was taking place somewhere on or near the site, and it is probable that the buildings or structures were contemporary with that activity. The enclosures also bounded a number of large pits that may have been excavated to quarry the natural clay or the frequent large flint nodules present locally in the superficial geological strata.

The enclosed area of land seems to have been maintained with the ditches reinstated several times. The trackway clearly survived after the enclosure had been abandoned; dating evidence suggests that the ditches were still partially open in the eighteenth or nineteenth century. The 1841 tithe map and the first edition Ordnance Survey map show field boundaries that continue the alignment of the trackway to the south-east of the site, although the track itself appears to have been disused by this time, perhaps as a result of large scale reorganisation of the landscape resulting from the enclosure of Bintree and Twyford parishes in 1796.

14. Medieval industry and settlement at Old Hall Farm, Themelthorpe

by Chris Clay with Tom Wilson

14.1 Summary

Pits and linear features, dating from the eleventh to fourteenth centuries extended for approximately seventy metres along the pipeline route. A large kiln or oven-like feature interpreted as a possible corn drier is particularly noteworthy, and there is also evidence of iron smithing taking place on or near the site. A small assemblage of worked flint indicates a very limited level of prehistoric activity.

14.2 The site

The site (HER 37626) was centred on NGR 60760 324740, in the parish of Themelthorpe, 650 metres north of St Andrew's Church (Fig. 77). It lies to the south of Old Hall Farm, immediately east of the access lane to the farm from Reepham Road. The site occupies a fairly flat area of arable land at a height of approximately 44m OD. It lies on sandy glacial till.

14.3 Pre-construction work

Apart from the line of the former Norwich to Cromer railway, which ran across the middle of the field sixty metres beyond the eastern edge of the excavation site, the desk-based assessment identified only the listed seventeenth century farmhouses Coopers Farm and Old Hall Farm, to the north and south of the pipeline route respectively (HER 32732, 32733) within a kilometre of the site.

Fieldwalking along the pipeline route in this field recovered eight worked and four burnt flints, and three fragments of Roman tile together with a variety of medieval and post-medieval artefacts: pottery, slag, and brick and tile fragments. These were concentrated towards

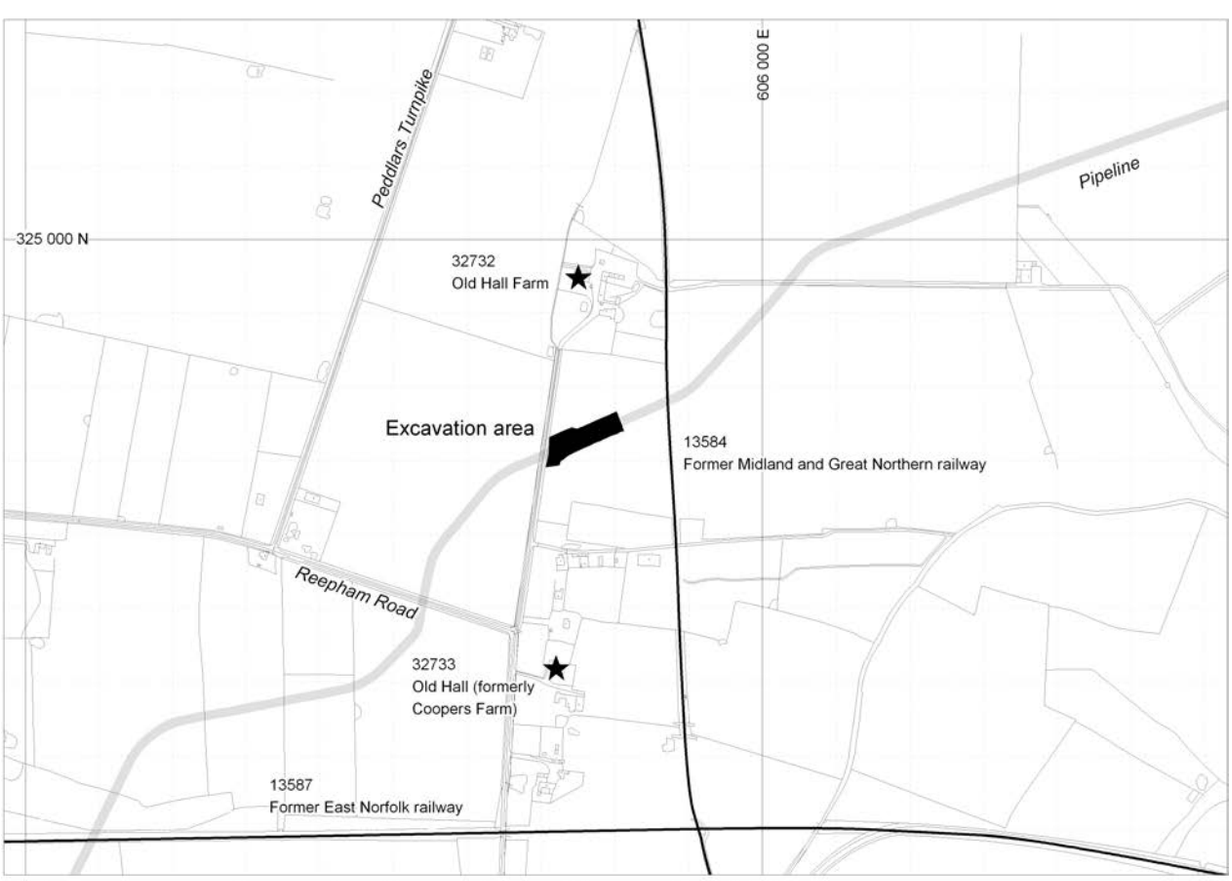

Figure 77 Old Hall Farm, Themelthorpe, location of excavation area and nearby HER and DBA sites mentioned in the text, scale 1:10,000

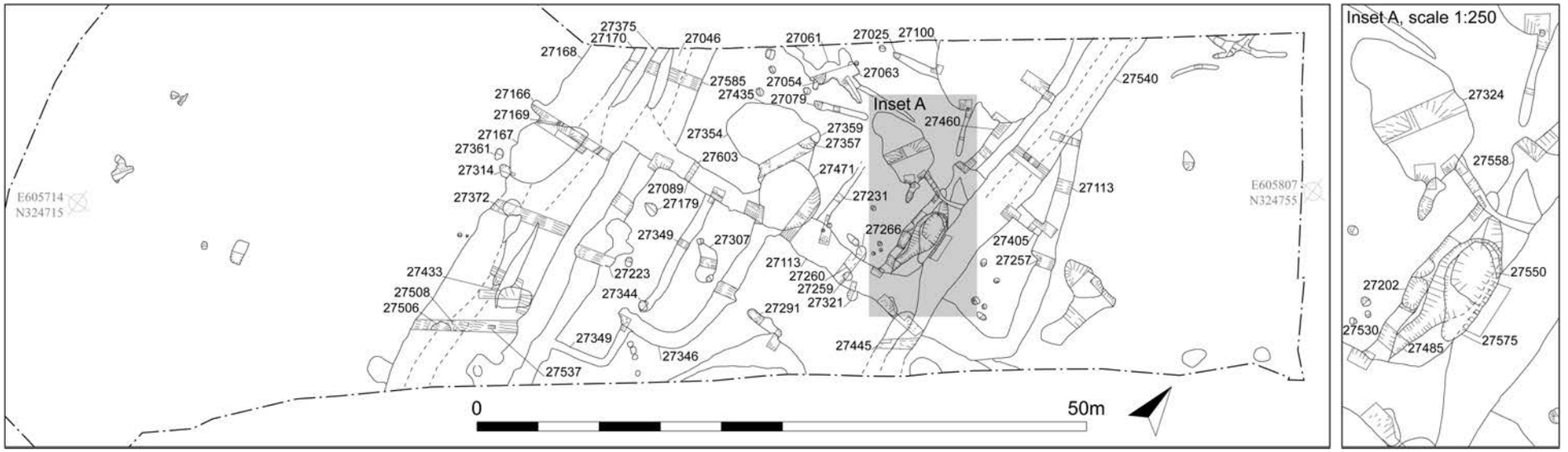

Figure 78 Plan of the excavation area at Old Hall Farm, scale 1:500 and 1:250

the western side of the field, in a 20m-diameter patch of noticeably dark soil.

The geophysical survey corroborated the findings of the fieldwalking survey, identifying a series of linear, curvilinear and pit-like anomalies towards the western end of the field, indicating a complex of ditched enclosures. One linear feature was interpreted as a precursor to the existing track between Themelthorpe and Old Hall Farm.

14.4 Excavation

Two evaluation trenches confirmed the presence of significant archaeological features within the field, and the site was stripped for excavation in advance of construction (Fig. 78). Three broad sub-phases of medieval activity have been identified, though only the principal ditches, structures and pits can be assigned to these sub-phases, many features only being ascribed to a general medieval phase.

14.5 Phase 0: natural geology

The underlying natural geology through which all excavated features were cut was an orange-brown silty sand with occasional gravel patches.

14.6 Phase 1 to 4: prehistoric flint scatter

by Sarah Bates

Eighteen pieces of flint were retained from those recovered during the excavation, a few others being discarded as non-struck. The origin of some of those retained is uncertain, with some of these also possibly non-struck. The assemblage is summarised in Table 56.

Most of the flints are small undiagnostic flakes, probably hard hammer struck pieces of likely later prehistoric date. One flake, residual in kiln *27485*, may date to an earlier period. It has a faceted platform, was probably struck by soft hammer and is notably more heavily patinated than most of the flint from the site. Two pieces are classified as scrapers, both from ditch *27113*. One is a thermally fractured cortical fragment with slight retouch at one steep edge; the other is an irregular flake with one, convex, edge retouched.

Type	*Number*
Blade-like flake	1
Flake	11
Shatter	2
Spall	1
Scraper	2
Utilised flake	1
Total	**18**

Table 56 Summary of the struck flint, Old Hall Farm

14.7 Phase 10: medieval industry and settlement

Sub-phase 10a

Boundary ditch

The stratigraphically earliest sub-phase was defined by a north-to-south aligned ditch, *27585*, towards the western end of the site (Fig. 79). It varied in width between 1.25m and 2.3m, and was 0.45m deep, with a shallow, concave profile. The ditch was filled by a series of natural silting deposits that incorporated sixteen sherds of pottery, dated to the thirteenth century. Two earlier cuts of the ditch were evident towards the north, one of which, *27046* (Fig. 79), contained eleven pottery sherds.

Small enclosure

An area measuring 16.7m by 4.7m was enclosed by ditch *27349* on the east side of ditch *27585*. The relationship between these two ditches was not investigated, but since both are stratigraphically early they could have been contemporary. The northern side of this small enclosure was marked by ditch *27113*, a later feature which may well have obliterated a westward return of ditch *27349*. An apparent break in ditch *27349* was perhaps the remains of an entrance, the southern terminal of which had been lost to the later ditch, *27346*. Pottery sherds from ditch *27349* suggest a deposition date in the thirteenth to fourteenth centuries. Pit *27344*, which was dug into the northern terminal of the putative entrance, contained nine pottery sherds. This small enclosure was replaced during Sub-phase 10b by a second, similar enclosure, *27346*.

Features within the small enclosure

A large, shallow irregular feature, *27223* (Fig. 79), appears to have been a hollow into which waste was dumped inside small enclosure *27349*. The dump contained twelfth to thirteenth century pottery sherds, along with frequent charcoal fragments and nineteen pieces of iron-smithing slag. It may represent a dump of industrial and domestic waste, infilling a slight hollow over the ditch. Although it encroached over the backfill of ditch *27585*, it is likely that this dump related to the activity taking place within small enclosure *27349*. Pit *27179* (Fig. 79), also located within enclosure *27349*, produced a nail and three twelfth to thirteenth century pottery sherds.

Kiln

A kiln or oven on the eastern side of the site, *27485* (Fig. 80), was stratigraphically early but did not have any direct relationship with the Sub-phase 10a ditches, and the dating evidence, including twenty-four sherds of pottery, was not sufficiently close to establish anything more than a broad contemporaneity. The feature appeared to have several constructional phases, starting with the excavation of a large, steep-sided, oval pit, *27485*. Along with lenses of charcoal and ash from the use of the structure, the fills of this feature included remnants of burnt clay, perhaps a collapsed lining or remains of a roof that had fallen inwards after abandonment or disuse.

At it southern end, kiln *27485* narrowed into a gully (Fig. 79). The position of this gully suggested that it had been used to rake out burnt waste but no evidence of such material remained within its fill. Cut *27558* to the north of the kiln was possibly a similar feature (Fig. 80).

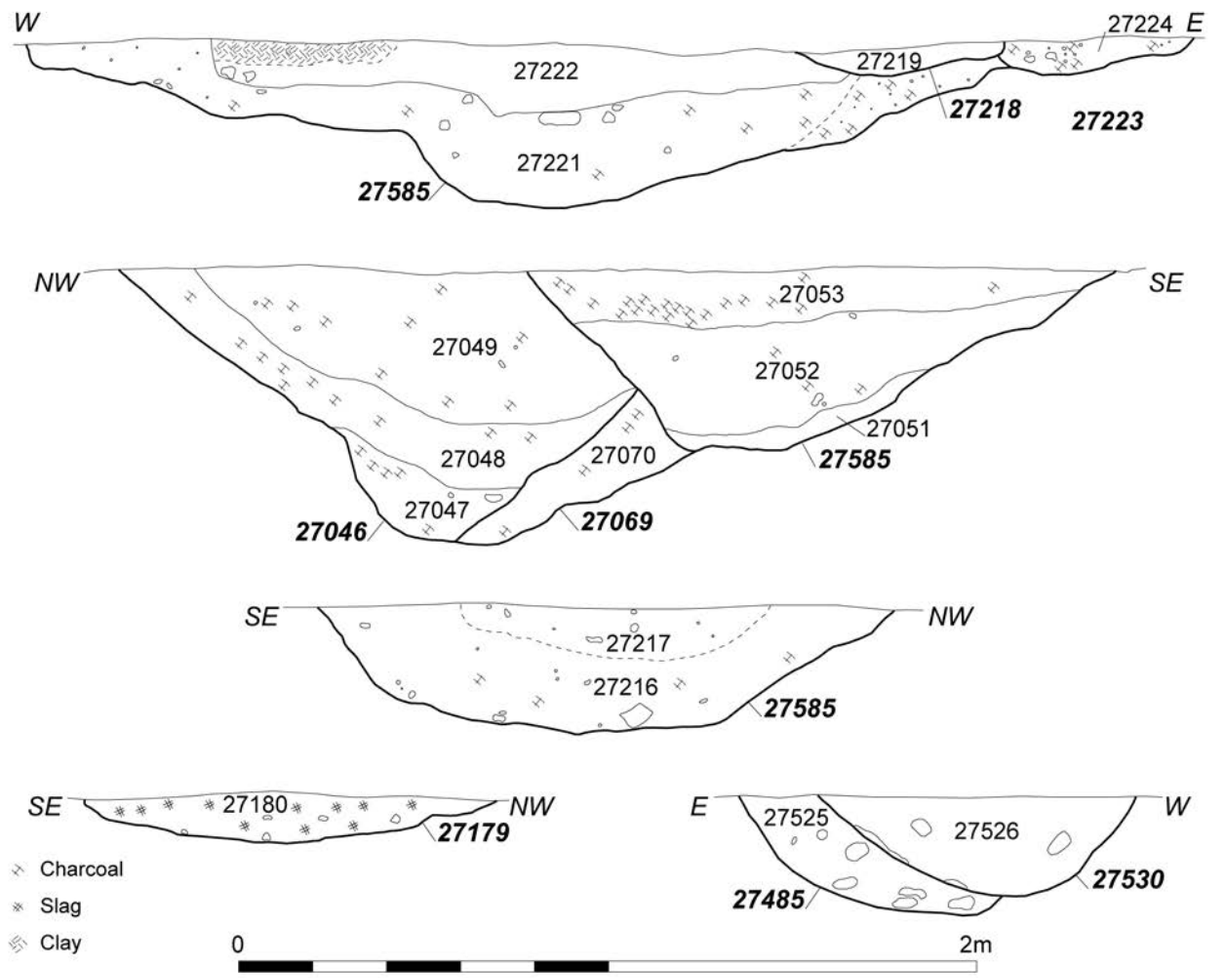

Figure 79 Sections through Sub-phase 10a pits and ditches at Old Hall Farm, scale 1:20

A second kiln pit, *27575* (Fig. 80), had been excavated into the top fills of the earlier feature. This second pit was also oval with a channel extending southwards. At 3.1m long, not including the 1.0m of the surviving channel, 1.9m wide and 0.45m deep, it was smaller and shallower than the first pit. It contained a similar series of fills: charcoal and ash lenses, burnt daub and clay, and elements of a possible collapsed superstructure. Eighteen sherds of pottery were recovered.

A third large oval pit, *27550* (Fig. 80), cut the two earlier features. This pit was smaller again, 2.5m long, 1.9m wide and 0.3m deep. It was lined with clay, and provided with a substantial floor constructed of large flint nodules in a clay matrix. This had been sealed by a layer of fire-reddened clay, possibly a later floor surface. This layer was overlain by deposits of ash mixed with burnt clay and daub suggesting that a superstructure had collapsed onto and into the material that had accumulated during the use of the kiln.

The sequence of soil samples from the fills of these three pits shows a high concentration of charred cereal grains, predominantly wheat, in pit *27485*, a lower concentration of cereal grains and a shift to barley and oats in pit *27575*, with very little grain in the fill of the pit *27550*. This suggests that, at least in its earlier stages of use, the kiln was used for drying crops, although an alternative explanation, the use of waste crop for fuel, cannot be discounted.

Enclosure around the kiln

A ditched enclosure 10.5m long and 8.5m wide around the kiln may have been contemporary with pit *27550* as the west side of it, gully *27530*, cut the earlier two phases of the structure. The possible northern side of the original enclosure, *27405*, was much truncated by later features. The southern and eastern sides were enlarged to form enclosure *27113* in Sub-phase 10b. It is possible that there were other small areas divided by gullies here, including *27460, 27025* and *27231*, either before or after the construction of enclosure *27113* at the beginning of Sub-phase 11b.

Gully *27530* contained twenty-nine pottery sherds, dated to the twelfth to thirteenth centuries, and frequent fragments of charcoal and fired clay, suggesting that the ditch was open during the working life of the kiln. The fill of gully *27405* was more akin to natural silting, but contained small quantities of cultural material, in the form of charcoal flecks and seventeen sherds of pottery indicating a thirteenth century date. This reduction in the quantities of material associated with the kiln is perhaps to be expected in the more distant feature. These ditches seem to have been regularly maintained with small areas

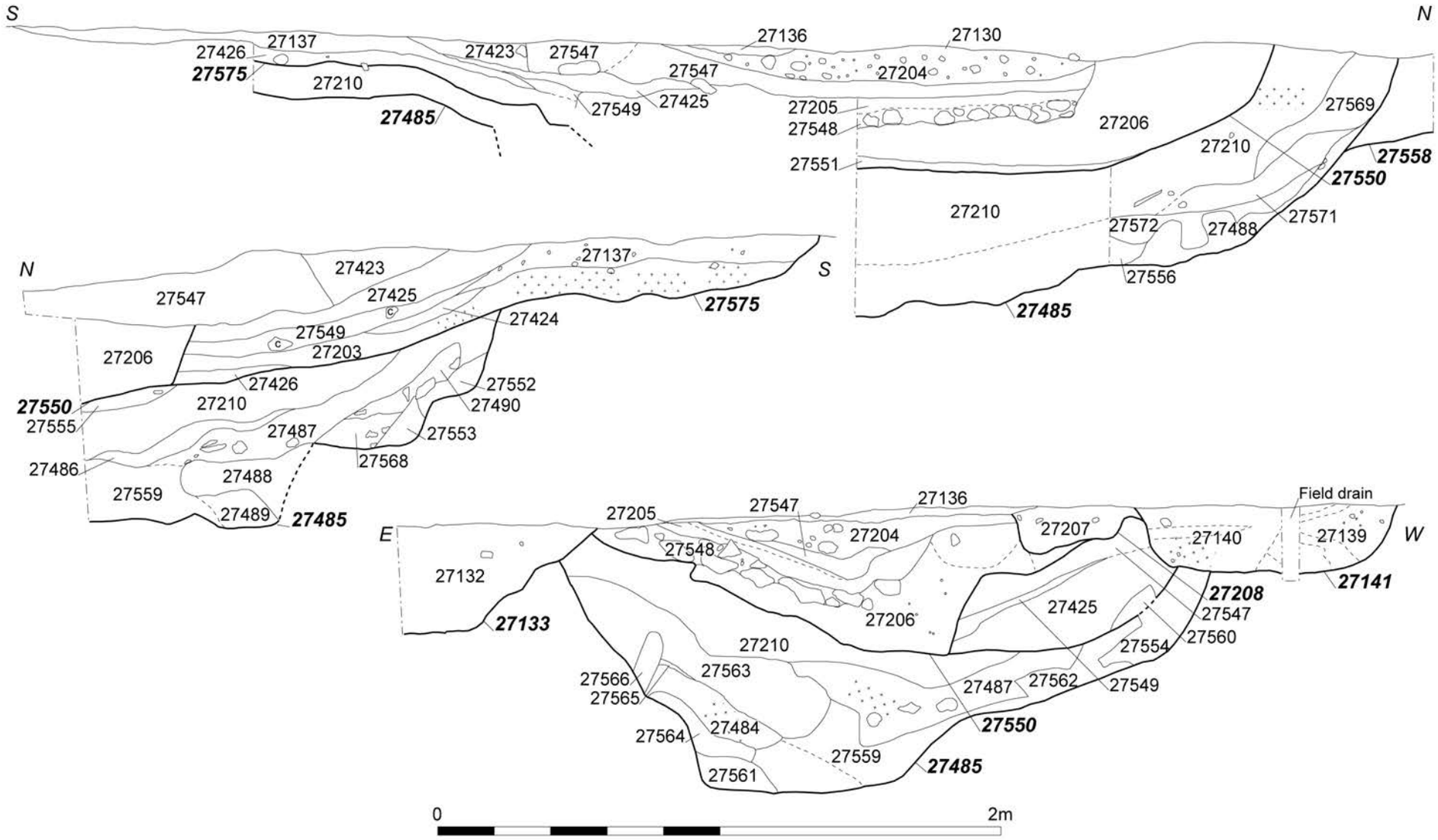

Figure 80 Sections through Sub-phase 10a kiln and associated features at Old Hall Farm, scale 1:20

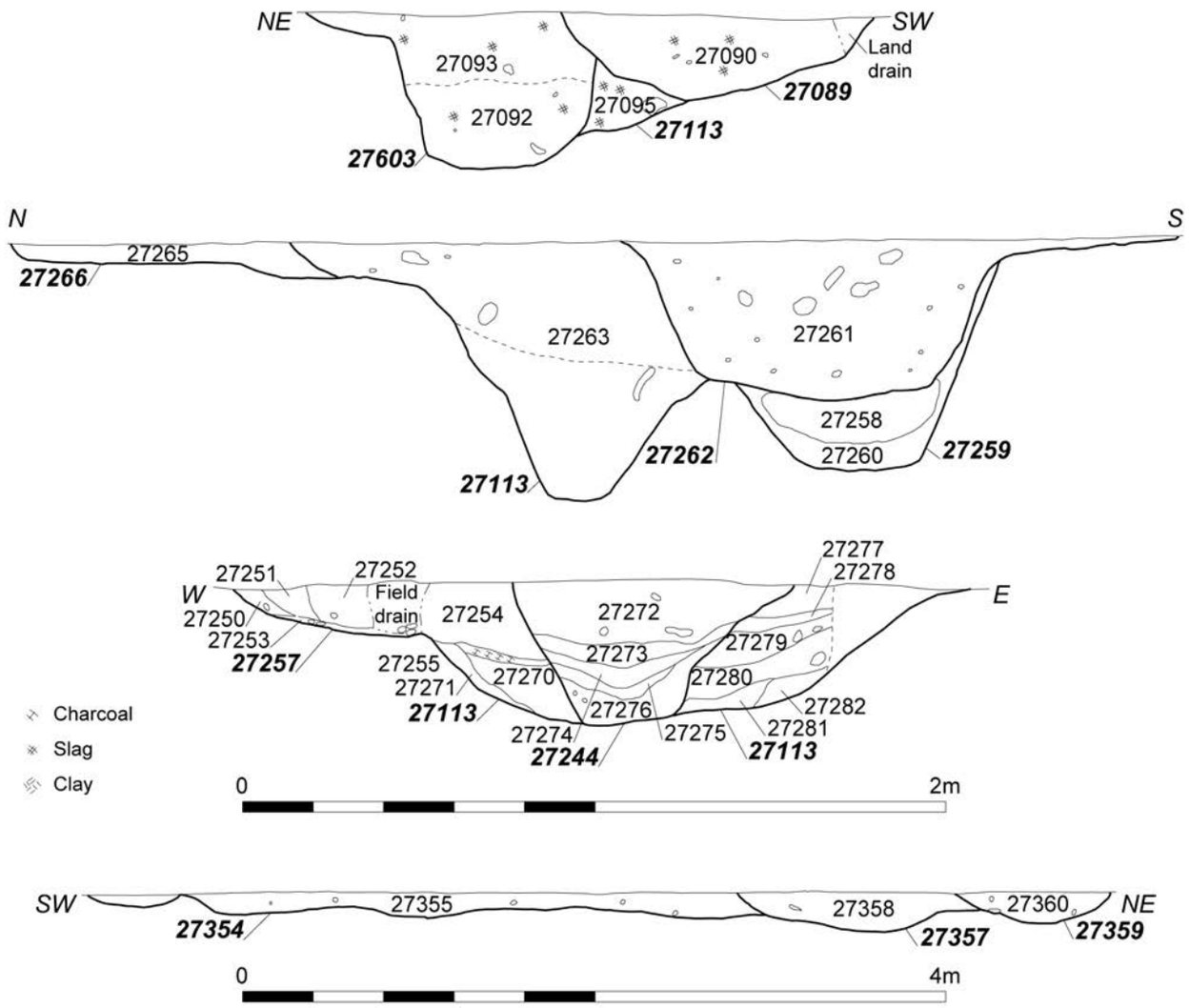

Figure 81 Sections through Sub-phase 10b pits and ditches at Old Hall Farm, scale 1:20 and 1:40

re-excavated while other areas were left to fill up. This is particularly true of the area closest to the kiln.

A large, sub-rectangular steep-sided pit, *27202* was cut into the base of gully *27530* at the point where it was adjacent to the kiln. This contained a primary fill of sticky yellow-brown clay, probably deposited in standing water. This fill was sealed by a dumped deposit of dark grey silty clay, which produced frequent fragments of charcoal and fired clay, and three twelfth to thirteenth century pottery sherds. The excavator suggested that the feature represented a localised deepening of gully *27530* to contain water for use in conjunction with the adjacent kiln, and was contemporary with the initial excavation of the ditch. Excavation of gully *27530* also exposed a large mottled grey-brown deposit incorporating large amounts of charcoal and heat-affected earth, which is likely to have been a dump of material derived from one of the earlier two phases of the kiln.

Other pits

Pits *27061* and *27063*, located near the northern site boundary, seem to date from this phase but may have had a different function to the other pits, which cluster around the kiln. They contained twelve and thirteen sherds respectively, of twelfth or thirteenth century pottery. The pottery from pit *27054*, in the same part of the site, suggests a rather later date.

Enclosure ditch *27113* truncated a number of small undated pits near the kiln. Since the excavation of this ditch is considered to mark the beginning of Sub-phase 10b, these pits have been assigned to the earlier sub-phase. Only one of these pits, *27259* (Fig. 81), produced pottery: a single twelfth to fourteenth century coarse ware sherd. Features *27257*, *27266* (both Fig. 81) and *27321* were devoid of artefacts.

Sub-phase 10b

Enclosure 27113

The second sub-phase of activity on the site saw a realignment of the pattern of land division with the creation of a new enclosure. An L-shaped ditch, *27113*, formed the southern and eastern sides of this enclosure, but the other two sides are conjectural, the western side having been lost to later ditches deliberately built along the same line. This enclosure was built around the area in which the kiln already stood, and lasted until after the abandonment of that structure.

Ditch *27113* (Fig. 81) cut ditches *27585* and *27349* and must have had a western terminus that was truncated by a later ditch, *27375*. The eastern arm of ditch *27113* was similarly truncated by ditch *27540*. Ditch *27025*, though a much smaller feature, may have provided the northern side to the enclosure, or the enclosure could have continued beyond the limits of the excavation area. The former interpretation implies that the enclosure was trapezoidal, measuring approximately 18m by 36m with an entrance to the north, but the alternative interpretation seems more likely, given the different sizes of ditches *27113* and *27025*, and the high occurrence on this site of parts of ditches being re-used.

The thirty-two pottery sherds recovered from the original cut of ditch *27113* suggest a deposition date in the thirteenth to fourteenth century, while the various recuts of the ditch produced eighty-eight sherds, covering a similar date range. A glazed red earthenware sherd is likely to have been either intrusive, or an indication that the ditch survived as a shallow earthwork into the post-medieval period. One of the fills of this ditch also produced a lump of a possible pot quern (Fig. 82).

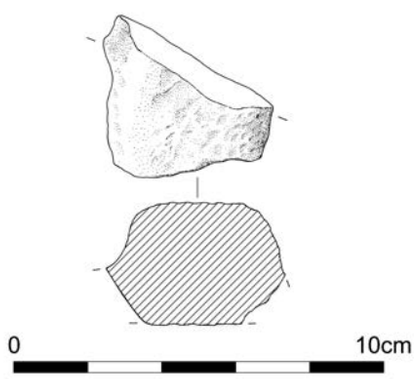

Figure 82 Medieval lava pot quern from Old Hall Farm, scale 1:2

Small enclosure 27346

Ditch *27346*, extending southwards from ditch *27113*, appears to have enclosed an area replacing that bounded by ditch *27349*. If the line of ditch *27585* still marked a boundary, this enclosed area would have been around 13m long and perhaps 10m wide. It is likely that ditches *27346* and *27113* were contemporary, the latter forming the northern side of this enclosure, since they had very similar fills. This new small enclosure appears to have had an entrance to the south. The excavated sections produced fifty-seven sherds of pottery giving a thirteenth century date. This relatively large quantity of pottery suggests a domestic function for this area during Sub-phase 10b.

Features within enclosure 27113

A large, irregular spread, *27354* (Fig. 81), within the enclosure bounded by ditch *27113* had an irregular base, and a maximum depth of 0.5m. The deposit contained thirteenth century pottery and frequent charcoal flecking. It is thought that this feature may have been caused by poaching, the repeated puddling of waterlogged ground by animal hooves. If this is so, it indicates that at least limited stock husbandry was taking place within the enclosure, although this area may relate to the large pits or ponds of Sub-phase 10c, in which case this spread and the pits described below that cut it would properly belong to the later sub-phase.

Two small intercutting pits, *27357* and *27359* (Fig. 81) on the eastern side of spread *27354*, both contained small quantities of thirteenth century pottery. A soil sample taken from the earlier pit, *27357*, contained large quantities of charcoal, and frequent charred grain and charred seeds representing a range of cereal crops, as well as pea, bean, and hazelnut. The lack of *in situ* burning in the feature and the lack of crop processing residues such as chaff suggest that this fill derived from dumped domestic waste.

Sub-phase 10c

Parallel ditches

Sub-phase 10c was defined by the two large parallel linear ditch complexes running north to south across the site. The ditches to the west follow closely the alignment of Sub-phase 10a ditch *27585*, suggesting that the development of land use was gradual throughout this phase, making use of existing features.

Ditches *27375*, *27170* and *27168* (all on Fig. 83) represent a gradually migrating linear boundary feature, which shifted westwards with each episode of recutting. The total width of this ditch complex was between 6m and 7.5m. The central ditch, *27170*, appeared to have been excavated and recut in a more piecemeal fashion than the two ditches flanking it, as a series of recuts along its length (including cut *27508*, Fig. 83) appeared to terminate after a short distance. Pit *27508* contained the fragmentary remains of a lava quern (Table 57; see Chapter 13 for discussion of the worked stone).

Feature	*Type*	*Description*
27054	Pit	Lava scraps
27100	Pond/ quarry pit	Lava scraps
27113	Ditch	Lava scraps
27113	Ditch	Lava. Five small scraps and a larger lump. Surface shaped, This does not appear to be from a flat quern, but is probably part of the spout of the lower stone of a pot quern. The inner, curved face is pecked. Thickness *c.* 63mm
27324	Pond?	Lava. Upper stone edge fragment with pecked, slightly angled, grinding surface. Edge and top rather irregular, and eroded. Max. thickness at edge 35mm. Diameter not determinable
27435	Encl. *27264*	Lava scraps. One piece has part of the central hole present. Diameter is less than 20mm, so this must be a lower stone
27508	Boundary feature	41 pieces of lava quern, badly fragmented. The grinding surface, where present is pecked, and the other surface irregular. There may be parts of more than one stone present. Thickness 20–42mm

Table 57 Worked stone from Phase 10 features, Old Hall Farm

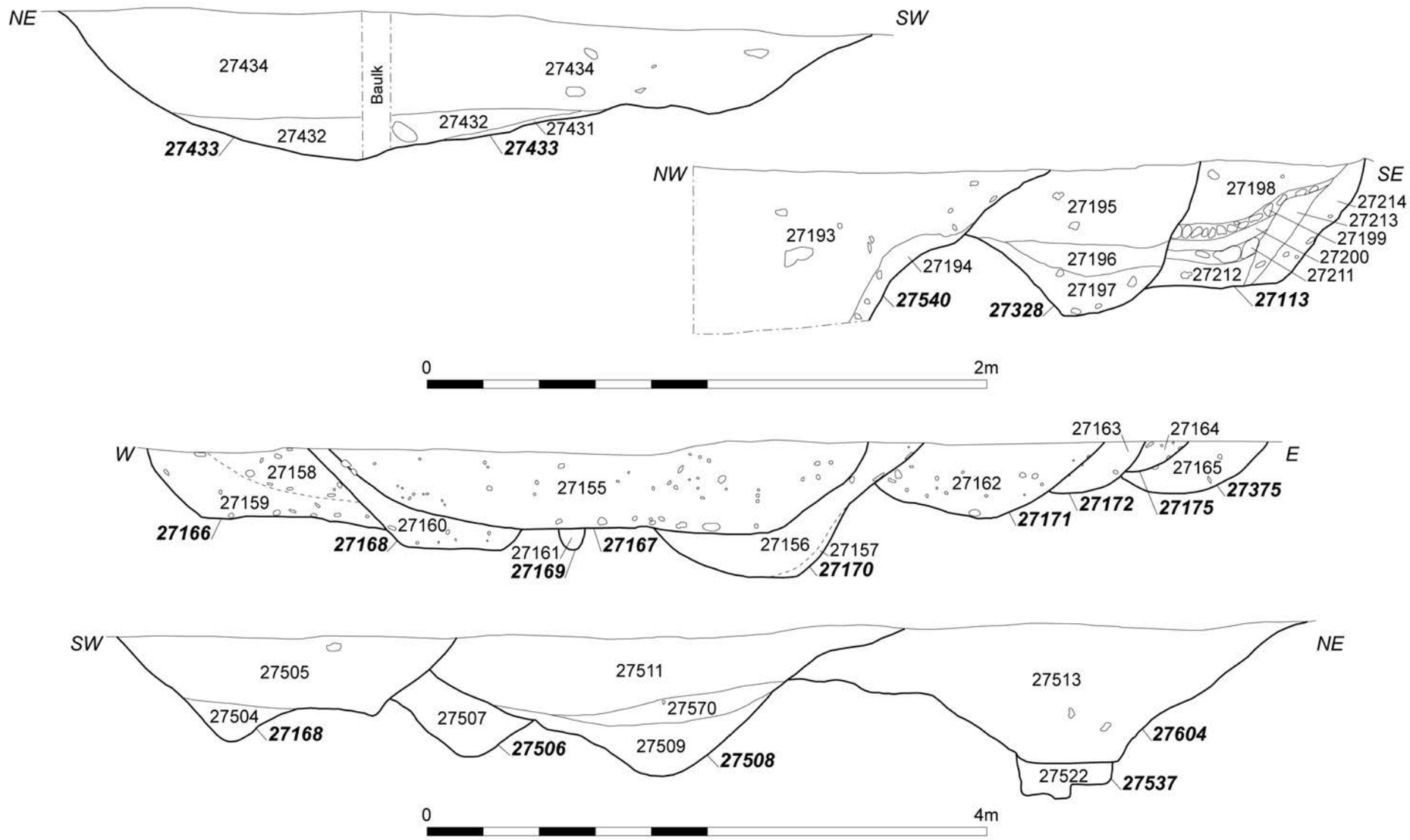

Figure 83 Sections through Sub-phase 10b and 10c pits and ditches at Old Hall Farm, scale 1:20 and 1:40

Parallel to this ditch complex, towards the eastern end of the excavation area, ditch *27540* (Fig. 83) was dated to the thirteenth or fourteenth century by twelve sherds of local coarse ware. It had a single recut, *27582*, of similar date. Near the southern edge of the site, ditch *27540* cut an earlier ditch, *27445,* which had a clearly defined terminal, suggesting that there may have been an entrance at that point. The terminal contained thirty-eight sherds of pottery, mostly of twelfth to thirteenth century date.

Pits with iron-working waste

The western ditch complex cut a number of small pits: *27166*, *27169*, *27433*, *27506* and *27537* (all on Fig. 83). Pit *27433* contained ten pottery sherds, pit *27166* produced two sherds of a Grimston-type face jug, and pit *27537* produced a single coarse ware rim. These pits contained sufficient amounts of slags and hammerscale to indicate that smithing activity was taking place on this part of the site.

Large amounts of iron working waste were also recovered from adjacent ditch sections and two small pits, *27314* and *27361*, which produced 6kg and 11.7kg of slag respectively. Three sherds of pottery were also recovered from pit *27314*, while pit *27361* contained an incomplete knife blade with missing tip, damaged edge and bent whittle-tang.

Ponds or quarry pits

A large pit, *27167*, cut into the Sub-phase 10c ditches *27170* and *27168* (Fig. 83), contained five sherds of thirteenth to fourteenth century pottery and, like the ditches and adjacent pits *27314* and *27361* (see above), frequent fragments of iron slag. This pit demonstrates that the metalworking activity continued after the ditches had filled up.

Another large sub-circular pit, *27471*, located to the east of those described above, cut the earlier enclosure ditch, *27113*. The fills of this 1.38m-deep pit suggested that the feature originally contained standing water, after which it was gradually filled by natural silting, incorporating some dumps of domestic waste. The feature, which may have served as a pond or waterhole, contained thirty-one sherds of pottery dating to the thirteenth century.

A very large sub-circular feature, *27100*, extending 6.6m from the northern limit of excavation to cut the northern side of enclosure *27113*, had shallow sloping sides and was in excess of 1.05m deep. The feature also had a silty fill with occasional dumps of domestic waste. There was little indication of its original function: it may have served as a pond, or a quarry pit, or both.

Other medieval features

A number of features produced medieval pottery, or were stratigraphically of medieval date, but could not be assigned to a particular sub-phase.

A beam slot, *27079*, located close to the northern site boundary in the centre of the site within the enclosed area, was 4.5m long by 0.5m wide and 0.2m deep, and had a clear terminal at each end. Pottery indicated a twelfth to fourteenth century date. Two fragments of a knife blade, including the tip, were recovered from its fill. It is likely that this was part of a building, although no other structural evidence was found.

In the northern part of the centre of site, a complex of irregular intercutting pits and ditches was investigated. The various features produced seventy sherds of pottery dating to the twelfth to fourteenth centuries.

A large irregular sub-oval pit, *27324*, to the east of beam slot *27079* was 6.6m long, 3.6m wide and 1.42m deep. Following an initial episode of natural silting, it appeared to have been lined with clay, which would suggest a water retaining function. The overlying fills had a slightly humic component, which might suggest gradual waterborne deposition, although frequent charcoal flecking and pottery sherds indicate some dumping of waste into the feature. The pottery recovered comprised two sherds of eleventh to twelfth century date and thirty-six sherds of thirteenth century date. It is likely that this feature was contemporary with other large Sub-phase 10c pits *27100* and *27471*, although this could not be confirmed.

One of a series of smaller intercutting features close to the southern site boundary, elongated pit *27291* contained fifty-nine sherds of thirteenth century pottery and 585g of iron smithing slag. A soil sample from the pit produced large quantities of charcoal, charred grain and charred seeds. This is strong evidence that this pit, and probably the other pits in the group, were used for dumping waste from both domestic activities and smithing taking place in the vicinity. Pit *27372*, which was cut by the latest recut of the ditch complex, also contained fragments of scrap copper alloy.

Iron objects

by Quita Mould

Two iron objects from the second and final natural silting of the large Sub-phase 10b enclosure ditch *27113* were initially considered possibly to be punches associated with hot metal working. However, it is not thought likely that these objects were associated with the smithing debris recovered, instead being a modelling tool or scriber and a large nail.

SF 72103 has a straight, slender shank of angular section, expanding in width in one plane into a distinct shoulder before tapering and curving to a pointed tip. The other flat, headless terminal is burred on one side, suggesting that it was chisel cut. It measures 90mm long, the shank being 7m by 7mm, the head 8mm by 6mm, and the shoulder 14mm wide, and it weighs 20g. It is slightly encrusted, and flaking. Although a number of fine punches and specialist awls have curved points, none are known with an expanded shoulder immediately above. The stem fits well into the hand, the shoulder acts as a grip and the point is deliberately curved. These features indicate that the implement was not intended to punch a hole through metal or to make a mark in the metal when hit, but rather was held in the hand like a pen or pencil. It may best be described as an implement used to create marks in a softer medium. It cannot be easily paralleled as a stylus. It may be a modelling tool used to decorate malleable materials such as unfired pottery, pewter or leather, or a scriber used to mark out lines on wood.

The other metal object, SF 72104, is almost certainly a small example of a known medieval or early post-medieval type of nail (Type 8, Mould 1979, 148–50 and fig. 30).

Slag
by Jane Cowgill

Description
Approximately 26kg (622 pieces) of slag and associated finds were recovered. The majority of the slag forms a single coherent assemblage of iron smithing slag, although both coal and charcoal have been recorded as fuel types incorporated within the slags: coal incorporated in at least seventeen pieces, with charcoal more common, being recorded within a least forty-two pieces. Both coal and charcoal were present in the slags from pit *27167* and ditch *27168*, with seven of the total of seventy-nine pieces of slag in the latter containing coal. This is unusual as the two fuel types have different properties, and the way in which the fire in the hearth has to be managed is also different. Smiths tend to use a single fuel type so that they can easily read the fire and judge that the right temperature will be achieved for the task being undertaken. The coal would have had to be imported, possibly through the port at King's Lynn, with the County Durham coal fields as a likely source, as this area produces sulphur-free coal necessary for iron smithing. Charcoal may have been a fairly scarce resource in Norfolk in the medieval period because there were very few woods left by that date (T. Williamson pers. comm.).

