The Roman Roadside Settlement and Multi-Period Ritual Complex at Nettleton and Rothwell, Lincolnshire

The Central Lincolnshire Wolds Research Project

Volume 1

Steven Willis

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Front cover: The results of the geophysical survey of the site showing the location of the trenches (in blue).
Back cover: Trench C, the structured removal and processing of the ploughsoil in progress, Trench A, excavation in progress; Trench I, excavation in progress; Trench D, section through Neolithic palisade; Trench J, well-preserved corner of mid-Roman stone founded building.

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2013

Foreword

The Lincolnshire Wolds can surprise those who do not know the area, as the landscape rises up from the surrounding fens, coastal marsh and vale of Lincoln. It is a quiet, sparsely settled area with wide views over rolling hills, valleys and chalk streams, with settlements nestling into the hillside. The special nature of this chalk upland that has been extensively used by man led to its designation as an Area of Outstanding Natural Beauty (AONB) in 1973.

However, the value of the landscape is not just its scenic beauty. Below our feet lies a cretaceous landscape more extensively modified by glaciation than anywhere else in Britain. Man has inhabited the Lincolnshire Wolds for thousands of years. Flint axes found deep within gravel show early humans were living here 300,000 years ago, whilst archaeology still visible in the form of long and round barrows can be dated to the Neolithic and Bronze Ages. With one of the highest densities in the country of deserted and shrunken medieval villages, it is a part of England that once was much more heavily populated than today. All this activity has had a significant impact on the landscape we see and enjoy today.

Whilst we know about some of the past activity across the Lincolnshire Wolds, we know very little about most of the archaeology. Limited research has been undertaken so far and we are delighted to have the chance to learn more about both the prehistoric period and Roman era on the Lincolnshire Wolds. To visit the excavations and have the remnants of the buildings explained, and to see evidence of pits and pottery used some 2,000 years ago helps bring the landscapes of the past to life.

We welcome publication of the results of this important archaeological investigation programme to help us all learn more and build a comprehensive picture of man's activity over millennia in the Lincolnshire Wolds.

Louise Niekirk

Lincolnshire Wolds Countryside Service

The farmland on which this site is located is now managed within a Natural England Environmental Stewardship Scheme, a multi-objective scheme which includes options for pro-active management of the Historic Environment.

The archaeological evaluation of this site has been effective in identifying this site as suitable for inclusion within the Environmental Stewardship Schemes, as well as the most appropriate management for this site to preserve and protect the archaeological resource.

Tied in with the investigative works was a project addressing the distribution and movement of archaeological artefacts within the ploughsoil in respect to the underlying archaeological features. The results of this work feed into considering how modern agricultural processes in the Lincolnshire Wolds are impacting on archaeological remains and how best to proactively manage other archaeological sites currently under cultivation within the Lincolnshire Wolds AONB. Undertaking archaeological research of this nature adds greatly to our understanding of how and where agricultural regimes are impacting on the fragile archaeological resource and to help target where management of the historic environment will have the most benefit ensuring that modern agriculture and archaeological remains can co-exist in harmony.

The work undertaken at Mount Pleasant has developed to increasingly involve the local community alongside students, through participation in the excavations and fieldwalking and by joining site tours and talks. The outcome of these endeavours, through this publication, allows a wide audience to learn something more about the archaeological heritage of the Lincolnshire Wolds.

Karen Waite

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Summary

The site at Mount Pleasant was a focal point of settlement and activity in the Iron Age and Roman period, positioned on the north-south arterial spine of the Lincolnshire Wolds. Located on the highest land in the county and by the head of three radial valleys it was also a significant locality in earlier prehistory. Comparatively well-preserved archaeological remains testify to the monumental features established at the site in the Neolithic period while the Late Iron Age and Roman evidence includes buildings of a roadside settlement and a rich and varied assemblage of finds. The chronology and nature of the site have been explored by various methods and the results are presented in this volume and discussed within their wider context. The Wolds area has hardly been touched by archaeological studies in the past and any excavations are rare; the present volume is the first report on a study of the archaeology of the Wolds aimed at investigating its archaeology and heritage and placing the results within a framework of broader understanding.