The slags have very cindery external surfaces, which is quite common when coal is used for fuel, although some appear to have a dense core when it is visible in a break. They are generally a brownish cream to mid- to light grey in colour and have frequent sand, hearth lining or tuyère, and flint inclusions. The presence and quantity of flint, including some large pieces and often embedded well within the slag, lends weight to a hypothesis that some of the smithing may have been undertaken at lowish temperatures. Flint in the hearth would have been a major hazard for the smith, particularly their eyesight, because it can explode when heated. The quantity of tuyère fragments among the assemblage is high, although there was only evidence for one possible air hole (from ditch *27170*), which was not measurable. All the tuyère fabrics are very sandy, and they are probably the main source for the sand in the slags. Indeed, some slags appear to have large patches of molten tuyère attached to them.

Most of the plano-convex slag accumulations (commonly called hearth bottoms) are rounded flattish plates forming a distinctive group, and some have smooth rounded sandy bases indicating that they may have formed on the base of the hearth. They are generally quite small in size, most measuring only 40mm by 50mm by 25mm, and correspondingly are fairly light in weight, most weighing less than 100 grams: the heaviest, from ditch *27170*, weighs 315g. Most of the slag appears to be in a fresh condition, and evidently has not been trampled or weathered on a ground surface before being buried, as it is quite fragile, being so cindery.

Some hammerscale has been identified in the soil within the bags containing the slag. Significant quantities have been recorded from ditch *27168* and pits *27314*, *27372* and *27291*, in the last case from an environmental sample. Both plate and spheroidal hammerscale have been identified from *27314*, but generally only plate hammerscale was noted.

Discussion
The bulk of the slag from the site was recovered from Sub-phase 10c features in a small area close to the western edge of excavation. Only two features from Sub-phase 10a contained slag: two pieces from the northern arm of ditch *27349* and nineteen pieces from dump *27223*. The kiln complex contained no slag and negligible hammerscale. Pit *27357*, ascribed to Sub-phase 10b, produced six pieces of hammerscale and a small assemblage of slag was recovered from the westernmost slot excavated through enclosure ditch *27113* and from five features in proximity to this ditch.

The largest feature assemblage is from small pit *27314*, just to the west of the large Sub-phase 10c boundary ditch complex that demarcated most of the recorded activity on the site. The pit not only produced 202 pieces of slag weighing about 6kg (Table 58), but also a large hammerscale assemblage. Other pits close by also contained quantities of slag: pit *27372*, with fifty-one pieces, and pit *27167*. Sections dug close to these pits

Feature	*FE CIND*	*Hammer-scale*	*Hearth bottom*	*Proto-hearth bottom*	*Slag*	*SSL*	*Tuyere*	*Total*
Ditch *27089* (recut of *27113*)	1: 44g		1: 141g		2: 11g			6: 199g
Ditch *27170* (2nd slot from north)		+	4: 936g	3: 73g			4: 163g	11: 1172g
Ditch *27168* (2nd slot from north)	5: 27g		2: 80g			2: 7g		9: 114g
Ditch *27168* (central slot)	5: 36g	+	14: 895g	10: 245g	34: 219g	10: 91g	6: 133g	80: 1620g
Ditch *27170* (central slot)	25: 92g	+?	107: 10654g	5: 192g		5: 62g	31: 555g	174: 11574g
Pit *27167*			6: 988g	2: 66g	1: 182g			9: 1236g
Dump *27223*			16: 246g	3: 96g				19: 342g
Pit *27291*		+++*	9: 494g	1: 148g	10: 53g		4: 14g	25: 578g
Pit *27314*	84: 428g	+++	67: 4460g	26: 611g	3: 50g	2: 10g	19: 551g	202: 6117g
Pit *27372*	17: 95g	+	8: 933g	8: 219g			14: 245g	51: 1532g
Ditch *27445*			2: 226g	1: 41g		2: 5g	2:19g	7: 291g

* Recovered from an environmental sample. + 0-50; ++ 51-200; +++ >201
The total includes some categories of find that are not included in the Table (for example vitrified clay)

Table 58 The main slag types by context, Old Hall Farm (only groups containing over 5 pieces are included)

through boundary ditches *27170* and *27168*, but not those sections dug further north or south, also contained large assemblages with some hammerscale (see Table 58). Most of the hammerscale was recovered from soil in bags containing hand-recovered slag, using a magnet, rather than from environmental samples, so the assemblage is only a partial record, although the quantity from pit *27314* is nonetheless large.

The sample from pit *27291*, which was located beyond the area to the west where most slags were found, in the central southern part of the site, was found to contain over 250 flakes of hammerscale, though this high count needs to be treated with caution when compared to the records from unsampled features.

This pit and pit *27314* located about twenty metres away appear to contain debris deposited directly from a smithy. There is no obvious location for a smithy between them as the area is covered by a mass of intersecting ditches, some recut a number of times.

Summary

A smithy may have existed on the western part of the site, close to the large dumps of slag in the western ditch complex and the primary dump in pit *27314*. Although this area appears archaeologically void, any evidence for structures, particularly if they were insubstantial, may have been truncated by ploughing. A smithy need not be a substantial building: it is only required to keep the hearth and working area dry and keep the level of light to a minimum The smithy certainly was operational during Sub-phase 10c, but there is some indication that it may also have functioned in Sub-phase 10b. One might envisage a blacksmith serving the local community and any passing trade during at least part of the thirteenth and fourteenth centuries.

Pottery

by Sue Anderson

Introduction

In total, 871 sherds of pottery weighing 6357g were collected from 120 contexts at this site. Table 59 shows the quantification by fabric. The majority of sherds in this assemblage, over 99 per cent, belong to the eleventh to fourteenth centuries. Local coarse wares form 91.5 per cent of the group by count, with local glazed wares making up the remaining 8.5 per cent; no imports are present. In this group, the most common coarse ware fabrics are MCW1 and MCW3.

Forty-eight coarse ware vessels are identifiable to form from their rims. The vessels consist of eight bowls, thirty-seven jars or cooking pots, one jug and two jar/jugs. Coarse ware jugs do not appear to have been common in this assemblage, and no coarse ware handles were recovered. Table 60 shows the distribution of rim and vessel forms based on the MNV.

Most of the rims are simple everted (SEV) types which are associated with the earlier part of the medieval period in Norfolk, as are the upright types and probably also the bead-rimmed bowls. One of the bead-rimmed bowls, from pit *27202,* is very similar in appearance to Thetford-type large jars with thumbed rims, but is in fabric MCW3; the similarity of this fabric to EMSW has been noted above, and the sherd may be of eleventh century date. The more developed types (THEV, FTEV) are represented by thirteen vessels. The majority of SEV1 rims are in fabric MCW3, while more of the THEV rims are in MCW1. Interestingly, rim type SEV2, which is a very common form in Norwich, is only represented by two vessels in this assemblage, both in LMU fabrics, suggesting that the source of these vessels was not easily accessible to this

Description	*Fabric*	*Code*	*No*	*% No*	*Wt/g*	*% Wt*	*eve*
Thetford-type ware	THET	2.50	1		36		
Total late Saxon			*1*	*0.1*	*36*	*0.6*	
Early medieval ware	EMW	3.10	101	11.6	321	5.1	0.19
Medieval coarse ware 1	MCW1	3.201	301	34.7	1703	27.0	1.73
Medieval coarse ware 2	MCW2	3.202	21	2.4	107	1.7	0.11
Medieval coarse ware 3	MCW3	3.203	337	38.8	2987	47.4	1.28
Medieval coarse ware 4	MCW4	3.204	8	0.9	34	0.5	
Local medieval unglazed	LMU	3.23	21	2.4	143	2.3	0.63
Medieval shelly wares	MSHW	3.50	4	0.5	13	0.2	0.08
Ely-type coarse ware	ELCW	3.61	1	0.1	4	0.1	
Grimston-type ware	GRIM	4.10	74	8.5	991	15.7	0.61
Total medieval			*868*	*99.7*	*6303*	*99.1*	*4.63*
Glazed red earthenware	GRE	6.12	2	*0.2*	18	*0.3*	
Total			**871**		**6357**		**4.63**

Note: percentages in sub-total rows are of the entire post-Roman assemblage; those referring to individual fabrics are of the total period group

Table 59 Medieval pottery by fabric, Old Hall Farm

Form	*BD*	*FTEV*	*SEV1*	*SEV2*	*THEV*	*UPBD*	*UPPL*	*UPTH*
Bowl					2			
Bowl?	3	1			1	1		
Jar			18	2	9	2	1	3
Jar?			1					1
Jug?			2				1	

Table 60 Medieval coarse ware rim and vessel forms, Old Hall Farm (see Table 37)
[CHECK 2 Jugs, not 3? total vessels =48]

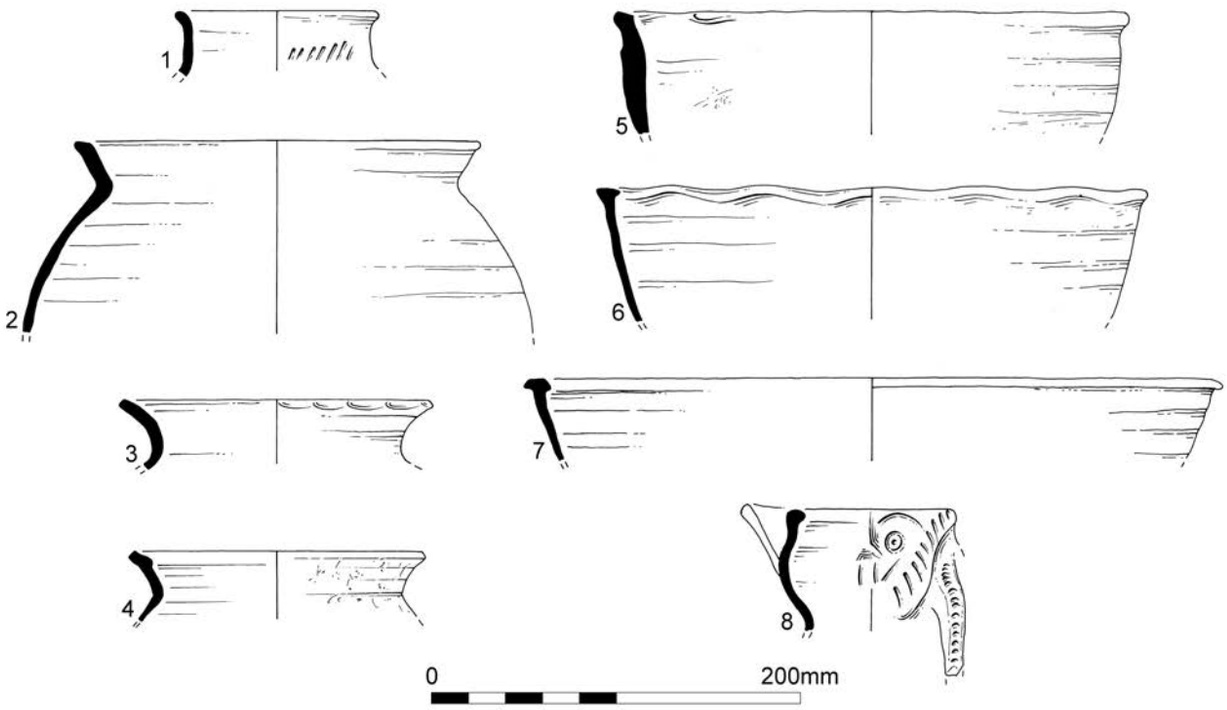

Figure 84 Medieval pottery from Old Hall Farm, scale 1:4

settlement. The distribution of rim forms may indicate that the settlement was in decline by the fourteenth century.

Decoration is not a common feature of the coarse ware pottery from this site. Some rims have thumbed or 'pie-crust' decoration, one brown SEV1 jar in fabric MCW3 has a band of short incised diagonal lines along the lower part of the rim (Fig. 84.1, found in pit *27537*) and one jar has a line of finger-tip impressions around the shoulder.

All glazed pottery in this group is of the same type. Although superficially similar in form and decoration to Grimston Ware from the King's Lynn area, the fabric of this material is slightly different and the ware is therefore designated 'Grimston-type' as its source is uncertain. Some sherds are similar in appearance to the local coarse wares and it is likely that other Norfolk production sites were involved in glazed ware production. One heavily overfired body sherd from Sub-phase 10c enclosure ditch *27540* may even be a waster.

Five jug rims are present in Grimston-type ware; three are upright plain or thickened, one is inturned and one is collared. There are also five handles, of which two are rods and three are wide straps. While most fragments are body sherds, it is not possible to determine the body form of most of these vessels, although a few may have been globular. Bases are generally sagging and either frilled (continuous thumbing) or thumbed (widely-spaced thumbing). One base from ditch *27170* is glazed internally and may have had a tripod foot, possibly indicating a fourteenth century date.

Most sherds are glazed with a paler green glaze than is typical for vessels from Grimston itself, but this is probably due to the very pale grey external surfaces of most vessels. Several have only spots of glaze or are unglazed and these are probably from the lower halves of vessels. Decoration includes one example of rouletting, which is a rare decorative technique for Grimston-type ware, although it has been found in Norwich (Jennings 1981, no. 371). There are two examples of applied pellets, three of applied brown stripes and one with an applied strip in the same colour as the body. One GRIM face jug was found in pit *27166* (Fig. 84.8). It is heavily worn from use and much of the glaze has been lost, perhaps indicating a treasured and well-used possession, or a second-hand acquisition from a wealthier owner. Some mortar is adhered to the incised decoration.

A summary of the pottery by sub-phase is provided in Table 61. The largest group of sub-phased pottery came from Sub-phase 10c, although the quantities from each of the three sub-phases are not significantly different. The largest proportion was found in medieval features of no specific sub-phase.

Sub-phase / *Fabric*	*10a*	*10b*	*10c*	*10 (undiff.)*	*Unstratified*
THET			1		
EMW	41	23	13	20	4
MCW1	48	60	88	117	8
MCW2	2	8	4	5	2
MCW3	106	95	65	73	3
MCW4		1	2	5	
LMU		7	13	1	
MSHW			4		
ELCW	1				
GRIM	1	10	39	23	1
GRE		1			1
Total	**199**	**205**	**229**	**244**	**19**

Table 61 Medieval pottery types present by sub-phase, Old Hall Farm

Sub-phase 10a

This sub-phase produced 199 sherds with a broad date range of the eleventh to fourteenth centuries. More EMW was recovered from this sub-phase than subsequently, and there is more MCW3 than MCW1. Four of the five jar rims recovered are SEV1 types, the fifth being a THEV type. The overall assemblage indicates a twelfth to thirteenth century date range for most of the features, but a few sherds could be dated to the thirteenth to fourteenth centuries and may be intrusive.

Four ditches assigned to this sub-phase contained only seventy-seven sherds of pottery in total. The earliest fills would appear to be those of ditch *27046*. The latest fills were probably those of enclosure ditch *27349*, which are unlikely to be earlier than thirteenth century. The fills of ditch *27046* yielded eleven twelfth to thirteenth century sherds. These are eight sherds of five EMW vessels, including a jar with SEV1 rim, two sherds of MCW3, including a beaded rim from a bowl, and one sherd of MCW1. Four sections excavated through ditch *27405* contained seventeen sherds possibly all of thirteenth century date, of which three are EMW, ten are MCW3 including a jar with SEV1 rim, two are MCW1, one is ELCW and one is Grimston-type ware. Fills of ditch *27585* produced sixteen body sherds, of which ten are EMW, and there are three each of MCW1 and MCW3; possibly indicating a thirteenth century date. The eastern side of enclosure ditch *27349* yielded thirty-three thirteenth to fourteenth century sherds from five fills. Six sherds of EMW include an SEV1 jar rim. There are thirteen sherds of MCW3, including a FTEV bowl rim, thirteen sherds of MCW1 (including several from a pale buff jar with a THEV developed rim, Fig. 84.4) and one body sherd of MCW2.

Pit *27179,* within enclosure *27349*, produced one sherd each of EMW, MCW1 and MCW3 fabrics, indicating a twelfth to thirteenth century date. The MCW3 sherd is the upright beaded (UPBD) rim of a handmade bowl with a slight shoulder (Fig. 84.5). Pit *27344*, dug into the enclosure terminal, contained three MCW1, one MCW2 and five MCW3 body and base fragments, suggesting a thirteenth century date.

Pits *27061* and *27063*, in the centre of the site, possibly dated to the twelfth or thirteenth century, judging from their pottery. Pit *27061* contained twelve sherds: three EMW, two MCW1 and seven MCW3. There was one SEV1 jar rim. Pit *27063* contained thirteen sherds of MCW3; eight of which were from a single vessel.

The remaining seventy-four sherds from this sub-phase are associated with a possible industrial area. The pottery from the fills suggests a thirteenth century date for the earliest feature with some redeposition of material in later contexts. Twenty-four sherds were recovered from four fills of kiln *27485*. All are body or base sherds, consisting of two EMW, six MCW1 and sixteen MCW3, suggesting a thirteenth century date. Eighteen sherds were found in two fills of second-phase kiln pit *27575*: two EMW, four MCW1 and twelve MCW3, together indicating a thirteenth century date. Ditch *27530* contained a twelfth to thirteenth century assemblage of twenty-nine sherds, of which five are EMW, eleven are MCW1 and thirteen are MCW3. The MCW1 includes a jar with external orange surfaces and a thumbed SEV1 rim (Fig. 84.3). A MCW3 jar with oxidised brick-red surfaces and a SEV1 rim from the same ditch are also illustrated (Fig. 84.2). Pit *27202* contained one EMW and two MCW3 sherds, including a beaded rim from a small bowl, which suggests a twelfth to thirteenth century date. Feature *27223* produced ten twelfth to thirteenth century sherds of four vessels. Nine sherds are MCW3 and include two jars, with SEV1 and upright thickened (UPTH) rims; the remaining sherd is MCW1.

Sub-phase 10b

Contexts assigned to this sub-phase produced 205 sherds. In this sub-phase, MCW3 was still the dominant fabric, but there is an increase in the quantity of MCW1, MCW2 and GRIM. Fabric LMU made its first appearance on this site, and EMW declined. This is all consistent with a date in the second half of the medieval period, the thirteenth and fourteenth centuries.

Enclosure ditch *27113* and its recuts between them produced 120 sherds, many of which could be dated to the thirteenth or fourteenth centuries. These sherds are largely from individual vessels, suggesting scattering and redeposition of rubbish, probably during manuring activity. Ditch cut *27113* itself produced a thirteenth to fourteenth century assemblage of thirty-two sherds of pottery from twelve fills. The sherds are in the following fabrics: four EMW, twelve MCW1, ten MCW3, one MCW4 and five GRIM. Forms include an SEV1 jar, an UPBD jar, a THEV bowl and the frilled base of a Grimston-type jug. The MCW1 THEV thumbed bowl rim (Fig. 84.6) may be from the same vessel as a sherd in enclosure ditch *27346*.

Recut *27089*, recorded at the western end of enclosure ditch *27113*, produced thirty-eight thirteenth to fourteenth century sherds from two fills, consisting of three EMW, twenty-five MCW1, seven MCW3 and three GRIM. Identified vessels included an SEV1 jar, a THEV bowl and a handle from a Grimston-type jug. A second recut to the west, *27603*, yielded twenty-one thirteenth to fourteenth century sherds from two fills. These are ten MCW1, four MCW2, six MCW3 and one GRIM sherd, which may be from the same vessel as one from pit *27100*. Recut *27262*, further east and which was probably the same as *27089*, yielded fourteen sherds from two fills: three EMW, four MCW1, six MCW3 and one GRIM, one MCW3 jar rim, and an UPPL type of possible thirteenth century date; giving a date range of the thirteenth to fourteenth century. Recut *27244*, along the north to south oriented part of the ditch to the east, yielded a thirteenth century assemblage of fifteen body and base sherds from four fills, consisting of six EMW, two MCW1, six MCW3 and one GRE, the latter being presumably intrusive.

Curvilinear enclosure ditch *27346* produced fifty-seven thirteenth century sherds from three fills, but twenty-four of these are from a single vessel. This may indicate that sherds in these contexts had not travelled far from their original site of deposition, and that a midden was located somewhere in the vicinity. Fabrics represented are EMW (four sherds), LMU (seven sherds), MCW1 (five sherds), MCW2 (three sherds), MCW3 (thirty-eight sherds). Twenty-four are sherds of a single MCW3 jar with SEV1 rim. Other vessels include three jars with SEV1 rims, one with an SEV2 rim, one with an UPTH rim, and a bowl with a THEV rim, possibly the same vessel as a bowl rim in ditch *27113*.

Spread *27354* produced one EMW, two MCW1 and eight MCW3 sherds. Fourteen sherds were found in pit

27357, consisting of two EMW, one MCW2 and eleven MCW3, this last including a THEV jar rim. Pit *27359* contained one sherd of MCW1 and three of MCW3.

Sub-phase 10c

This sub-phase produced 229 sherds. MCW1 is the dominant coarse ware fabric in this group, with a decrease in MCW3. Fabrics LMU and GRIM also increase in frequency in comparison with the previous sub-phase. At least one vessel, in the second western ditch *27170*, can be dated to the fourteenth century.

Fills of the western sequence of ditches produced ninety-five sherds. Some of the material is likely to be redeposited, but there is evidence for backfilling of the second ditch in the fourteenth century. Six fills in ditch *27375* contained thirty-one thirteenth to fourteenth century sherds, consisting of seven MCW1, nine MCW3, nine LMU and six GRIM. Forms include two Grimston-type jugs, a SEV1 jar in MCW1, and a THEV jar in LMU that was also present in ditch *27168*. Two fills in ditch *27168* produced further thirteenth to fourteenth century pottery: four sherds of MCW1 and five sherds of GRIM. These may well be redeposited, as at least one GRIM sherd is part of a vessel also found in pit *27167* (see below). Ditch *27170* produced fifty-five sherds from four contexts. These are thirty-four MCW1, eight MCW3, one LMU and twelve GRIM. At least three GRIM jugs and two coarse ware THEV jars are present, and a tripod foot in Grimston-type ware probably indicates a fourteenth century date.

Twenty-eight sherds were recovered from pits cut by the Sub-phase 10c ditches to the west of the site. These are generally early, suggesting that some of these pits may have dated to Sub-phase 10b. Pit *27167* contained five thirteenth to fourteenth century sherds, representing two Grimston-type jug bases and an MCW1 jug rim, which were possibly redeposited from the western ditch fills. Ditch *27170* cut pit *27166*, which contained two sherds of a thirteenth to fourteenth century face jug. Adjacent to this latest ditch, pit *27314* contained two MCW3 and one GRIM sherd, suggesting a thirteenth century date, although its other contents suggest a Sub-phase 10c date. Pit *27537* contained one eleventh to thirteenth century MCW3 SEV1 jar rim. Pit *27433* contained ten thirteenth century sherds: five MCW1, one MCW3 and four from a shelly ware jar with UPTH rim.

The eastern ditches produced only thirty-six sherds, some of which were clearly residual. The latest pottery in the second recut indicates a thirteenth to fourteenth century date, but most sherds in this context are abraded and likely to pre-date the fill. Twelve thirteenth to fourteenth century body sherds were collected from four contexts in ditch *27540*. These consist of one EMW, four MCW1, five MCW3 and two GRIM. Recut *27582* produced twenty-four sherds from two contexts, consisting of five EMW, eleven MCW1 and eight MCW3. There is one THEV jar rim. Most sherds are abraded and may be residual. This assemblage indicates a date of the thirteenth to fourteenth century or later.

Two ponds in the northern central part of the site produced assemblages suggesting that they probably infilled during the thirteenth century, although they date stratigraphically to Sub-phase 10c. Eight fills of possible pond *27100* produced a thirteenth to fourteenth century assemblage of forty-seven sherds. There are seven EMW, fourteen MCW1, sixteen MCW3, two MCW4, three LMU and five GRIM. Forms include five SEV1 jars, a bead-rimmed bowl and one THEV jar. Four fills of pit *27471* contained a thirteenth century group of thirty-one sherds: one THET, nine MCW1, four MCW2, fifteen MCW3 and two GRIM.

Medieval features of no sub-phase

Medieval features from no specific sub-phase produced 244 sherds. Quantities of MCW1 and MCW3 are very similar, suggesting that these features spanned the whole medieval phase.

Beam slot *27079* dated from the twelfth to fourteenth century, containing four MCW1 and one MCW3 sherds, and so could have been from any sub-phase. Pit *27067* may have been thirteenth century, containing twenty body sherds, of which four are EMW, two are MCW1, twelve are MCW3 and two are GRIM; adjacent pits of the same character were assigned to Sub-phase 10a, although this could have been later, particularly as pit *27054* is probably of later date (see below).

Four fills of possible pond *27324* contained a thirteenth century group of thirty-eight sherds. Two EMW, twelve MCW1, three MCW2, twenty MCW3 and one GRIM are present; they include three jars with SEV1, UPTH and THEV rims. As stated above, the similarity of this feature to pond *27100* and pit *27471* suggests that it was dated to Sub-phase 10c.

The pottery evidence indicates that several other features dated to either Sub-phase 10b or 10c. Pit *27054* yielded twenty-five thirteenth to fourteenth century sherds, comprising one EMW, sixteen MCW1, two MCW2, five MCW3 and one MCW4. The MCW1 includes thirteen sherds of a jar with a THEV rim. The thirty-five sherds recovered from elongated pit *27291* comprise eight EMW, twenty-two MCW1, seventeen MCW3 and eight GRIM, and their forms include an SEV1 rim and a GRIM jug rim. Pit *27372* produced five sherds of a single thirteenth to fourteenth century GRIM vessel, together with a small MCW3 sherd. Of the linear features, ditch *27445* was notable; producing a thirteenth to fourteenth century assemblage of one EMW, twenty-eight MCW1, three MCW3 and six GRIM sherds. A MCW1 bowl with THEV rim shows slight thumbing (Fig. 84.7).

Discussion

A single sherd of Thetford-type ware is the earliest pottery type found on this site. It may be contemporary with some of the early medieval ware and would indicate an eleventh century beginning for activity on the site. Medieval coarse ware jars of eleventh to thirteenth century date are more common than those of the thirteenth to fourteenth centuries, but there is evidence for continuation into the fourteenth century based on the presence of a tripod-footed vessel. The mix of fabrics and forms in many contexts suggests that much of the earlier pottery was redeposited in later features. However, the limited evidence from phasing suggests an increase in use of MCW1 and Grimston-type ware in the second half of the period and a corresponding decrease in EMW and MCW3.

The range of fabrics and forms is typical of a rural medieval site in Norfolk. Very few wares were non-local, the main exceptions being a glazed ware from the fens and a shelly ware which is of uncertain origin. Shelly wares of

twelfth to thirteenth century date were made in the surrounding counties but are less common in Norfolk.

The large quantity of pottery collected from a relatively small area tends to suggest that habitation was not far away. It may have been centred on the areas enclosed by the ditches, despite the lack of obvious structural features.

14.8 Environmental archaeology

Botanical remains

by Gemma Martin

The overall preservation of the remains is variable; the abraded state of the grain and legumes impeded identification on many occasions, although the presence of free-threshing chaff indicates some instances of good survival. The density of identified botanical remains ranges from 1.41 to 211.75 items per litre, with only one sample containing at least 50 items per litre; an arbitrary cut-off point below which calculating percentages is considered to be problematic (Van der Veen 1992, 25). A few instances of uncharred seeds of species including bedstraw, elder and grasses indicate a low level of recent contamination.

The composition of the cereal assemblages is generally consistent and includes wheat, barley, oat and rye, although the frequency of individual species varies between the flots (Table 62). All of the identifiable wheat appears to be bread wheat and is present in six of the seven flots analysed. Barley and oats are present in all seven flots and both occur in greater numbers than wheat in four of the flots, which are associated with kiln *27485* and the local deepening, *27202*, of the enclosing ditch (in samples 73003, 73004, 73007 and 73000 respectively). Barley is actually the dominant cultigen in all bar one flot from the first phase of use and abandonment of kiln *27485* (sample 73006), and appears to be a hulled variety, a single grain of which was identified as *Hordeum vulgare* L (six-row hulled barley), although a number of grains from pit *27202* were cautiously identified as a naked variety. It has not been possible to confirm if the oats are wild or a cultivated variety as no diagnostic chaff has been recovered. Rye also occurs consistently but appears to be a minor component of the cereal assemblages. Traces of cereal chaff have been recovered from two samples (73003 and 73006), both associated with the kiln, of which one piece only was identifiable. A single free-threshing wheat rachis segment was recorded from the upper part of the fill of pit *27575* associated with the later use of the kiln, but unfortunately the rachis segment was too abraded to determine if it is from a free-threshing hexaploid wheat (such as *Triticum aestivum*) or tetraploid wheat (such as *T. turgidum*) which were both cultivated during the medieval period.

A simple ratio of weed seeds to cereal grains, as used by Van der Veen (1992, 82), was applied in order to aid in characterising the assemblages. The majority of the flots contain slightly more grain than weed seeds suggesting residues of cleaned or semi-cleaned grain. Two flots, 73003 and 73007, from the first and later phases of use of the kiln, contain appreciably more weeds to grain implying that these assemblages are derived from crop cleaning residues.

The weed species are dominated overall by the dock family, including sheep's sorrel, and blinks. Other species that are also quite frequent are members of the grass, goosefoot, Compositae and sedge families. The remaining species occur less frequently and are generally represented by one or two seeds only. There are also traces of species of economic value including hazelnut, bramble and a single seed of flax, as well as small quantities of both pea and bean-sized legumes. Smaller legumes may have been of economic value as food or fodder rather than simply being arable weeds. Although many of the seeds could not be identified beyond genus, the suite of weed species predominantly indicates waste ground or cultivated land. Species typical of sandy soils, such as corncockle and corn spurrey, and of heavier soils, such as stinking mayweed, were present. Areas of damp or wet ground are indicated by blinks, together with the sedges and the traces of spike-rush. Information relating to arable husbandry regimes, such as seasonality, methods of harvesting and ploughing techniques, is difficult to infer because of the generic nature of the weed identifications and the low density of remains in most of the flots.

Charcoal is ubiquitous, and as well as comminuted charcoal, herbaceous stems, rhizomes/tubers, and grass-type culm internodes and culm bases are also frequent in all but one flot from kiln *27485*. Several of the herbaceous fragments in flot 73007 are akin to the basal short culm internodes of onion couch, which are swollen and corm-like and propagate well through ploughing (Stace 1997) although, if found in small numbers as on this occasion, they may suggest low levels of soil disturbance (Van der Veen 1992, 138).

Charcoal

by Rowena Gale

The charcoal recovered from sampled deposits is depicted on Table 63. Charcoal from kiln *27485* was frequent and identified as mostly from fairly wide oak roundwood (including heartwood) measuring 100+mm; alder and willow/poplar roundwood were also present. Charcoal from pit *27575*, consisted predominantly of oak heartwood but also included a fairly high ratio of narrow roundwood (possibly kindling) from taxa such as field maple, alder, hazel, holly, the hawthorn/*Sorbus* group and blackthorn. Charcoal from the natural silting of pit *27202* adjacent to the kiln was rather fragmented but included oak, ash, field maple, the hawthorn/*Sorbus* group and narrow roundwood from alder and hazel. This suggests that the fill of this pit derived from the later kiln pit *27575*, rather than the original kiln, *27485*, which appears to have been fuelled mainly with oak.

Charcoal from the fill of pit *27291*, rich in iron smithing slag and hammerscale, consisted of small fragments of oak and ash heartwood, field maple, the hawthorn/*Sorbus* group and blackthorn. The sample was too small to indicate species preference but the presence of multiple species would be consistent with domestic use.

The sample examined from the charcoal-rich fill of pit *27357* consisted entirely of oak heartwood, probably from fairly wide roundwood. The selection of oak stands in contrast to evidence from other, probable domestic contexts described above. Although not assigned to a sub-phase, debris in this feature may be slightly later in date, perhaps implicating the greater availability of oak at this time. This may have been a result of, for example, the use of wood from the conversion of timber or to changes in woodland management regimes.

	Context	*27487*	*27551*	*27203*	*27203*	*27201*	*27292*	*27358*
	Sample	*73006*	*73007*	*73003*	*73004*	*73000*	*73001*	*73002*
	Vol. soil/l	*4*	*14*	*20*	*37*	*37*	*36*	*37*
	Flot vol/ml	*325*	*28*	*62*	*125*	*26*	*55*	*110*
Cereal								
Triticum aestivum sl.	Bread type wheat	322		10	21	15	6	5
Triticum sp(p).	Wheat	134			9	1	3	1
Triticum/Hordeum spp.	Wheat/barley					1		
Hordeum vulgare L. (hulled)	Six-row hulled barley							1
Hordeum sp(p). (hulled)	Hulled barley	30	4	20	40		2	3
Hordeum sp(p). (naked?)	Naked barley?					25		
Hordeum sp(p).	Barley	42	3	13	29	14	40	10
cf. *Hordeum* sp(p).	Barley?					7		
Avena sp(p).	Oat	126	6	15	46	18	9	2
cf. *Avena* sp(p).	Oat?			5				
Secale cereale L.	Rye	20			14	10		3
cf. *S. cereale* L.	Rye?		1	5	5		3	1
Cerealia indet.	Indet. grain	84		4	28	16	13	6
Indet. frags*		*****	*	***	***	***	***	**
Cereal chaff								
Triticum sp. (Free-threshing rachis)				1				
Indet. chaff		12						
Weeds								
Chenopodium album L.	Fat-hen			4				
Chenopodium spp.	Goosefoot	6			2	1		
Atriplex sp(p).	Oraches	2		2				1
Chenopodiceae	Goosefoot family		1	2		1		
Montia fontana ssp. *fontana* L.	Blinks				1			
M. fontana ssp. *chondrosperma* (Fenzl) Walters	Blinks		35	31	43	9	8	
Spergula arvensis L.	Corn spurry	4						
Agrostemma githago L.	Corn cockle					3		
Persicaria cf. *lapathifolia* (L.) Gray	Pale persicaria		1		1			
Fallopia convolvulus (L.) A.Love	Black bindweed	2						
Rumex acetosella L.	Sheep's sorrel			5				
Rumex sp(p.)	Docks	2		142	23	3	4	
Malva sp.	Mallow				2			
cf. *Malva* sp.	Mallow?	4			2			
Brassicaceae	Cabbage family						3	
Brassicaceae	Cabbage family (fruits)		P					
Potentilla sp(p).	Cinquefoil		5	1			2	
cf. *Potentilla* sp(p).	Cinquefoil?				3			
Vicia/Lathyrus/Pisum spp. >4mm	Vetches/peas?	3		1	1	4	4	1.5
Vicia/Lathyrus spp. 2-4mm	Vetches/peas	10	0.5	4	2.5	1		7.5
Vicia/Lathyrus spp. <2mm	Vetches/peas	2	0.5	0.5	1			2
Vicia/Lathyrus/Pisum spp. frags	Vetches/peas	**		*	**		**	**
Fabaceae indet.	Small legumes	4						
Umbelliferae	Carrot family						1	
cf. *Hyoscyamus niger* L.	Henbane?						1	
cf. *Myosotis* sp.	Forget-me-nots?		4					
cf. *Galium* sp.	Bedstraw?					2		
Anthemis cotula L.	Stinking chamomile	12		1	1	1	2	
Compositae indet.	Daisy family			1	1	1		
Carduus/Cirsium spp.	Thistles			11				
Eleocharis sp.	Spike-rush	2						
cf. *Eleocharis* sp.	Spike-rush?		1					
Carex spp.	Sedges			3	8		4	
Carex sp.	Sedge							1
Cyperaceae	Sedge family					3		
Poaceae indet.	Grasses	12	13	12	5			1
Poaceae indet. (small)			4	3	16	4	12	3
Indet.		12	15	37	11		9	
Frags*			**	**	**	**		*
Other								
Corylus avellana L.	Hazelnut shell frags.							3
Rubus sp(p).	Brambles		2					
Linum usitatissimum L.	Cultivated flax						1	
Total (charred items)		**847**	**96**	**333.5**	**315.5**	**140**	**127**	**52**
Grain (excluding fragments)		758	14	72	192	107	76	32
Chaff		12	0	1	0	0	0	0
Weeds		77	82	260.5	123.5	33	51	20
Weed:grain (excl. frags)		0.10	5.86	3.62	0.64	0.31	0.67	0.63
Total items/litre		**211.75**	**6.86**	**16.68**	**8.53**	**3.78**	**3.53**	**1.41**

*Abundance: *=1-10, **=11-50, ***=51-150, ****=151-250, *****=250+; P = present

Table 62 Identified taxa of charred plant remains, Phase 10 contexts, Old Hall Farm

Sample	*Context*	*Description*	*Acer*	*Alnus*	*Betula*	*Corylus*	*Fraxinus*	*Ilex*	*Pomoideae*	*Prunus*	*Quercus*	*Salix-Populus*
73000	27201	Natural silting of pit *27202*, near kiln	2	5r	-	1r	1	-	1	-	6h	
73004	27203	Lower charcoal/ash layer in pit *27575*, near kiln	7	5	-	3	-	3	5	18	76h, 2s	-
73006	27487	Fill within kiln *27485*	-	1	-	-	-	-	-	-	59h	1r
73001	27292	Fill of pit *27291*	2	-	-	-	2h	-	3r	1	8h	-
73002	27358	Fill of pit *27357*	-	-	-	-	-	-	-	-	81h	-

Key: h = heartwood; r = roundwood (diameter <20mm); s = sapwood (diameter unknown); u = unknown maturity (*Quercus* only). The number of fragments identified is indicated

Table 63 Charcoal analysis of samples, Old Hall Farm

Snails

by James Rackham

No sample columns were specifically collected for molluscan analysis and this study has been carried out on the snails from the bulk samples collected from site (Table 64). All identifiable shells have been recorded but the shells of *Cecilioides acicula*, a blind burrowing snail probably a recent introduction (Evans 1972), have not been counted since archaeological material cannot be separated from recent animals.

The fauna show a mix of open country and grassland taxa with those of shaded and woodland environments. The small assemblage from the secondary fill of kiln *27485* is dominated by shells of the genus *Vallonia* suggesting an open environment, while the fills of the construction cut for the second phase of the kiln have produced assemblages with a higher shaded/woodland element, particularly shells of *Carychium tridentatum*, a taxon found in leaf litter and the base of tall grassland. This may indicate episodes of little activity or disturbance around the kiln; perhaps it was used intermittently with episodes of natural infilling and unmanaged plant growth occurring between the different phases of use.

This group of samples contrasts with that from the medieval pit *27291*. This sample is clearly dominated by shells of *Vallonia*, specifically *Vallonia excentrica*, with only a small woodland component, in this case shells of *Vitrea* sp., which is a genus with catholic habits (Evans 1972; Cameron 2003), and a few shells of *C. tridentatum*. This suite is more typical of an open dry grassland environment and the pattern of change may reflect a slightly later date for this thirteenth century pit or perhaps, since this feature includes the smithing debris, a greater level of human activity in this area and more management or grazing of the land.

The few shells of aquatic or partially aquatic taxa might indicate seasonally wet conditions in the pits or nearby, or derive from the introduction of vegetation from stream and ditch-side habitats, perhaps with the domestic waste. Their contribution to the fauna is generally small.

Animal bone and shell

by James Rackham

The bone from this site was not very well preserved; this will have resulted in some loss of bone from the deposits through dissolution in the soil and the resulting sample cannot be considered as necessarily representative of the original buried assemblage. The analysis identified cattle, sheep, pig, horse, cockle and mussel from deposits dated from the twelfth to fourteenth century AD from the hand-collected material, and in addition weasel, rodent, frog/toad, herring and indeterminate fish from the samples. The samples also contained eggshell, probably from chicken. Sheep/goat bones slightly outnumber those of cattle among the hand collected bones, while parts of a probably mature horse skeleton were recovered from two contexts in ditch *27540*, recut *27582*.

Environmental conclusions

The earliest sampled fill of kiln *27485* is the richest of the entire sample group and appears to contain a deposit of clean grain. The small weed assemblage is dominated by weeds of disturbed waste ground or arable land, and may well be associated with the crop. The species represented are also commonly associated with fine-sieve residues from the final stages of crop processing and the crop processing waste may have been used as tinder or fuel. It would appear then, that at this point the feature functioned as a corn drier used to process prime grain, perhaps in preparation for storage or to harden the grain for milling in order to produce flour for bread making, particularly as the assemblage is dominated by bread wheat. The cereals are typical of the medieval period, with free-threshing bread wheat, barley, oats and rye (Grieg 1991).

It is not possible to determine if the grain was imported or produced locally, to be either consumed directly or exported, as no sustainable evidence for earlier stages of crop processing has been identified. Preparation for consumption or grinding for flour is, perhaps, more likely. The dominant crop is bread-type wheat, which was favoured for bread making, and the grain may have been dried in the kiln in order to prepare it for milling, implying that even if the grain was not produced locally, flour was not imported. However, it is possible that wheat was produced locally and then dried to keep the crop from spoiling for exporting, and other staples such as barley, oat and rye were consumed by the inhabitants instead.

The two samples associated with the second sub-phase of use of the kiln, *27575*, are dominated by barley and oat, with wheat and rye forming minor components. There are also more weed seeds to grain in the upper part of the pit fill and the weed assemblages of both the lower and upper

	Sample	*73006*	*73007*	*73004*	*73003*	*73000*	*73001*
	Context	*27487*	*27551*	*27203*	*27203*	*27201*	*27292*
	Feature	*27485*	*27575*	*27575*	*27575*	*27202*	*27291*
Sub-phase		*10a*	*10a*	*10a*	*10a*	*10a*	*10*
Open country							
Cecilioides acicula		+	++	+++	++	+	++
Vertigo pygmaea			1	4	3	1	2
Vertigo sp.				4			
Vallonia excentrica		+	4	9	5	3	78
Vallonia costata				5	1	1	1
Vallonia pulchella				2	2	1	5
Vallonia sp.			11	13	24	14	132
Catholic							
Trichia hispida		+	1	15	9	3	4
Cochlicopa lubrica				3	5		1
Cochlicopa sp.			1	1	1	4	1
Helix aspersa			1	1	1	1	1
Shade loving							
Oxychilus cellarius					3	2	
Oxychilus alliarus			1	4	3		
Oxychilus sp.		+					2
Aegopinella nitidula				3	4		2
Aegopinella pura				5			
Nesovitrea hammonis			1			3	
Acanthinula aculeata			1		1		
Acanthinula lamellata				2			
Punctum pygmaeum			1	1		1	
Carychium tridentatum		+		34	18	12	7
Carychium minimum					1		
Carychium sp.			3				
Vitrea crystallina				1			8
Vitrea sp		+	5	3	3	4	36
Clausilidae				2	1		
Aquatic							
Lymnaea truncatula				1	1	11	
Planorbis leucostoma				2	3		
Valvata cristata				1		1	1

Table 64 Mollusc taxa identified from samples, Old Hall Farm

parts of the sampled fill are dominated by docks and blinks. These are species that are generally identified as arable weeds and could be derived from cleaning residues from the final stages of crop processing. Blinks and sedges may not necessarily imply that the arable land had areas of damp or wet ground, but could have been collected with hay or reeds from pastures and streamside environments. The cereal and weed assemblage from the fill of pit *27202* is similar to those of the kiln feature and suggests that some waste generated from the kiln was discarded into this pit in the nearby ditch.

The implications for the apparent lack of wheat in the remaining flots is also difficult to determine given the limitation of the assemblages; perhaps it was not consumed on site or consumed in a state that leaves little trace in the archaeobotanical record, such as flour. This decrease in grain implies less intensive use of the kiln for processing cereals and perhaps indicates that the feature may have had a different function, while still being fuelled by crop processing residues. The snail evidence may also suggest periods of disuse of the kiln.

The assemblage from sample 73007, from the third sub-phase of the kiln, is dominated by weed seeds and the small cereal assemblage contains no wheat. The suite of weed species largely represents damp ground and grassland. The presence of numerous fragments of vegetative material including rhizomes or tubers and possible culm bases of onion couch may suggest the use of grassy turfs as fuel, or, since the weed species can also be associated with arable land, the assemblage could be derived from crop processing residues recycled as fuel. The trace of charred bramble seeds implies that small amounts of domestic residues have also entered the assemblage.

Samples from pits *27291* and *27357* both yielded small assemblages of grain and weed seeds. The cereal assemblages are again dominated by barley, with the other cereals including wheat, oats and rye forming minor components. A slightly more diverse weed flora was recorded in pit *27291*, which contained a significant concentration of hammerscale and slag, including a single flax seed. The weed assemblage from pit *27357* is dominated by legumes, notably vetch or vetchlings, but also contains three fragments of hazelnut. It would appear that both industrial waste and domestic residues were discarded into pit *27291* and that low levels of domestic waste were also incorporated into pit *27357*.

Barley, notably hulled barley, requires more processing than the free-threshing bread wheat in that unlike bread wheat, barley needs to be parched in order to make the husks brittle, making it easier to release the grains from the husks by subsequent rolling or pounding of the grain. It follows that barley is therefore more likely to be placed in a kiln or oven than free-threshing wheat and as the majority of the samples are derived from the kiln there may be a bias against recovering remains of free-threshing wheat. The rich assemblage from the primary deposit in the kiln contained almost exclusively oak heartwood charcoal from fairly wide roundwood in contrast to the other charcoal assemblages around the kiln, which would again suggest a change of use in the later phases. The use of oak as a fuel suggests a more sustained heat was needed. The mixed charcoal assemblages in samples 73000 and 73004 are more typical of the casual collection of material for domestic fires.

The charcoal from the deposit associated with the smithing debris is similarly unspecific in contrast to that from pit *27357* which is dominated by oak heartwood from large roundwood. This latter feature has little indication of any industrial or functional activity and the remainder of the debris is more in keeping with domestic rubbish.

The evidence for diet on this medieval site indicates the consumption, and probable cultivation, of wheat, barley, oats and rye, peas and beans, and flax; the possible production of vetches for animal fodder; the collection of hazelnuts and perhaps blackberries; the slaughter of cattle, sheep and pigs; the use of chicken eggs, and presumably the chickens themselves; and the use of marine resources such as cockles, mussels and herring. These were cooked on domestic fires that exploited a range of tree species for fuel much of which could have been collected from local hedgerows, although the oak may have come from local woodland. The snail assemblage implies a mix of open and shaded environments on the site during the periods of use of the kiln and a more open landscape at a rather later time when iron smithing was taking place nearby.

14.9 Phase 13: undated features

A number of features were undated, either by direct dating evidence or by stratigraphic relationships. As nearly all of the artefactual material from the site is of medieval date, it is likely that most or all of these undated features are also medieval. Some of these undated features probably constitute the remains of structures that stood within the area defined during Sub-phase 10b by enclosure ditch *27113.*

Possible sunken-floored building

A slightly irregular sub-rectangular pit, *27307*, cut at opposite corners by two postholes, was located between ditches *27349* and *27346*, in the centre of the site. The southern posthole contained several large sandstone fragments, suggesting post-packing. Morphologically, this complex of features bears resemblance to an Anglo-Saxon *Grubenhaus*. However, there is a complete lack of material of this date from the site, and therefore this interpretation is unlikely. It was suggested by the excavator that the presence of root-like charcoal in the fill of the feature identified it as a burnt-out tree stump but there was no evidence of *in situ* burning in the feature to confirm this theory. It is also possible that the postholes are unrelated to the pit and their juxtaposition is merely coincidental.

Undated postholes

Numerous undated pits and postholes were clustered in small groups scattered across the central area of the site. One group of postholes was located north of spread *27354*, near the centre of the enclosure. Two groups were located further east, one just west of the kiln and one in the south-east corner of the enclosure, east of ditch *27540*. Two of the postholes west of the kiln contained fired clay, possibly remnants of a superstructure, which would imply that they post-dated at least the earliest phases of use of the kiln. Although it is likely that these groups of postholes supported structures of some kind, none of them formed regular enough patterns to allow a clear interpretation.

14.10 Discussion

The site revealed a dense concentration of features of exclusively medieval date. Detailed phasing of the activities represented on the site was constrained by the very broad nature of the dating evidence, with most features only dated to within a two to three century time frame. The peak of activity occurred in the twelfth to fourteenth centuries, with very small quantities of eleventh or twelfth century pottery indicating a limited degree of earlier activity.

The site witnessed at least three broad sub-phases of use, each producing a shift in the organisation of the landscape but building on elements of the previous sub-phase. The apparently localised activity, with all of the datable archaeological deposits clustered within a forty-five-metre length of the pipeline route, seems unusual, and it may have been defined by tracks running to the north and south. A lane currently runs north from Themelthorpe to Old Hall Farm, on the same alignment as the ditches recorded in the excavation and just thirty-five metres west of the westernmost ditch, *27168*. This suggests that the lane originated during the same period; indeed some of the ditches crossing the site could have been part of a broader enclosure system running alongside the lane.

Although there was little direct evidence of domestic structures on the site, the presence of charcoal, pottery and animal bone in the fills of pits and ditches indicates nearby settlement. The space in the centre of the site, where many features not datable to any sub-phase were located, was probably a settlement area during one or more sub-phases. A single medieval beam slot was found in this area, any accompanying features not surviving. In addition, several groups of postholes and a feature that might have been a sunken-floored building were found, but these features were all undated.

During the first sub-phase, the site was divided by a single linear boundary ditch running north to south, to which was attached a small enclosure with an entrance on its east side. The deposits within these features contained more limited amounts of domestic or industrial waste than later deposits, and it is possible that the land was originally divided for agricultural purposes. However, towards the end of Sub-phase 10a or beginning of Sub-phase 10b the small enclosure began to be used for dumping of metalworking debris. This may indicate that the enclosure

had always been industrial in character, but the weight of evidence suggests that dumping in this enclosure coincided with the cessation of its original function.

An oven or kiln structure also stood on the site during the earliest sub-phase, fifteen metres from the small enclosure and apparently in an open area. Environmental evidence suggests that it may initially have been used as a corn drier, and that it changed its function during later stages of development. What is clear is that the feature had three phases of construction, and, at least in its third phase, was enclosed by small ditches to the west and to the north.

The presence of two pits in the space between the kiln and the enclosure that are datable to this phase suggests that some of the less tightly datable features were probably also created at this time. The scarcity of contemporary deposits in this area should not be taken to indicate that it was devoid of activity at this time.

The creation of a large enclosure cutting across the earlier ditches marked the beginning of Sub-phase 10b. The enclosure may have been created to surround a large area around the kiln but it appears that the kiln was abandoned early in this sub-phase, suggesting that other activities were also taking place that warranted this boundary. Although Sub-phase 10a ditch *27585* was cut by the later enclosure, part of it may have been maintained, to form the western sides of both the large enclosure and a second, small ancillary enclosure, which replaced the earlier one. Significant amounts of domestic waste accumulated in the main enclosure ditch, suggesting either that this was a living area or that, whatever its original purpose, it became used for the dumping of refuse.

In the third sub-phase of activity, the site was again rearranged extensively, with the excavation of two large, parallel ditches. These ditches enclosed an area of at least fifty-five metres long and between twenty-five and twenty-nine metres wide, getting wider with each recut on the western side. It is possible that Sub-phase 10c represents two stages of development: the climax and abandonment of the industrial and domestic activity, followed by creation of a broad droveway, accompanied by waterholes for cattle. Unfortunately, neither the stratigraphic sequence nor the artefactual dating is sufficiently clear to prove this hypothesis. The alternative interpretation, that these ditches formed a localised enclosure, must also be considered.

It appears that metalworking was taking place on the western side of the site during Sub-phase 10a, but this decreased during Sub-phase 10b before intensifying considerably during Sub-phase 10c. By contrast, the eastern part of the site was used during Sub-phase 10a for other industrial activities including pottery drying or some firing, and possibly some grain drying. This activity had ceased by or early in Sub-phase 10b, and during Sub-phase 10c metalworking was taking place at that end of the site as well as to the west. Interpretation of the distribution of hammerscale across the site is hampered by the low number of samples that were taken. The presence of a large hammerscale assemblage in pit *27291*, suggests that the locus of metalworking activity may have been further to the east.

The features within the Sub-phase 10b trapezoidal enclosure suggest domestic or agricultural use, rather than industrial functions, and the presence of pits and a beam slot suggests that there might have been a dwelling standing in this area for a time.

15. Medieval agricultural features at Church Lane, Wood Dalling

by Chris Clay

15.1 Summary

Infilled field ditches, together with a few pits and postholes, extended over a 170m length of the pipeline route. A single small gully produced late Anglo-Saxon pottery, but the other datable features were all of medieval date, with little evidence of activity beyond the fourteenth century.

15.2 The site

This site (HER 37628) was within the parish of Wood Dalling, centred on NGR 609000 326500, on open arable land, 500 metres south of the St Andrew's Church and 150 metres from the seventeenth century farmhouse of Home Farm (Fig. 85). The land slopes slightly downwards from 58m OD around the village to about 50m OD just to the south of the pipeline route. The site itself lay at a height of 53 to 54m OD.

The local soils are seasonally waterlogged fine loamy soils overlying a chalky till geology (SSEW 1983).

15.3 Previous work

Nearby archaeological sites noted in the desk-based assessment included cropmarks of a moated manor, with associated field systems and ponds (HER 13103) and the site, to the south of the village, of the original Wood Dalling Hall, destroyed by fire in the eighteenth century (HER 14043). A few stray medieval finds are recorded from the area, found by metal detecting: a silver coin (HER 35042) and a lead cross (HER 30969), described as 'the sort of thing buried with plague victims'. There are also various recorded finds from in and around St Andrew's Church (HER 3132), such as a brass ampulla (HER 3116) found in 1807.

There was unploughed stubble in the field at the time of the field survey and ground visibility was poor. A single

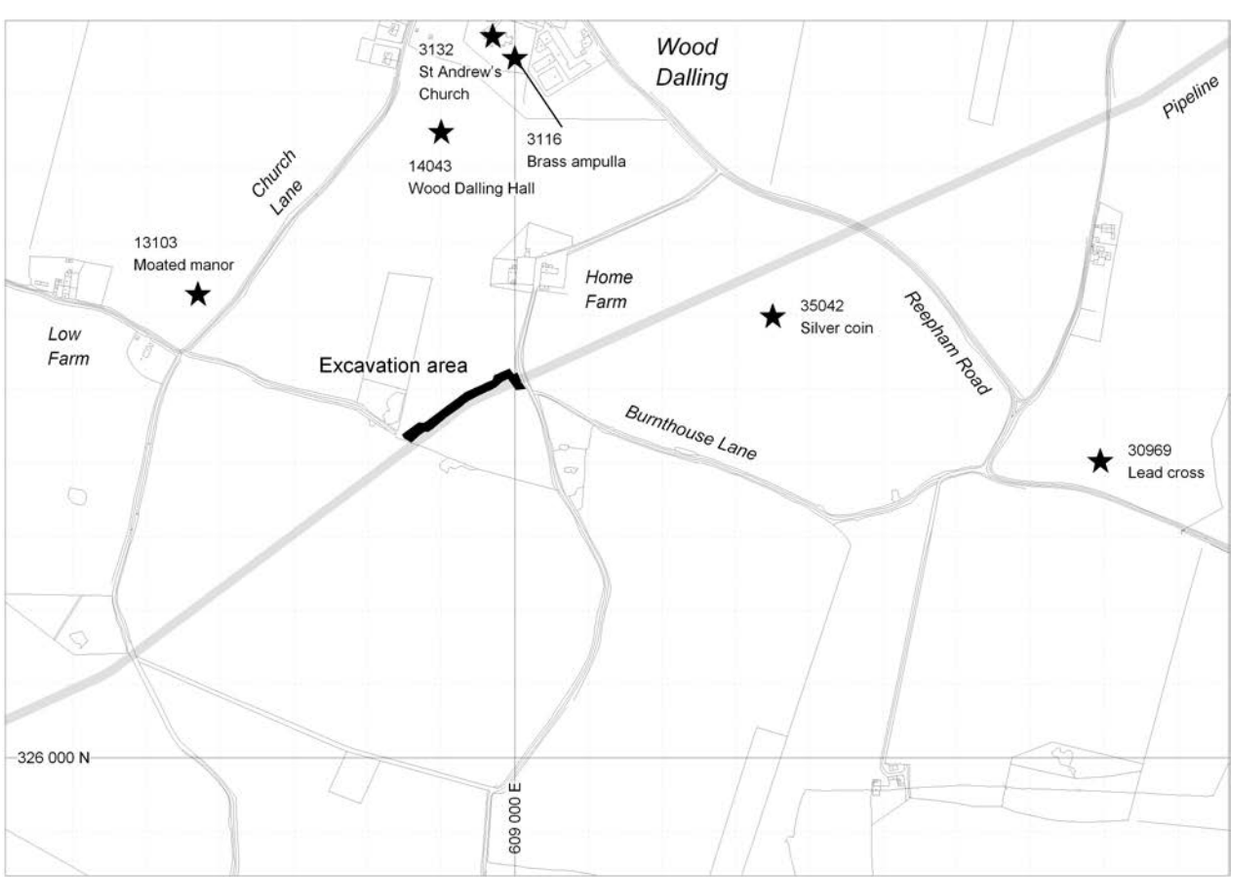

Figure 85 Church Lane, Wood Dalling, location of the excavation area and nearby HER and DBA sites mentioned in the text, scale 1:10,000

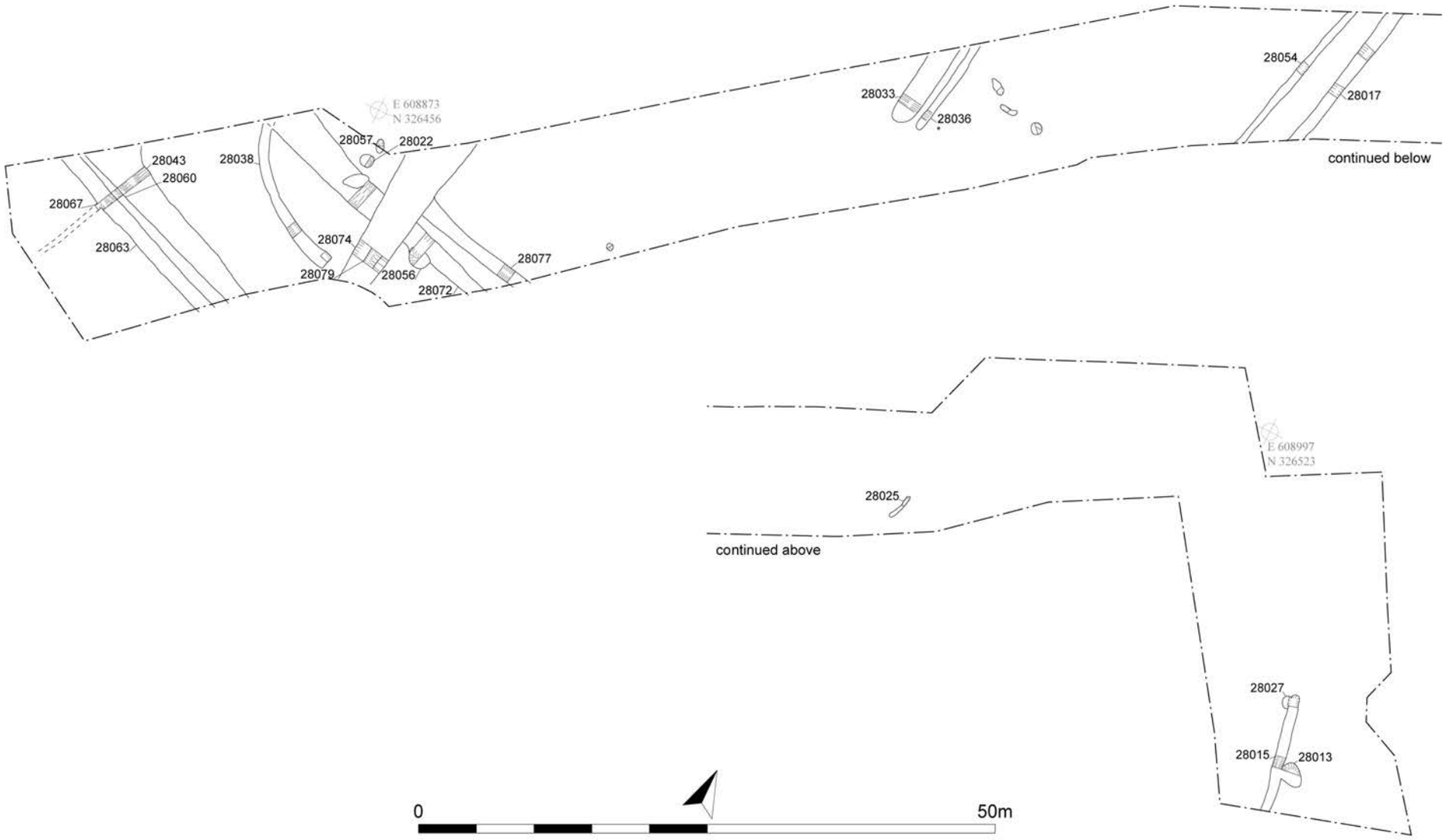

Figure 86 Plan of the excavation area at Church Lane, scale 1:500

sherd of Iron Age or medieval pottery, and two post-medieval tile fragments were the only significant finds from fieldwalking. The finds from metal detecting were similarly sparse: two lead objects, one of which may have been a medieval cloth seal.

The geophysical survey detected a series of linear anomalies towards the western edge of the field. These were tentatively interpreted as small enclosures, possibly garden plots associated with a putative structure represented by a spread of brick rubble, and area of magnetic disturbance in the adjacent field.

Three evaluation trenches were opened. The trench through the area of the geophysical anomalies revealed four linear features. Another linear feature and several small discrete pits or postholes were recorded in the trench to the east, while a third trench beyond the field boundary to the west was largely sterile. The features produced little datable material and it was decided that any archaeological remains in this area should be recorded after the topsoil was stripped in the course of the construction work. A rather higher density of features was revealed during the topsoil strip (Fig. 86).

15.4 Phase 0: natural geology

Archaeological features cut into natural deposits of orange-brown clay with occasional patches of light brown sand and frequent flint nodules. There was no intervening subsoil layer. A number of possible natural features, interpreted as the result of tree root activity, were identified.

15.5 Phase 9: late Anglo-Saxon gully

A single small feature, *28025*, was interpreted as a fragment of a linear gully. Although only 2.40m long and 0.13m deep, thirty-four sherds of pottery were recovered, suggesting the presence of domestic activity nearby.

Late Saxon pottery
by Sue Anderson
Thirty-seven pottery sherds (100g) were collected from this site (Table 65) almost all from a single feature, gully *28025*. This pottery had suffered from post-depositional erosion, and many sherds were abraded or had lost their outer surfaces.

Thetford-type ware from this site was in medium to coarse sandy fabrics which resembled the medieval coarse wares in this part of Norfolk. Sherds were identified from their form and the presence of clear throwing lines inside. The twenty-nine sherds represent a minimum of seven vessels. Rims of one medium and one small jar are present, and there is also a small ginger jar. The rim types are both late forms (types 1 and 4). Two sherds of Grimston Thetford-type ware include a large beaded rim with thumbing, probably from a large storage vessel. One unidentified sherd in a very fine greyware may also be a Thetford-type variant.

Five sherds of possible St Neots Ware from a single vessel were found in association with Thetford-type ware in gully *28025*. Although the inner surfaces are typical of the fabric, the outer surfaces are oxidised to a dark orange, an unusual colour for this pottery type. All calcareous inclusions have been leached out. It is possible that the sherds could be fragments of a Lincolnshire late Saxon shelly ware.

The earliest pottery from this site indicates a late Saxon presence, although presumably any intensive activity of this date was located outside the excavation area. The fill of gully *28025* can be dated to the eleventh century on the basis of the forms present, which include a small jar with type 4 rim, a medium jar with type 1 rim and a ginger jar.

15.6 Phase 10: medieval agricultural features

A large ditch, *28072* (Fig. 88), seems to have been one of the earliest elements of the group of linear features towards the western end of the site. At the north-west edge of the site, it abutted a curvilinear ditch *28038*, which terminated just over one metre from the south-eastern site edge (Fig. 87). The relationship between these two ditches was not established though the pottery assemblage from the curvilinear ditch may indicate a slightly later date. Pits *28022* and *28057*, to the north of ditch *28072*, had pottery assemblages of a comparable date; both were rather irregular features and could have been tree-throws rather than deliberately dug pits.

Further to the south-east, ditch *28072* was cut by a sub-circular pit, *28056* (Fig. 88), which produced a small quantity of pottery, possibly contemporary with that from curvilinear ditch *28038*. The original cut of the ditch complex at the western end of the site, *28043* (Fig. 87), also produced similarly dated material. This ditch had a clear sequence of fills indicating gradual silting interspersed with occasional disposal of domestic waste. Finds included a medieval horseshoe. This ditch had been recut twice, as *28060* and *28063* (Fig. 87), displaced to the west on each occasion. A post-medieval brick drain, *28067*, emptied into the later recut, showing that this ditch remained open beyond the medieval period. The stripped surface between this ditch and the south-west limit of excavation had patches of hard-packed flint, and seems to have been a continuation of the trackway which gave access to the site from Church Lane.

Ditch *28077* (Fig. 87), north of and parallel to ditch *28072*, produced no dating evidence but both of these ditches were cut by a large ditch, *28079*, on a different alignment (Fig. 87). Pottery from the silty fills of both this ditch *28079* and its recut *28074* suggested that both infilled in the thirteenth to fourteenth century.

Further to the north-east, two parallel ditches ran north to south from the north-western limit of excavation,

Description	*Fabric*	*Code*	*No*	*% No*	*Wt/g*	*% Wt*	*eve*
Thetford-type ware	THET	2.50	30	81.1	64	64.0	0.33
Thetford-type ware (Grimston)	THETG	2.57	2	5.4	33	33.0	
St Neots Ware	STNE	2.70	5	13.5	3	3.0	
Total late Saxon			**37**	**100**	**100**	**100**	**0.33**

Table 65 Late Saxon pottery by fabric, Church Lane

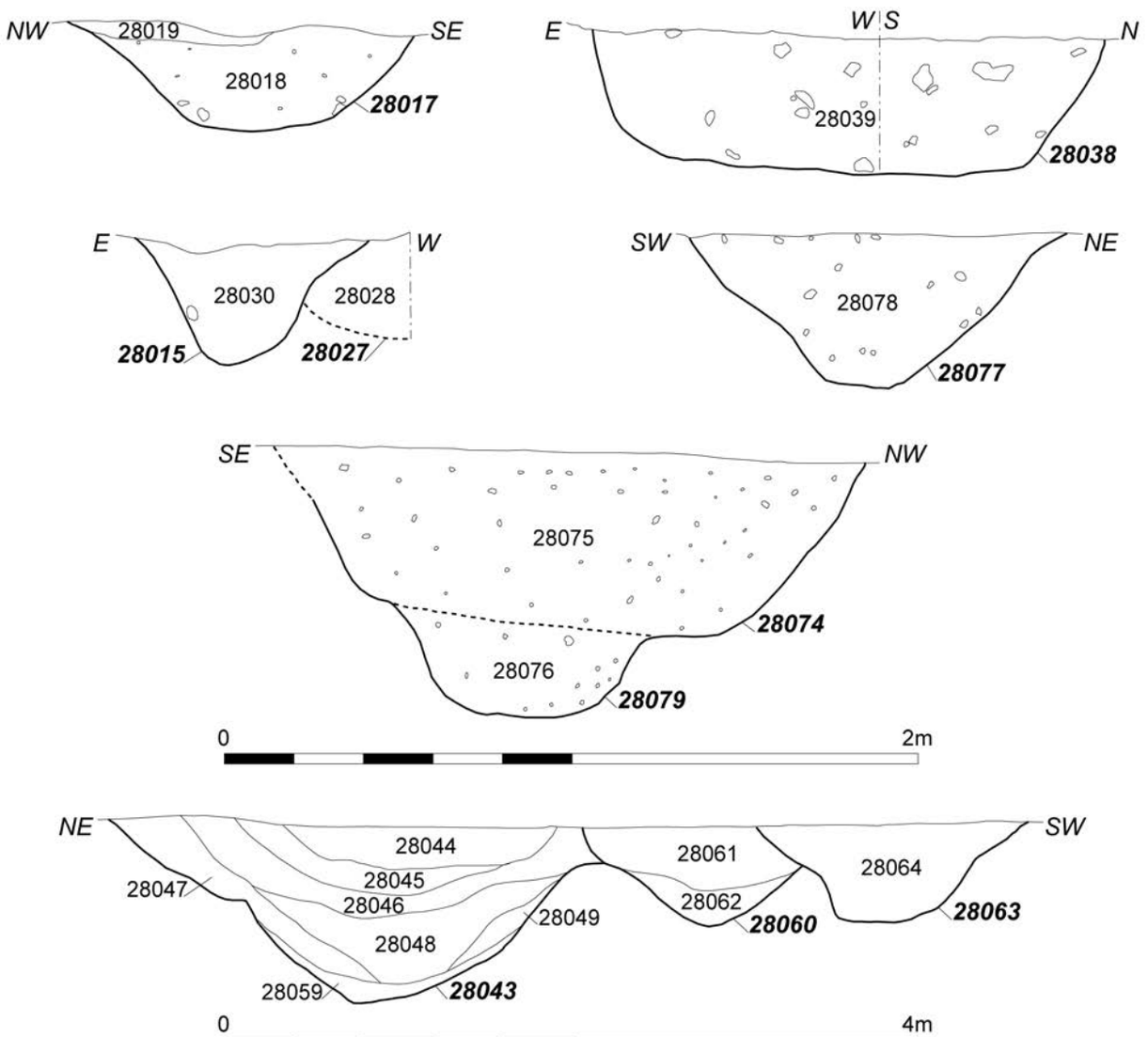

Figure 87 Sections through Phase 10 ditches at Church Lane, scale 1:40 and 1:20

Feature	*Description*
Topsoil	Lava lower stone fragment, possibly with edge of the central hole present. Grinding surface has crudely pecked grooves; possibly with an unworked band about 40mm wide around the central hole (the surface has partly flaked). Other surface irregular. Thickness at edge 21mm, maximum thickness 53mm
	Two joining fragments from a different lava stone, possibly upper stone to go with the lower stone also found in topsoil. Surface is in fairly poor condition, but dressing is very similar, with pecked grooves, with individual peck marks visible. Max. thickness 53mm
	Lava quern fragment. No surface surviving
Pit *28013*	Lava quern fragment; very worn grooves on the grinding surface. Other face irregular. Has possibly been deliberately trimmed into a rough rectangle. Thickness 30mm
Ditch *28015*	Fragment from a thin lava quernstone. The grinding surface is worn, probably pecked, and the other surface is irregular. The 'edge' is virtually straight, and may have been cut down for re-use. Thickness 24mm
Ditch *28072*	Lava quern fragments. No surface surviving

Table 66 Worked stone finds, Church Lane

terminating in the middle of the excavated area. The pottery from the larger of the two, *28033*, suggested that it was a relatively early feature, of eleventh to twelfth century date. Its smaller companion, *28036*, was undated, but is likely to have been contemporary with ditch *28033*. Nine pottery sherds from the fill of ditch *28017* (Fig. 87), the larger of another pair of parallel ditches a further 25m to the east, suggested a thirteenth century date.

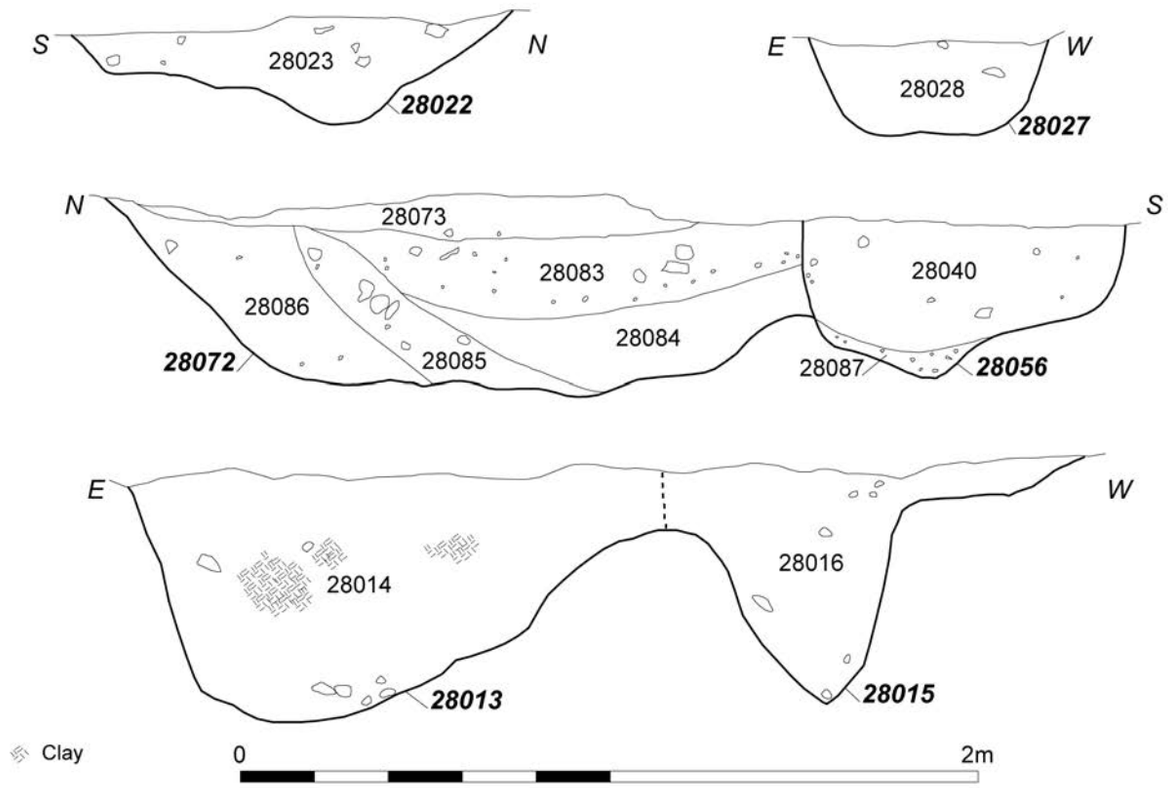

Figure 88 Sections through Phase 10 pits and intercutting ditches at Church Lane, scale 1:20

In most of the field, the construction programme allowed only the north side of the working width to be excavated, but close to the eastern field boundary, the full working width could be examined. A linear feature, *28015*, which terminated in this area, produced eighty-eight sherds of pottery, comprising local unglazed wares, medieval coarse wares, and Grimston-type wares. The fill of this ditch was indistinguishable from those of two pits, *28013* and *28027* (Fig. 88), which it intersected. Pit *28013* produced twenty-five sherds of pottery of a broadly similar date to that from the ditch. The fills of both ditch *28015* and pit *28013* produced fragments of lava querns (Table 66; see also discussion of the worked stone: Section 13.8).

Medieval pottery

by Sue Anderson

In total, 374 pottery sherds (2388g) were collected from this site (Table 67). As with the late Saxon sherds, this pottery has suffered from post-depositional erosion, resulting in abrasion and loss of outer surfaces.

Description

The majority of sherds from this site date to between the eleventh and fourteenth centuries. Local coarse wares form 88.2 per cent of the group by count, with local glazed wares making up 11.5 per cent. One non-local glazed ware is present (0.3 per cent). The medieval coarse wares are dominated by MCW3 fabric, with relatively large groups of EMW, MCW1 and LMU also present. Other coarse wares are rare.

Twenty-seven coarse ware vessels are identifiable to form from their rims. The vessels consist of five bowls, eighteen jars or cooking pots, and four jugs. In addition to the jug rims, two coarse ware handles were recovered, one wide strap and one twisted rod. Table 68 shows the distribution of rim and vessel forms based on the minimum number of vessels (MNV).

Description	*Fabric*	*Code*	*No*	*% No*	*Wt/g*	*% Wt*	*eve*
Early medieval ware	EMW	3.10	63	16.8	193	8.1	0.27
Medieval coarse ware 1	MCW1	3.201	64	17.1	376	15.7	0.30
Medieval coarse ware 2	MCW2	3.202	3	0.8	9	0.4	
Medieval coarse ware 3	MCW3	3.203	146	39.0	1000	41.9	0.09
Medieval coarse ware 4	MCW4	3.204	2	0.5	41	1.7	0.06
Medieval coarse ware 6	MCW6	3.206	11	2.9	96	4.0	0.43
Local medieval unglazed	LMU	3.23	41	11.0	243	10.2	0.23
Grimston-type ware	GRIM	4.10	43	11.5	426	17.8	0.11
Scarborough Ware	SCAR	4.40	1	0.3	4	0.2	
Total medieval			**374**	**100**	**2388**	**100**	**1.49**

Table 67 Medieval pottery by fabric, Church Lane

Form	*INT*	*SEV*	*SEV1*	*THEV*	*TRBD*	*UPBD*	*UPPL*	*UPTH*	*FTTH*
Bowl	2			3					
Jar		2	2	6		1		4	1
Jar?		2							
Jug					1				
Jug?		1		1			1		

Table 68 Medieval coarse ware rim and vessel forms, Church Lane (see Table 37)

This group contains similar quantities of both early (SEV, SEV1, UPPL, UPBD, UPTH, INT; total fifteen) and developed rim types (THEV, TRBD, UPFT; total twelve), although the three bowls with THEV rims are all decorated with thumbing, suggesting that they belong with the earlier types. Simple everted rims are in fabrics EMW, LMU, MCW3 and MCW6; two THEV rims are in MCW3 but these are both bowls; the other developed rims are all in MCW6, MCW1, MCW4 and LMU. For example, an MCW6 jar with an upright thickened rim with a slight flange to outer edge, orange-coloured with a buff core was found in the topsoil (Fig. 89.1). The distribution of rim forms seems to indicate that settlement continued into the fourteenth century, but a lack of any late medieval wares suggests that it did not continue beyond this. Decoration found on the coarse ware pottery from this site is limited to thumbed or 'pie-crust' decoration on the rim, of which there are seven examples, or the base, with two examples.

The forty-three sherds of 'Grimston-type' ware fabric in this group represent up to twenty-two vessels. The most complete is a worn, light green-glaze face jug, identified in ditch *28015* (Fig. 89.5). No other rims are present, but there is one rod handle. It is likely that all the sherds came from jugs. Decorative techniques include applied strips with finger-tip impressions, but there are no examples of parallel vertical brown slip lines. The schemes in use at this site appear to have been anthropomorphic and zoomorphic in character, with curved applied strips that may represent arms or outlines of wings, and at least one vessel has applied 'feathers'. One small abraded sherd from the topsoil has incised horizontal lines on the upper body, a type of decoration which is associated with the later globular jugs in Norwich (Jennings 1981, 50 and fig. 22 no. 380). Again, this suggests continuation of the settlement into the mid- to late fourteenth century, although the sherd was found in topsoil and could have been brought in at a later date with 'night soil' spread as manure.

There is one small, abraded sherd of Scarborough Ware. As a proportion of non-local wares, this is a relatively common find along the coast and in Norwich, but inland it might be expected to indicate moderate to high status when it occurs.

Excavation of the group of ditches and pits near the western end of site recovered 137 sherds. The earliest features appeared to be ditch *28072* and pits *28022* and *28057*, all of which were probably filled in the twelfth or thirteenth centuries. Twenty-seven sherds were found in ditch *28072*, of which seventeen belong to a single EMW SEV jar. One other EMW sherd was found, and the remaining sherds are MCW3. Pit *28022* contained eight EMW, eight MCW3, one MCW6 and one LMU sherds, including a jar with a UPBD rim. Pit *28057* contained two sherds of MCW3. Ditches *28043* and *28038* and pit *28056* may be slightly later, but are broadly contemporary with those described above. Ditch *28043* produced thirty sherds, comprising two EMW, seven MCW1, twelve MCW3, six LMU and three GRIM sherds, the forms including a THEV bowl rim, an UPTH jar rim and a jug handle. Ditch *28038* produced thirty-six sherds, comprising seven EMW, twenty-seven MCW and two LMU, whose forms include four jars with SEV1 and UPTH rims. Pit *28056* produced one sherd of MCW1 and three of MCW3. These assemblages date the three features to the thirteenth century. The latest ditches in the sequence, *28074* and *28079*, both contained thirteenth to fourteenth century pottery. Ditch *28074* contained fourteen sherds: six EMW, one MCW1, four MCW3 and three GRIM, including a jug handle. Ditch *28079* contained five sherds, consisting of two MCW3, two MCW6 and one GRIM. The coarse wares include two developed rims, one of which was a MCW6 pale orange/buff possible jug with a thumbed, simple everted wedged rim (Fig. 89.4).

The largest of the pair of ditches near the centre of the site, *28033*, contained five fragments of a single EMW vessel of eleventh to twelfth century date. Further to the

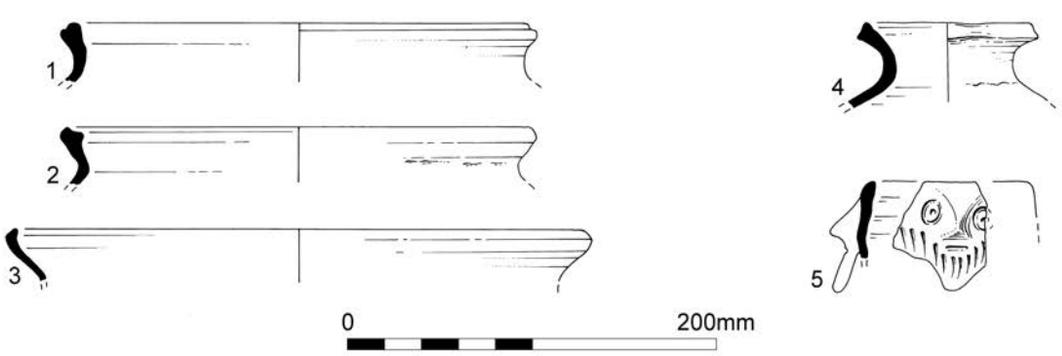

Figure 89 Medieval pottery from Church Lane, scale 1:4

east, the nine sherds recovered from ditch *28017* suggested a thirteenth century date for the filling of the ditch. Eight of these are MCW3 body sherds and one is of MCW6 and possibly an everted jug rim.

The group of ditches and pits at the eastern end contained 114 sherds. Ditch *28015* produced most of the sherds: two THETG, eight EMW, twenty-three MCW1, fourteen MCW3, four MCW6, eighteen LMU, eighteen GRIM and one in an unidentified fabric. Identifiable forms include three THEV jars and a GRIM face jug, the latter occurring in both fills. This assemblage provides a thirteenth or fourteenth century date for this feature. The pottery collected from the two pits abutting the ditch produced slightly earlier dates. Pit *28013* contained twenty-five sherds, consisting of five MCW1, thirteen MCW3, five LMU and one GRIM, with two identifiable forms: a THEV jar and an inturned bowl rim. This group suggests a thirteenth century date. Pit *28027* contained a twelfth or thirteenth century base sherd in fabric MCW3. Two of these are illustrated: a MCW1 jar, pale grey with medium grey outer surface, thickened everted rim (Fig. 89.2) and a MCW1 possible bowl with an inturned rim, which is blackened by soot externally and pale grey internally (Fig. 89.3).

Discussion

The settlement which produced this material probably did not last beyond the fourteenth century. The coarse wares are dominated by MCW3, but other types were relatively common too. The proportion of glazed ware is within expected limits for a rural site, but the presence of a non-local fabric is of interest and it may be derived from a moderately high status household.

Much of this pottery is abraded. Some of this erosion may be related to soil conditions, but as a large proportion of the assemblage came from field boundaries it is likely that the pottery was originally distributed across the adjacent fields during manuring and was eventually deposited in the backfilled ditches some years after its original disposal. Where stratigraphic relationships were present, however, the pottery is in sequence and provides a reliable *terminus ante quem* for the use of these features.

Horseshoe from ditch *28043*

by Julia Huddle

This horseshoe fragment has a narrow web, broken at the worn toe. Two nail holes are present, perhaps three with the third having the possible remains of the nail *in situ*. The nail holes were probably originally round or sub-rectangular and have deep countersunk sub-oval slots. The edge is lobate wavy and a calkin is present.

It is a Type 2A or 2B 'formerly Norman' following Clark (1995, 86, fig. 62) and compares to those from London found in early medieval deposits and declining by the mid-fourteenth century (ibid. 92, fig. 74). If two nail holes are present in this example, then Margeson (1993, 226, fig. 173 no. 1828) has an almost exact parallel from a twelfth or thirteenth-century context.

15.7 Discussion

Activity began on the site during the late Anglo-Saxon period, as indicated by the finds from gully *28025*. The large number of pottery sherds from this small feature suggests that domestic waste was being dumped into it, and that there may have been settlement of this date on or near to the site.

Dating evidence from the various ditches suggests activity was taking place in the eleventh to fourteenth centuries, a chronological range reflected at many of the medieval sites exposed along the pipeline route. The ditches at the south-western end of the site all respect the alignment of the existing field boundary and track that define the western site boundary. The three westernmost cuts, *28043*, *28060* and *28063*, show a gradual migration westwards with each episode of recutting, towards the existing field boundary. The relationship of the westernmost cut of this group with the brick drain implies that this group of ditches was maintained for a long period of time.

The features found on site appear to represent agricultural land divisions, although domestic waste from several features indicates the presence of a nearby settlement. The concentrations of pottery were greater around ditch *28015* at the eastern end of the site and around the features towards the western end of the site, which may serve to locate areas of medieval settlement.

With the exception of curvilinear ditch *28038*, all of the linear features on the site share alignments with elements of the modern landscape: the ditches at the western end of the site with the field boundary and track and the others with the eastern field boundary and track running south from Home Farm. The bend in the track is mirrored in the respective alignments of ditches *28017* and ditches *28015*. The brick drain, *28067*, and the ceramic land drains crossing the site, are the only recorded features later than the fourteenth century. A similar, apparently quite abrupt end to activity was also seen in other medieval sites along the pipeline route: Old Hall Farm, Themelthorpe and Billingford Road, and suggests that a quite radical change in land management occurred at this time across the region, with perhaps small intensively worked and drained plots of land being amalgamated into larger units or turned over to pasture.