What was in earlier times a significant point in the landscape is masked today by productive arable fields, an inconspicuous part of the agrarian landscape. The site first came to attention when archaeologists working for British Gas encountered surface finds on the line of a prospective pipeline. Their examination of the western half of the site between 1992-3 comprised a geophysical survey and artefact collection via fieldwalking. Their methodical approach resulted in a large body of data which was not hitherto published and which is included in the present volume. It emerged that the site had been heavily metal-detected in the 1980s and that this was ongoing, with the site having yielded a large number of Iron Age coins and contemporary miniatures indicative of votive material and suggesting a shrine. A proportion of these metal finds have been documented as detectorists had kept good records and acted responsibly. The site had been known since the 1960s, if not earlier, to at least one local historian and it is fortunate that Les Brown of Caistor, who collected finds from ploughsoil in his youth, has retained much of his collection which he has made available for this report.

In 1998 the present writer began a programme of evaluation trenching at the site at the instigation of the County Archaeologist and supported by Lincolnshire County Council. This was undertaken as a research exercise designed to better understand the site and to also collect information on its survival which could inform policy for the longer term management of the extensive, though fragile, ancient remains. Hence the project has included a detailed study of ploughsoil processes and collected information on the artefact content of the ploughsoil. The work on site has included student training in fieldwork methods and skills through its course, and as the investigations developed has come to include volunteers and partners from the local community who have made a vital contribution.

Ten trenches were excavated across the site. Each revealed remains testifying that this was a significant place to the early populations on the Wolds. A number of ancient palisade features were recorded in the trenches which AMS dating confirms as Neolithic. These represent land division and enclosure features which are evidently part of a ceremonial landscape associated with barrows and elongated enclosures including a likely example of the latter recorded by these excavations. The locality continued to be important into the Bronze Age as indicated by the recovery of a stratified Early Bronze Age axe-head. Middle and Late Iron Age deposits and finds were widely encountered, including pottery, brooches, quernstones and coins.

Whilst the more striking finds point to votive activity the site was also a settled community by this time. Evidence for economy and culture becomes broader and more numerous by the early Roman era and pottery finds are prolific. The enclosure systems and tracks shown by geophysical surveys and fieldwalking evidence on either side of the B1225 'High Street', which bisects the site, indicate that the modern road must overly a Roman predecessor and this was confirmed by stone founded buildings and site morphology exposed by excavation. The tracks and layout show this to have been a nodal point in the landscape, a crossroads embedded in the topography. A continuing religious focus at the site is demonstrated by the presence of an inscribed lead tablet of the late Roman period which, in a number of ways, show how deeply the community was connected to Roman culture; it provides a list of named Roman citizens, presumably two households of this site or locality.

Faunal and environmental samples recovered show aspects of the local ecology and land use, as well as shedding light on diet and crop production and processing. Studies of these remains and of the various artefact classes by specialists combine to provide a complex picture of the life and times of the site. It becomes apparent that this was more than a shrine and temple complex, in the Roman era, and as a

small roadside settlement, will have provided local services and perhaps attended to needs of travellers. These likely roles will have been conducted alongside farming, at what remained an essentially rural community, though with sufficient indications that this was a relatively prosperous one. The occupation comes to a rather abrupt end in the first half of the fourth century, which appears to be part of a widespread re-organization of settlement in the region. There is no post-Roman occupation.

The details of the Mount Pleasant site and its finds reported in this volume are placed within the framework of knowledge of culture and environment of the region. Since this wider archaeological setting has hardly been explored by systematic studies, further investigative work on the Wolds is recognized as a research priority. Hence the work at Mount Pleasant has developed to collect data from other sites in the area via survey and excavation, and some of the results from these studies assist in contextualizing the site reported here.

Résumé

Positionné sur l'artère nord-sud que constituent les Lincolnshire Wolds, le site de Mount Pleasant a constitué un point focal de l'habitat et des activités dans la région tout au long de l'Âge du fer et de la période romaine. Situé sur le plateau le plus haut du Comté et à l'avant de trois vallées convergentes, il fut également un lieu important durant les périodes antérieures. Des témoignages archéologiques relativement bien conservés attestent que le site a fait l'objet d'une forme de monumentalisation durant la période néolithique, tandis que la documentation relative à la fin de l'Âge du fer et à la période romaine inclut des structures appartenant à un habitat de bord de route, ainsi qu'un matériel riche et varié. La chronologie et la nature du site ont été établies par le biais de différentes méthodologies, les résultats desquelles sont présentés dans ce volume mais aussi insérés dans un contexte étendu. Jusqu'à présent, l'archéologie des Wolds est demeurée pour ainsi dire inexplorée ; le présent ouvrage constitue le premier rapport relatif à une étude visant non seulement à mieux comprendre l'archéologie et le patrimoine de la région mais aussi à replacer les résultats générés dans une perspective plus large.