16. The medieval landscape and prehistoric activity in Itteringham parish

by Tom Wilson

16.1 Summary

Three areas with evidence of the medieval landscape were investigated, all three on the edge of the floodplain of the River Bure, south of Itteringham. Area A was a focus of medieval agricultural activity, and included a possible waterhole, postholes and pits, probably indicating at least limited settlement. On the opposite side of the Bure, Area B included an infilled river meander, with the area within it divided into ditched enclosures. The site was on the periphery of an extensive area of cropmarks, believed to be the site of Nower's Manor and St Nicholas' Chapel, known from medieval documentary sources. Area B also contained a few prehistoric features. Some distance to the east, Area C contained a larger and more concentrated group of features. Two groups of small rectilinear ditched enclosures, as well as large numbers of pits, were probably associated with the medieval Itteringham Hall nearby, now the site of White House Farm.

16.2 The excavation areas

Although only about eight metres wide where it passes through Itteringham parish, the River Bure occupies a wide floodplain, with a network of drains, channels and ponds on either side of the river itself. The course of the river has moved considerably across this landscape.

All three excavation areas were within 200 metres of the river, on low-lying land (Fig. 90). Area A located around NGR 614990 330290, extended over the two fields on either side of the road to Itteringham Common from the village. Area B was 400 metres to the east, on the north side of the river (NGR 615340 330480). Area C, also on the north side of the river, was a kilometre further east, near to White House Farm (NGR 616450 330750; Fig. 99). All three areas were in arable fields.

The area lies on Pleistocene Crag deposits (Chatwin 1961), overlain by glaciofluvial and aeolian tills. Deep, coarse, and well drained, soils of the Wick 2 and 3

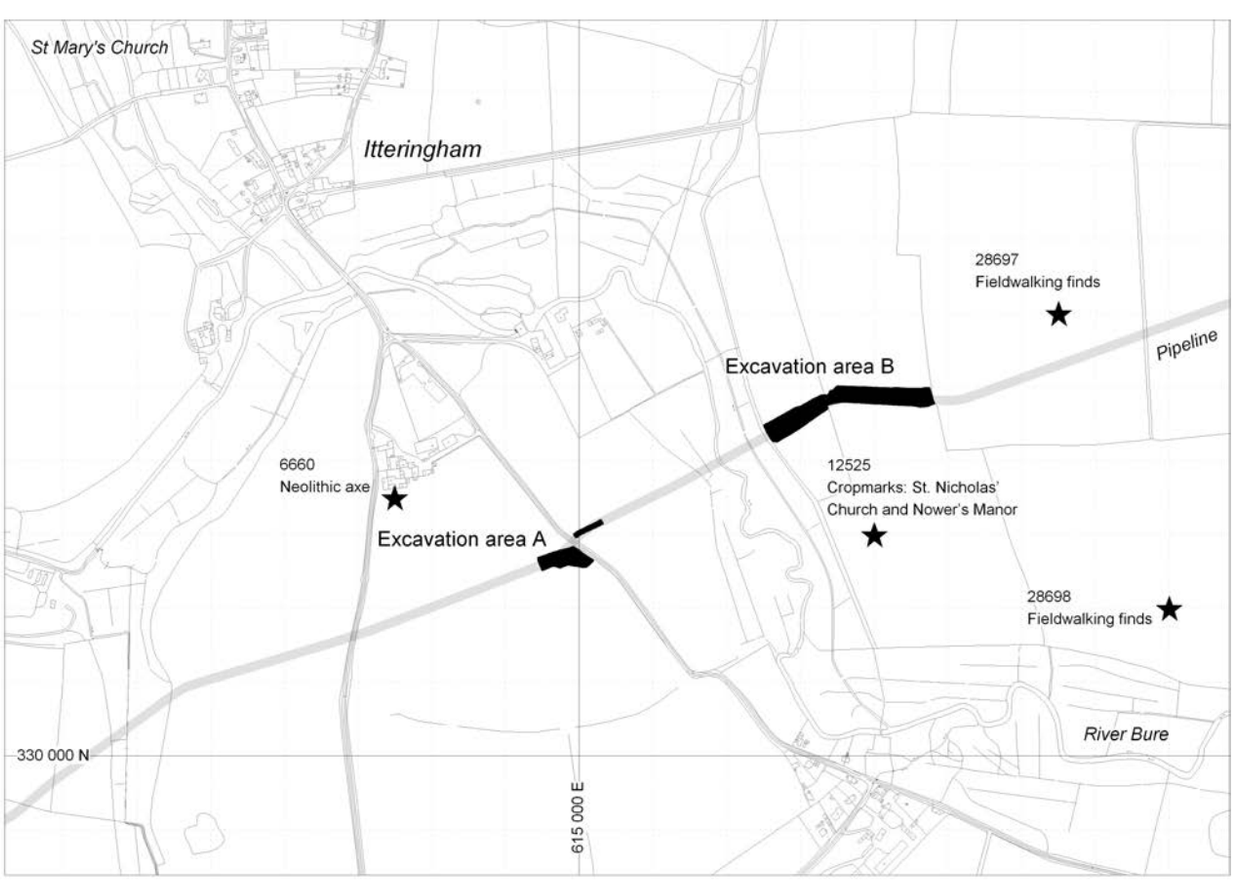

Figure 90 Itteringham A and B, location of excavation areas and nearby HER and DBA sites mentioned in the text, scale 1:10,000

associations (Soil Survey of England and Wales 1983) have developed over these deposits, with loamy aeolian soils of the Hanworth association either side of the river. These soils often develop a peaty surface horizon and are only suitable for agriculture where the groundwater has been carefully managed. Itteringham, with its network of ditches, is just such a place.

16.3 Pre-construction work

The route of the pipeline as originally proposed crossed an extensive area of cropmarks, including the site of the former church of St Nicholas, on the north side of the River Bure (HER 12525). The cropmarks clearly show the ploughed-out remains of a deserted settlement, believed to include the site of Nower's Manor, known from historical records. The church of St Nicholas lost its parochial status in the fourteenth century, but continued as a manorial chapel until the late fifteenth century. The church of St Agnes, now St Mary's, in the centre of modern Itteringham, was enlarged in AD 1200, an indication that a shift in population to the site of the modern village was already occurring by that time.

The desk-based assessment recommended that the pipeline should be re-routed to avoid the cropmark site, and this recommendation was subsequently implemented, moving the route 240 metres north of the church site and avoiding the densest concentration of archaeological features as well as an area of circular geophysical anomalies at NGR 615040 330110.

A second medieval manor house was highlighted in the desk based assessment. This was originally known as Itteringham House but forms the core of the present day White House Farm (HER 31891), near the western end of Area C. The fields around this farm were fieldwalked by local society groups in the early 1990s and produced Iron Age, Roman and medieval pottery sherds, suggesting that there was widespread activity in the area (HER 28697, 28698 and 28901). Other notable finds from the area include Neolithic axes (HER 28945 and 6660).

The field surveys were carried out along the original pipeline route crossing the dense cropmark site, but did not identify any earthworks associated with the deserted settlement and only five sherds of medieval pottery were recovered during fieldwalking of this area. The fields to the south of Area A proved more productive with twenty medieval sherds. The field immediately to the south of Area C was under permanent pasture and was not fieldwalked.

Because the cropmark site had already been identified in the desk-based assessment, the geophysical survey was extended to cover an area of up to 375m by 230m (Fig. 91). A series of enclosures and possible buildings, including the church and the putative manor house, could be seen alongside a road leading to a former river meander. At least four further enclosures extend southwards and eastwards. The enclosure boundaries appear as zones of both high and low susceptibility, suggesting that both walls and ditches were present.

The pipeline was redirected across what appeared to be the least damaging route through the cropmarks and geophysical anomalies. However, an evaluation trench on the new route confirmed the presence of medieval features and this area was stripped and excavated immediately after the trial trenching, forming Area B. Areas A and C were discovered during monitoring of the construction topsoil stripping.

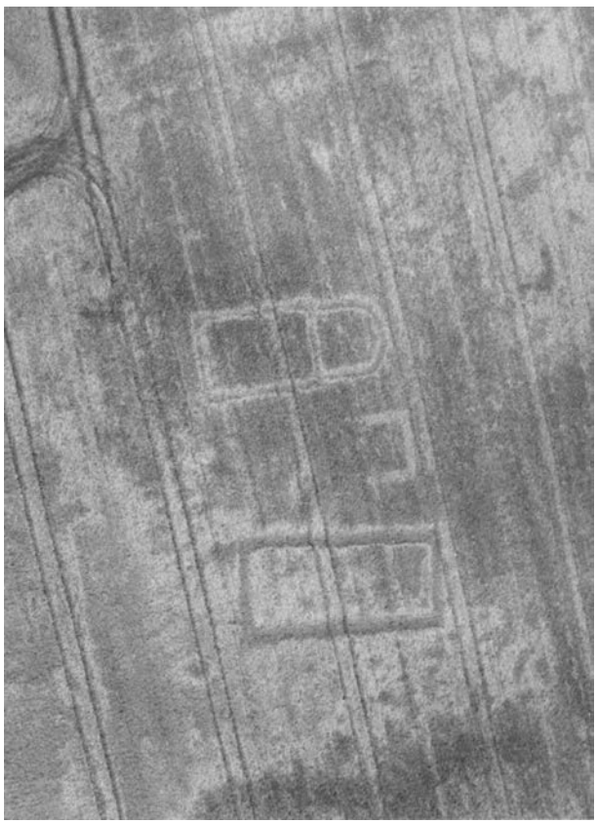

Plate 13 Aerial photograph showing cropmarks of St Nicholas Church and Nower's Manor, Itteringham
(photo Derek Edwards, copyright Norfolk Museums and Archaeology Service)

In the field sloping down towards the river, at Area A, only features along the central pipe trench were excavated, as the rest of the working width was considered to be protected beneath thick subsoil deposits. The superficial subsoil layers were much thinner in the more westerly field, and this was stripped to the top of the archaeological horizon across the whole working width.

AREA A

Area A (NGR 614990 330290: HER 37939 to the east of the road and 37940 to the west) was separated into two excavation areas by Common Road, running south from Itteringham. The field to the west of the modern road occupies a level terrace above the floodplain, although the land rises to the south-west, towards the village of Oulton (Fig. 92). East of the road, the ground slopes gently downwards towards the River Bure. The top of the archaeological deposits in the western field was level, at 23.0m OD. In the eastern field, the top of the archaeological deposits sloped down from 23.1m OD by the road to 19.3m OD at the eastern limit of excavation.

16.4 Phase 0: geological deposits

During the excavation, the drift geology was recorded as reddish-orange silty sand, containing frequent flint inclusions.

Figure 91 Results of the extended gradiometer survey carried out in an extended area to the south-east of Itteringham village. The pipeline route and the Itteringham B excavation area are shown to the north of the main concentration of magnetic anomalies. The area of the cropmark shown in Plate 13 is outlined in white

16.5 Phases 1 to 5: residual prehistoric pottery and flint

by Sarah Percival and Sarah Bates

Area A produced three residual prehistoric pottery sherds. In the eastern field, the subsoil contained two large sherds, one of coarse flint-tempered Beaker with fingertip-impressed decoration and another, finer flint-tempered sherd, which resembles the collar from a Collared Urn. Collared Urns are not usually found in flint-tempered fabric, so the sherd may be from a large Beaker with an enlarged rim (*cf.* Healy 1996 fig. 80 P87). Both vessels probably date towards the end of the Beaker period (2600–1800 BC). One 2g undiagnostic body sherd of Iron Age date was recovered from a medieval feature in the western field.

Ten residual undiagnostic struck flints were found in the eastern field: five flakes, one blade-like flake, one blade, a spall, and one shattered piece. One thick flake from the side of a rounded pebble had slight retouch on one edge, forming a scraper-like implement. The western field produced seven residual struck flints: a single platform blade core, two flakes, two blades, one spall, and a utilised fragment. The core and two blades, one with a utilised edge and one with possible use of its distal point, were found in the topsoil. They are probably of earlier Neolithic date.

16.6 Phase 9: Saxo-Norman foundation

No deposits could be definitively dated to the Saxo-Norman phase, although some, for example the fills

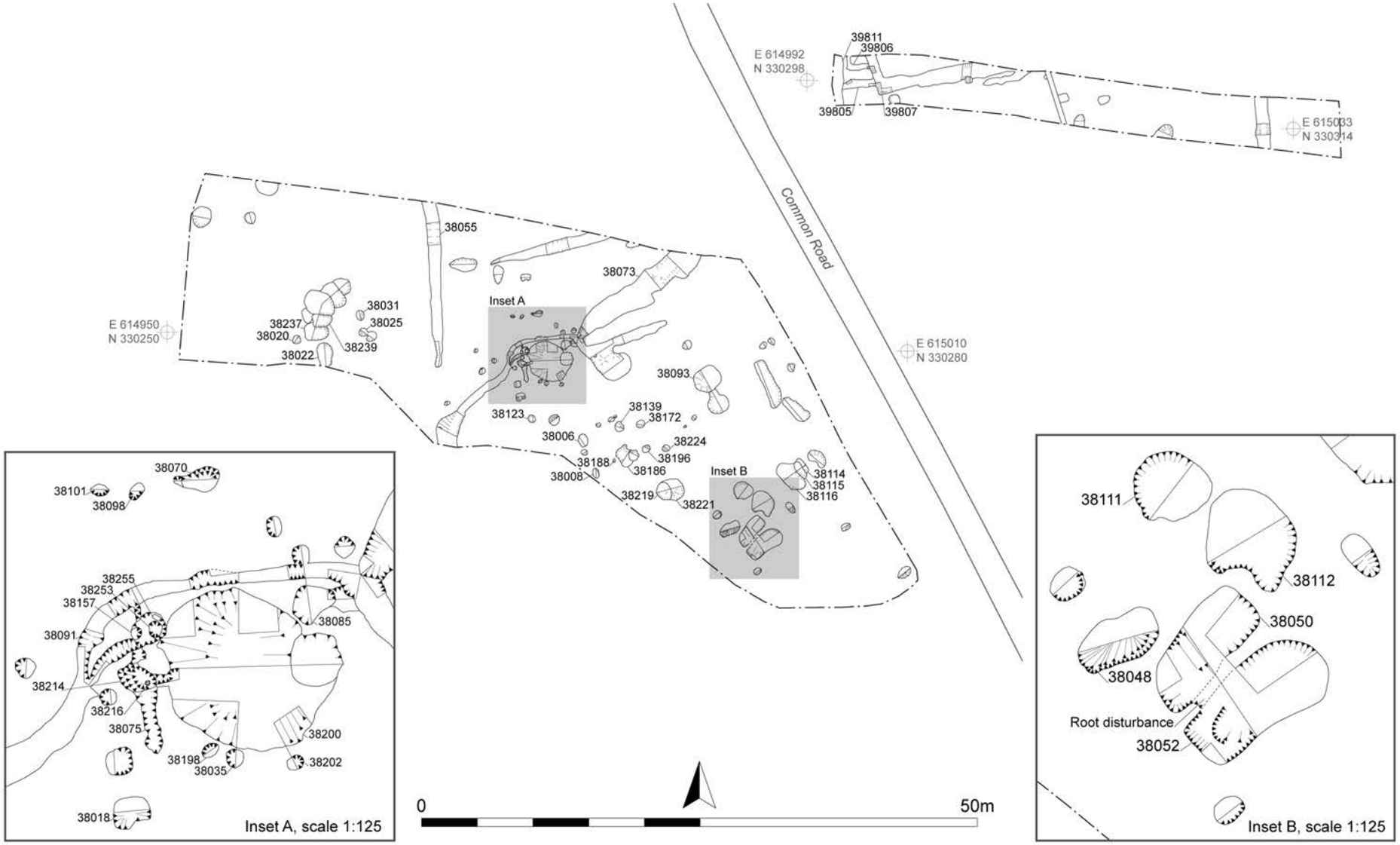

Figure 92 Plan of excavation Area A at Itteringham, scale 1:500 and 1:125

Description	*Fabric*	*Code*	*No*	*% No*	*Wt/g*	*% Wt*	*eve*
Thetford-type ware	THET	2.50	16	80.0	128	96.2	0.16
Thetford-type ware (Grimston)	THETG	2.57	4	20.0	5	3.8	
Total late Saxon			**20**	**100**	**133**	**100**	**0.16**

Table 69 Saxon pottery by fabric, Itteringham Area A

within hollow *38202*, may have dated to this phase. Evidence for occupation on site at this time comes from pottery found in these possibly transitional features or redeposited in later deposits.

Late Saxon pottery
by Sue Anderson
Twenty sherds of late Saxon pottery (133g) were collected from Area A. Table 69 shows the quantification by fabric.

Ten sherds were found in Phase 10 contexts, including a few of abraded Thetford-type ware. With the exception of a small abraded jar rim (possibly type 4) and a flat base sherd, all these fragments are body sherds, their fabrics varying from medium to coarse sandy. Ten further sherds were found in unphased or modern deposits including two rim sherds and one body sherd of Thetford-type ware and four rim and body sherds from a single vessel of Grimston Thetford-type ware. These rim sherds are all from AB jars and consist of types 3, 4 and 6. The subsoil also contained an unidentified base sherd in an oxidised fabric, possibly burnt, similar to medieval coarse ware MCW3; however the base is flat, as is the case with Thetford-type rural wares. There is also a possibility that the sherd could be Roman, perhaps a Nar Valley ware.

As a group, these types span the entire period of Thetford Ware production, but two are towards the later end of the range and this, together with the Grimston Thetford vessel, suggests an eleventh century date for associated activity. Although classified as late Saxon, they are likely to be contemporary with some of the early medieval wares in this assemblage and form a continuum with the medieval pottery.

16.7 Phase 10: medieval occupation

Hollow *38200* and associated postholes
A sub-rectangular hollow, *38200*, surviving to a depth of 0.14m, had steep sides and a very uneven base. Its silty fill contained forty-three medieval pottery sherds, fragments of a lava quernstone from a lower stone, with a pecked grinding surface, and a pale-coloured schist whetstone. A series of postholes surrounded the hollow, six of which, *38214*, *38157*, *38255*, *38253*, *38216*, and *38085* contained medieval pottery. Several of the postholes on the western side had been recut. Besides the postholes immediately surrounding hollow *38200*, there were further postholes in the area around this feature, up to about 3m away from it. A sinuous ditch, *38091*, ran across the site towards the hollow, where it split, one channel draining into the hollow and one running around and beyond, linking up with a larger ditch, *38073*. A gully or slot, surviving to a depth of 0.20m, *38075*, had been dug along the western side of the hollow, seemingly draining into ditch *38091* to the north. Ditch *38091* contained fragments of a quern stone, as did ditch *38055* further to the west.

One possible interpretation of these features is that they could be the remains of a waterhole, with postholes *38202*, *38035*, *38198*, *38216*, *38214*, *38157*, *38253* and *38255* supporting a barrier running around the southern and western edges of the waterhole, or platforms or similar structures to help collect water. The fact that the postholes to the west had been replaced might suggest a greater need for repair because access to the waterhole was mainly from that side.

An alternative interpretation is that the postholes held the foundations for a rectangular building, possibly a byre, oriented north to south and with an entrance to the east. Postholes *38070*, *38098* and *38101* would have held up the northern side, while *38123* or *38018* formed the south-western corner. Postholes *38202*, *38035* and *38198* could have supported an internal wall separating off the southern part into an animal stall, while gully *38091* could have been a urine drain running through the byre. The smaller gully, *38075*, would have run along the back wall and drained into this main channel, with the hollow itself formed by poaching by cattle hooves in wet ground. One problem with any interpretation is the lack of a complete layout; the northern and western walls are clearly evident, but the other walls are less complete and only one corner post can be identified. This putative byre could have been constructed for a different purpose. Indeed, since there are significant quantities of domestic rubbish in nearby features, it seems more likely that it was initially a dwelling.

Possible building
Another cluster of postholes to the south-east of the hollow is likely to have held up a wooden rectangular building oriented south-west to north-east, with postholes *38006* and *38008* holding the corner posts at the south-western end. Such a building would have been 3.9m wide and between 4.5m or 7.25m long, depending on which postholes held the eastern end: either *38196* and *38172* or perhaps *38139* and a shallow feature recorded as an adjunct to pit *38186*. Five of these postholes, *38139*, *38172*, *38224*, *38008* and *38188*, contained medieval pottery, fifty-four sherds in all, including a Scarborough Ware face jug.

Features towards the western end of the site
No clear structural associations existed between postholes *38020*, *38025* and *38031*. The twenty sherds of pottery recovered from these three features indicated a slightly later date than the finds from the posthole clusters to the east. In the same part of the site, a group of seven intercutting pits, of which three, *38022*, *38237* and *38239*, were datable to the medieval phase, were sub-rectangular and typically about 0.2m deep, with continuous, concave profiles. They had sterile dark silty fills with few inclusions.

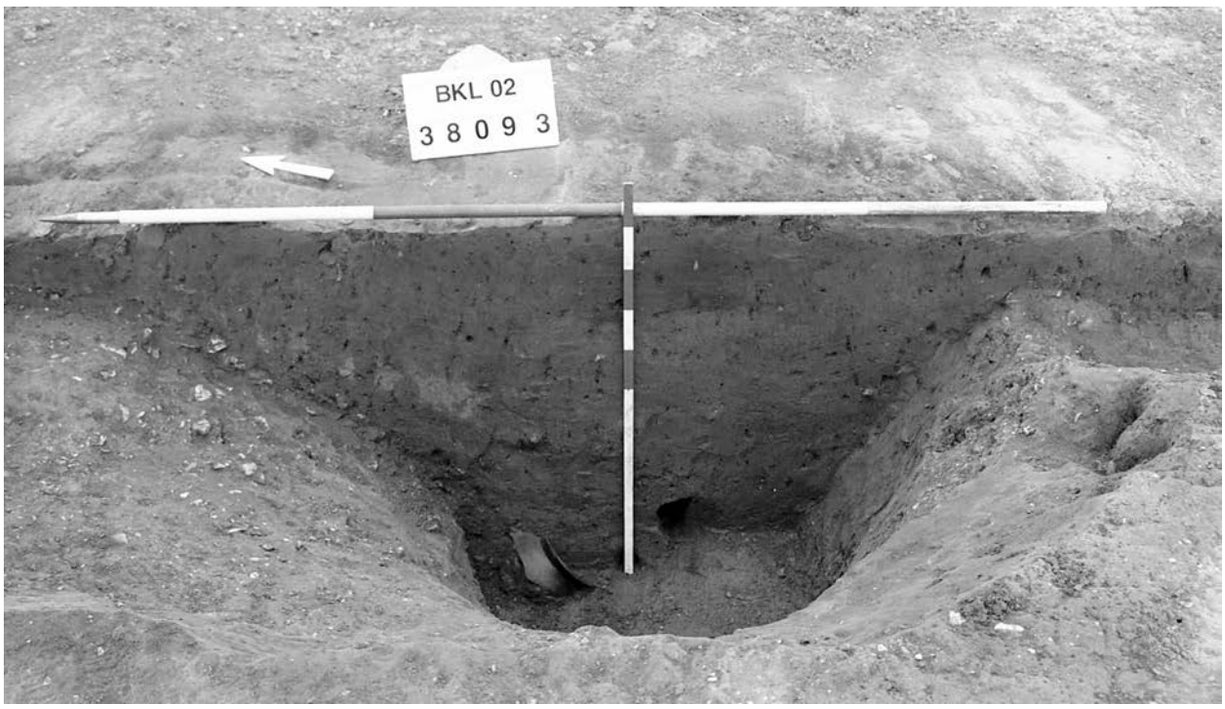

Plate 14 South-west facing section through partially excavated pottery-rich medieval pit *38093*; 2m and 1m scales

Eastern ditches
Ditches were found in both areas of the site. To the east, ditch *39807* had a right-angled turn suggesting that it formed the corner of an enclosure, probably infilled in the thirteenth or fourteenth century. It appeared to have replaced an earlier group of smaller ditches: *39805*, *39806* and *39811*.

Sub-rectangular features and smaller pits
Two neighbouring flat-based sub-rectangular pits in the south-eastern corner of the western excavation area, pits *38050* and *38052*, had similar dimensions, both being just over 0.2m deep. Both pits had gradually sloping sides, becoming vertical towards the top in the case of pit *38052*. Tree roots had disturbed the space between the two pits. Both features had infilled with stony sand containing medieval and, in the case of *38052*, late Anglo-Saxon pottery. The size and shape of these two features is reminiscent of typical sunken-floored buildings but a probable twelfth century date would make such an interpretation unlikely, while the presence of late Saxon pottery suggests that pit *38052* at least may have gone out of use close to the *terminus ante quem* of the medieval sherds found within it.

Although their size and shape made these two features distinctive, they are likely to have been simply the largest two examples of the group of pits in this area. Pit *38116* was also sub-rectangular and survived to a depth of 0.35m with sides sloping at 45°. The other pits were smaller and unremarkable: *38048*, *38112*, *38111*, *38219*, *38221*, *38114* and *38115*. Altogether, this group of pits produced a total of 161 sherds of pottery, of which the largest assemblages came from pits *38115* and *38219*, both of which probably date to the thirteenth century, as did the nearby postholes.

Two large circular pits and a posthole in the central part of the site, east of hollow *38200*, produced sixty-seven sherds between them, the majority of which came from pit *38093* (Plate 14), suggesting a thirteenth or fourteenth century date for this group of features.

Medieval pottery from Area A
by Sue Anderson
In total, 517 sherds of pottery (2865g) were collected from Area A. Table 70 shows the quantification by fabric. Almost all pottery from this site is abraded, and glazes have been affected by post-depositional changes.

Description
Most of this assemblage belongs to the eleventh to fourteenth centuries. In this group, local coarse wares form 95.0 per cent of the group by count, with English glazed wares making up the remaining 5.0 per cent. The medieval coarse wares are dominated by MCW1 fabric, with relatively large groups of EMW, LMU and MCW3 also present. Other coarse wares are few in number.

Thirty-eight coarse ware vessels are identifiable to form by their rims. The vessels consist of one bowl, thirty-two jars or cooking pots, and five jugs. In addition to the jug rims, one pale to dark grey coarse ware handle from a MCW1 jug was recovered: a strap type with a sub-rectangular section, sooted at the base (Fig. 93.2). Table 71 shows the distribution of rim and vessel forms based on the MNV.

Twenty-seven rims are of early, eleventh to thirteenth century, type, and twelve are of more developed forms typical of the thirteenth or fourteenth century. This suggests greater activity in the early half of the phase. Early rims are present in all fabrics. Developed rims are mainly in MCW1, with a few in MCW3, MCW6 and LMU. One Grimston coarse ware jar, rim type JB (Little 1994), has been included as 'SEV' in Table 71.

Four coarse ware rims have thumbed or 'pie-crust' decoration and one light to mid-grey MCW1 jar with a

Description	*Fabric*	*Code*	*No*	*% No*	*Wt/g*	*% Wt*	*eve*
Early medieval ware	EMW	3.10	89	17.2	180	6.3	0.12
Yarmouth-type ware	YAR	3.17	2	0.4	4	0.1	
Medieval coarse ware 1	MCW1	3.201	242	46.8	1692	59.1	1.11
Medieval coarse ware 2	MCW2	3.202	6	1.2	17	0.6	
Medieval coarse ware 3	MCW3	3.203	46	8.9	210	7.3	0.07
Medieval coarse ware 4	MCW4	3.204	4	0.8	27	0.9	0.15
Medieval coarse ware 5	MCW5	3.205	3	0.6	5	0.2	
Medieval coarse ware 6	MCW6	3.206	16	3.1	105	3.7	0.11
Grimston coarse ware	GRCW	3.22	8	1.5	43	1.5	
Local medieval unglazed	LMU	3.23	75	14.5	403	14.1	0.51
Unprovenanced glazed	UPG	4.00	1	0.2	3	0.1	
Grimston-type ware	GRIM	4.10	24	4.6	159	5.5	0.19
Scarborough Ware	SCAR	4.40	1	0.2	17	0.6	0.10
Total medieval			**517**	**100**	**2865**	**100**	**2.36**

Table 70 Medieval pottery by fabric, Itteringham Area A

Form	*INT*	*SEV*	*SEV1*	*THEV*	*TRBD*	*BD*	*COLL*	*UPFT*	*UPPL*	*UPTH*
Bowl				1						
Jar	3	3	20	4						1
Jar?				1						
Jug					1	1	1	1		
Jug?									**1**	

Table 71 Medieval coarse ware rim and vessel forms, Itteringham Area A (see Table 37)

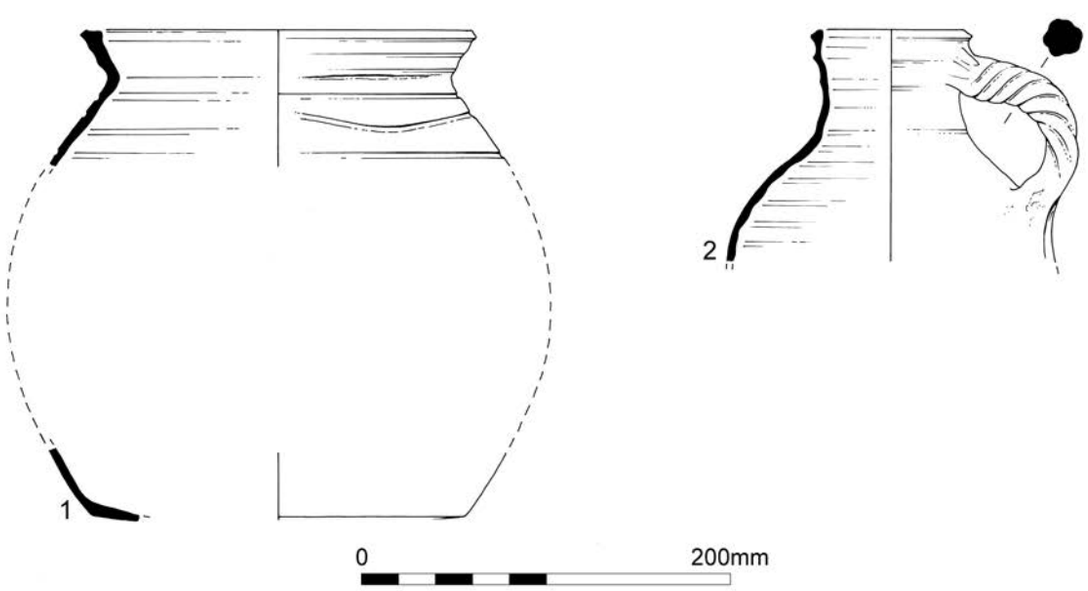

Figure 93 Medieval pottery from pit *38093* at Itteringham Area A, scale 1:4

THEV rim has shallow, incised horizontal lines (Fig. 93.1). No other decoration was observed.

Very little glazed pottery was found in this assemblage. Several of the sherds recorded as Grimston-type are undecorated and may be from fully unglazed vessels although they appeared more like the lower halves of glazed jugs. Two Grimston jug rims are present, one collared and one upright flat-topped. No jug shapes are identifiable. Decoration other than green glaze includes one sherd with brown slip lines and one with applied pellets or feathers. One fine greyware sherd recorded as UPG may also be a Grimston variant. The only non-local vessel is a rim fragment from a Scarborough Ware face jug with part of the eye surviving.

Evidence of use was recorded where possible. Of the maximum 339 vessels of medieval date in this group, 151 are sooted externally (44.5 per cent). There is burnt food residue inside five vessels. One Thetford-type ware base and one LMU jar rim are burnt.

Discussion

Phase 10 features produced 485 sherds of pottery. It was possible to distinguish some features of early and some of later date, but many contexts produced only one or two sherds and even the larger groups were often not closely datable, since they contained only undiagnostic body and base sherds. Hollow *38200* and associated postholes and ditches contained a total of 98 sherds. Some of these were probably residual, although they may indicate an eleventh century start date for the complex of features. In general, the final fills of most features can be dated to the thirteenth or fourteenth centuries, although a possible LMT jug rim in posthole *38018* may place this feature slightly later.

Study of the vessel forms has suggested that activity may have been more intensive in the first half of the medieval phase than later, and it is likely that the site reverted to agriculture during the fourteenth century. The quantity of pottery is relatively small, given the large number of pits on the site, and does not suggest that the features were primarily used for the deposition of household waste. Much of the pottery is heavily abraded and may have been middened elsewhere before it arrived at the site for manuring. Incorporation in the fills of open features may therefore have been largely accidental. This assemblage contains very little glazed ware, but the Scarborough Ware face jug is an interesting find on a rural site. These jugs were tableware and would normally be associated with moderate to high status households.

Thirteen medieval sherds were found in late or post-medieval contexts and thirty-three were undated or in modern deposits. Later pottery was all recovered from the upper layers of the site, with the exception of one possible LMT jug from a pit fill. However, if the sherd was not intrusive, it could be a non-local medieval glazed ware.

Worked stone

by Hilary Major

Thirty-six fragments of worked stone were found in five contexts in Area A (Table 72). One object is a whetstone, one is unidentifiable, and the rest are all parts of quern stones (see discussion in Section 13.8 above).

The whetstone (SF 72402), found in hollow 38200, is in bar form, worn, with a variable rectangular section (Fig. 94). One end is broken. It measures 95mm long, 27 by 8mm to 34 by 16mm in section, and weighs 61g.

This whetstone was purpose-made from pale-coloured schist, commonly known as Norwegian Ragstone, quarried at Eidsborg, near Telemark (Moore 1978, 65). This stone was used extensively for whetstones in the later Saxon period and the Middle Ages, not just in Eastern England, but in most parts of the country. Norwegian Ragstone whetstones were imported in enormous quantities, and although whetstones made from other types of stone have been found in Norfolk, Norwegian Ragstone dominated the market throughout the Middle Ages, occurring at both high and low status sites.

There are a number of published groups of whetstones from Norfolk, of which five of the largest were selected for quantification: Norwich (Margeson 1993, 197–202); Castle Acre Castle (Coad and Streeten 1982, 258); Castle Rising (Williams 1997); Grenstein (Moore 1980); and North Elmham (Wade-Martins 1980a, 489–90). There were, in total, seventy-nine medieval whetstones from these sites, and they demonstrate the predominance of Norwegian Ragstone during this period. Sixty-five were made from this stone, a massive 82 per cent. All the sites had at least one whetstone made from a different stone; 9 per cent of the whetstones were in Blue Phyllite, also an imported stone, possibly from Germany (Moore 1978, 68), 5 per cent were sandstones of uncertain origin, and 4

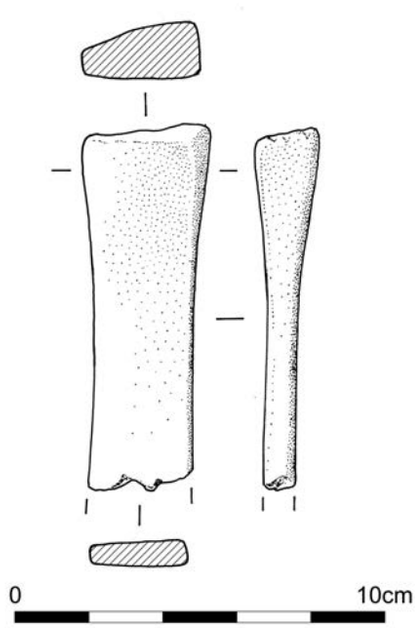

Figure 94 Medieval whetstone from Itteringham Area A, scale 1:2

Feature	*Small find*	*Material*	*Wt/g*	*Description*
Ditch *38061*	-	Lava	194	Fourteen quern fragments with no surviving surfaces
Ditch *38091*	72400	Lava	720	Five joining fragments from a probably lower quern stone. Part of the central hole is present. The grinding surface is pecked, possibly in worn grooves, the other surface irregular. Max. thickness 50mm, hole diam. *c.* 40mm
Pit *38093*	-	Lava	166	Four quern fragments with no surviving surfaces
	-	Pale schist with garnets	92	A slab-like fragment with no sign of working
Layer *38185*	72401	Lava	386	Seven joining fragments from a probably lower quern stone. The grinding surface is pecked, the other surface irregular. Max. thickness 35mm
Hollow *38200*	72402	Pale grey schist	61	A worn bar whetstone with variable rectangular section and one broken end. L. 95mm, section 27x8 – 34x16mm. Wt. 61g

Table 72 Medieval worked stone, Itteringham Area A

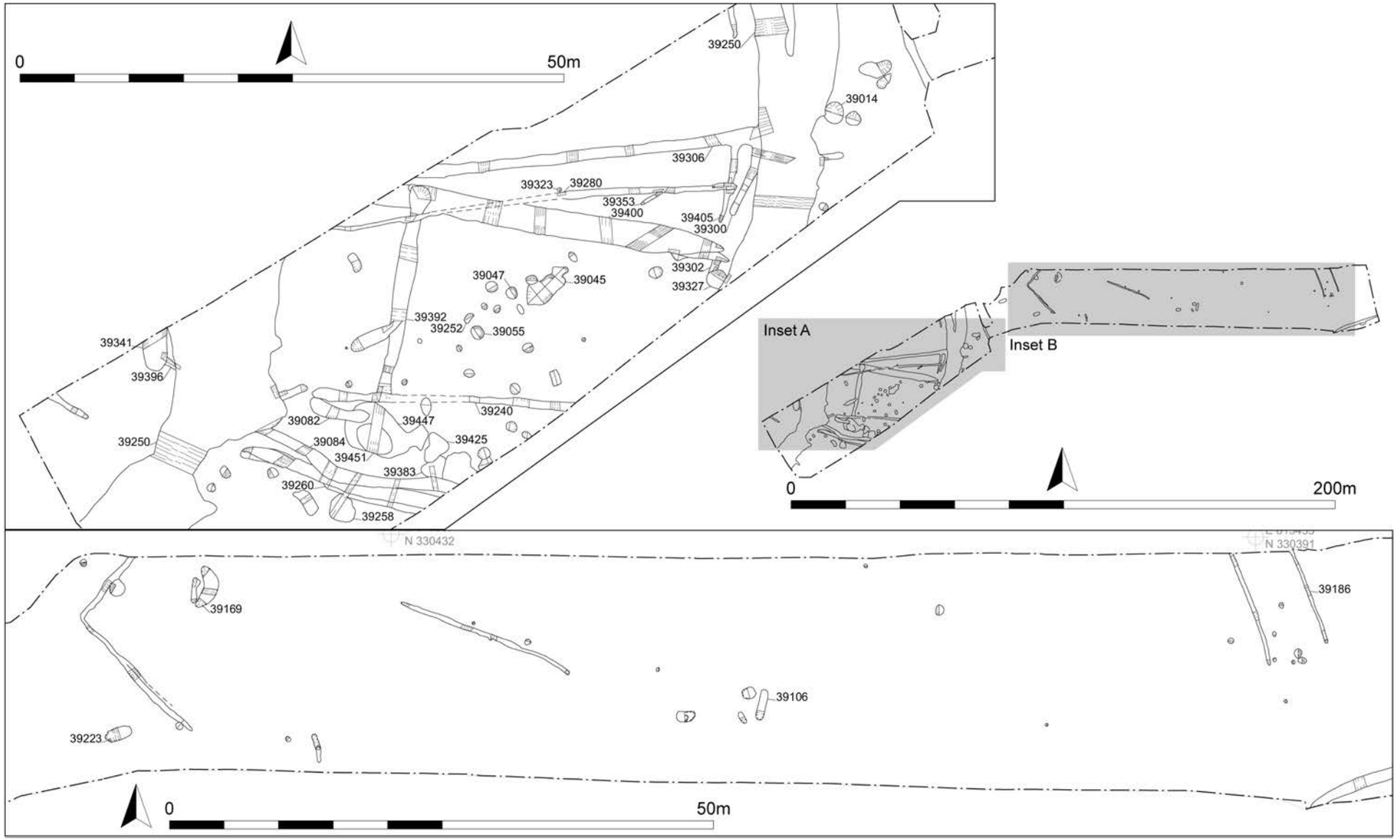

Figure 95 Plan of excavation Area B at Itteringham, scale 1:500 and 1:2000

per cent were other stones. Although Grenstein is the only lower status site in this group, finds from other sites suggest that it was probably fairly typical of its class. Of the twelve recorded whetstones from Grenstein, 80 per cent were made from Norwegian Rag, showing that even at lower status sites there was a substantial trade in these imported small stone objects, as much so as at higher status sites.

16.8 Phase 13: undated features

Four pits and one pit or posthole in the eastern area of site were all undated. Eight undated pits were found in the western area of the site, generally near to the medieval pits. Five or six isolated postholes near to the southern cluster of pits contained no datable material and they formed no structural associations. A couple of other postholes were located on the western side of the site.

AREA B

Area B (HER 37942: eastern field; 39518: western field), centred on NGR 615340 330480, crossed two fields located one kilometre south-east of the centre of Itteringham village. The site occupies the lower and middle reaches of a west-facing slope. The top of the archaeological deposits (Fig. 95) rose steadily towards the west with a sharper rise between the arms of a palaeochannel, the area with the densest concentration of archaeological features rising from 19.1m OD to 22.3m OD.

16.9 Phase 0: geology

On site, the drift geology was recorded as a mixture of coarse, pale orange and yellowish sands, containing pockets of flint brash and coarse, reddish sand, with frequent flint inclusions, particularly to the east.

16.10 Phases 1 to 5: prehistoric occupation

Four features on this site may have dated to prehistoric periods. The pale sandy silt fill of pit *39014* (Plate 15, Fig. 96) contained three struck flints. Further east, a slightly smaller oval pit, *39223*, was 0.20m deep and contained a single Bronze Age pottery sherd. A 0.22m-deep irregular feature nearby, *39169*, which could have been a pit or a fragment of a ditch, produced two struck flints. In the middle of the eastern half of the site, a 0.34m-deep elongated pit, *39106*, with steep sides and a flat base had a thin layer of pale silt in its base, overlain by dark humic silt, containing abundant grit and pebbles, which produced seventeen Iron Age pottery sherds.

Prehistoric pottery
by Sarah Percival
Area B produced a prehistoric assemblage of nineteen sherds (116g). This included one Bronze Age sherd (weight 4g), two Iron Age sherds (total weight 32g), fifteen later Iron Age sherds (total 78g), and one undiagnostic sherd. These sherds were identified by fabric as no diagnostic rims, bases or decorated sherds are present. The largest single group of sherds came from the

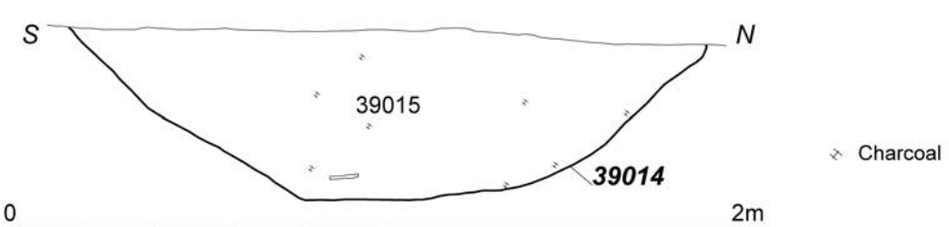

Figure 96 Section through prehistoric pit *39014* in Area B at Itteringham, scale 1:20

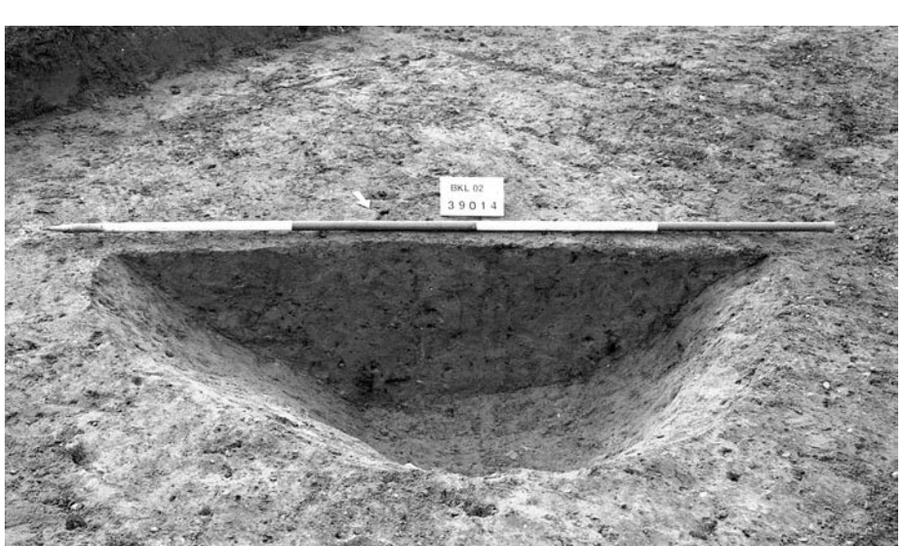

Plate 15 North-east facing section through pit *39014* in Area B; 2m scale

fill of elongated pit *39106*. The sherds are organic-tempered and have been tentatively dated to the later Iron Age; however, similar fabrics were also common in the Anglo-Saxon period.

Struck flint
by Sarah Bates
Forty-five pieces of flint have been retained from those recovered from Area B, a few others having been discarded as non-struck. The assemblage is summarised in Table 73.

Type	*Number*
Shatter	4
Flake	14
Blade	12
Spall	9
Piercer	2
Retouched flake	1
Retouched fragment	1
Retouched blade	1
Polished flake	1
Total	**45**

Table 73 Summary of the struck flint, Itteringham Area B

Description
The assemblage consists largely of unmodified flakes and blades and spalls. Although the flakes are mainly small and include some pieces clearly struck by hard hammer, it is notable that there are almost as many blades as there are flakes. Two or three of the blades have abraded platforms and have been struck from carefully prepared cores. One medial fragment is from a blade which was itself struck from a fairly large blade. Some pieces of unabraded shattered flint have been retained as they might be knapping debris, but are more likely to be of thermal origin or to have been accidentally hit, for example, by ploughing.

There are two possible piercers: one is on a thermal fragment, the other is a blade-like flake with possible utilisation of its distal point. There are also three miscellaneous retouched pieces, including a retouched blade with an abraded platform, and a flake which has come from the face of a polished implement.

A total of six flints came from two prehistoric pits. They include three flakes, generally hard hammer struck types, from pit *39014* and a flake, a blade and a spall from pit *38169*. Most of the flints, including the retouched pieces, were found residually in very small numbers (one or two pieces) from the fills of medieval features, mainly ditches. A flake and a shatter piece came from undated ditches *39186* and *39082* respectively. A retouched flake came from the topsoil.

Discussion
The assemblage is fairly small and most of it was found residually in the fills of features of medieval date. The relatively high proportion of blades from prepared cores suggests that part of the assemblage, at least, is of earlier Neolithic date and the polished flake has also come from a tool of likely Neolithic date. Other, more irregular, material could be of a later prehistoric date. The flint represents activity in the vicinity of the site during the prehistoric period and, perhaps, suggests a possible focus of activity during the earlier Neolithic period.

16.11 Phase 9: Saxo-Norman origins

The quantity of late Saxon pottery recovered implies that there was activity on the site in this period, but no features could be unequivocally assigned to this phase. Perhaps the best candidate would be pit *39045*, an irregular feature in the centre of the western part of the site, which contained three late Saxon sherds along with a single medieval sherd, which could have been intrusive. Several of the linear features may also date to the Saxo-Norman period but continued to be partly open into the later phase, producing mixed assemblages of late Saxon and medieval pottery.

Late Saxon pottery
by Sue Anderson
Fifty sherds of late Saxon pottery (225g) were collected from Area B. Table 74 shows their quantification by fabric.

The majority of Thetford-type ware in this group is in a relatively coarse fabric which varies in colour from pale grey to black, occasionally with oxidised surfaces. The body sherds are difficult to distinguish from medieval coarse wares but as the rim and base sherds are, in general, typically late Saxon, it is likely that the body sherds are also of this phase. Nine jar rims and a possible lamp rim were present. The jars consist of two small (Dallas (1984) type AA), six medium (AB) and one large (AC). All forms are late, dating from the eleventh century, including types 1, 4, 5/6, 6 and 7, with the exception of one type 5 rim, a type which occurs throughout this pottery tradition. This type 5 rim is a THET AB jar, coloured black with brown margins and a grey core, in medium-coarse sandy fabric, found in unphased pit *39055* (Fig. 97.2). All sherds in THETG and EMSW fabrics are undecorated body fragments, but several are thick and probably belonged to large storage vessels.

The three sherds of Thetford-type ware from pit *39045* suggest an eleventh century date. Thirty-eight late Saxon pottery sherds were found in features that fell out of use in Phase 10, and eight sherds were in undated or modern

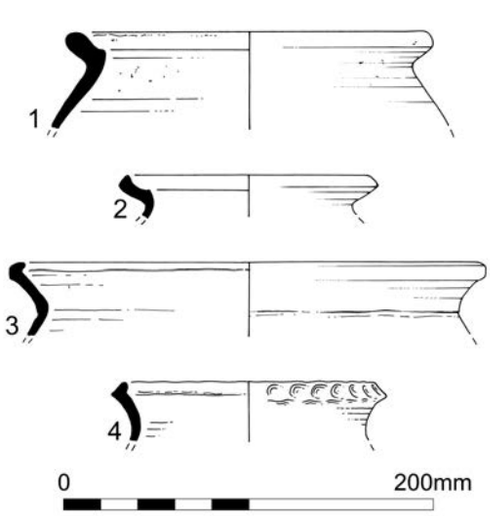

Figure 97 Saxon and medieval pottery from Itteringham Area B, scale 1:4

Description	*Fabric*	*Code*	*No*	*% No*	*Wt/g*	*% Wt*	*eve*
Thetford-type ware	THET	2.50	41	82.0	158	70.2	0.63
Thetford-type ware (Grimston)	THETG	2.57	7	14.0	54	24.0	
'Early medieval' sandwich ware	EMSW	3.16	2	4.0	13	5.8	
Total late Saxon			**50**	**100**	**225**	**100**	**0.63**

Table 74 Saxon pottery by fabric, Itteringham Area B

contexts. The site produced a relatively high proportion of late Saxon pottery, in conjunction with early medieval and medieval wares in early forms. Even the pottery identified as MCW1 is often thin-walled and probably handmade.

16.12 Phase 10: medieval enclosure

River channel

The curvilinear feature, *39250*, seen in the geophysical survey crossed the site twice, oriented roughly north to south in both cases. Five hand-excavated slots were cut into the eastern part and a machine slot was cut through the western part. A sequence of sixteen fine alluvial silty sand lenses with few natural inclusions was observed on the western side. The channel had a broad, undulating profile, 4.75m wide and 0.88m deep, although it was evident from the deposit horizons that it would not necessarily have been this wide at any one time. In total, nine sherds of medieval and two of late Saxon pottery were recovered, the Saxon sherds coming from deposits early in the stratigraphic sequence. Metal detecting produced fragments from seven objects from the upper fill of the feature (Table 75), the only datable example being a post-medieval harness mount. In conjunction with the geophysical results, it is clear that this feature was a meander of the Bure, probably actively developing during the Anglo-Saxon and earlier medieval periods but subsequently forming an oxbow lake and gradually silting up.

Enclosure ditches

Five ditches, *39306* (Fig. 98), *39280*, *39400*, *39240* and *39260* (Fig. 98), ran roughly from east to west across the eastern end of the site, between the two arms of channel *39250*. At least two of these ditches, *39260* and *39400*, had been recut. The non-conformity of the two northernmost ditches and the fact that the more southerly of this pair apparently cut ditch *39400* implies that there were at least two distinct phases of land division. Ditch *39400* was the largest of this group of linear features at 2.4m wide and 0.66m deep, the others typically surviving to about a metre wide and 0.25m deep. All had unremarkable, gradually sloping, flat-based profiles and sandy, artefact-poor fills resulting from natural accumulation. None of these ditches continued beyond the river channel, which filled up later than all of them.

Ditch *39392* appears to have run at right angles between ditches *39400* to *39240*. Two shallow gullies, *39405* and *39300,* extending south of ditch *39306*, ran roughly parallel with the river channel, on its inner bank. They contained brown, sandy soils, suggesting that they had waterlogged conditions with low water flow while they were filling. Gully *39405* contained only a single residual flint flake, and gully *39300* only a flake and one sherd of medieval pottery, but both features were datable stratigraphically. Nearby, a truncated ditch stub *39345* (*=39353)*, contained an incomplete, 90mm-diameter, iron ring with a circular cross-section. These gullies presumably served some drainage purpose supplementary to the enclosure ditches.

Pits

Of the cluster of pits around ditch *39260*, four contained datable finds. Pits *39383* (Fig. 98) and *39425* had similar dimensions, profiles and irregular shapes in plan, while pit *39447* was larger but also had a very irregular shape (Fig. 98). Pit *39425* contained crumbs of lava, presumably the remains of a quern stone. Pit *39451*, cut into the fills of pit *39447*, was a more regular oval shape (Fig. 98), and had a dark, charcoal-rich fill, which also contained lava crumbs.

Further east, pits *39047* and *39327* were in the space enclosed by ditches *39400*, *39240* and *39329*. Pit *39327*, on the eastern side of this enclosure, had been partly eroded by the meandering river. Pit *39047* was within a cluster of similar but undated pits.

An isolated posthole, *39323*, just north of ditch *39280*, survived to a depth 0.30m. Four late Saxon and ten medieval pottery sherds were found in its backfill.

Feature	*Small find*	*Material*	*Count*	*Wt/g*	*Comments*
39345	70261	Iron	1	61	Incomplete ring of circular section, estimated (reconstructed) diameter *c*. 90mm
39422	70263	Iron	1	40	Plate fragment
	70264	Lead	1	5	Lead waste, possibly spillage
	70265	Iron	3	11	Possible fiddle-key nail with incomplete shank; two nail shanks
	70266	Iron	2	46	Nail possibly with incomplete shank; badly corroded object fragment
	70267	Iron	1	62	Annular ring, possibly tethering/suspension/harness ring
	70268	Iron	1	108	Broken possible strap. This incomplete L-shaped object with two nails *in situ* in the short length may be part of strap used on doors windows and furniture fittings (see example from Norwich; Margeson 1993, 154, fig. 112, no. 1201)
39422	70262	Copper alloy	1	9	Cast possible harness mount with integral lugs on reverse and two moulded circles either side of pointed ends and central domed oval boss: post-medieval

Table 75 Metal finds from river channel *39250*, Itteringham Area B

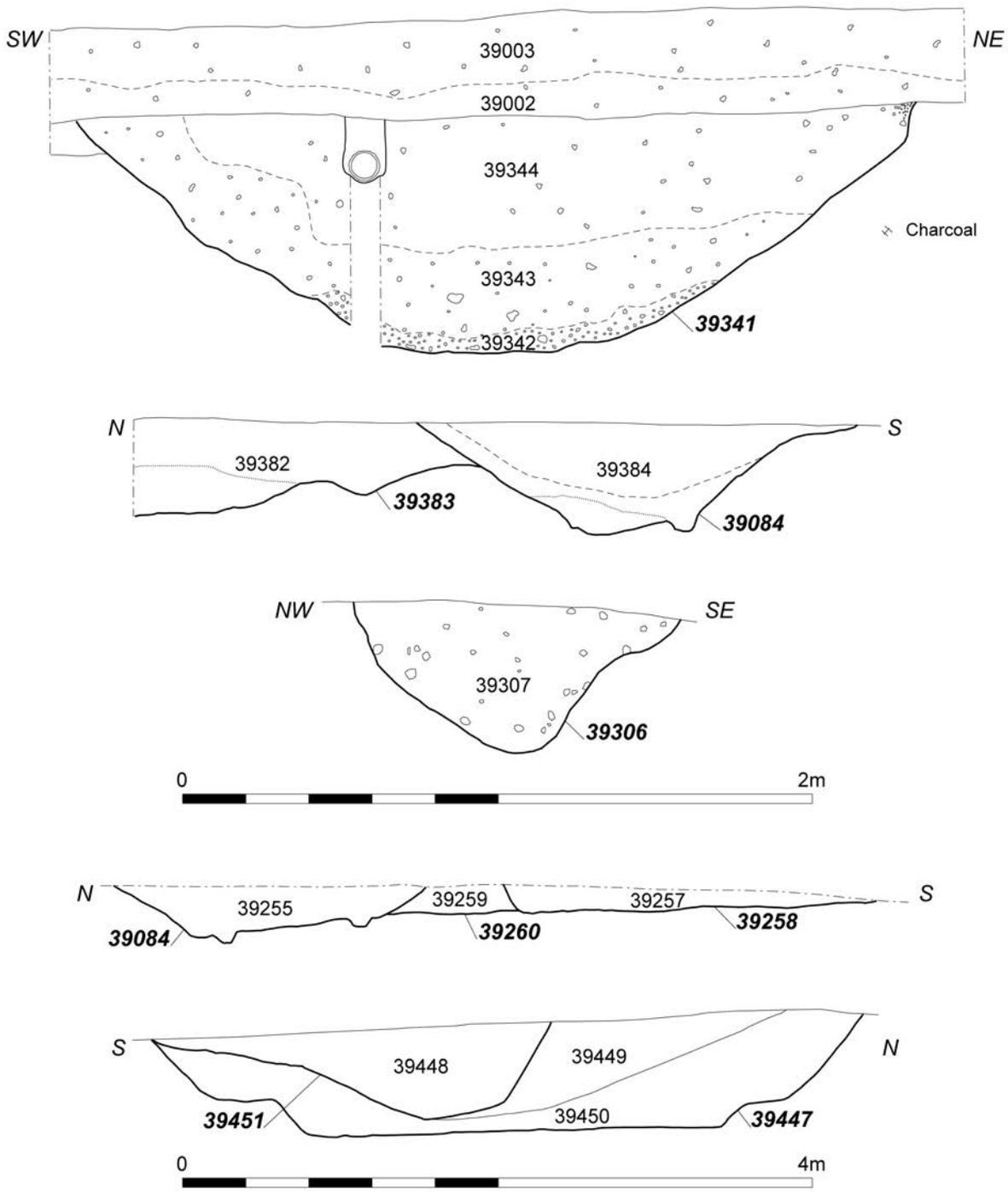

Figure 98 Sections through medieval pits and ditches in Area B at Itteringham, scale 1:20 and 1:40

The only feature outside the bend of watercourse *39250* that could be confidently dated to the medieval phase was a large, sub-rectangular pit, *39341* (Fig. 98). This feature had a greater concentration of artefactual material dumped into it than any of the pits inside the river meander. It produced seventeen pottery sherds, a comparatively large assemblage for the site, as well as a large abraded fragment of iron smithing slag, and charcoal, identified as being from the hawthorn/*Sorbus* group. As the fill was otherwise clean and silty, it is unlikely that these finds indicate any *in situ* industrial activity. The pit extended beyond the site boundaries, so its overall shape is not known.

Medieval pottery
by Sue Anderson

Introduction
In all, 166 medieval pottery sherds (691g) were collected from Area B. Table 76 shows their quantification by fabric.

Description	*Fabric*	*Code*	*No*	*% No*	*Wt/g*	*% Wt*	*eve*
Early medieval ware	EMW	3.10	34	20.5	123	17.8	0.08
Medieval coarse ware 1	MCW1	3.201	18	10.8	62	9.0	0.05
Medieval coarse ware 3	MCW3	3.203	89	53.6	368	53.3	0.64
Local medieval unglazed (Norwich type)	LMU	3.23	22	13.3	120	17.4	0.08
Grimston-type ware	GRIM	4.10	3	1.8	18	2.6	
Total medieval			**166**	**100**	**691**	**100**	**0.85**

Table 76 Medieval pottery by fabric, Itteringham Area B

Description
Medieval pottery makes up just over three quarters of the assemblage from the site. Local coarse wares form 98.2 per cent of the group by count, with local glazed wares making up the remainder. In this group fabric type MCW3 makes up the largest proportion of the coarse wares, followed by LMU and EMW. In some cases it is difficult to distinguish MCW3 and EMW as both have handmade bodies. Most of the LMU from the site is thin-walled and oxidised in patches, suggesting an early date.

Twenty coarse ware vessels are identifiable to form from their rims. The vessels consist of eighteen jars or cooking pots and two EMW 'ginger jars'. No handles were recovered. Table 77 shows the distribution of rim and vessel forms based on the minimum number of vessels (MNV).

Form	*INT*	*SEV1*	*SEV2*	*THEV*
Ginger jar	2			
Jar	1	13	3	1

Table 77 Medieval coarse ware rim and vessel forms, Itteringham Area B (see Table 37)

Most of the rims are earlier forms. The distribution of rim forms and fabrics seems to indicate that settlement at this site was confined to the eleventh to thirteenth centuries. Nine jar rims are thumbed, but no other decoration is present. Only three Grimston-type sherds were recovered, all body sherds. Two are glazed with a pale green lead glaze, and one of these has a thin brown slip line beneath the glaze.

Illustrated vessels comprise a THET jar, pale grey coarse sandy fabric with ferrous inclusions, AB jar, rim type 4, Grimston form JF (Little 1994) from ditch *39400* (Fig. 97.1) and two vessels from ditch *39392*: a dark grey LMU jar with INT rim (Fig. 97.3) and a MCW3 jar, with a THEV rim with slight thumbing, coloured orange on the surfaces and buff at the core (Fig. 97.4).

Discussion
Eleven sherds were collected from fills of palaeochannel *39250*. None of these fills were closely datable, but sherds of both late Saxon and medieval date were recovered. The fills of fourteen ditches produced one hundred sherds in total. These suggest late Saxon to early medieval dates for some ditches, particularly *39396*, *39353*, *39306*, *39300* and *39302*, but all contained very few sherds. If the single sherd of Grimston-type ware from ditch *39400* was intrusive, that ditch could also belong to the eleventh century. Other ditches could not be dated more closely than eleventh to thirteenth centuries. Six pits produced a total of seventy-six sherds, all of which could have their origins in the eleventh to thirteenth centuries. Those in the south-western end of the site could all be placed broadly in the twelfth century. Feature *39341*, which was outside the river meander, was probably filled in the thirteenth century. Sherds recovered from the ditches and palaeochannel are generally more abraded than those from pits, so redeposition is likely in many of the linear features. This suggests middening of rubbish and distribution of sherds over arable land, with final deposition in natural silting or deliberate back-filling of features. A slight concentration of pottery in pits to the south-west may indicate a focus of twelfth century settlement nearby.

16.13 Phases 11 and 12: late medieval decline

Activity on the site seems to have declined rapidly from the twelfth century, with little indication of anything later than the thirteenth century, though it is likely that the final infilling of the river channel extended well into the post-medieval period. The only other feature datable to this period was a single posthole, *39252*, which was 0.21m deep and had a regular profile with a clear post pipe. This posthole contained a large fragment of brick.

16.14 Phase 13: undated features

Neither the evaluation trenching nor the excavation revealed any pits lying to the north of ditch *39400*, which may suggest that this ditch was still in existence when the pits within river meander were dug. However, there is a possibility that some of the group of postholes in the centre of the site could have dated to the post-medieval phase, contemporary with posthole *39252*.

A couple of small gullies in the western part of the site were seemingly unassociated with the rest of the archaeological remains, but the majority of the undated ditches were located to the east. Five narrow and very truncated gullies were found in this area. One turned at right angles and two ran parallel, five metres apart. Overall, the ditches were not on similar alignments and therefore did not appear to be remnants of a single landscape. They could easily have been post-medieval or modern drains.

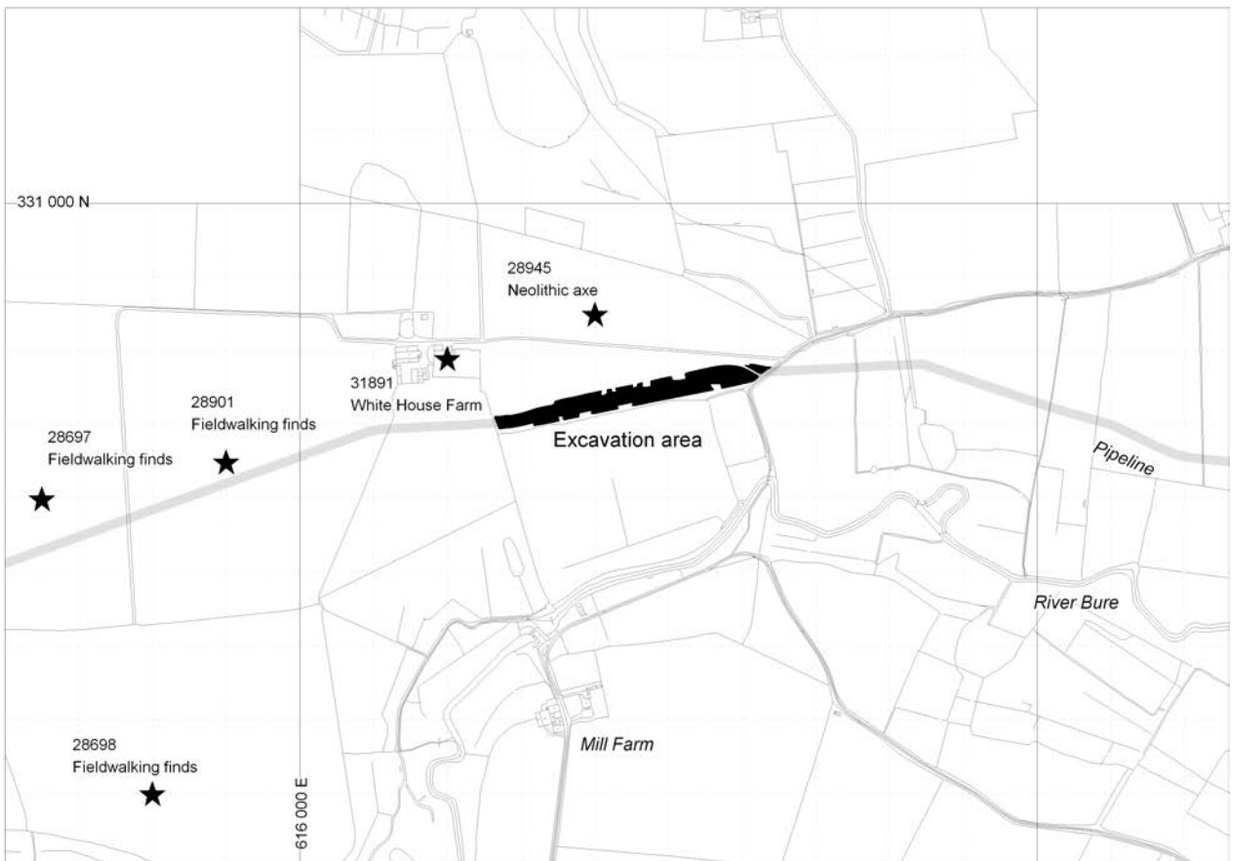

Figure 99 Itteringham Area C, location of excavation area and nearby HER and DBA sites mentioned in the text, scale 1:10,000

AREA C

16.15 Location and topography

Area C (HER 39520) was located at NGR 616450 330750, one kilometre to the east of Area B and abutting at its eastern end a minor road leading from Calthorpe, two kilometres away, to a footbridge over the Bure (Fig. 99). The site occupies a plot of land just above the floodplain of the River Bure, the land immediately to the south being marshy and subject to seasonal inundation.

The top of the archaeological deposits was at 18.65m OD at the western boundary and varied between 18.45m OD to 18.6m OD over much of the site, before dropping more noticeably, to 18.0m OD at the eastern end. The site also sloped slightly downwards to the south, towards the river.

16.16 Phase 0: geological deposits

On site, the drift geology was recorded as pale yellowish brown boulder clay, merging into a mixture of fine, pale orange and brown sands towards the eastern end of the field.

16.17 Phases 1 to 5: residual prehistoric flints

by Sarah Bates

A thin soft hammer struck blade, four flakes and a retouched flake were recovered during the excavation of Area C. The blade is probably of Neolithic date, while the other pieces are probably of later prehistoric date: Bronze Age or Iron Age. This material was all residual in medieval features.

16.16 Phase 6: residual Roman pottery

by Alice Lyons

Two coarse ware utilitarian sherds from the Roman period were recovered from Area C. One was from a sandy grey ware narrow-mouthed jar (type 2.1, 89g), the other a sandy oxidised medium-mouthed globular jar (type 4.5, 5g). Both are severely abraded and residual within medieval contexts: western pit *57373* and eastern enclosure ditch *57176*.

16.19 Phase 9: Saxo-Norman activity

by Sue Anderson

Six sherds of pottery (23g) were collected from Area C. Table 78 shows the quantification by fabric. Almost all pottery from this site has been abraded and glazes have also been affected by post-depositional changes.

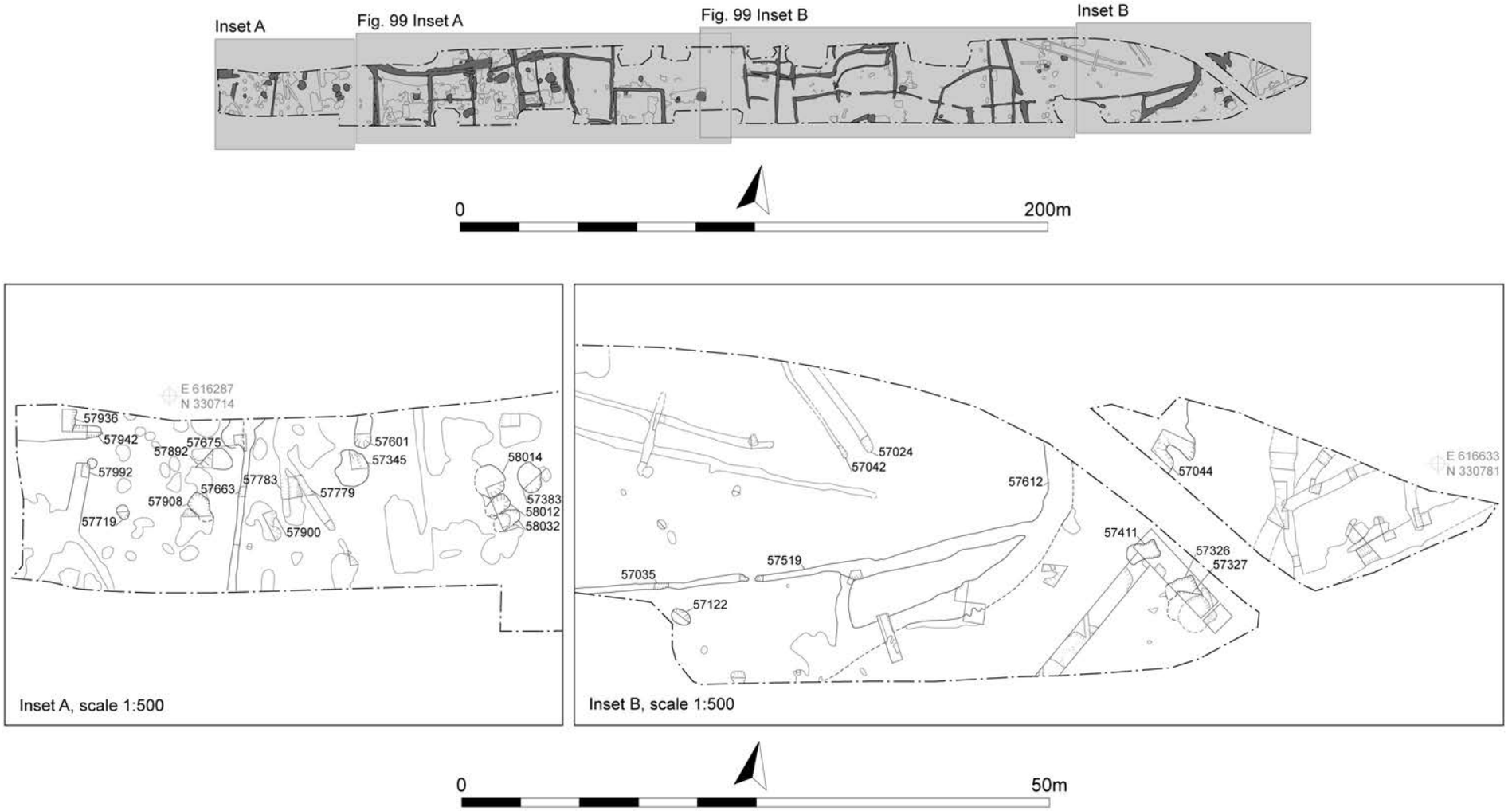

Figure 100 Plan of excavation Area C at Itteringham, scale 1:500 and 1:2000

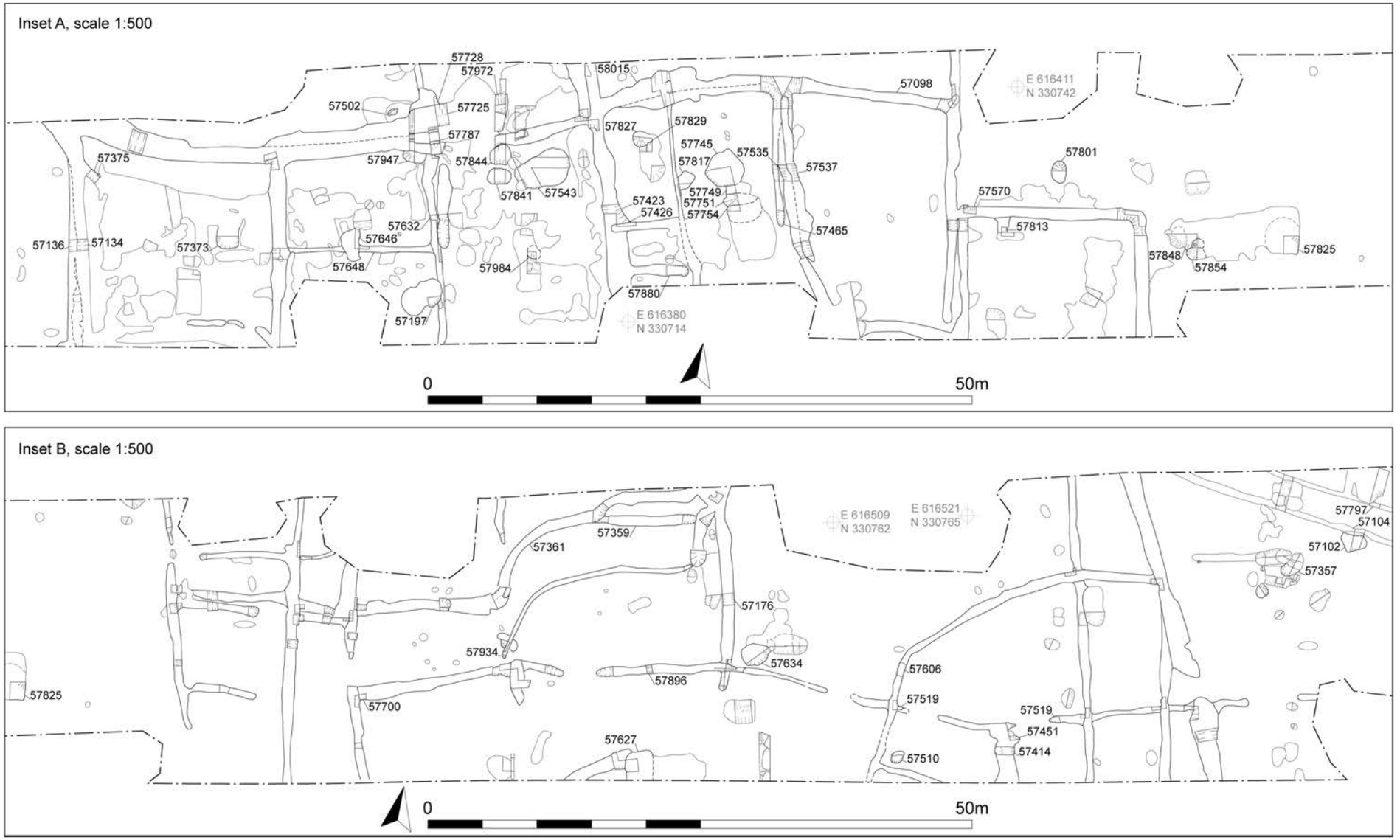

Figure 101 Plan of excavation Area C at Itteringham, inset detail plans (continued), scale 1:500

Description	*Fabric*	*Code*	*No*	*% No*	*Wt/g*	*% Wt*	*eve*
Thetford-type ware	THET	2.50	3	50.0	13	56.5	
Thetford-type ware (Grimston)	THETG	2.57	3	50.0	10	43.5	
Total late Saxon			**6**	**100**	**23**	**100**	

Table 78 Saxon pottery by fabric, Itteringham Area C

With the exception of one girth-grooved sherd, all Thetford-type ware in this group consists of undiagnostic body sherds. Although classified as late Saxon, they are likely to be contemporary with some of the early medieval wares in this group and form a continuum with the medieval pottery discussed below.

16.20 Phase 10: medieval agricultural use

A system of small, generally rectangular enclosures extended for 220m from west to east, and continued beyond the northern and southern site boundaries. These enclosures formed two distinct groups. In order to aid interpretation of the plan of the excavation area (Fig. 100), undated features are represented in grey while medieval features are in black on the smaller scale plan (Fig. 100, top).

The large number of pits on the site contained the bulk of the artefactual material recovered. These pits were concentrated particularly in the western group of enclosures, the eastern group having far fewer. Both groups of enclosures had been reinstated several times, although the detailed development of these enclosure systems could not be discerned from the fragmentary sample within the pipeline working width.

The western end of the site
(Fig. 100A)
Ditch *57942* extended onto the site from the western boundary (Fig. 102). It contained one abraded sherd of Grimston-type ware. Along with ditch *57992*, which ran at right angles, it may have formed part of an extended area of enclosures, but there was no sign of any continuation of it in the field to the west.

A concentration of pits at the western end of the site included eleven which could be dated to the medieval phase. These were features *57936*, *58012*, *58014*, *57719*, *57908*, *57892*, *57675*, *57345*, *57601*, *58032* and *57383*. They were generally oval and quite large: typically 2 to 2.5m across and surviving to 0.2 to 0.6m deep. In common with many of the features on the site, they had filled with dark silts containing few natural inclusions. There was a relatively empty area between this pit concentration and the westernmost of the enclosure ditches described below, so it seems that these pits constituted a distinct land use area.

Nine pits and a small linear feature in this area collectively produced 110 sherds of pottery. With the exceptions of pit *57675*, probably filled in the twelfth or thirteenth century, and pit *58032*, which was not closely datable, the pottery from these pits indicated a thirteenth to fourteenth century date. In addition, pit *57900* produced a silver penny probably dating to AD 1310 to 1314.

Western enclosures
(Fig. 101A)
A row of six conjoined rectilinear ditched enclosures occupied the rest of the western half of the site. The northern extents of all but one of these enclosures lay within the area of excavation but the southern boundary of all but two of them lay beyond the southern limit of the pipeline corridor. The enclosures were fairly uniform in size, each 15 to 16m from west to east. Three of the ditches defining north-to-south boundaries continued northwards beyond the east-to-west oriented ditches, extending the regular rectilinear pattern beyond the northern limit of excavation. In the case of ditch *57632*, the northward extension seems to have become abandoned at an earlier date than the rest of the ditches forming this pattern. The easternmost enclosure was either smaller than the others in this group or was simply offset to the south, and did not have an adjoining northern enclosure. Ditch *57570*, which formed the northern side of this enclosure, may have been a later addition as it appeared to be relatively late in the stratigraphic sequence.

The enclosures had orthogonal boundaries, with two exceptions. The large east-to-west aligned ditch that defined their northern sides, *57098*, was slightly sinuous, giving the enclosures varying-sized trapezoidal shapes, and the third ditch from the east, *57465,* which seems to have originally been oriented parallel with the other six north-to-south boundaries, had twice been redug (cuts *57535* and *57537*) acquiring a distinct eastwards curve towards its southern end. This created an irregular space, a rectangle with one rounded corner, the same size and shape as, but at 90° to, two enclosures in the eastern enclosure group, incorporating ditches *57361* and *57606* (see below).

The larger ditches in this group were generally 0.5 to 0.7m deep, with U-shaped profiles, while the smaller subdivisions were only about 0.2m deep. The fills of all the linear features in this group were very similar, as would be expected of an open network of drainage features infilling largely through silting over the same, extended period of time. Ditch fills in this enclosure group contained 159 pottery sherds. Where closely datable, this material was consistent with the final infill of the ditches having occurred in the thirteenth or fourteenth centuries, though ditches *57648* and *57787* (Fig. 102, two sections), may have been filled slightly earlier.

Features within the western enclosures
(Fig. 101A)
Archaeological deposits covered most of the interior spaces of these enclosures and only a sample of these were excavated and recorded. Nonetheless, sixteen pits were identified. They were generally oval with steep sides and flat bases, and filled with dark silts containing few natural inclusions.

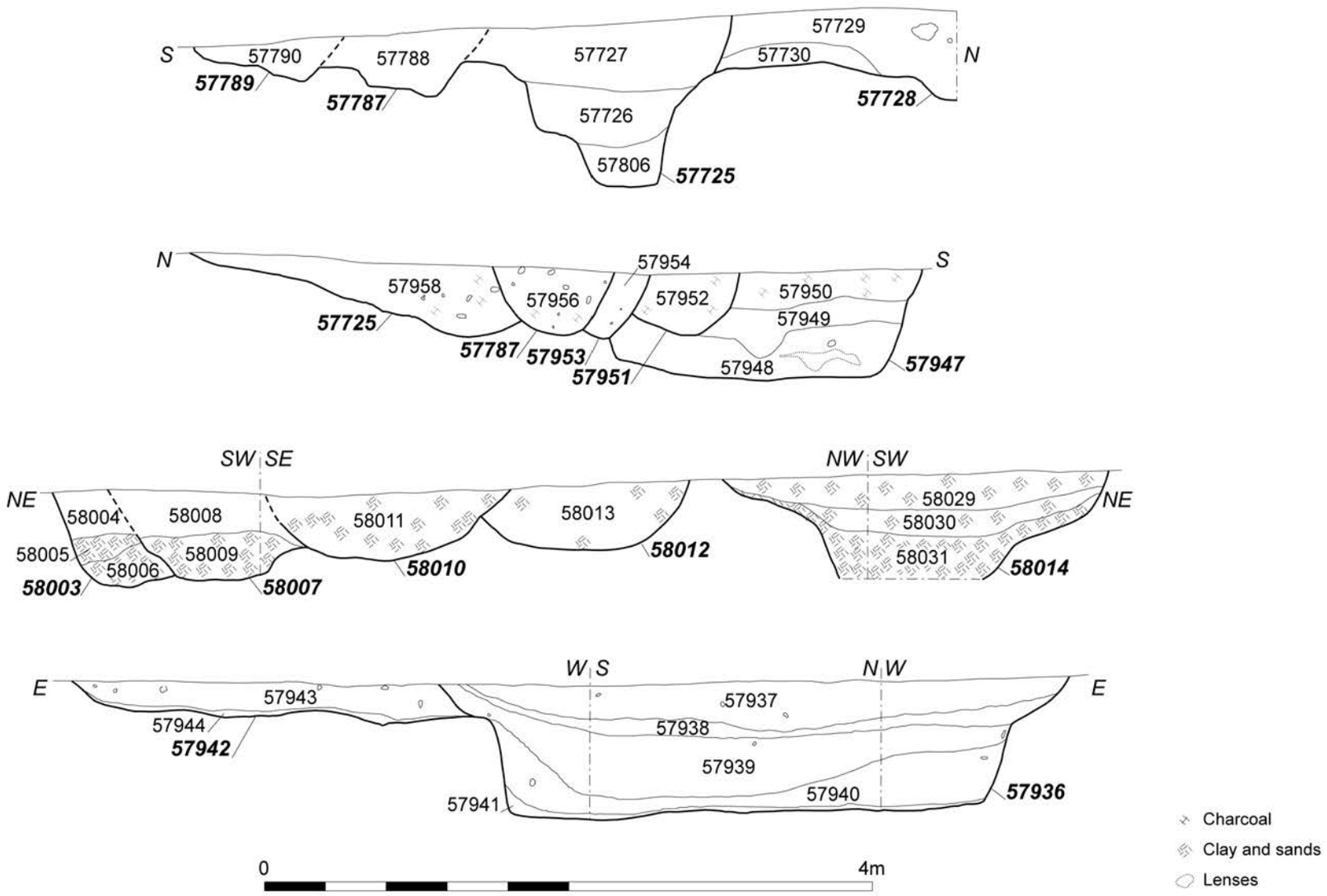

Figure 102 Sections through Phase 10 pits and ditches in Area C at Itteringham, scale 1:40

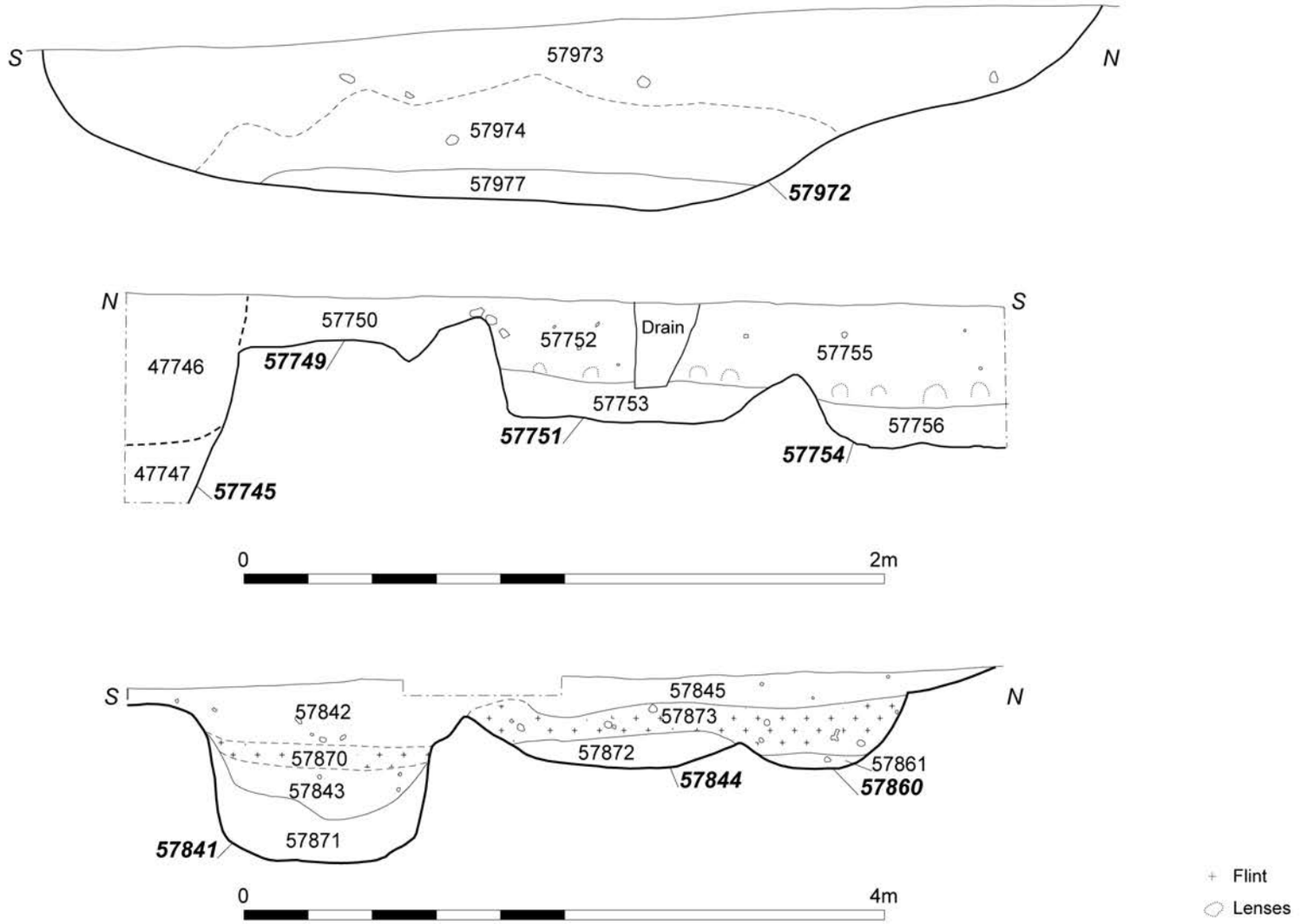

Figure 103 Sections through Phase 10 pits and ditches in Area C at Itteringham, scale 1:20 and 1:40

Nine datable pits, *57947* (Fig. 102), *57972*, *57841* and *57844* (all on Fig. 103), *57373*, *57646*, *57197*, *57543* and *57984*, were located in the three enclosures between ditches *57136* and *57423*. These pits were typically 1.8 to 2.5m across and 0.6 to 1.3m deep; three that were recorded as significantly larger (*57543*, *57972* and *57197*) may have each been unrecognised composites of several smaller pits. In general, the pits here were deeper than those to the west.