Ce qui constituait dans le passé une caractéristique importante du paysage est aujourd'hui caché par une terre arable en exploitation, formant une part discrète du terroir local. Le site se fit remarquer pour la première fois à l'occasion de la collecte par des archéologues travaillant pour la *British Gas* de découvertes de surface le long du tracé envisagé pour une future conduite. L'investigation de sa portion occidentale entre 1992 et 1993 comprenait une prospection géophysique et le ramassage des artefacts gisant à la surface des champs. Cette méthodologie a engendré un nombre important de données, qui jusqu'à présent n'avaient pas pu être publiées mais qui sont incluses dans le présent volume. Il est aussi apparu que le site avait fait l'objet de nombreux prélèvements au détecteur de métaux dans les années 1980 et que cela était toujours le cas, livrant notamment un nombre important de monnaies de l'Âge du fer, ainsi que des objets miniatures de la même époque, dont le caractère votif suggérait plus précisément l'existence d'un sanctuaire. Une certaine part de ces découvertes métalliques a pu être documentée, les prospecteurs ayant enregistré un certain nombre de données et agi de façon responsable. Le site était en réalité connu depuis les années 1960, voire plus tôt encore, par au moins un historien local, et il est heureux que Les Brown

de Caistor, qui dans sa jeunesse avait collecté de nombreux objets ramenés à la surface par les labours, ait gardé une grande partie de sa collection, la rendant même accessible pour la rédaction du présent rapport.

En 1998, le présent auteur entamait un programme d'évaluation au moyen de tranchées ouvertes à différents points du site, à l'instigation du *County Archaeologist* et avec le support du *Lincolnshire County Council*. Ces opérations furent envisagées comme un exercice de recherche ayant pour objectif de mieux comprendre le site mais aussi d'évaluer son potentiel archéologique, et ce afin de mieux définir les politiques d'investigation et de protection sur le long terme des vestiges archéologiques, aussi importants que délicats. Pour cette raison, a été incluse dans le projet une étude détaillée de l'impact des labours, alors qu'ont été rassemblées les informations relatives aux objets issus des horizons labourés. Le travail de terrain a par ailleurs servi de support à la formation d'étudiants aux techniques de fouille, et à mesure que l'investigation s'est développée, ont en outre été accueillis un certain nombre de volontaires et de partenaires issus de la communauté locale, la contribution desquels s'est avérée vitale.

Dix tranchées on été ouvertes, révélant chacune les vestiges de ce qui fut manifestement un endroit important pour les anciens habitants des Wolds. Un certain nombre de restes de palissades ont pu être identifiés, les datations SMA permettant de les faire remonter au Néolithique. Ils se rapportent au parcellage du territoire et à la création de clôtures, lesquelles font partie d'un paysage cérémonial associant tumuli et enclos allongés. La localité continue à prospérer durant l'Âge du bronze, comme indiqué par la découverte d'une tête de hache datant du Bronze ancien en contexte stratifié. Par ailleurs, de nombreux dépôts et objets datant de l'Âge du fer moyen et récent ont été mis au jour, incluant de la céramique, des broches, des meules et des monnaies.

Tandis que les découvertes les plus notables semblent devoir être rattachées à des activités cultuelles, le site apparaît également avoir été habité à cette époque. La documentation relative à l'économie et à la culture se diversifie et se fait plus abondante à partir du début de la période romaine, tandis que la céramique devient alors plus prolifique. Les systèmes d'enclos et les chemins tels que révélés par les prospections tant géophysiques que conventionnelles menées des deux côtés de la route B1225, laquelle divise le site en deux parties, indiquent que celle-ci est venue se superposer à une voie romaine. Cela pu être confirmé par la découverte de constructions fondées en pierre et par la morphologie du site telle que révélée par les fouilles. Les chemins et leur disposition suggèrent en outre que le site constituait un point nodal dans le paysage, véritable carrefour inhérent à la topographie. La découverte d'une tablette en plomb inscrite datant de la fin de la période romaine atteste la persistance du caractère religieux de l'établissement et montre à quel point la communauté locale était connectée à la culture romaine ; y figure en effet une liste de noms de citoyens romains, probablement issus de deux familles établies sur le site ou dans ses environs.