Two datable pits were located north of the main line of enclosures. Pit *57502* was small and unremarkable, but the larger pit *57728* (Fig. 102) is of considerable stratigraphic significance. It appears to have cut ditch *57632*, where it runs northwards, but was itself truncated by a reinstatement of the main east-to-west ditch, *57725* (Fig. 102, two sections). This means that the northern section of boundary ditch *57632* was abandoned while the enclosure was still in use. Elsewhere, it was noted that the enclosure ditches cut some of the pits but were cut by others. For example, pit *57947* was cut by ditch *57098*, but further south, the parallel ditch *57648* was cut by pit *57646*.

Seven pits were located in the enclosure east of ditch *57423*. Pits *57749*, *57751* and *57754* (all on Fig. 103), *57829, 57817* and *57827* were all relatively small and shallow, only 0.15 to 0.40m deep. Pit *57745*, adjacent to them, was more akin to the pits in the adjacent enclosure, being 2.20m wide and 1.13m deep (Fig. 103).

Collectively, the pits within the western group of enclosures produced 244 pottery sherds. None of the pits produced large quantities of sherds, the biggest group being thirty fragments from pit *57543*.

Pit *57844* (Fig. 103) contained a worn schist whetstone (SF 72713, Fig. 104). Made from Norwegian Ragstone, this bar whetstone has a variable section, round to D-shaped. It is worn, and one end is broken, the other being irregular but original. It weighs 27g and is 69mm long, measuring 12 by 14mm to 16 by 17mm in section.

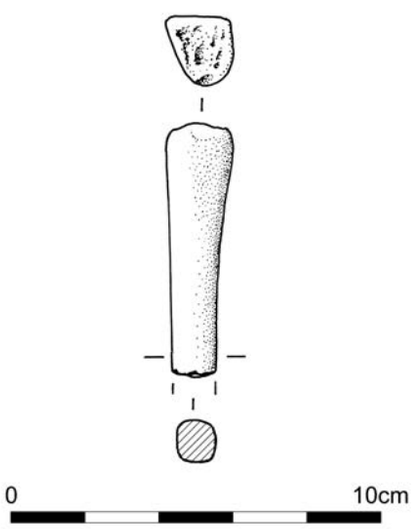

Figure 104 Medieval whetstone from Itteringham Area C, scale 1:2

Open area between the western and eastern enclosure groups

(Fig. 101A)

Very few features were located in the area between the western enclosures and those to the east. To some degree, this could be the result of truncation of higher deposits, but the two areas are sufficiently different to consider this space as a separate land use area. Of the features in this area, pit *57813*, no more than 0.13m deep, was cut by the eastern side of enclosure ditch *57570* while further east, pits *57848*, *57854*, and *57825* were deeper, to 0.93m deep, and formed part of a larger cluster of undated features with sterile fills. In all, twenty-one sherds of pottery were retrieved from the pits in this area, all consistent with a thirteenth or fourteenth century date.

Eastern enclosures

(Fig. 101B)

A second group of enclosures in the eastern half of the site were of a similar size to those in the western group, but more irregular in shape. Like the western group, this group had a sinuous ditch running from east to west across its length, interruptions dividing it into at last three sections, *57519, 57896* and *57700*, from which other ditches project to the north and south. Although there was only a marginally lower density of linear features on the eastern side of the site than on the western side, the proportion that had sufficient artefacts to indicate a date was substantially lower. This means that only fragments of this group are securely dated.

The most securely dated features are centred on an irregular enclosure, incorporating ditches *57896* and *57176*, with a rounded north-west corner. This curving irregular boundary ditch, *57359*, had been replaced by a later but otherwise undated ditch *57361*. This curve was mirrored by a post-medieval gully, *57934*, to the south. There appeared to have been an entrance to the south, although this appearance may have resulted from truncation.

In general, these ditches were shallower than those forming the enclosures to the west, typically 0.2 to 0.4m deep, but had the same broadly U-shaped profiles and dark fills. The fills of the eastern enclosure ditches contained only thirty-seven pottery sherds, in general indicating a thirteenth to fourteenth century date.

Features within the eastern enclosures

(Fig. 101B)

There were far fewer features within the eastern enclosures than in the western enclosures and only three could be dated to the medieval phase. Feature *57627* was partly obscured by a large spread layer, so its dimensions are uncertain. Pit *57634* was one of a group of otherwise undated pits near the intersection of ditches *57176* and *57896*, generally lying outside the enclosures. A small, shallow pit, *57510*, contained pottery of the same thirteenth century date as ditch *57414*, which formed part of the putative enclosure within which it lay. Pit *57451* probably dated to early in the medieval period, and pre-dated ditch *57414* to which it was adjacent. All of these pits were filled with dark brown or black silts containing few natural inclusions.

Features at the eastern end of the site
(Fig. 100B)
Two pits in the open area east of the eastern enclosures could be reliably dated to the medieval phase. Pit *57102* (Fig. 101B) was 0.56m deep, with a dark, humic fill. Of the cluster of pits to the south-west of pit *57102*, only pit *57357* could be dated. This pit was 0.30m deep with an irregular profile and contained six pottery sherds. The other pits in this area were probably also medieval in date. Pit *57122* may have been in a different area of land use, as it was south of ditch *57035*, part of the boundary extending across the eastern half of site. This oval pit was 0.50m deep and had unusual, very steep or undercutting sides. However, it was filled with the same dark humic silts as were found in most of the other medieval features. These three pits produced twenty-one pottery sherds. Fragments of the same Grimston-type jug were recovered from pits *57102* and *57122*, dating them to the thirteenth or fourteenth century. Pit *57357* contained only coarse ware body sherds and was not closely datable.

Curvilinear ditch *57612* bent around the eastern end of the site, roughly oriented north-east to south-west, surviving to a depth of 0.45m. The ditch contained twenty-one sherds of medieval pottery including several fragments of a Grimston-type jug as well as a single sherd of sixteenth to eighteenth century glazed red earthenware, which was probably intrusive.

The group of pits near the eastern end of the site were investigated in two excavated slots. Three pits in one slot, *57411*, *57326* and *57327*, could be dated to the medieval phase. Unlike most of the pits on the site, they were rectangular or sub-rectangular in shape, and they had steep sides and sharp breaks of slope. It seems likely that the other pits in this slot were also of medieval date, although there was some variation in size and shape. The three pits contained thirty-two pottery sherds. Pits *57411* and *57327* could be placed in the thirteenth century, while pit *57044* was probably a little later.

Medieval pottery from Area C
by Sue Anderson

Introduction
In all, 959 sherds of pottery (5029g) were collected from Area C. Table 79 shows the quantification by fabric. Almost all pottery from this site is abraded and glazes have been affected by post-depositional changes.

Description
Most of this assemblage dated from the eleventh to fourteenth centuries. Local coarse wares form 81.6 per cent of this group by count, with local glazed wares making up 17.8 per cent and non-local English wares the remaining 0.6 per cent. The medieval coarse wares are dominated by MCW1 and LMU fabrics, with relatively large groups of EMW, MCW2 and MCW3 also present. Other coarse wares are few in number, but include Yarmouth-type ware. This medium sandy ware with fine calcareous inclusions is the third most common eleventh to twelfth century ware in Norwich, but is less common in Yarmouth, where it was first identified, and rarely occurs elsewhere. This assemblage is also the only one along the pipeline to contain MCW7, a fairly distinctive fabric with large white clay pellets and coarse ferrous inclusions in a fine-medium sandy matrix. It is therefore similar to MCW1, but is distinguished by the large size of its inclusions.

Seventy-five coarse ware vessels are identifiable to form from their rims. The vessels consist of thirteen bowls, one jar or bowl, fifty-seven jars or cooking pots, and four jugs. In addition to the jug rims, two coarse ware handles were recovered, one wide strap and one rod. Table 80 shows the distribution of rim and vessel forms based on the minimum number of vessels.

Forty-five rims are of early type (eleventh to thirteenth centuries) and thirty are of more developed forms (thirteenth or fourteenth centuries), suggesting that activity decreased towards the later medieval period. Early rims are in present in EMW, GRCW, MCW1, MCW2, MCW3, MCW5 and MCW6 fabrics; developed rims are mainly in MCW1 and LMU with a few in MCW2, MCW5 and MCW7. The MCW1 and MCW2 'early' forms

Description	*Fabric*	*Code*	*No*	*% No*	*Wt/g*	*% Wt*	*eve*
Early medieval ware	EMW	3.10	84	8.8	192	3.8	0.05
Yarmouth-type ware	YAR	3.17	5	0.5	30	0.6	
Medieval coarse ware 1	MCW1	3.201	303	31.6	1324	26.3	1.47
Medieval coarse ware 2	MCW2	3.202	53	5.5	302	6.0	0.60
Medieval coarse ware 3	MCW3	3.203	76	7.9	396	7.9	0.05
Medieval coarse ware 4	MCW4	3.204	2	0.2	16	0.3	
Medieval coarse ware 5	MCW5	3.205	15	1.6	56	1.1	0.17
Medieval coarse ware 6	MCW6	3.206	20	2.1	105	2.1	0.12
Medieval coarse ware 7	MCW7	3.207	11	1.1	75	1.5	
Medieval coarse ware gritty	MCWG	3.21	2	0.2	10	0.2	
Grimston coarse ware	GRCW	3.22	8	0.8	67	1.3	0.05
Local medieval unglazed	LMU	3.23	203	21.2	1272	25.3	2.15
Unprovenanced glazed	UPG	4.00	3	0.3	26	0.5	
Grimston-type ware	GRIM	4.10	159	16.6	1061	21.1	0.95
Scarborough Ware	SCAR	4.40	1	0.1	6	0.1	
Yorkshire glazed wares	YORK	4.43	5	0.5	24	0.5	
Late Grimston Ware	GRIL	5.30	9	0.9	67	1.3	
Total medieval			**959**	**100**	**5029**	**100**	**5.61**

Table 79 Medieval pottery by fabric, Itteringham Area C

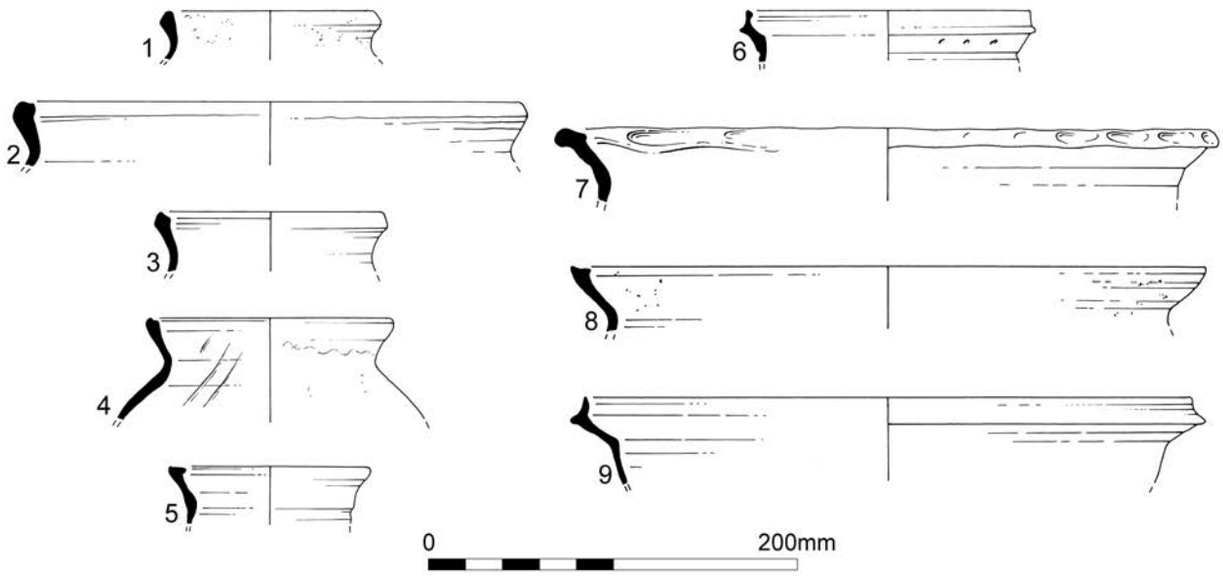

Figure 105 Medieval pottery from Itteringham Area C, scale 1:4

are mainly inturned and appear transitional with the developed types, so these have been dated tentatively to the thirteenth century. Ten vessel rims have thumbed or 'pie-crust' decoration, mainly on the inner side of bowl rims, and one vessel base is thumbed. A rod-type jug handle has a thin applied thumbed strip along its length. One jar rim has stab marks, probably made with the point of a knife, in two rows close to the shoulder. A body sherd from a jar has two narrow horizontal bands of combing close to the shoulder, a type of 'decoration' which more commonly occurs in later wares in this region to aid the application of handles, but in this case the lines appeared to be purely decorative.

This group produced a relatively high proportion of glazed ware. These are dominated by Grimston-type wares and even those classified as unprovenanced could be further examples of regional variants. One of these is very similar in fabric to MCW1 and had a thin green glaze. There is a possibility that it was a product of the same local kilns that produced the coarse wares predominant in this area, although it could be Hollesley Ware from Suffolk. Despite the large quantity of Grimston-type ware, only five rims are present, all from jugs. The rims are collared, upright plain and triangular beaded types. Two strap handles are present. One vessel was probably a globular jug, but generally forms could not be determined with any certainty. The typical styles of decoration are represented, consisting of brown slip stripes, applied pellets or feathers and thumbed bases. One body sherd has applied decoration which appears to be a hand and may be from a face jug. Nine sherds appear to be from later Grimston Ware as they are fully oxidised or have internal glaze. The non-local glazed wares include five sherds in medium-coarse whiteware with a green or brownish lead glaze; these could be a local Grimston variant, but are more likely to be York-type ware. There is also a small body sherd of Scarborough Ware.

Evidence of use was recorded where possible. Of the maximum 694 vessels of medieval date in this group, 312 are sooted externally (45.0 per cent). There is burnt food residue inside two vessels and lime in three. Seven sherds have signs of burning, and several vessel rims are cracked. This may have occurred during firing or possibly as a post-depositional change, but is most likely to have occurred during daily use in cooking.

Sherds from nine vessels have been illustrated. A MCW6 jar with a slightly thumbed UPBD rim, coloured light to mid-grey internally and brown externally with sooting on the rim (Fig. 105.1) was found in pit *57675*. Pit *57829* contained part of a pale grey MCW1 jar with INT rim (Fig. 105.3). Ditch *58015* yielded part of a MCW2 jar with UPPL rim, buff externally and dark grey internally, sooted on the rim (Fig. 105.4). Two vessels from pit *57327* are illustrated: a LMU jar with square UPBD rim, pale grey core and white-buff surfaces (Fig. 105.2), and a LMU jug with UPFT rim, coloured pale buff externally and dark grey internally (Fig. 105.5). A MCW2 jug with INT rim, coloured mid grey with a buff core, and displaying slight sooting on the rim edge (Fig. 105.6), was found in ditch *57537*. Pit *57817* contained part of a LMU bowl with an internally thumbed THEV rim, dark grey externally and buff internally, displaying cracked surfaces (Fig. 105.7). A pale buff MCW1 bowl with a THEV rim (Fig. 105.8) was found in ditch *57423*. Finally, a medium grey, sooted

Form	*INT*	*SEV*	*SEV1*	*SEV2*	*UPBD*	*THEV*	*FTEV*	*TRBD*	*UPPL*	*UPFT*	*UPTH*
Bowl	2					8					
Bowl?	1					2					
Jar/Bowl						1					
Jar	11	1	20	5	4	10	1		3	1	1
Jug	1							1		1	1

Table 80 Medieval coarse ware rim and vessel forms, Itteringham Area C (see Table 37)

MCW1 bowl with an INT rim, found in ditch *57880* is illustrated (Fig. 105.9).

Discussion
Contexts in this phase produced a total of 740 medieval sherds while a further 180 sherds were recovered from the many features that could not be securely dated. Groups of features showed that the various areas of the site had been in use throughout the medieval phase, with fills dating to both the early and later halves of the phase. The eastern enclosure appears to have been infilled slightly earlier than the western one, although the area was still in use as some pit fills were of later date.

Activity on site appears to have been continuous between the eleventh and fourteenth centuries, judging from the fabrics and forms present. A few sherds of late Grimston-type ware indicate a continued presence into the fourteenth or fifteenth centuries, but use of the site was probably limited by this date.

Most of the pottery is heavily abraded, suggesting a high degree of redeposition. Of the 149 features which contained medieval pottery, 120 contained ten or fewer sherds, suggesting widespread scattering of sherds through manuring. The largest assemblage from a single feature was in pit *57892* at the western end of the site, which contained forty-four sherds. In general, the western half of the site produced a larger quantity of pottery than the east.

The relatively high proportion of glazed wares at this site, together with the presence of wares from outside the region, may suggest a degree of status. As the site continued well into the fourteenth century, glazed wares would have been more readily available to the later occupants, but the proportion of glazed pottery is still comparable with some of the wealthier urban sites in the region.

Coin
by Adrian Marsden
A silver sterling penny of Edward II (SF 72710) dating to around 1310 to 1314, was recovered from the upper fill of pit *57900*. The coin is in good condition and has seen little circulation, so probably represents a casual loss at some date not very many years after its issue. It has a worn appearance, but this was caused not by wear in use but rather by the use of worn dies during its striking.

Obverse: +EDWARANGLDNShYB Crowned bust facing.
Reverse: CIVITASLONDON Long cross design, three pellets in each angle.
North II, 1060/2, class 11a2. London mint, Die axes 12, 18mm diameter, weight 1.37g.

Metal objects
by Julia Huddle
Five metal objects were recovered from securely dated medieval deposits, amounting to twenty-two pieces altogether (Table 81). All the diagnostic finds are dated to the medieval period and form a small group of well-dated and interesting artefacts. They include two buckles; one of these may have been gilded (Fig. 106.1), the other may have been part of a spur (Fig. 106.2).

Five objects found in poorly dated features, totalling fourteen pieces, and three objects found in the subsoil are also included in the table. These include a medieval knife and two medieval strap-loops, which would have been used to hold down the ends of straps or belts.

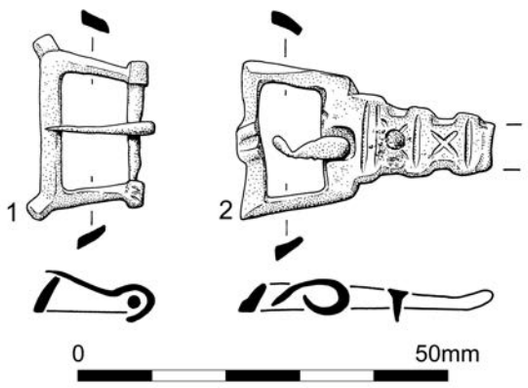

Figure 106 Medieval buckles from Itteringham Area C, scale 1:1

16.21 Phases 11 and 12: late and post-medieval decline

There was almost no evidence of post-medieval activity on the site. The few artefacts that were found appear to have been deposited in medieval features after their abandonment. Ditch *57992* at the western end of the site, for instance, contained two pieces of post-medieval pantile. The lower fill of this ditch was dark, like most medieval soils on the site, but the upper fill, which contained the tile, was paler. This ditch may have formed a right angle with medieval ditch *57942*, both ditches appearing to terminate, leaving a 2m gap. It seems likely that this ditch was excavated in the medieval phase but continued infilling during the post-medieval period.

Curvilinear ditch *57934* in the eastern half of the site had a dark, silty fill and included an 84g post-medieval brick fragment in its shallow terminal. The close resemblance of the curve of this ditch to that of ditch *57361*, 5m to the north, suggests that they had a similar function, although ditch *57361* seems to have been a much earlier feature. Ditches *57992* and *57934* both cut through pits, giving each pit a post-medieval *terminus ante quem*; in both cases a medieval date for the pits is likely.

Post-medieval pottery
by Sue Anderson
Five sherds of post-medieval pottery (76g) were collected from Area C. One body sherd, one base and one jug rim in LMT fabric and a possible rim sherd of GRE were recovered from the upper layers of the site and a pit fill. A small body sherd of nineteenth century refined redware with dark brown glaze on both surfaces was collected from topsoil.

16.22 Phase 13: undated features

Introduction
Area C yielded a large pottery assemblage, but on average the features contained few and fragmentary sherds, so many features remain unphased. Almost all features that could be dated were medieval, and the distribution pattern of undated features reflects that of the datable medieval archaeology, so most of the features in Phase 13 were probably also of this date. The view of the eastern group of

Feature	*Small find*	*Material*	*Count*	*Wt/g*	*Comments*
Phase 10 deposits					
W. enclosure ditch *57098*	72700	Iron	1	34	Bar fragment of rectangular section, slightly expanded towards one end
Pit *57801* in open area between enclosures	72707	Copper alloy	1	5	Medieval buckle with trapezoidal frame; three outside edges bevelled; knops at each corner and copper alloy wire pin. Possibly gilded, and has moulding around the knops
Pit *57751* within W. enclosure	72708	Copper alloy	1	6	Buckle with integral bevelled plate and copper alloy pin. Trapezoidal frame with two knops at pin-rest and hole for pin. Incomplete plate with single rivet and tapering notched sides; front decorated with two crosses each bounded with vertical linear border. Similar buckles are known from thirteenth or fourteenth century contexts in London, where it is suggested that these interesting buckles, with integral bevelled plates, had a special function (Egan and Pritchard 1991, 106–1089, fig. 68–9, nos 482–487) the latter *in situ* on a spur
W. enclosure ditch *57880*	72709	Copper alloy	1	7	Possibly a buckle plate with notch for the missing pin and three rivet holes
Poorly dated deposit (not shown on plan)					
E. enclosure ditch *57117*	72701	Iron	1	5	Bent nail shank, rectangular in section, tip missing
Enclosure ditch *57047*	72705	Lead	1	28	Lead strip, twisted and bent
Ditch *57005*	72703	Copper alloy	5	13	Five formless fragments
	72704	Iron	2	90	Medieval knife blade in two parts with whittle tang. Straight back from the shoulder to the tip and blade cutting edge tip rising to meet the back. Following Ottaway's type series for knives (1992, 572) this example falls under his type Back Form E, and two parallels are known from thirteenth century deposits at Coppergate in York (Ottaway and Rogers 2002, 2753, fig. 1358)
Pit *57178*	72702	Iron	5	3	Strip fragments
Subsoil *57001*	72706	Copper alloy	1	3	Medieval strap-loop with sub-rectangular frame and internal projections
	72711	Copper alloy	1	3	Medieval strap-loop with trapezoidal frame, internal projections and three moulded knops in middle. Similar loops are known from London (Egan and Pritchard 1991, 231–3, fig. 149 nos 1254–1265)
	72712	Lead	1	36	Rolled lead sheet forming a cylinder, possible weight

Table 81 Metal finds, Itteringham Area C

enclosures in particular is improved by consideration of undated ditches. Other ditches do not clearly fit into the medieval pattern, and may have been unrelated land divisions, droveways, or more recent drainage features.

The western half of the site

A group of ditches near the western end of the site did not appear to relate to the medieval landscape, being generally narrower and on a different alignment. An exception was ditch *57663* which was on a similar north-to-south alignment and contained a similar dark deposit to the medieval enclosure ditches. This was one of only three features in this group to contain dating evidence: a small amount of pottery tentatively suggesting a late medieval date. Ditches *57779* and *57663* both contained pottery dated to the thirteenth or fourteenth century but this may have been residual and it is quite possible that all these small ditches were post-medieval or modern drainage features.

Although not dated by stratigraphy or finds, ditch *57136* and its recut *57134* defined the western side of the westernmost enclosure. A series of ditch stubs or smaller ditches were found that may have subdivided the enclosures, including cuts *57375* and *57426*. Another ditch appears to continue the line of *57632* northwards: further indication that the enclosures were part of a broader network extending to the north as well as the south. Undated ditches near the southern site boundary suggest that the westernmost enclosure was approximately 16m square, while the second enclosure from the east was 20m long and 13m wide.

Undated pits were clustered around the two main areas of medieval pits, the open area to the west and the centre of the enclosures. Most of the interiors of the four western enclosures had been turned over by digging of pits, but the easternmost enclosure contained few pits and the second enclosure from the east almost none. When the proportions of excavated features are taken into consideration there is a concentration of activity in the centre of the site, tailing off in the western and particularly the eastern enclosures.

Eastern enclosures

Many undated ditches in the eastern half of the site are clearly continuations of the medieval enclosures. However, as the layout of the enclosure ditches is not as regular as in the western group, some ditches cannot be as confidently fitted in to the overall pattern.

Two sets of parallel ditches, 2.5m apart, toward the eastern end of the site, may have been trackside ditches. Ditches *57104* and *57797* ran for over 46m, being truncated to the south-east and running beyond the site boundary to the west. They were cut by undated pits, several of which had one or two medieval pottery sherds within them. The second pair of parallel linear features,

57024 and *57042*, were extremely shallow and were only 1.7m apart, which would be extremely close for trackside ditches. All four ditches described above had paler soils within them than most features on the site, suggesting that they might not have been from the medieval phase.

Postholes
The eastern half of the site had far fewer pits, but a greater proportion of posthole-sized features; these did not, however, form any clear patterns. The distribution of pits and postholes in the eastern half of the site bore little relationship to the location of enclosures.

16.23 Discussion: Itteringham

Phases 1–5: Neolithic to early Roman periods
The small assemblage of Neolithic flint found at Area A, along with previously recorded finds from the area such as a handaxe (HER 6660) close to Area A and fieldwalking finds to the north of Area C (HER 28945), shows that there was activity on the edge of the Bure floodplain during this period. Presumably there was a settlement area somewhere fairly close by, but the deposition of tools and waste flakes could have resulted from resource-gathering activities.

The Beaker pottery found in Area A indicated that people were living nearby around the time of the Neolithic to Bronze Age transition. A single Bronze Age pottery sherd found in a pit in Area B, accompanied by a substantial struck flint assemblage, some of which is likely to date from the Bronze Age, indicates a continuing low level presence. Four struck flints found at Area C, of either Iron Age or Bronze Age date, and the residual Iron Age finds and the possible Iron Age pit in Area B, add to the evidence of activity recovered from previous fieldwalking surveys in the fields between Areas B and C (HER 28697, 28901).

Phase 6: middle and late Roman period
The fieldwalking carried out in the early 1990s and subsequent metal detector surveys have located the probable site of a tile-roofed building in the field to the west of Half Moon Plantation, 350 metres north-west of Area C, and scattered Roman artefacts have been found in fields on either side of the river throughout Itteringham. The lack of finds from the period, just two pottery sherds from the three excavation areas, is therefore surprising, and implies that all three areas were uncultivated at the time, perhaps because they were poorly drained. Changes in the hydrological regime, as evident in Area B, seem only to have made these areas suitable for more intensive use in the medieval period.

Phase 9: late Anglo-Saxon or Saxo-Norman period
Mannington, one kilometre north of present-day Itteringham, has produced evidence of early to middle Anglo-Saxon activity in the form of fieldwalking finds collected south-west of the ruin of St Mary's Church (HER 28022; NGR 614000 331700) and on the old parish border with Itteringham (HER 28533, Davison 1995). Both Mannington Church (HER 6663; NGR 614470 331870) and St Margaret's Church, Wolterton (HER 6710; NGR 616350 332050) of which only the round tower survives, one and half kilometres north of Area C, are thought to be late Anglo-Saxon foundations, and the same may also be true of St Nicholas' Chapel, believed to be the ecclesiastical building showing in the Area B cropmark complex. Itteringham itself is included in Domesday Book (Williams and Martin 1992), though it is not possible to say whether this refers to the present day village or the cropmark site. The Domesday entry includes reference to a mill.

No features could be identified that were clearly dated to Phase 9, although some ceramics were being deposited at all three sites, suggesting that the area was being cultivated and manured. It is also possible that people were living at Area A, although the evidence is inconclusive.

Phase 10: medieval period
The extensive area of cropmarks on the north bank of the river and crossed by Area B were seen in 1986 and subsequently identified as including the chapel of St Nicholas, known from documentary sources of 1310 and 1430 (Batcock 1991) where it is clearly associated with Nower's Manor. The cropmark chapel was dated typologically to the period 1040 to 1100, lacking any Norman complexity while being stone-built.

The geophysical survey results complement the cropmark evidence and show that a settlement grew up around the chapel and manor house, with walled land parcels for homes or agricultural plots beside a road that led northwards towards Itteringham village. The excavation of Area B showed that this road ran past a meander in the river, within which the land had been enclosed and sub-divided by ditches, creating separate plots and draining the land. There was little deposition of refuse within these ditches and there was no evidence of any buildings or structures constructed within these enclosures. Some activity continued at this site into the post-medieval period, but it was in a more limited form, the ditches having become filled during the medieval phase, suggesting that the watercourse had already moved much closer to its current position.

In Area A, where the land rose from the floodplain on the opposite side of the river, the landscape in the earlier part of the medieval period was similarly divided with ditches into small enclosures or possibly a broader field system. There were post-built structures in this area, though it is not clear whether these were domestic buildings.

There are remarkably similar later parallels for the possible waterhole at Area A: shallow ponds of a local type defined in the early nineteenth century as 'pulks' (Forby 1830). A pulk still exists at the bottom of the hill on Itteringham Common and was still in use, along with its unusual name, in the mid-twentieth century. It was fed by a stream, and had a boundary wall on the other three sides. The ditch running from the south-west could possibly have channelled a spring to this hollow.

It seems likely that Area C was associated with nearby Itteringham House, now White House Farm. The finds from the western enclosures could well have derived from domestic refuse from that building. The groups of small enclosures may have been part of a stock management system for cattle grazing on the marshy land near the river. Two sinuous ditches running east to west suggest that perhaps the land was originally crossed by a lane running along the boundary between the flood-prone and the firmer land, these roadside ditches later being incorporated into the pattern of enclosures.

The enclosures were in two separate groups, either because the space between them was used for some other purpose or perhaps because they had a different function; certainly there seems to have been a greater density of pits in the western enclosures and postholes in the eastern group, supporting the contention that these were different areas, dedicated to different activities.

Phases 11 and 12: late medieval and post-medieval periods

Most activity had ceased at area A and B by the end of the thirteenth century. The manor house and chapel located by geophysics are not mentioned in original sources after 1430 and no evidence was found at Area B that these outlying areas were still in use by then. The river meander had probably been cut off to form an oxbow, gradually filling during the later medieval and post-medieval periods. Area C appears to have experienced considerable waterlogging across the field when most of the features were nearly full, forming a black, peaty component of the upper fills as earlier features remained as stagnant hollows.

The loss of Nower's Manor was part of a wider pattern in this part of the Bure valley, with settlement tending to concentrate around a smaller number of centres. This may have been no more than the local effect of the nationwide decline in the rural population from the fourteenth century onwards and a consequent re-ordering of the landscape, but changes in local political and economic power would also have been a factor. The construction of Mannington Hall in the fifteenth century coupled with the population decline and eventual loss of parochial status of Mannington, the similar changes in Wolterton parish to the east, and the loss of the manorial centre known as Bishop's Palace and the growth of the Blickling estate on the southern side of the river were all symptoms of the changing social landscape of the area in the later medieval and post-medieval period.

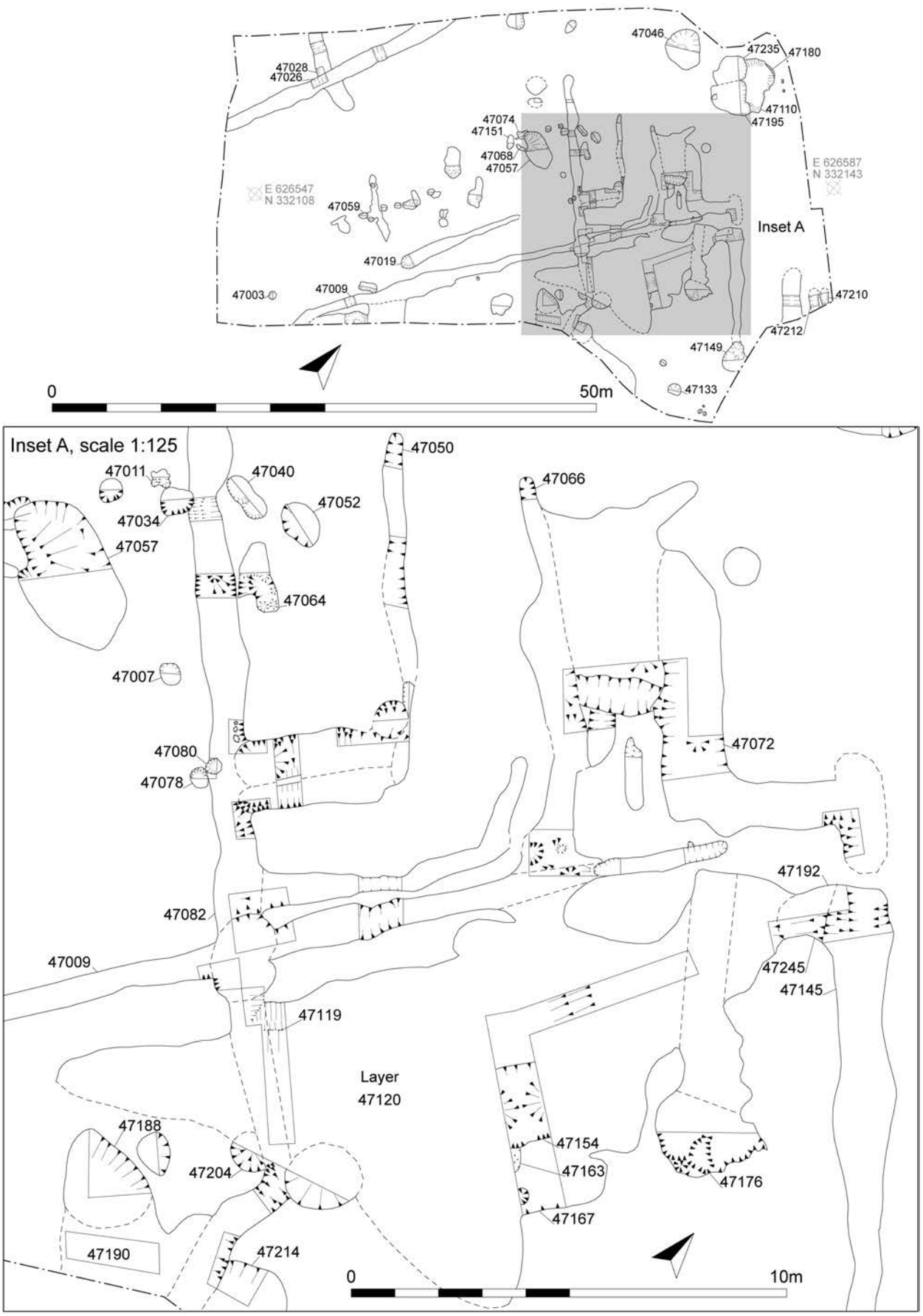

Figure 107 Plan of the excavation area at Lyngate Road, scale 1:500 and 1:125

17. Neolithic and medieval farming at Lyngate Road, North Walsham

by Tom Wilson

17.1 Summary

A pit containing Neolithic pottery and an assemblage of flint artefacts provide evidence of prehistoric activity on the site. The majority of the excavated features could be dated to the medieval period, between the twelfth and fourteenth centuries. At some point in the fourteenth century, the eastern half of the site was used for cultivation, this activity ceasing around the fifteenth century. A boundary running across the site existed in several incarnations, culminating in a ditch recorded on the tithe map in 1842.

17.2 The site

The site (HER 37631) was located in the northern corner of the parish of North Walsham (NGR 626560 332120), between Lyngate Road to the east and the Norwich to Cromer railway line to the west (Fig. 30, Chapter 6). St Giles' Church Bradfield is just over one kilometre to the south and St Mary's Church, Antingham one and a half kilometres to the north-west. The boundary between North Walsham and Antingham parishes runs along the northern side of the field in which the site lies, while the boundary with the former parish of Bradfield, now part of the civil parish of Swafield, follows the course of the stream which was channelled to form the North Walsham and Dilham Canal.

The site lay near the base of a steep, east-facing valley slope, and the top of the archaeological deposits ranged from 28.3m OD at the western end to 25.7m OD to the east. The eastern fringe of the site spread over a slight terrace beyond which the land drops down onto the water meadows alongside the canal, which is a channelled tributary of the River Ant. Glaciofluvial and aeolian sands underlie the site with patches of peat in palaeochannels.

17.3 Pre-construction work

The cropmark sites to the south and west, highlighted in the desk-based assessment, have been discussed in Chapter 6. These extensive areas (HER 12821 and 28821) include probable Bronze Age ring ditches, trackways, a D-shaped enclosure, and many rectilinear enclosures. Nearer to the site, a square enclosure, provisionally dated typologically as Roman or medieval, has been recorded in the northern end of the field beyond Lyngate Road (HER 17215).

The irregular village of Antingham, with its twin churches of St Mary and the now ruined St Margaret and its two moated sites, clearly has a rich medieval history, as does Bradfield to the east of the site. The desk-based assessment also drew attention to elements of the post-medieval landscape in the immediate surroundings of the site: Wild's Farm, previously called Manor Farm, with its early eighteenth century timber framed barn (HER 29969); Barge Farm, formerly an inn, dating back to the eighteenth century (HER 29968); and the Walsham and Dilham Canal (HER 13534) and its associated bonemeal mills. The North Walsham Tithe Map, drawn in 1842 after the construction of the canal but pre-dating the railway, shows the field containing the site as being sub-divided into many smaller plots, the boundary of one of them clipping the north-western corner of the excavated area.

The geophysical survey identified numerous anomalies in the field, coinciding with extremely high magnetic susceptibility readings. The construction of the railway could have contributed to the raised susceptibility levels, but the pit-like anomalies towards the eastern boundary of the field were interpreted as probably indicating occupation. A linear anomaly, also on the eastern side of the field, correlated with the boundary depicted on the 1842 tithe map. Fieldwalking retrieved sixteen burnt flints from the field containing the site along with a single struck flint and one Roman and four medieval pottery sherds.

17.4 Excavation

Three evaluation trenches were excavated, the most easterly of which revealed significant medieval features. The surrounding area was then stripped and excavated in advance of pipeline construction (Fig. 107).

17.5 Phase 0: natural deposits

During the excavation the drift geology was recorded as very pale orange-brown sand with occasional patches of firm fine blue sand.

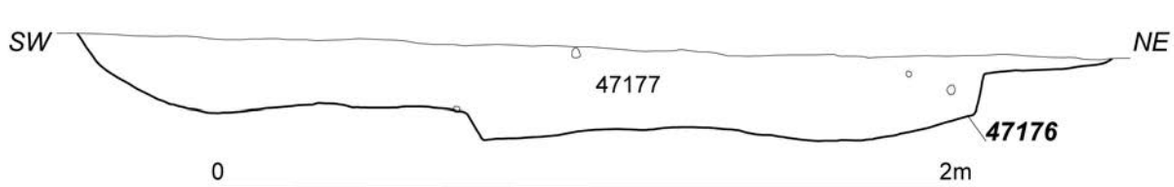

Figure 108 Section through prehistoric feature *47176* at Lyngate Road, scale 1:20

17.6 Phases 1 to 2: possible Neolithic pit

In the south-western corner of the site, pit *47003* was just 0.06m deep, with a flat base. Its silty sand fill contained forty-eight prehistoric pottery sherds, as well as a small amount of charcoal. A second, larger pit-like feature *47176* (Fig. 108) may have been a very disturbed pit or a tree root hole. The only finds from it were four pieces of worked flint, including a bladelet and two utilised pieces. These flints, together with residual pieces in medieval contexts, suggest a Neolithic to Bronze Age date, with perhaps a significant earlier Neolithic component.

Prehistoric pottery
by Sarah Percival
Forty-eight prehistoric pottery sherds were recovered, of which forty-four are possibly of earlier Neolithic date (125g) and four (3g) are not closely datable. All of the prehistoric sherds were found in pit *47003*. The majority of the putative earlier Neolithic sherds are made of flint-tempered fabric (forty-two sherds) while the remainder are quartz sand-tempered. No rim, base or decorated body sherds were found, so the sherds were identified purely by fabric type and an Iron Age date is also possible for the feature.

Struck flint
by Sarah Bates
In total, 178 pieces of struck flint were recovered during the excavation of the site, including 154 spalls which were recovered from soil samples. The flint is mostly unpatinated and relatively little edge damage is evident.

The assemblage consists mainly of small unmodified flakes and spalls, many of them struck by hard hammer and probably indicative of a later Neolithic to Bronze Age date. Also present, however, are a few small blades and blade-like pieces which may be of an earlier date. Three utilised pieces and a possible notched flake are present. The assemblage is summarised in Table 82.

A utilised flake was found in pit *47003*. Four small flints, including a bladelet and two utilised pieces, came from the fill of feature *47176*.

Type	*Number*
Crested blade	1
Flake	8
Blade-like flake	1
Blade	2
Spall	160
Bladelet	2
Notched flake	1
Utilised blade	1
Utilised flake	2
Total	**178**

Table 82 Summary of the struck flint, Lyngate Road

A crested blade and two other blades, both with prepared platforms, were found in a medieval context. All exhibit evidence for core preparation and also suggest a relatively early, probably earlier Neolithic, date for at least some of the activity at the site. Most of the spalls were recovered from medieval pits in the north-eastern corner of the site. A small flake was found in agricultural soil *47120*, and several of the post-medieval boundary ditches produced one or two flakes each. A blade with an abraded platform, indicating core preparation and possibly relatively early date, came from an undated context.

The assemblage is small but it is notable that a relatively high proportion of the non-spall part of it is blade-like in nature. This, as well as the evidence for deliberate core preparation, suggests that the material is likely to date to a relatively early period, probably the earlier Neolithic. Although only one feature contained pottery of potential Neolithic date, the nature of the flint suggests that it derived from activity that occurred in the vicinity of the site during this relatively early period.

17.7 Phase 9: residual late Anglo-Saxon finds
by Sue Anderson

An assemblage of six possible late Saxon Thetford-type ware (THET) pottery sherds (54g) was collected from this site. None of them could be considered typical. They consist of two small body sherds, a wire-marked flat base

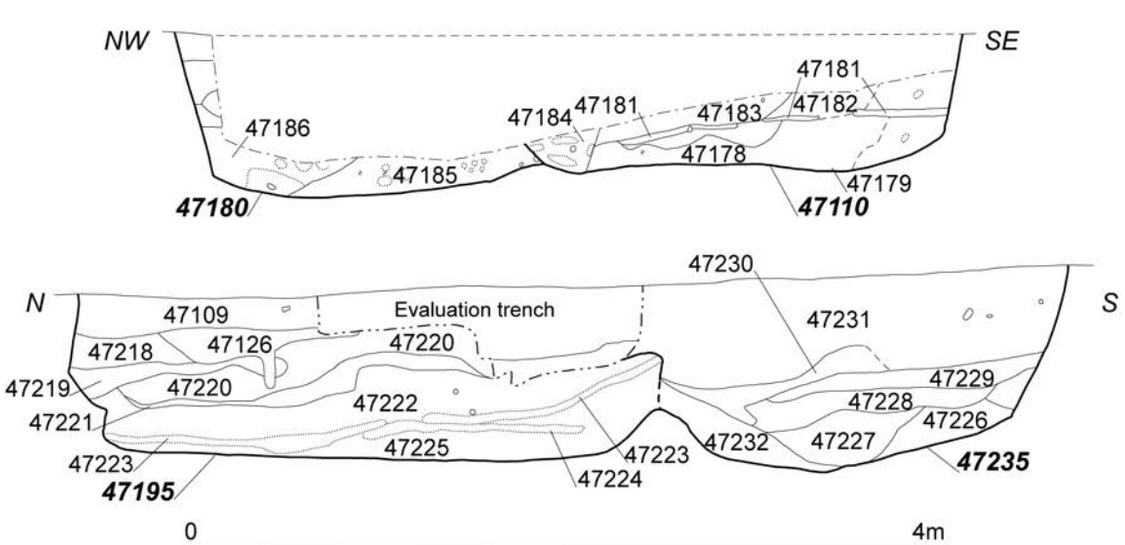

Figure 109 Sections through Phase 10 features at Lyngate Road, scale 1:40

from a small vessel, a sagging base which could be Grimston Thetford-type ware, and a rim and body sherd from a small bowl.

17.8 Phase 10: medieval occupation

The complex of features in the eastern corner of the site was not totally resolved as many of the features here were recorded only in sondages excavated through a spread of cultural subsoil, *47120*. The earlier features in this area were shallow pits, of which eleven could be confidently dated to the thirteenth to fourteenth century: *47119, 47133*, *47154*, *47163*, *47167*, *47168* (not on plan), *47188* (Fig. 110), *47192*, *47204*, *47214* and *47245*. Pit *47133*, the only one completely observed in plan, contained parts of a large thirteenth or fourteenth century platter. These pits ranged in depth from 0.12 to 0.67m, the larger examples being over 2.0m wide.

Two pits in the northern corner of the site, *47046* and *47180*, stood apart both geographically and typologically. Pit *47180* (Fig. 109) had three overlapping recuts *47195*, *47110* and *47235* (Fig. 109), indicating that the function of this large pit continued for some time, necessitating its repeated reinstatement. Though largely filled with redeposited natural sediments, the various recuts included considerable pottery assemblages: 196 sherds in all. The stratigraphic relationships were unclear, but pit *47235* was probably filled in the thirteenth or fourteenth century, with pit *47110* being broadly within the same range of dates. Pit *47195* was firmly dated to the fourteenth century by the ninety-nine sherd assemblage found within it. This pit also contained a schist whetstone (Fig. 111, see discussion in Section 13.8) and an iron nail; four more nails were recovered while cleaning above these pits, prior to excavation. Pit *47046* to the west had a different profile (Fig. 110) but otherwise seemed similar and was broadly contemporary with the recut pit *47195*.

A line of irregular features, crossing the site obliquely, could also be dated to this period. Feature *47074* contained twelfth or thirteenth century pottery, while that from features *47151* and *47068* appeared to be from the thirteenth or fourteenth century. There were smaller quantities of pottery from features *47040*, *47052* and *47064*. These features seem to form the western limit of medieval activity and may be the remains of a grubbed-out hedge.

Pottery
by Sue Anderson

Introduction
An assemblage of 519 medieval pottery sherds (2948g) was collected from this site. Table 83 shows the quantification by fabric. The pottery from this site has suffered very badly from post-depositional erosion and most of the sherds are abraded or have lost their outer surfaces.

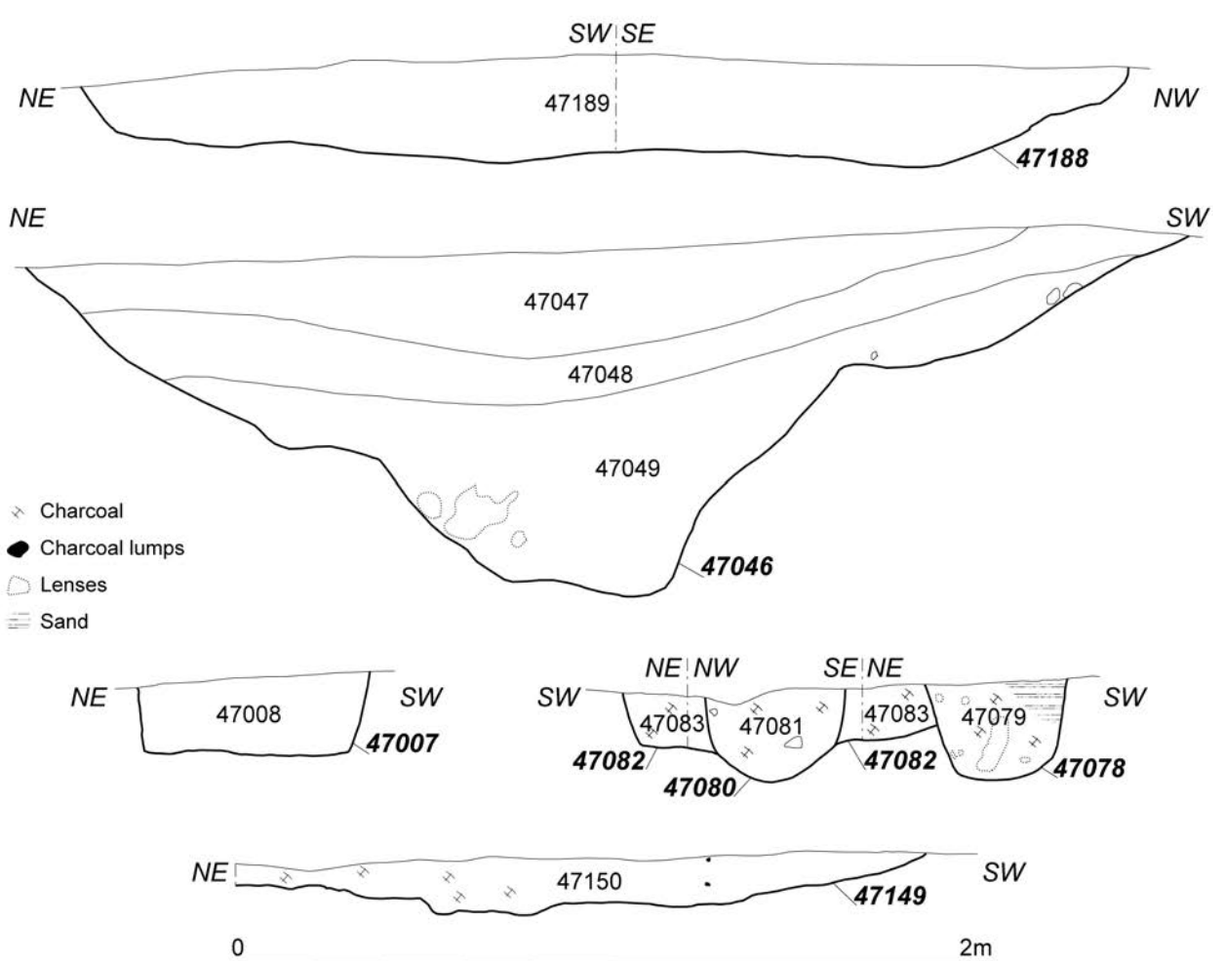

Figure 110 Sections through Phase 10 and 11 features at Lyngate Road, scale 1:20

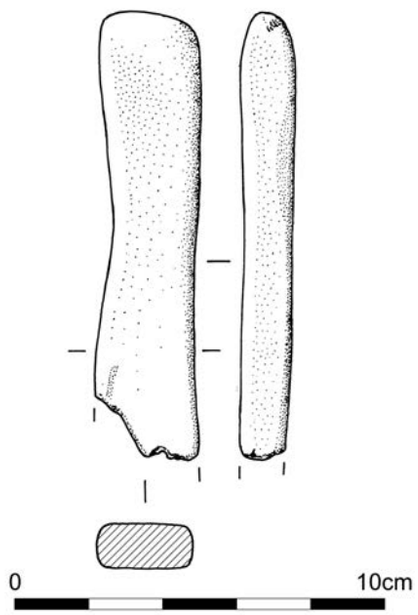

Figure 111 Medieval whetstone from Lyngate Road, scale 1:2

Description

Phase 10 pottery makes up 91.9 per cent of the post-Roman assemblage by count, but only 79.7 per cent by weight, this difference being due to the relatively small size of the sherds in comparison with late medieval (Phase 11) wares. Local coarse wares form 96.1 per cent of the Phase 10 group by count, with local glazed wares making up the remainder. In this group, the LMU fabric familiar in Norwich assemblages makes up the largest proportion of the coarse wares, closely followed by MCW5 and MCW1. By weight, MCW6 is the most frequent, but this is a due to the presence of several large sherds from two vessels in southern pits *47154* and *47133*.

Twenty-eight coarse ware vessels are identifiable to form from their rims. The vessels consist of two bowls, twenty jars or cooking pots and five jugs. Six coarse ware handles were recovered. Table 84 shows the distribution of rim and vessel forms based on the MNV.

Most of the rims are the later THEV types (eighteen vessels), which date to the thirteenth or fourteenth century. Even the simple everted types appear transitional. The distribution of rim forms seems to indicate that the main period of occupation at this site began in the thirteenth century. Few vessels are decorated. One jar rim is thumbed and one has an incised wavy line. Two body sherds have shallow combed lines, and one jug handle has four incised horizontal grooves. Three vessels have applied thumbed strips, which is relatively uncommon on medieval coarse wares in Norfolk. Very little glazed ware is present in this assemblage. The majority of sherds are Grimston-type, although a few are more typical Grimston products. They are generally green-glazed body sherds, two with brown slip lines, or base fragments, and there is one handle. Two bases have kiln scars. There are two types of unprovenanced glazed wares. Four sherds have a fine matrix with sparse medium quartz and ferrous fragments and are orange with grey internal margins. The glaze is uncoloured, appearing orange on the oxidised fabric. Two sherds appear to be glazed versions of the local coarse wares.

Sherds of four vessels, three from the same context, are illustrated. Pit *47074* contained part of a sooted, buff-coloured MCW1 jar with a THEV rim (Fig. 112.1). A MCW6 jar with a THEV rim, coloured pale grey with dark grey patches and internal brown staining, was found in pit *47154* (Fig. 112.2). The same pit contained another jar of the same colour, staining, fabric and rim type, but with incised wavy line decoration on the rim (Fig. 112.3). A pale brown LMU jug with a UPBD rim and external sooting was also recovered from pit *47154* (Fig. 112.4).

Discussion: Phase 10 pottery

Deposits from this phase produced 421 sherds. Most features belonging to this phase contained thirteenth or fourteenth century pottery, although some earlier material was present. The early medieval wares were represented by small body sherds only. It is possible that they represent a limited early phase of activity associated with the possible Thetford Wares, or that they have been misidentified given their small size and poor condition.

Form	*INT*	*SEV1?*	*THEV*	*UPBD*	*UPFT*	*UPPL*	*UPTH*
Bowl			1				
Bowl?			1				
Jar		2	16		1	1	
Jug	1			1			1
Jug?	2						1

Table 84 Medieval coarse ware rim and vessel forms, Lyngate Road (see Table 37)

Description	*Fabric*	*Code*	*No*	*% No*	*Wt/g*	*% Wt*	*eve*
Early medieval ware	EMW	3.10	52	10.0	126	4.3	
Medieval coarse wares	MCW	3.20	24	4.6	8	0.3	
Medieval coarse ware 1	MCW1	3.201	62	11.9	356	12.1	0.35
Medieval coarse ware 2	MCW2	3.202	2	0.4	8	0.3	
Medieval coarse ware 3	MCW3	3.203	14	2.7	64	2.2	
Medieval coarse ware 4	MCW4	3.204	4	0.8	19	0.6	
Medieval coarse ware 5	MCW5	3.205	120	23.1	557	18.9	0.26
Medieval coarse ware 6	MCW6	3.206	64	12.3	875	29.7	0.51
Local medieval unglazed (Norwich type)	LMU	3.23	157	30.3	719	24.4	0.74
Unprovenanced glazed	UPG	4.00	6	1.2	37	1.3	
Grimston-type ware	GRIM	4.10	14	2.7	179	6.1	
Total medieval			**519**	**100**	**2948**	**100**	**1.86**

Table 83 Medieval pottery by fabric, Lyngate Road

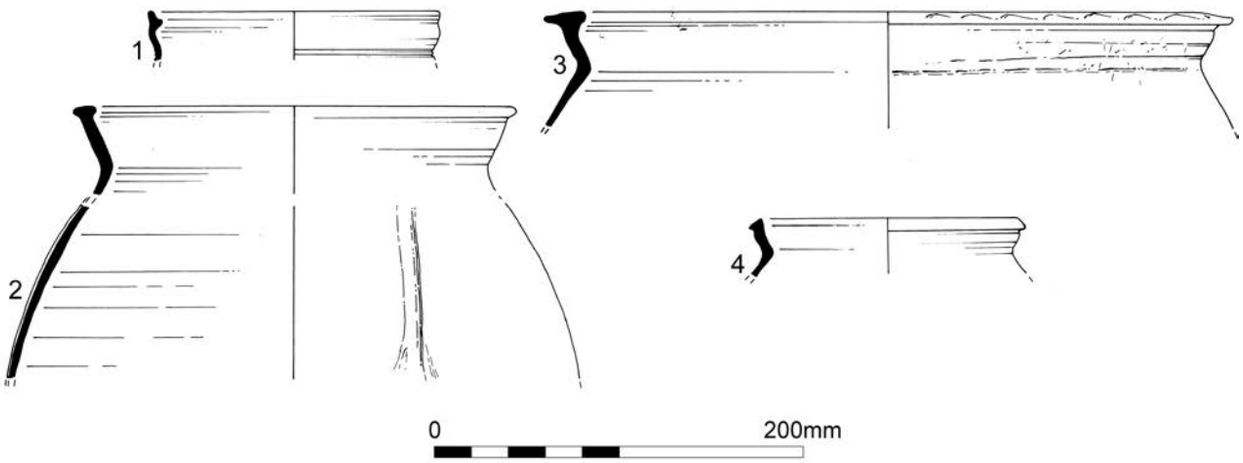

Figure 112 Medieval pottery from Lyngate Road, scale 1:4

The overall assemblage suggests that a nearby settlement flourished from the thirteenth to fifteenth centuries, in contrast to other medieval sites along the pipeline that were abandoned during the fourteenth century.

17.9 Phase 11: late medieval agriculture

At some time in the fourteenth century perhaps, the activity that produced the pits must have ceased and a series of slightly irregular parallel linear features were created across the north-eastern part of the site. These included features *47082*, *47050*, *47066*, *47145, 47072* and possibly *47210* and *47212*. They were all shallow, with a depth of no more than 0.10m to 0.30m surviving. All had dark fills but the northern end of ditch *47145* also contained a dump of orange sandy soil. The close separation and localised extent of these features suggest that they were the remains left by some form of horticultural practice. The majority of the eighty-three pottery sherds recovered from these features were heavily abraded and poorly diagnostic, but the assemblage from ditch *47072* suggested a fourteenth to fifteenth century date. Given that there was an earlier phase of medieval activity, and that these features would have been produced by turning the earth, much of the pottery is likely to be residual.

In some areas, patches of a cultivated soil layer up to 0.11m deep survived. There was no clear horizon between the layer and the fills of the linear features, suggesting that they developed by the same pedogenic processes. The largest patch of this layer, *47120*, contained sixty pottery sherds including late Grimston-type ware, which dates it to the fourteenth or fifteenth century. It also contained thirty-two crumbs of lava quern (see discussion in Section 13.8), weighing just 38g in total. Deposit *47190*, which extends southwards beyond the site boundaries, was probably part of the same layer. An isolated patch further to the north-east, *47057*, may also have been part of this layer; it contained nine thirteenth or fourteenth century pottery sherds.

Several small postholes found along the outer edge of the westernmost linear feature, *47082*, may have held a structure to support or shelter growing crop plants. It is notable that the cultivated soil extended beyond this line of posts, so the putative structure was unlikely to have formed a solid barrier. These postholes were *47078*, *47080* (Fig. 110), *47007* (Fig. 110), *47011* and *47034*, although the last two can alternatively be interpreted as part of the hedge line discussed above.

Pit *47149*, at the south-eastern end of linear feature *47145*, (Fig. 110) either post-dated or was contemporary with that feature having a very similar fill. It contained eleven pottery sherds including two types of Rhenish stoneware, suggesting a fourteenth or fifteenth century date. This may have been a soakaway or similar agricultural feature, or a rubbish pit lying just beyond the cultivated area.

Pottery
by Sue Anderson

Introduction
An assemblage of thirty-seven later medieval pottery sherds (691g) was collected from this site. Table 85 shows the quantification by fabric. As with the Phase 10 pottery, most of this group is abraded or very abraded.

Description
Late medieval wares are dominated by LMT types, although only seven vessels are represented by the twenty-two sherds. While some of the fabrics suggest a more local origin than the North Suffolk industry, there are at least two vessels, a jug with a collared rim and a small bowl with a bead rim, which are typical of the Waveney Valley production sites. Another jug, found in pit *47110*, is in a medium sandy fabric which is not unlike MCW6, suggesting it is either a thirteenth or fourteenth century vessel or a local version of LMT. Four vessels of late Grimston-type ware are present. There are two jug rims, both inturned, a body sherd from a globular jug with a cordon at the shoulder and external yellowish glaze, and a base sherd with internal speckled green glaze. Imported wares of this date consist of a small body sherd of Dutch-type redware and three German stoneware jugs. Siegburg and Langerwehe both appear in Norwich in the fourteenth century, while Raeren tends to occur in slightly later contexts. All three types are relatively rare finds on rural sites and may indicate a degree of status here in the fourteenth or fifteenth centuries.

Description	*Fabric*	*Code*	*No*	*% No*	*Wt/g*	*% Wt*	*eve*
Late medieval and transitional	LMT	5.10	22	59.5	348	50.4	0.20
Late Grimston-type ware	GRIL	5.30	7	18.9	195	28.2	0.20
Siegburg stoneware	GSW1	7.11	2	5.4	76	11.0	
Langerwehe stoneware	GSW2	7.12	4	10.8	59	8.5	
Raeren/Aachen stoneware	GSW3	7.13	1	2.7	10	1.4	
Dutch-type redwares	DUTR	7.21	1	2.7	3	0.4	
Total late medieval			**37**	**100**	**691**	**100**	**0.40**

Table 85 Late medieval pottery by fabric, Lyngate Road

Discussion: Phase 11 pottery
Features in this phase contained 109 pottery sherds, many of which were residual, particularly those which had been deposited in the putative horticultural ditches. Presumably this resulted from truncation of underlying features caused by continued cultivation. The late medieval assemblage contains the normal range of forms and fabrics for this area, with a relatively low proportion of glazed wares in comparison with other groups. The presence of some early imported stoneware in the late medieval period may, however, indicate an improvement in status. If the land was in use for horticulture at this time, then a farmhouse of moderate wealth may have been located somewhere nearby.

17.10 Phase 12: post-medieval boundary ditches

The stratigraphic relationships of ditch *47009* to the features in the northern part of the site were not clear, despite the six interventions excavated through it, and no datable artefacts were retrieved, but it is thought likely that this ditch was part of the early post-medieval landscape, precursors to ditch *47026* (below). Ditch *47028* was stratigraphically earlier than ditch *47026* and could have formed, with ditch *47019*, the corner of a rectilinear enclosure.

Ditch *47026* can be fairly confidently identified as the boundary shown on the North Walsham tithe map of 1842. It contained a darker, patchier fill than most of the features on this site. All ten sherds of pottery recovered from it were medieval coarse wares, raising the possibility that it was a survival from the medieval landscape, though it is more likely that these finds are residual and that the ditches date to the later enclosure of the land.

17.11 Environmental archaeology
by Gemma Martin and James Rackham

Nine bulk samples were taken for environmental analysis: five from pit *47235*, three from pit *47195* and one from ditch *47145*. The overall state of preservation of the remains is variable. The cereal grains are generally abraded and distorted and the legumes are also poorly preserved with no surviving diagnostic features, but the cereal chaff, particularly that of free-threshing cereals, does demonstrate instances of good preservation.

The cereals represented are among those typical of the medieval period: free-threshing wheats such as bread wheat and also rivet wheat (*Triticum turgidum*), hulled barley, oats and rye (Greig 1991), although the latter has not been identified at this site. It remains difficult to establish the relative economic importance of the different crops owing to the small sizes of the assemblages; it would appear that barley is an important cultigen throughout Phases 10 and 11, as it occurs in greater number and frequency compared to oats and wheat. However, these apparent patterns of frequency and dominance may not be an accurate reflection of crop preference, but could be attributed to unaccountable factors linked to differential processing or use and disposal patterns. Free-threshing wheats such as bread wheat require less processing than hulled barley as there is no need to parch the grains to release grain from glumes. Hulled barley, which does need to be parched, is therefore more likely to be exposed to fire and preserved through charring. Also, crops such as oat, and possibly vetches, may have been used for fodder (Campbell 1988): as this requires less processing the seeds are less likely to be charred. These could, however, be arable weeds removed during crop processing and discarded into a fire. These sources of potential bias and the small sizes of the botanical assemblages mean interpretations of the cereal assemblages cannot be made with any confidence.

Of the two pits, the fills of pit *47235* contain the greatest density of botanical remains and also the greatest species diversity of weed seeds and almost all of the cereal chaff. Other debris, however, is not noticeably more abundant. It is possible that waste from a number of sources was discarded into pits *47235* and *47195*: the botanical assemblages seem to be largely derived from domestic residues, though industrial residues, in the form of hammerscale, slag and iron fragments were also present.

The character of the botanical assemblage associated with Phase 11 ditch *47145* is slightly different to that of the two pits, in that the intact identifiable grains are predominantly oat and oat/grass-type. Wheat and particularly barley form relatively minor components, although the bulk of the cereal assemblages is fragmented grain. The weed assemblages consist of traces of chickweed, corn spurrey, campion, vetches or peas and elder. The botanical assemblage seems to be domestic in nature; it may be that the remains are derived from crop processing with the oat/grass-type grains and other large seeds picked out from the later stages of crop processing and disposed of, although the samples really do not sustain this level of interpretation.

17.12 Discussion

A probable early Neolithic date for the pottery from feature *47003* together with the flint assemblage from the site provides evidence that there was activity on the site in the prehistoric period, including some flint tool manufacture and, perhaps, temporary occupation. The flint assemblage could be at least partly contemporary with the pottery, but may also contain a later Neolithic or early Bronze Age component.

In the late Anglo-Saxon period, there was again activity on or near the site, probably limited to agriculture, the small pottery assemblage being derived from manuring. It is possible that a pattern of agricultural land use was established by this early date and continued until the site became more intensively occupied in the thirteenth century.

A settlement must have existed close to the site from the thirteenth to fifteenth centuries, surviving for longer than the other medieval settlements found during this project (Chapters 10, 12–16), with the possible exception of Area C at Itteringham (Chapter 16). During the thirteenth century, the site was divided by a hedged boundary into two open areas, the more easterly being used for the digging of pits, quite possibly waste pits on the outer limits of a nearby settlement.

The area to the north is more likely to have been an activity area, since it housed a sequence of large pits, repeatedly reinstated after silting up. The silty fills were distinct from those of the possible rubbish pits but nevertheless contained substantial assemblages of domestic pottery and the botanical remains were also typical of a domestic setting. The large size and regular shape of these pits suggest they had some kind of specialised function. The distribution of finds and features is strongly biased towards the northern and eastern corners of the site and suggest that any settlement would have been on this side.

While there is a decrease in activity on the site late in the medieval period, the pottery suggests that the nearby settlement may have actually increased in status, rather than falling into disuse. The layout of the site itself was changed, the old boundary being removed, whatever activity resulted in the excavation of the pits ceased, and the site was then clearly used for cultivation. This was on a smaller scale than ridge and furrow or similar land uses typical of the medieval period and may have been a garden or vineyard. Although the sample sizes were very limited, the botanical remains suggest a reduction of cereals during this phase and the introduction of legumes. An increase in status, a decline in occupation within the site boundaries, and a general pattern of a changing landscape in the fourteenth or fifteenth century, would, perhaps, be consistent with management of the land passing from a small nearby settlement to a single manorial centre at this time.

18. Overview and conclusions

18.1 The Neolithic and Bronze Age

by Trevor Ashwin and Richard Moore

Of the sites with prehistoric remains investigated on the pipeline, the most significant is Stocks Farm, East Walton. This had evidence of occupation, probably episodic, from the early Neolithic period to the middle or late Bronze Age. One of the other prehistoric sites, at Weasenham Clumps, also had evidence of domestic occupation in the early Neolithic period and continuing activity into the late Bronze Age. The significance of both of these sites is enhanced by their relationship to the extensive funerary landscape, of which the remains of the multiphase barrow excavated at Mileham Road, Tittleshall formed an element. By way of contrast, the small Bronze Age cremation cemetery uncovered at Cromer Road, Antingham was in an area with few previously recorded sites of the period.

In addition to the two putative Neolithic settlement sites, pits containing Neolithic artefacts were recorded at three sites. At Mileham Road and Massingham Road, Rougham these were some distance removed from the later areas of activity, while at Lyngate Road, North Walsham there was little evidence of any subsequent activity before the medieval period. A large irregular feature at Southrepps Road, Bradfield contained early Bronze Age pottery.

Elsewhere on the pipeline route, unstratified and residual finds provided evidence of a general background activity. Of these, the most significant are perhaps the residual Neolithic pottery from Foxley Road, Foulsham and the early or middle Bronze Age sherds from Itteringham.

Stocks Farm

There is some evidence for structural remains at Stocks Farm (Chapter 3), although this is equivocal, as the numerous postholes and stakeholes recorded were difficult to distinguish from the natural variations in the underlying glacial drift deposits and showed few if any clear patterns. Much stronger evidence of settlement is provided by the pits and more especially from the buried soil horizons in the slightly lower lying parts of the site, with their rich assemblages of pottery. These would seem to be typical of midden deposits, the product of domestic occupation and more likely deliberately dumped than casual occupation debris.

These midden deposits seem to have become incorporated into gradually accreting soil layers. The degree of mixing within these palaeosol layers is open to question, the pottery suggesting a fairly clear stratification while the snail shell and flint assemblages might indicate more homogenisation. Some degree of disturbance of soil is always likely in, or close to, an area of settlement and it may have been the case that this affected smaller items, the snail shells and flint spalls, more than the pottery sherds.

All of the sites on the pipeline route have shown, to a greater or lesser degree, the effects of the heavy agricultural use of the Norfolk landscape, resulting in some instances in severe truncation of the higher archaeological horizons and the undoubted loss of many shallower features. However, a proportion of surface sediments lost through erosion will have accumulated elsewhere as colluvial or aeolian deposits, with the potential to preserve isolated elements of the prehistoric landscape. The Stocks Farm site joins an increasing number of sites in the county where this process has been recognised as having occurred.

The main colluviation episode at Stocks Farm seems to have happened in the later Bronze Age or Iron Age, presumably triggered by an increase in cultivation of the ground immediately up-slope of the site. The final phase of activity before this change occurred shows evidence of the changing use or management of the site. Surviving features dating to this period show signs of an order and regularity not seen in earlier phases. Accumulation of the dark sandy palaeosols appears to have ceased, in the western part of the site at least, and the land was sub-divided by a north-to-south ditch crossing the western part of the site, its alignment echoed by a posthole line fifty-five metres to the east. Pits assigned to this later phase were concentrated immediately to the west of the ditch. This latter 'cluster' may be more apparent than real, since these recorded pits had been cut into a palaeosol-filled hollow which was skirted on its eastern side by the Phase 3 ditch; it is possible that the higher 'blank' area to the east once carried further pits which have been destroyed.

It is tempting to link these changes with developments in the climate that are believed to have occurred in the later second and first millennia BC, the onset of wetter conditions perhaps allowing for an increase in the area of productive land, though social and cultural changes would also have played a part.

In considering the place of this site in its wider setting, the importance of the Nar valley to the prehistoric communities living in the surrounding dryland tracts is likely to have been considerable. The fens would have provided rich resources of fish, fowl and raw materials, while the fen edges would have been excellent grazing land, especially in the spring, and supported willow, hazel and alder woodland which would have been of permanent value. Prehistoric communities who were also active on the calcareous uplands to the east may have used locations such as Stocks Farm in the spring and summer, as a base for accessing both the deep fen and the skirtlands, and for taking advantage of naturally available pasture at these times of year. Important studies in and around the East Anglian fens (*e.g.* Evans 1987; Healy 1996, 179; Gdaniec *et al.* 2007) have suggested that locations on the interface between wetland and dryland may have been particularly well suited to year-round occupation, providing relatively easy access to a whole range of upland and marsh environments on a seasonal basis.

However, the fen margin itself, probably never closer than two kilometres from the Stocks Farm site, is only one geographical factor to be considered. The settlement lay

very close to a significant boundary in the pattern of soil types in Norfolk, at the western edge of the chalk scarp where the complex and marginal tract of predominantly sandy soils (Williamson's West Norfolk Lowlands) gives way to the well-drained calcareous sandy soils of north-west Norfolk: the Good Sands. The top of the scarp also, of course, is a watershed: the land to the west and south draining to the Nar and ultimately to the Great Ouse while the north and east drains to the Wensum.

The significance of this boundary region, at least during the later Neolithic and Bronze Age, is emphasised by the discontinuous line of recorded barrows and ring ditches running north-to-south through the parishes of East Walton and Gayton Thorpe, passing only 500 metres to the east of the Stocks Farm site.

Weasenham Clumps

Archaeological remains at Weasenham Clumps (Chapter 5) extended for a distance of 700 metres along the pipeline working width and consisted of separate, but probably related, areas of activity. The assemblage of early Neolithic pottery from pits on the site is typical of the debris from domestic occupation, though a Neolithic or early Bronze Age curvilinear gully could possibly be the remains of a funerary monument. Fragments of Collared Urn from a single pit provide evidence of some activity in the middle Bronze Age, but vessels of this type are known in both funerary and domestic contexts. Increased activity in the early Iron Age, represented by linear features, pits and possible postholes, was again probably domestic occupation.

Although preservation of remains is poor and the site has undoubtedly suffered from severe plough-damage (discussed in Petersen and Healy 1986), it has provided evidence of settlement from the early Neolithic and probably very intermittently through to the early Iron Age. As such, it is likely to have been home to at least some of the people who built the barrows of the nearby Weasenham group, one of the best known prehistoric barrow groups in Norfolk, and who also buried their dead within those barrows. Although a degree of caution is needed, because the relative decline in activity in the Bronze Age may signal an extended period or periods when there was no occupation, the site therefore goes some way to addressing the questions of function and location of late Neolithic and early Bronze Age settlement sites to 'enable a fuller understanding of the inter-relationship between settlement, field, barrows and other monuments to be established', identified as a research priority for the region (Brown and Glazebrook 2000).

The site straddles a slight westward-facing spur of higher land so that Area A faces south towards the River Nar while at Area B the land slopes gently down to the north, towards the barrow group. The barrows and the woodland beyond occupy the base of the now dry valley of the upper reaches of the Nar, which runs eastward before swinging to the south and west. Area B therefore overlooks the barrow group. Examples of inter-visible coeval barrows and settlement sites have been commonly recorded elsewhere in the country, though often the barrow is set above the settlement (Woodward 2000, 64).

Cromer Road

The excavation site at Cromer Road, Antingham (Chapter 6) lies in the valley of a tributary of the river Ant, in a locality where relatively few signs of prehistoric activity have been noted before: the remains of the cremation cemetery were wholly unexpected. The site is elevated, with the land sloping away to both east and west. It is no surprise that such a location had seen heavy plough erosion, and that there were few indications of the undated field system known from air photographs. The prehistoric findings almost certainly represent only a remnant of the subsoil features that once existed here.

The location of this site again emphasises the significance of rivers or their valleys for the people who utilised the prehistoric landscape of Norfolk. Rivers would have provided the most easily negotiated form of long distance transport and a directional aid in what may still have been a heavily vegetated landscape, and the alluvial and glacial soils of their valleys would have been the most tractable and fertile land.

Pits at Massingham Road, Mileham Road and Lyngate Road

The early Neolithic pit to the south-west of the Massingham Road site (Chapter 11) has been rather arbitrarily included as part of the same site despite its remoteness from the other features. However, if the flint assemblage from the large pit within the excavation area is of similar date, there may be more justification for regarding them as part of a related area of activity. Otherwise, the evidence for any other activity on the site prior to the Iron Age was slim, and it may be better to regard the Massingham Road pit, the one remote from the excavation area, as constituting all or part of a separate site. This pit was on a prominent spur at over 80m OD: there is nothing else of this height to the east until the far side of the North Sea. Whether this landscape aspect determined the siting of the pit, or whether the pit was peripheral to an area of activity on the hilltop immediately to the west is debatable, though as it was an isolated feature, the former seems more likely.

At Mileham Road (Chapter 4), the only pit that could be positively identified as Neolithic was likewise some distance from the other features, though once again there were other undated features that might have been contemporary with it. At Lyngate Road, a shallow pit could be confidently dated to the early Neolithic period and a second poorly defined feature may also have originated in the same period. Neither the Mileham Road nor the Lyngate Road pits were in such a striking location as the Massingham Road pit, but both were on valley sides, where the visibility or extent of the visible surroundings could have been a factor in their siting. Given the distance between them, the relationship between the siting of the Neolithic pit and the Bronze Age barrow at Mileham Road is likely to be indirect, the location of both features having been influenced by the course of the Nar valley.

There has been considerable debate in recent years over the significance of Neolithic pits such as these, with a body of opinion seeing the pottery vessels that they contain as structured deposits. If this is so, the function of the pits would have been much more than purely utilitarian. Ultimately, of course, the issue is unanswerable as the thoughts and beliefs, emotions and motivations of the depositors of these vessels are beyond reconstruction. But perhaps the landscape setting of the features offers some clues: surely a special deposit would

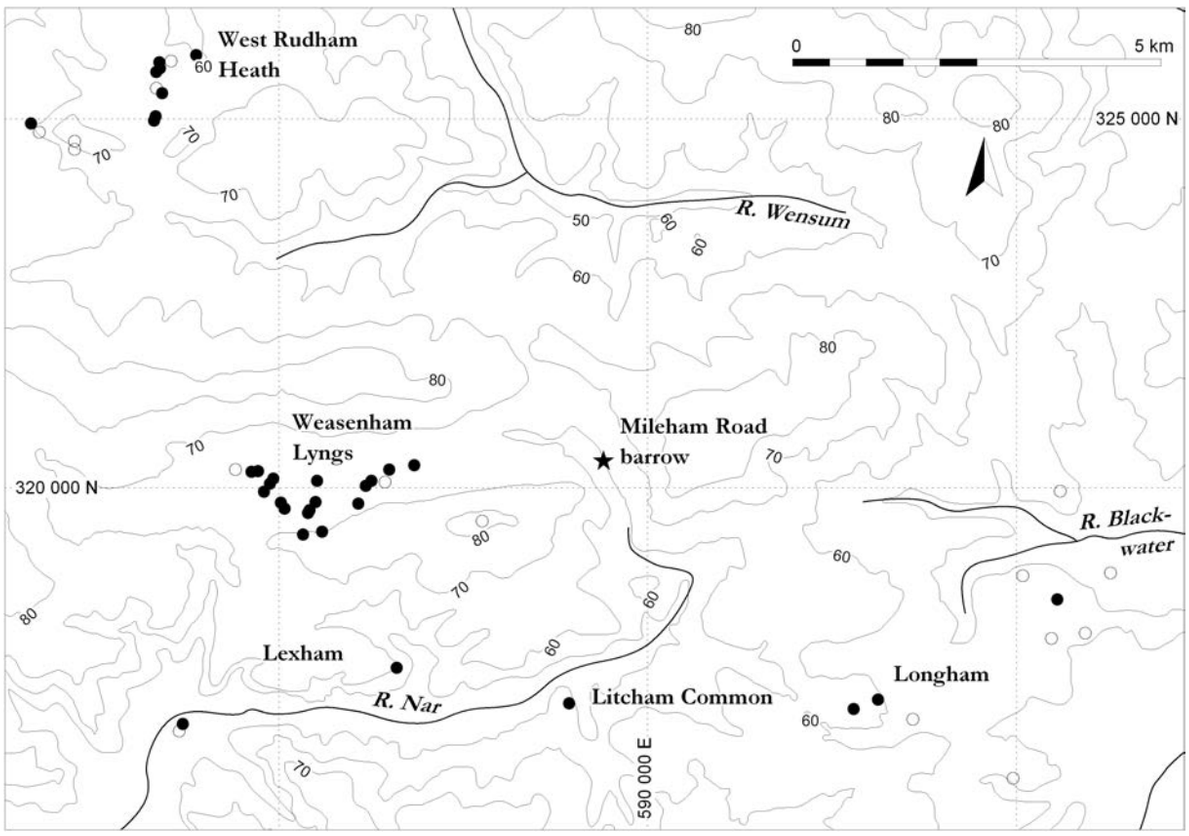

Figure 113 Contour map of the area of the watershed of the Nar and Wensum river systems. Sites of barrows and probable barrows recorded on Norfolk HER are shown as dots and more speculative barrow sites as open circles. The star marks the location of the Mileham Road barrow

be expected to occupy a special place. In Norfolk, the site of the Massingham Road pit, an eighty metre high spur of land, would surely count as a special place.

The Mileham Road barrow

The excavation (Chapter 4) confirmed the Bronze Age date for the annular cropmark feature and demonstrated that it was a ploughed-out barrow, with at least two phases of construction. This barrow could be regarded as an outlier of the barrow group on Weasenham Lyngs, two to three kilometres to the west. Like the monuments of that group, the Mileham Road barrow is in a location close to the bottom of the Nar valley, or its higher dry continuation. It should be emphasised here that this valley is not in any way a dramatic landscape feature: it takes some effort to trace its path as contours on the 1:25,000 Ordnance Survey map (Fig. 113) and on the ground it appears as no more than a gentle undulation in a typical East Anglian clayland landscape. Further down the Nar valley, as it swings westward once again, there are further barrows or barrow groups near Litcham, West and East Lexham, Newton and Castle Acre. The confirmation that the Mileham Road feature was a barrow perhaps indicates that the Weasenham Lyngs group and these more southerly barrows are linked by their relationship to the valley floor, rather than, for instance, their location on either flank of the higher ground within the loop of the valley. For the people who constructed them, the valley or its watercourse was clearly a determining factor in the location of these barrows.

Elsewhere in the country, the heads of valleys and valley floors as well as spring lines and watersheds have been noted as favoured locations for barrow groups (Woodward 2000, 58–66). The distribution of barrows around the Nar and Wensum watershed (Fig. 113) seems to suggest that the upper reaches of valleys were of particular significance. The cluster of barrows on West Rudham Heath appear to be at the top of the valley of the small tributary of the Wensum, which forms the boundary between Raynham and Wellingham parishes, while the Longham group are at the head of the valley of the Blackwater, a rather larger tributary of the Wensum. By contrast, the lack of any recorded barrows around the headwaters of the Wensum itself is striking, and it is tempting to suggest that there may well be ploughed-out barrows waiting to be discovered in this area, aroung Horningtoft and Colkirk. The Litcham Common and Lexham group does not quite fit the valley floor model, as some of the members of the group are located on slightly higher spurs of land above the river. It is rather more likely that their locations relate to springs, which would have been of particular significance in what is one of the drier parts of the country.

The meaning that barrows held for their builders has been extensively debated in recent years, since the traditional view of them as nothing more than mounds raised over high-status burials began to be seriously questioned (*e.g.* Healy and Harding 2007). Their distribution, as here, around what might have been natural route-ways suggests that they were to be seen, and their significance to be read, by people navigating through the

landscape. As well as acting as landmarks, they could also have emphasised proprietorial rights to the resources of the valley and would have acted as symbolic identifiers of the places surrounding them.

18.2 Early Iron Age sites

At both Weasenham Clumps and Cromer Road, activity continued into the early Iron Age. At Weasenham (Chapter 5), this was quite extensive, with surviving evidence of a possible post-built structure as well as two pit groups, linear features and postholes. The post-built structures were difficult to interpret but they had similarities with features interpreted as granaries from other sites in the county. This would seem to imply that domestic occupation was continuing. Activity seems to have largely ceased in Area A at this time, the surviving features being confined almost exclusively to Area B, the part of the site that looks northward towards the barrow group. Weasenham Lyngs barrows would still have been imposing monuments at this time.

The site at Cromer Road (Chapter 6) also had pits dug at this period, with fills seeming to contain domestic waste redeposited from its original site of disposal. The coincidence of these pits with the earlier cremation burials suggests that they may have held a special significance, the inclusion of a large iron axehead in one of the pits reinforcing this interpretation.

The fills of a scatter of pits across the excavation area at Spa Lane, Oulton (Chapter 7), indicate that there was domestic activity on or near the site, probably in the early or middle Iron Age; there was no significant evidence of any earlier occupation. The situation of the Spa Lane site on a spur of raised ground above the confluence of two water-courses is likely to have been a favoured place for settlement and the reoccupation in the Anglo-Saxon period is perhaps unsurprising.

Both Cromer Road and Spa Lane had stratified early Iron Age contexts containing worked flint. It is clearly not possible to say definitively that this material is not residual, but both sites seem to add to a growing body of evidence for continuing flint use beyond the Bronze Age.

The dating of the earliest features at Foxley Road, Foulsham (Chapter 9), is not certain but at least one of the pits on the site seems to date from the earlier Iron Age. A nearby ring gully was interpreted as the remains of a roundhouse. A buried soil or midden layer may have been associated with this phase of settlement but neither the pottery nor the triangular loomweight found within it could be closely dated. A low level of activity may have continued here until the Roman period, when the cruciform drying oven was established.

18.3 Late Iron Age and Roman sites

by Alice Lyons and Richard Moore

The archaeological investigations along this pipeline provided a unique opportunity to glimpse the human impact on the landscape of Norfolk over the Roman period. Although scraps of Romano-British pottery were recovered in several places along the length of the pipeline (Lyons 2007), significant evidence dating to the period was found at only five locations: the iron working site at High Noon Road, Colby; the possible remains of an enclosed settlement at Green Lane, Foulsham; a cruciform drying oven at Foxley Road, Foulsham, and two enclosure systems at Southrepps Road, Bradfield and Massingham Road, Rougham. Considering the area of land surveyed, this is a remarkably small number of Roman sites. This is worthy of note considering that low order Roman settlements are typically found in the landscape at a density of between 0.5 and 1.0 per square kilometre (Gurney 2005, 28).

The most significant Roman feature found during this project, along with an associated artefactual assemblage, was the cruciform drying oven excavated at Foxley Road (Chapter 9). During the Roman period, Foulsham was not an isolated place, as the small town of Billingford was located only five kilometres to the south-east (Wallis 2011). The main east-to-west Roman road between the small industrial town at Brampton and the rich resource of the fen edge was similarly close by (Wallis 2002, viii, fig. 1). The environmental evidence suggested that the cruciform drying oven was fired with slow-burning oak and hazel, with fast-burning gorse in the upper fills. Charred cereal grains were present, though at low densities; these could have entered with the fuel but perhaps indicate that the oven was being used at some stage for drying crops.

Two of the sites, the iron working site at High Noon Road, Colby and the low order settlement at Green Lane, Foulsham, span the transitional period between the late Iron Age and early Roman period. These two sites emphasise that despite the upheavals of the conquest and the suppression of the Boudican revolt in the first century AD, the archaeological evidence indicates that everyday life continued in many places with little interruption.

At the Green Lane excavation site (Chapter 12), a single ditch, a possible well and four pits could be dated to late Iron Age or Roman phases, with only the well clearly open and infilling during the early Roman period. None of the artefacts found were necessarily later than the first century AD. The environmental evidence from this site showed that, in addition to consumption of hazelnuts, barley and oats were being cultivated. Bones of cattle, sheep or goat, pig and small fish show that meat from these animals constituted part of the diet; the cattle and sheep are also likely to have provided milk. Leather and bone working and manufacture of woollen textiles are also likely to have taken place.

Two enclosures, probably for stock-keeping, were found at Southrepps Road (Chapter 10). These were not closely dated and no centres of Roman settlement and agriculture are known in the vicinity. At Massingham Road (Chapter 11) there was evidence for both domestic and agricultural activity in this period. Towards the south-west end of the site, a series of pit and post-hole type features and two small linear features produced small quantities of Roman artefacts. A second zone, towards the north-east of the site, was dominated by linear features and a number of undated probable natural features. Pottery dates ranged from the early Roman transitional period to the end of the fourth century AD, perhaps concentrated in the late first and second centuries. It is particularly interesting that the field systems in this area seem to display a general north to south orientation, suggesting that they may have been influenced by the alignment of Peddars Way.

The nature and extent of low order settlement in the Roman period has been identified by Going (1997, 38) as a

topic in need of further research and exploration. The results from the pipeline seem to be saying that there was relatively little: the Romans seem to be missing from much of the landscape. Clearly they were present somewhere: stray finds of the period in this part of Norfolk, as elsewhere in southern and eastern England, are ubiquitous. The pipeline was, of course, routed away from any known sites but only two re-routes were implemented specifically to avoid possible Iron Age or Roman remains. The pre-construction route selection procedures were not notably different from those on other cross-country pipelines. Yet the late Iron Age and Roman ditches and pits, which often form the majority of sites uncovered by pipeline construction in lowland Britain, were not present.

Iron Age and Roman sites were better represented on the other recent large cross-country pipeline constructed in Norfolk, through the eastern part of the county from Bacton to Great Yarmouth. Sites 3 and 4 on that project both had evidence of settlement from the middle Iron Age, while Site 5 had a system of ditches producing quantities of Roman pottery (Sarah Bates, pers comm.). The watching brief recorded three ditches, a possible track or road and a cremation in a ceramic vessel (Jayne Bown, pers. comm.). These are precisely the kinds of sites that seem to be missing from the Bacton to King's Lynn pipeline. The two projects also showed a marked contrast in the quantities of unstratified finds of the period. Fieldwalking of the Bacton to King's Lynn route produced only three sherds of Roman pottery and monitoring of construction was scarcely more productive. By comparison, the Bacton to Great Yarmouth watching brief produced twice the number of sherds as the excavation sites.

The furnace remains at High Noon Road and the drying oven at Foxley Road show that there was industrial activity in the area: iron working, and possibly the manufacture of utilitarian pottery, and crop processing. It is the lack of field systems with evidence of nearby occupation, or burials, or ritual sites, that is striking. Of course, this could be purely random: the pipeline could have threaded its way through a rich array of sites and by chance avoided them. But the comparative lack of unstratified pottery suggests that it is revealing something significant about the landscape of the northern half of Roman Norfolk: that occupation and the division of land by ditched field boundaries was at most patchy.

In the higher heathland areas towards the western end of the route, this is perhaps unsurprising. Further east, the degree to which the landscape was wooded and the degree to which arable agriculture had spread on to the higher boulder clay plateaux are both uncertain (Williamson 2006, 37). The limited environmental evidence from the sites on the pipeline route could be interpreted as indicating a landscape of woodlands interspersed by cleared areas that would have been suitable for mixed arable cultivation and animal husbandry. Taken at face value, the results from the pipeline would suggest that either the woodlands were quite extensive or that farming employed methods which did not require division of land into fields drained by ditches.

18.4 The Anglo-Saxon sites

by Andrew Rogerson

The early Anglo-Saxon period: fifth to eighth century

The most spectacular of the Anglo-Saxon sites to be revealed along the pipeline route was the late fifth to mid-sixth century inhumation cemetery at Mileham Road, Tittleshall (Walton Rogers forthcoming). This had as its focus the ring ditch of the prehistoric round barrow, previously recorded from aerial photographs, but the presence of a cemetery was unexpected and it is the first site of the date to have been recorded in Tittleshall parish. A detailed map of 1596 (Holkham Hall archives; Wade-Martins 1980b fig. 29) shows that the site was situated in what was to become the open field of Sutton. Prominent cropmarks of this deserted settlement can be seen in on aerial photographs in the north-eastern corner of the field containing the site. The area of the barrow was in the south-east corner of a furlong containing strips aligned north-west to south-east. To the east and to the south, two other furlongs were made up of strips aligned north-east to south-west. The barrow may have influenced the laying out of the field, but there is nothing to suggest that it existed as a visible monument once medieval arable agriculture had got under way.

Evidence for domestic activity on the Foxley Road, Foulsham (Chapter 9) included a possible sunken-featured building, a pit and a deposit of pottery in the upper filling of an earlier ditch. The pottery assemblage and a single radiocarbon date, of AD cal 410 to 570, indicate occupation in the fifth to seventh centuries. The limited nature of the evidence is quite typical of excavated early Saxon settlements, in many of which physical traces within the subsoil are almost imperceptible, structures, whether sunken-featured or post-built, are widely dispersed, and finds, apart from pottery sherds, are sparse. This site had previously seen activity in the Iron Age and Roman periods, but there is no evidence to suggest continuity of occupation, the Roman finds all being consistent with a tight mid-second to mid-third century date range.

Although little can be said about the significance of Foulsham in the early Anglo-Saxon period, the importance of the settlement in late Anglo-Saxon times is attested by its status as an estate centre and Hundredal manor by 1066 (Williamson 1993, 86–7, 100 and 126). Stray finds, all recovered by metal-detectorists between 1994 and 2003, have been recorded from four fields to the east of the present-day village: these include parts of two fifth century cruciform brooches, a girdle-hanger fragment, strap-fittings, and a coin (HER 30607, 35848, 39728 and 40307), while a sixth century small-long brooch has been found to the south-west (HER 25759) and a seventh century gold coin to the north (HER 22972).

The topography of Norfolk is subtle, the relief for the most part subdued. On the Boulder Clay plateau, slight dissections by minor watercourses had considerable influence on ancient settlement and land use. Foxley Road sits on the western side of such a valley, less than 200 metres from a north-flowing stream within the catchment of the Wensum. Most of the seventy or so known early Saxon settlement sites in Norfolk fall within a similar distance of major or minor watercourses, while cemeteries lie for the most part on higher ground, yet still within close proximity to streams or rivers. Just such a position is

occupied by a probable inhumation cemetery 400 metres west of the excavation (HER 31119, Fig. 44). Unexcavated and represented only by six pieces of metalwork recovered over a limited area by metal-detecting, this site lies near the top of the east side of the valley of another minor north-flowing stream, at 47m OD. It is the only previously recorded early Saxon site in Bintree parish, but four fifth to seventh century potsherds were recovered from medieval contexts on the Billingford Road site (Chapter 13).

Early Saxon domestic potsherds, one found during field survey and fifteen during the course of excavation, again in later or undatable contexts, were also recovered from the site at Green Lane (Chapter 12), which was situated in the south-east part of Foulsham parish, quite close to the heads of two streams. It is remarkable that such material, which is never prolific, has been found on three successive excavated sites on the route of the pipeline. All are on medium or heavy soils and the inference is surely that fifth to seventh century activity on this part of the till plain was much more extensive than hitherto believed. Such abundance is in strong contrast to Foxley, a parish that has seen no archaeological excavation. Early Anglo-Saxon evidence at present consists of three single finds of metalwork recovered by metal-detecting near the boundary with Billingford in three places along the eastern side of the valley of a south-flowing tributary of the Wensum (HER 31561, 33866 and 35697).

Evidence for early Anglo-Saxon activity might have been expected in East Walton parish, as the pipeline passed through two fields in which thirty pieces of fifth to sixth century metalwork, previously found by metal-detectors, strongly indicate the presence of an inhumation cemetery (HER 25856 and 37195). In the event, however, the surveyed and excavated corridor at Stocks Farm (Chapter 3) passed immediately south of the area where these artefacts were found. Not one early Anglo-Saxon feature was encountered, and only a buckle and a single sherd of pottery were recovered. Although a mixed cemetery (HER 1060) is known to have existed north of the route, it lies over 250 metres away and it is no surprise that no associated finds were recovered from the pipeline working width.

Middle Saxon period (eighth to ninth century)

There was no trace of middle Anglo-Saxon activity on either the Green Lane or Billingford Road sites (Chapters 12 and 13), both of which produced slight evidence of an early Anglo-Saxon presence. This might suggest that there was a contraction of settlement in the eighth and early ninth centuries but it is much more likely that the locations of settlements changed, as dispersed settlements became more nucleated. This is certainly the case with Foulsham, where middle Anglo-Saxon finds, which include a Merovingian tremissis and five sceattas, are concentrated near the existing village, though a single sherd of Ipswich ware was found during fieldwalking at the Foxley Road site. Bintree, on the other hand, has produced only one object of this date, a copper alloy pin found in an isolated position near the boundary with Twyford parish (HER 35911). That only one other Middle Saxon sherd was identified during all phases of the project, a fragment of possible Ipswich ware from a later context on a medieval site at Southrepps Road in Bradfield (Chapter 10), need cause no surprise, for pottery was not prolific in this period, with such material being recorded on just over eight hundred sites in the whole of the county.

The almost complete absence of evidence of middle Saxon activity fits the now well-established model of nucleation in the eighth century following the abandonment of numerous dispersed early Saxon settlements. The pipeline route did not run close to any substantial centres of medieval population, on or near which pre-Conquest settlements might be expected. One such might have been Itteringham Area B (Chapter 16), which lay near the edge of a settlement that centred on a medieval manor house and church, but it is very likely that this was a late Saxon foundation, an offshoot from an earlier nucleus.

Late Anglo-Saxon period (late ninth to eleventh century)

Late Anglo-Saxon or Saxo-Norman pottery on the Billingford Road site in Bintree parish can be associated with a settlement site that began in the eleventh century, while the Green Lane site in Foulsham parish, which may have been founded almost as early, failed to produce such material. The four sherds of Thetford-type ware from the topsoil at Foxley Road in Foulsham were probably incorporated in manure taken from domestic middens to fertilise arable land, although such late Anglo-Saxon spreads are uncommon (Jones 2004, 184). The relatively light soil at this site may have attracted cultivation between the ninth and eleventh centuries. An isolated, small linear feature contained thirty-four out of a total of thirty-five late Anglo-Saxon sherds of pottery on the Church Lane site in Wood Dalling (Chapter 15). This quantity of material indicates eleventh century settlement in the immediate vicinity. Interestingly there is no other record of pre-Conquest finds in Wood Dalling parish. Twenty Thetford-type sherds in residual contexts on Area A in Itteringham (Chapter 16) are either the result of discard from some nearby settlement, or, more plausibly, evidence for the beginnings of occupation in the eleventh century. Two further sites in Itteringham (Areas B and C) produced fifty and six late Saxon sherds respectively. The former suggests settlement in the close vicinity, the latter either tenuous eleventh century origins or manuring of arable land in a pre-settlement phase. Similarly small amounts of pottery were recovered from the Lyngate Road site in North Walsham parish (six sherds) and Southrepps Road in Bradfield (three sherds).

18.5 The medieval period (eleventh to fifteenth century)

by Andrew Rogerson

Nine medieval settlement sites were investigated. Three of these, Church Lane in Wood Dalling and Itteringham Areas A and B (Chapters 15 and 16), had clear evidence of occupation before the demise of late Anglo-Saxon wares, producing totals of thirty-seven, twenty and fifty sherds respectively. There is no suggestion, however, that any were founded before the eleventh century. Five other sites, Old Hall Farm, Southrepps Road, Itteringham Area C, Lyngate Road, and Billingford Road (Chapters 14, 10, 16, 17, 13 respectively) produced smaller quantities of late Anglo-Saxon pottery: between one and nine sherds. The Green Lane site (Chapter 12) had no pottery of this date.

This general lack of evidence of Anglo-Saxon activity on the medieval excavation sites is noteworthy. The evidence from the Domesday survey and other sources shows that the pattern of present-day settlement was fairly well established by the late Anglo-Saxon period and the presence of the cathedral at North Elmham, only 1.75km from the pipeline route at its closest, can perhaps be taken as an indication of the importance of the area at the time. The nine excavations sites, apparently being established at around the time that characteristic Anglo-Saxon pottery was going out of use, or shortly after, are likely therefore to have originated within an already established pattern of settlement. Their short lifetimes and early demise implies that they were always marginal settlements, responses to the population growth of the early medieval period but unable to survive more straitened times.

One site, Itteringham Area B, was abandoned in the thirteenth century, and seven were no longer occupied after the fourteenth. On only one, Lyngate Road, was there any significant amount of fifteenth century pottery; but even here the material might have been spread from some adjacent site that continued to be occupied. Although this consistency of eleventh century foundation and fourteenth century desertion might seem predictable, confirmation of observations established almost exclusively on the results of non-intrusive survey is very welcome.

At its western end, the pipeline ran from the Nar Valley in the West Norfolk Lowlands up the chalk escarpment north of the village of East Walton. Once onto the Good Sands plateau, the pipe passed through the northern parts of West Acre, Castle Acre, Lexham and Litcham parishes, and a small area in the southern part of Rougham, a medieval landscape of open fields, sheep walks, common heaths and nucleated settlements (Williamson 2005). With the exception of Rougham, these villages lay in the Nar Valley and some distance to the south, while the pipeline went across elevated ground and, for the most part, well-drained sandy soils.

The extreme sparsity of medieval potsherds recovered during fieldwalking in the western twenty kilometres of the route clearly shows that this section did not pass through land that had been intensely manured in the Middle Ages, nor utilised by anything other than pasture. From Litcham parish westward, the fieldwalking survey recovered only five sherds of medieval pottery, an astonishingly meagre total. In this part of the pipeline route, it seems, therefore, that medieval settlement did not extend beyond the limits of the existing villages. A striking and detailed impression of the openness of this part of Norfolk can be gained from a recent documentary and field survey of West Acre parish (Davison 2003; Davison and Cushion 2004).

By comparison, the parishes between Tittleshall to Corpusty on the claylands of central Norfolk and the catchment area of the River Wensum produced 221 sherds and the parishes of the Rich Loam region at the eastern end of the route, from Oulton to Bacton, produced 135 sherds.

Common edge settlements

Beyond the Good Sands of the western zone, the route impinged on areas of former common, generally smaller than those further to the west and rather more likely to be fringed with the sites of medieval houses and farms. At least five of the excavation sites were situated on the edges of common pastures and thus conform to a widespread East Anglian pattern.

The common-edge settlement is a classic East Anglian type frequently encountered in documentary sources and during fieldwalking, but very rarely subjected to excavation (Williamson 2003, 93–109; Martin 1999; Barringer 2005). Deserted clayland sites in Norfolk at Thuxton (Butler and Wade-Martins 1989) and Grenstein (Wade-Martins 1980b) were examined on a large scale in the 1960s, but thereafter no substantial below-ground archaeological work on this type of site was undertaken in Norfolk until the project that produced this monograph.

Such rural sites can be either isolated or strung out in regularly or irregularly spaced rows on the edge of common pastures and greens, and where archaeological evidence is available within Norfolk, their origins can be shown almost invariably to lie in the eleventh century at the earliest. Foundations of new dwellings on common edges continued into the thirteenth century. Desertion normally began in earnest in the middle of the fourteenth century and persisted throughout the fifteenth. It should be stressed, however, that the process whereby several contiguous medieval properties were combined to form a single post-medieval farm can act to obscure the true extent of shrinkage in the number of individual dwellings. Many such sites that survived into the sixteenth century are still occupied today.

The most westerly point at which the pipeline cut through a former common edge was in Horningtoft in the south-eastern corner of the parish, the small common in question being named *Cotlin Green* on the Enclosure Award map of 1812 (NRO C/Sca 2/325). This map depicts a building within a triangular enclosure butting north-eastwards on the Green immediately north of the pipeline route, and at this point an enhancement in magnetic susceptibility was recorded. There was no concomitant concentration of surface finds in the vicinity, and no archaeological excavation took place. The enclosure and the building, which appears on Faden's map of 1797 (Barringer 1975; Macnair 2005) and was probably a dwelling house, may have had medieval origins. The green and building can also be seen on Wade-Martins 1980b, fig. 10.

After passing just to the north of Harper's Green, an isolated common on the northern boundary of Brisley parish, the route traversed the parish of North Elmham, through two large tracts of a common, known as *the Great Heath*, through open fields and across a narrow piece of a common called *Brome Grene*, avoiding all settlement sites that existed in the fifteenth century (Yaxley 1980, fig. 268). To the east of the Wensum it ran through the former open fields of Bintree until arriving at the Billingford Road site.

Areas of medieval occupation partly excavated on the sites at Billingford Road, Green Lane and Old Hall Farm in the parishes of Bintree, Foulsham and Themelthorpe are examples of common-edge settlements.

It is clear on ceramic grounds that the Billingford Road site (Chapter 13), south of the modern village of Bintree, began in the eleventh century and failed to outlast the fourteenth. It lies on the north-eastern edge of a small common named *Cocks Green* on an estate map of around 1600 (Beck Hall, Billingford, Holkham Hall archives) and *Cockle Green* on Faden's map. The trackway located in the west part of the excavation formed the edge of the

common. It is visible on aerial photographs (HER 17234), and on the earlier of the two maps it was named *The Way from Byntree to Elsing*. Unfortunately the site of the excavation is left blank on the earlier map, being outside the estate under consideration.

Whether the excavated area at Billingford Road included parts of one or more medieval properties is uncertain: tofts enclosed by ditches and banks vary greatly in width. Most of the area is taken up with a single, 50m wide, partly subdivided enclosure, but it is possible that further properties lay to the north-west and south-east. The latter putative property would be very narrow, with an internal width of only 12m, but plots with widths of 40 feet are known both archaeologically, for example at Thuxton, Norfolk (Butler and Wade-Martins 1989, fig. 5) and in documentary sources, such as Little Fransham, Norfolk (MS NRO 13091 40A4). A building (or buildings) is indicated by a concentration of post-holes within the large enclosure, but the presence of further structures cannot be ruled out, because those with walls not supported by earth-fast posts would remain undetectable in machine-stripped ground that has been so long subjected to arable agriculture. It has long been known that after around 1100 many peasant buildings were constructed without the use of studs set deep in the ground (Beresford 1975, 23–4 and 40; Wade-Martins 1980a, 225; Steane 1985, 190).

Another common-edge settlement was partly uncovered at Green Lane, Foulsham (Chapter 12). A ditched enclosure, first laid out in the eleventh or twelfth centuries, butted east on Green Lane, which is depicted on the Enclosure Award map of 1811 (NRO C/Sca 2/119) as a 30m wide linear common incorporating a roadway along its eastern side. Land to the east of the way, shown as about 30m wide in the area of the excavation, had been enclosed by 1797 and probably many centuries earlier. It formed part of a rectangular area of over 60 hectares apparently taken out of a large tract of waste ground comprising Foxley Wood, Foxley Heath and Themelthorpe Common. In a medieval peasant context, the curving nature of the southern part of the enclosure ditch is atypical, but its apparent strangeness would perhaps have been mitigated had the complete extent of the enclosure been exposed.

A third medieval settlement site, Old Hall Farm (Chapter 14), conforms to the same pattern of common-edge location. It sits on the watershed of the Wensum and Bure at around 55m OD, close to the eastern boundary of Themelthorpe, in a gap within a north-to-south line of farms and houses strung along the eastern edge of Themelthorpe Common. At present, almost the whole of Themelthorpe village consists of this string of dwellings, and there is no reason to doubt that the medieval village was similarly laid out. Interestingly, this was the only site along the pipeline to have yielded what might be described as a 'respectable' number of potsherds during field-walking (a total of 128).

The extremely tight constriction of activity recorded on the excavated site by Old Hall Farm can be explained by the presence of the common and its flanking ditches to the west and perhaps of a back lane on the east, although such a way is not depicted on the enclosure award map (NRO C/Sca 2/119). The highly complex sequence of ditched subdivisions cannot be understood because of the restricted area examined. It is probable that the whole of the excavated area fell within one medieval property, and the succession of enclosures was brought about through changes of use within the toft.

The linear excavation at Church Lane, Wood Dalling (Chapter 15), revealed no features certainly related to settlement, yet the quantity of medieval pottery suggests that medieval habitation lay close by. There are few clues as to the pattern of settlement in the parish, and no common remained by 1797. Being on the Boulder Clay plateau, near its north-east edge, it almost certainly consisted of several widely dispersed hamlets around greens, with some sort of nucleus around the parish church, which lies about 0.5km to the north. The excavation was located close to the south-east corner of a small park to the south of the church, depicted on Faden's map. The areas of the park and excavation are not shown on the Enclosure Award map of 1823, which dealt only with the few remaining parcels of unenclosed arable (NRO C/Sca 2/178). The house, which had a seventeenth century façade and may have had medieval origins, was probably demolished in the late eighteenth century (HER 14043).

The complex of ditches at the south-west end of the Church Lane site represent the eastern continuation of a trackway, which now shows signs of having been diverted south around a pit to the west of the trench before coming to an end. Faden's map shows the track running eastwards to meet Burnthouse Way at a staggered junction to the east of the north-east end of the excavation. Their alignment suggests that the north to south running ditches were dug for drainage. Similar medieval features were encountered during the excavation of an Iron Age settlement at Silfield, Wymondham (Ashwin 1996b).

Part of yet another common-edge settlement was recorded in the north-west corner of North Walsham, near the boundaries with Antingham and Bradfield parish (Lyngate Road, Chapter 17). The common pasture, named *Walsham Common* on Faden's map, extended along both sides of the Ant into all three parishes. The excavation was situated close to the eastern edge of an approximately triangular area of ground projecting north with the common on lower ground to the east and west. The edges of the common in this area are curving, which suggests that they were on ancient lines, roughly coincident with the 30m contour. The quantity of pottery and the digging of pits is unlikely to be associated with any activity other than settlement, which covered the thirteenth and fourteenth centuries only. A group of later medieval horticultural features were dated by small quantities of contemporary potsherds. These probably travelled only a short distance after breakage. In the fourteenth to seventeenth centuries, deserted tofts were frequently used as gardens and areas for the cultivation of specialised crops such as hemp by tenants of neighbouring dwellings. On Faden's map, no houses are indicated in the immediate area, but a small group is shown further along the common edge in Antingham parish, 0.5km to the west.

The former parish of Bradfield (now in the civil parish of Swafield) was claimed as 'a small early estate' by David Dymond (1985, 62) who was struck by the topographical precision of its limits, for it 'occupies a natural promontory between two converging valleys. Its traditional boundaries follow streams on three sides, while on the fourth a sinuous line, still partly followed by a lane and hedges, cuts off the neck of the promontory.' The excavated site (Southrepps Road, Chapter 10) lies on the

southern edge of a common depicted on Faden's map, and around 50m west of a large area of marsh or meadow, both of which are titled *Bradfield Common* on modern Ordnance Survey maps (there is no Enclosure Award map). Although Faden shows no building on the excavated site, it is quite likely that settlement lay very close by during the Middle Ages. This suggestion is supported by the number of pottery sherds recovered. The four north-to-south linear features recorded towards the eastern end of the trench might be interpreted as ditches marking several phases of a trackway, because they line up with a lane heading north from the southern parish boundary, which can be seen on the tithe map of 1840 (NRO DN/TA 296). After passing through a dogleg, it terminated about 110m south of the excavation (at TG 2753 3305).

18.6 An overview of the environmental evidence

In total, 135 bulk samples from the seventeen excavation sites were taken and processed, four tonnes of soil altogether. Contexts for sampling were selected using criteria developed with the environmental archaeology consultant to the project. These criteria were designed to sample deposits over the full range of type and date and that were likely to be of sufficient richness, quality and diversity to provide useful information on the function of specific features, the palaeoeconomy of each site and, if possible, the broader palaeoenvironment of the region. In addition, all animal bone from hand-excavated features was collected.

All the sites along the pipeline were affected by the preservation conditions of the soils. At none of the sites were any deposits found to be waterlogged and this has severely limited the potential for any detailed palaeoecological reconstruction of the landscapes along the route. Despite the variety of soils along the route, the best preserved evidence is the carbonised or charred component of the environmental assemblages. The clays, and sands and gravels proved not to be conducive to the good survival of animal bone, and even on the chalk soils the older features are leached and some of the bone may have been lost. Only 2580 fragments of bone were collected in total from the seventeen excavation sites, seventy per cent of which came from two sites, Stocks Farm and Green Lane (Chapters 3 and 11). Even on these two sites, the sample sizes are small and when divided by phase give little data upon which the interpretation of the site economy or even diet can be based. These factors mean that although aspects of the arable economy of the sites can be considered, the pastoral economy remains undeterminable.

Nevertheless, since sets of data for sites in this area of Norfolk and covering the periods represented by the excavated sites are not extensive (see Murphy 1998), all additional well dated samples can make a continuing contribution to our knowledge, despite these obvious shortcomings. The absence of waterlogged deposits from these sites means that study of the palaeoecology is limited to consideration of the information that terrestrial molluscs, charcoal and charred plant remains and small vertebrates can give. Because of the decalcification of most of the soils only three sites afforded an opportunity to investigate the snails, Stocks Farm, Green Lane and Old Hall Farm. At Stocks Farm, the faunas include species typical both of open country or grassland and of woodland. Although the evidence is open to more than one interpretation, it can be used to support an argument for clearance of a lightly wooded late Neolithic landscape to grasslands during the Bronze Age. However, there is likely to have been regeneration of woodland between each phase of activity, adding considerable complexity to this simple scenario. The assemblages from the two sites in neighbouring parishes, Green Lane, Foulsham and Old Hall Farm, Themelthorpe, both derive from medieval contexts and appear to be dominated by open country fauna.

The charred plant remains are problematic as a source of information on the local environments. Most of the charred seed remains are likely to have originated in association with crops and crop processing activities, or other human activities and are probably of multi-origin. The taphonomy of such assemblages is difficult to untangle and direct interpretation of the local landscape is rarely possible. There are also difficulties in drawing firm environmental conclusions from the identification of the charcoal samples. While charcoal assemblages can reflect the availability of local wood resources, particularly for domestic and cooking fires, wood types would have been specifically selected for craft or industrial uses or even for oven baking. The sites with sufficient charcoal to warrant study included Foxley Road (Chapter 9), where much of the material derived from the Roman cruciform drying oven, and the Iron Age and Roman iron-working site at High Noon Road (Chapter 8). These provide some evidence on the range of species locally available for use. In the case of High Noon Road, this probably also indicates that wood from mature unmanaged woodland was being exploited. However, in both cases it is clear that there has been preferential selection of different kinds of fuel. This was especially marked at Foxley Road, where the lower fills of the drying oven contained charcoal from slow-burning species while the higher fills had fast-burning charcoal.

So overall the environmental archaeology programme produced useful information on the economy of some of the excavation sites, in particular those with specialised functions, but allowed few, rather speculative, observations to be made about the overall development of the landscape. Given the poor preservation conditions, the sampling strategy was proportionate and achieved as much as could be asked of it; the data that would be needed to answer broader questions on the changing patterns of clearance and reforestation, the proportions of arable, pasture, meadow and waste, and the drainage or spread of wetlands, was just not available.

Besides the rather bleak conclusion that evidence of past environmental conditions in much of rural Norfolk is likely to be very hard won, are there any lessons to be learnt for future investigators? Firstly, of course, while the quantity and quality of the data from the sampling was limited, there were some tentative inferences that could be drawn from it, at least on some of the sites. The sampling strategy of targeting the most promising contexts was sound; it is unlikely that increasing the number or range of samples would have produced significantly more useful results. There may be some scope for increasing the volumes of soil taken for each sample, although where preservation conditions are poor, environmental sampling is likely to reflect the vagaries of survival rather than the

compositions of the original assemblages and greater sample size would merely exaggerate this distortion. Overall, an awareness of the factors that affect preservation in combination with a flexible and responsive sampling strategy that can identify and target deposits with the greatest research potential offers the best hope of improving on our patchy knowledge of the environmental development of the region.

18.7 The pipeline route in the landscape

The structure of this text has emphasised the seventeen individual excavation sites investigated along the pipeline route but the project provided an opportunity to view the sub-surface deposits in a transect across a greater part of the county. Never before has such a long and continuous transect across the surface of the county been subjected to professional archaeological scrutiny. The suite of pre-construction surveys, the area excavations and the watching briefs on topsoil stripping and excavation of the pipe trench during construction together build a picture of the archaeological landscape of the region.

In addition to the excavation sites, archaeological deposits were recorded in eighty fields along the pipeline route, 209 features and three spread layers in total. Fifty-one of the recorded features were former field boundaries identifiable from historic maps and fifty-seven were similar linear features. At least fifteen infilled ponds were noted. Of the remaining watching brief features, a solution hollow (NGR 577172 317128) contained six sherds of Beaker pottery from a single vessel, as well as four flint flakes and a blade. A possible ploughed-out burnt mound was noted, near Calthorpe (NGR 617685 330607) and shallow, circular pits, with baked edges and fills containing dense concentrations of charcoal, recorded as 'fire pits', were noted in eight locations (NGRs 593815 322408; 603905 323690; 603919 323696; 605354 324389; 606242 325045; 610080 327077; 612265 329023 and 613785 329739). Fifteen features, including ditches and pits, were recorded in the side of the pipe trench in a single field east of Crabgate Farm in Wood Dalling parish (centred on NGR 610257 327576); although most of these features were undated, two contained medieval pottery sherds suggesting that the pipeline could have skirted a deserted medieval settlement in this area.

Overall, the results of the watching brief confirm that the archaeological remains along the pipeline route are concentrated in limited areas of high density separated by archaeologically quiet areas: the seventeen excavation areas sampled archaeological sites, in the traditional sense. That being said, there needs to be a note of caution, as the overall investigative strategy will have introduced a degree of bias to the recorded results, favouring the recording of remains in the designated excavation areas over the rest of the pipeline route. Once an area had been identified as a site, the more intensive investigation to which it was subjected would emphasise its significance, and the prospection methods used to identify sites will therefore introduce bias. Of the pre-construction survey methods used, fieldwalking will clearly favour artefact-rich sites on ploughed land while field reconnaissance will only find remains with surviving surface indications. Geophysical surveys can be effective at locating sites with large linear features, but are much less successful with shallow or discrete remains unless these have a distinctive magnetic signature. Features that are not visible on geophysical surveys are also less likely to form clear cropmarks. While it is clearly impossible to judge the absolute effectiveness of the watching briefs on topsoil stripping and pipe-trenching as prospection tools, since the failures will not have been recorded, any features with fills of similar appearance to the natural subsoil may have been missed, along with features masked by alluvium or cultural subsoil layers. The excavation areas could offer only limited views of their localities and were unlikely to be situated in the ideal places to understand the development of the various sites.

Any conclusions about the relationship between the distribution of different kinds of site and the various landforms that were crossed by the pipeline are necessarily tentative. Nevertheless, such relationships potentially provide insights into the evolution of the historical landscape as well as offering a useful tool for the assessment of the archaeological implications of any future development.

In the western third of the pipeline the results were, perhaps, broadly in line with expectations in that most of the prehistoric remains from the pipeline were concentrated in this area. The Bronze Age barrow at Mileham Road, Tittleshall formed part of a previously known prehistoric monumental landscape, forming an outlier of the Weasenham barrow group. An important contribution of the investigations on the pipeline route was to add Neolithic and Bronze Age settlement evidence to this landscape. Although on higher, lighter ground, these sites are not open downlands or moors; the land has been cultivated in the past and is now intensively farmed, so the contrast with the claylands to the east does not seem to reflect preferential survival of prehistoric remains. More likely, these areas, the Good Sands, were cleared and used as pasture or arable land while the claylands, in general, remained wooded and unsettled. The few prehistoric remains that were recorded in the rest of the pipeline route, notably the Bronze Age cremation cemetery at Cromer Road, were perhaps associated with the alluvial soils of the river valleys, which may also have been cleared and cultivated.

The surprising paucity of excavation results from the later Iron Age and Roman period makes it difficult to form a picture of how the landscape developed in these periods. There was undoubtedly some form of settlement and land use, but little evidence of it seems to have survived. In particular, there was almost no indication of any division of land into ditched enclosures as commonly occurs elsewhere in the south-eastern half of the country, or indeed in other parts of Norfolk. There are various possibilities why this might be so. The claylands might have remained largely wooded, were cleared and used for open pasture or open field cultivation, or were divided into hedged enclosures. Although they may well have served to demarcate land divisions, the primary function of ditches is likely to have been for drainage. If this was so, then perhaps there was simply not enough advantage to draining the heavier claylands, if the improvement in productivity did not repay the effort of digging ditches in the intractable clay. The almost total lack of unstratified pottery of the period would suggest that there was little manured arable land.

There is considerable, though indirect, evidence that a band of central Norfolk, especially the area around the major watershed between the east-flowing and west- and north-flowing river systems, may have remained relatively undeveloped and possibly quite heavily wooded through the Roman period and beyond. This evidence includes the distribution of recorded stray Roman finds (plotted, for instance, in Williamson 1993, 46; after Davies and Gregory 1991), which shows a stiking gap in this area. Interestingly, this area also has a high concentrations of woodland place names, as well as concentrations of woods recorded in Domesday (Williamson 1993, 60, 115). Of course, the intervening years would have allowed ample time for woodland regeneration, but it is perhaps more likely that this area was heavily wooded in the Roman period and continued to be so throughout the first millennium AD. The Domesday woodland is quantified by the number of swine it would support, suggesting that it was utilised for wood pasture and pannage at the time, rather than for fuel or coppice wood.

The reasons why this central watershed area was less heavily settled, if that truly was the case, are not immediately clear as it would not seem to be any less suitable for agricultural exploitation than the claylands elsewhere in the county. It may be simply an accident of history, reflecting the way that the central claylands were colonised from the river valleys. Once established, however, it seems to have persisted as a rather remote and liminal region, perhaps forming a natural boundary between Iron Age polities. Assuming that this central area encompassed not just the watersheds of the Nar and Glaven with the Wensum and the Bure but also extended some distance into the upper Wensum and Bure valleys, then much of the route of the pipeline through the central claylands would have been included within it.

The eastern half of the pipeline route, especially along the river valleys, was notable for the relatively high density of medieval settlement sites. These sites, in general, conformed to a pattern, typical of medieval Norfolk, clustering around the edges of common land. It is likely that they arose as nucleated settlements, initially exploiting the lighter loams of the valley floors but increasingly expanding onto the heavier clay. Population pressure and the increase in the proportion of arable land are likely to have provided, at least in part, the impetus for the shift in settlement to locations where it would be easier to assert and protect rights to exploit the resources of common land.

Falling population in the fourteenth century led to the thinning out or abandonment of many of the common-edge settlements, although the legacy of many others can still be seen in the pattern of present-day villages. The medieval sites excavated along the pipeline route provide examples of settlements which lacked long-term economic viability.

The medieval common edge settlement is one example of a more persistent pattern, of occupation near the boundaries of different landscape zones, allowing access and exploitation of a range of landforms. The location of the earliest occupation site, at Stocks Farm, although very different, is likely to have been influenced by the proximity of the boundary between the chalklands, the Good Sands and the fen edge.

18.8 Conclusions

The assessment report, compiled after the completion of the fieldwork, listed eight general research aims and twenty-nine period-specific objectives, addressing in particular the key regional research issues set out and discussed in Glazebrook (1997) and Brown and Glazebrook (2000).

Of the general research aims, this text, along with the extensive site archive, has attempted to establish the pattern of past activity revealed along the pipeline route and how it changed over time and across pedological and topographical zones, and to investigate the morphology, function, status and date range of each site as well as site formation processes. On the whole, this has been successful, within the constraints imposed by the archaeological deposits at each of the sites. Consideration has also been given to the landscape setting of each site and how it might have influenced the range of activities that took place there. Investigation of the environmental settings of the sites, and how they changed over time, has been less successful, the excavation data not being sufficiently comprehensive to support such an ambitious aim.

The highly authoritative specialist assessment and analysis reports on the recovered artefact assemblages have more than adequately informed the discussions on the function and status of the excavation sites, and form, collectively, a valuable future resource for artefact studies across the county and beyond. The geographical and temporal spread of the excavation sites greatly increases their value.

Considering successive periods in turn, the excavation site at Stocks Farm provides an important addition to the study of form, function and location of both early Neolithic and later Neolithic to early Bronze Age settlement within the region. The location of the site reinforces the view that the interplay of the contemporary fen edge and the Chalk uplands was a significant determinant of the viability of Neolithic settlement. There also appears to have been early Neolithic settlement at Weasenham Clumps, adding to the landscape context of Stocks Farm.

The other Neolithic features, elsewhere on the pipeline, were the pits at Massingham Road, Mileham Road and Lyngate Road. Neolithic pits, with artefacts apparently deliberately placed in their bases, are fairly common and widespread. These examples will contribute evidence with which to test theories of function and distribution, neither of which is currently understood.

At both Stocks Farm and Weasenham Clumps, there was occupation in the Bronze Age and, in the case of Weasenham Clumps, into the early Iron Age. This does not imply that these sites were continually occupied: rather that they were parts of a wider landscape, variously exploited and occupied throughout much of these periods. The other two excavation sites with significant Bronze Age remains were the contrasting funerary sites at Mileham Road, Tittleshall and Cromer Road, Antingham. The excavation confirmed that the annular cropmark at Mileham Road marked the remains of a barrow, probably best regarded as part of a group of these monuments in the floor and sides of the upper Nar valley. The group of urned cremations at Cromer Road seems to indicate a different burial practice was in use here, although the degree of

truncation at this site made interpretation difficult. As well as providing evidence for the date and use of the excavation sites, both the flintwork and the Neolithic and Bronze Age pottery assemblages from along the pipeline route provide material for regional studies of the distribution of artefacts in the prehistoric periods.

Although Iron Age remains were relatively under-represented, the results have provided evidence on the nature, location and distribution of settlements of the period. More specifically, the site at High Noon Road, Colby has made a significant contribution to knowledge of Iron Age iron production. Several of the excavation sites produced significant stratified Iron Age pottery assemblages which will contribute to the establishment of a regional pottery sequence. Perhaps the most interesting single artefact of the period was the socketed axe head, recovered from the Cromer Road site.

The most surprising aspect of the results from the Roman period was the comparatively small number of sites. Negative evidence is never easy to interpret, but it has been tentatively suggested that this reflected a lack of arable cultivation on the less tractable soils of the region, perhaps coupled with a late and patchy penetration of Roman material culture in the more remote areas. The one site from the period which could be regarded as regionally significant was Foxley Road in Foulsham, where study of the function and use of the cruciform drying oven, and its associated pottery assemblage, has added to the understanding of this distinctive class of monument and provides a useful comparandum for other features of this kind.

The other sites on the pipeline route with Roman remains, High Noon Road, Green Lane, Southrepps Road and Massingham Road, though on their own fairly unremarkable, provide information for the study of the nature and distribution of low order settlement, identified as a research aim by Going (1997).

The discoveries of the early Saxon inhumation cemetery at Mileham Road, Tittleshall and the contemporary settlement in Foulsham were the two most significant post-Roman results of the project. The Tittleshall cemetery is discussed in detail in the companion volume (Walton Rogers forthcoming), but these sites show that penetration during the migration period was thorough even onto the Boulder Clay plateau. This has the implication that traditional population estimates have been too low. Few sites of the early Saxon period have been excavated in modern times in Norfolk and the results from these two sites are of particular significance. The analysis and quantification of ceramic assemblages from the pipeline route will make a significant contribution to the regional study of the early Anglo-Saxon period.

The relative lack of sites of Roman period was one of the more unexpected findings but perhaps equally surprising was the number of medieval sites that were discovered. These sites, in the main, have been successfully dated and characterised and they will form an important body of evidence in discussions of local and regional settlement patterns. Taken together, the sites illustrate the development of settlements along the edges of commons. The excavation sites, especially those at Itteringham, also add significantly to current knowledge of medieval field systems. The nature and spatial distribution of the artefact assemblages will contribute to future study of rural craft production and patterns of regional, national and international trade.

The final general aim was to disseminate the findings of the project. It is hoped that this monograph has successfully achieved that aim.

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