Les échantillons fauniques et environnementaux prélevés révèlent divers aspects de l'écologie locale et de l'exploitation du territoire et mettent en lumière les régimes alimentaires et les pratiques agricoles. L'étude croisée de ces restes et des différentes catégories d'artefacts par les spécialises livre une image complexe de la vie sur le site. Il apparaît ainsi clairement qu'à l'époque romaine, celui-ci était plus qu'un complexe religieux ; en tant que petit habitat de bord de route, il a sans doute fourni des services à l'échelle locale et peut-être répondu aux besoins des voyageurs. Ces fonctions présumées venaient se combiner aux activités agricoles, au sein de ce qui demeurait une communauté essentiellement rurale, du reste relativement prospère, à en juger par un certain nombre d'indices. L'occupation des lieux semble avoir connu une fin abrupte durant la première moitié du quatrième siècle, laquelle doit vraisemblablement être mise en lien avec une réorganisation à large échelle de l'habitat dans la région. Le site n'a pas connu d'occupation ultérieure.

Les informations relatives à Mount Pleasant et les découvertes rapportées dans ce volume doivent être replacées dans le cadre plus général des connaissances relatives à la culture et à l'environnement de la région. Dans la mesure où le contexte archéologique large du site n'a pour ainsi dire pas fait l'objet de recherches systématiques, il apparaît prioritaire de mener davantage d'études sur les Wolds. Cependant, les travaux menés à Mount Pleasant ont d'ores et déjà invité à récolter des données sur d'autres sites, par le biais de prospections et de fouilles, et les résultats de certaines de ces opérations sont mis en œuvre ici.

Chapter 1

The Land and the Site

Steven Willis

1.1 Introduction

Today Mount Pleasant, straddling the parishes of Nettleton and Rothwell on the Lincolnshire Wolds, appears much like anywhere else in the well managed farmland characteristic of the area. Within and below its soil blanket, however, are the traces of past use of the landscape, in their way as intense and deliberate as that of modern times to a degree that might surprise the walker on the nearby Viking Way or the motorcyclist burning rubber on their way to Cadwell Park races. Across this landform - The Wolds – lie a rich record of past human activities, yet hardly known, as there has been remarkably little investigation. All signs are that this distinctive region contains a vast extent of archaeological remains, a heritage with the power to inform, fascinate and inspire.

Figure 1.1 View of the Caistor High Street looking south in the 1970s. Street Furlongs is the green field on the left side of the road at the top of the picture and East Field lies opposite, with the barns visible in the top left corner. (Photo taken for Nickerson Seeds, reproduced with permission).

The Mount Pleasant site lies 6.5 kilometres (4 miles) north-east of Market Rasen and some 4.5 kilometres (3 miles) south-south-east of the town of Caistor, on what is now the B1225 'Caistor High Street'. The Caistor High Street is conventionally accepted as a prehistoric route running adjacent to the western scarp of the Wolds extending over 60 km from South Ferriby in the north to Horncastle; it was evidently used in the Roman period. Caistor is known as a Roman site as it was enclosed by walls in the late Roman period, and parts of the walling are visible today. Mount Pleasant extends over several arable fields in a deeply rural setting. In the Roman era it was a nodal point on the Wolds as a series of routeways related to the topography of valleys and rises came together at this point in the landscape, and a temple seems likely to have been constructed here as part of a 40 hectare complex of settled enclosures fronting onto the Roman precursor to the Caistor High Street. Yet this location was important in eras preceding those when Britain was part of the Roman empire. Features revealed by survey and excavation, together with artefacts and dated sequences show that this prominent point in the landscape had been used from at least Neolithic times. This evidence is laid out in the following report which covers archaeological investigations undertaken between 1998 and 2013 led by the author, and incorporating evidence gathered in earlier episodes of investigation by local collectors and by the British Gas archaeological team in the early 1990s.

1.2 Geology, Topography and Soil

The Lincolnshire Wolds are an upland landform covering a little over 900 square km (350 squares miles) running for approximately 70 km (45 miles) from the Humber to the Fenlands, and between 8-13 km (5-8 miles) in width. The underlying rocks are sedimentary chalk, ironstone, sandstone, limestone and clay, weathered and altered where exposed to natural processes (Swinnerton and Kent 1949). Rawding uses a term popular with landscape

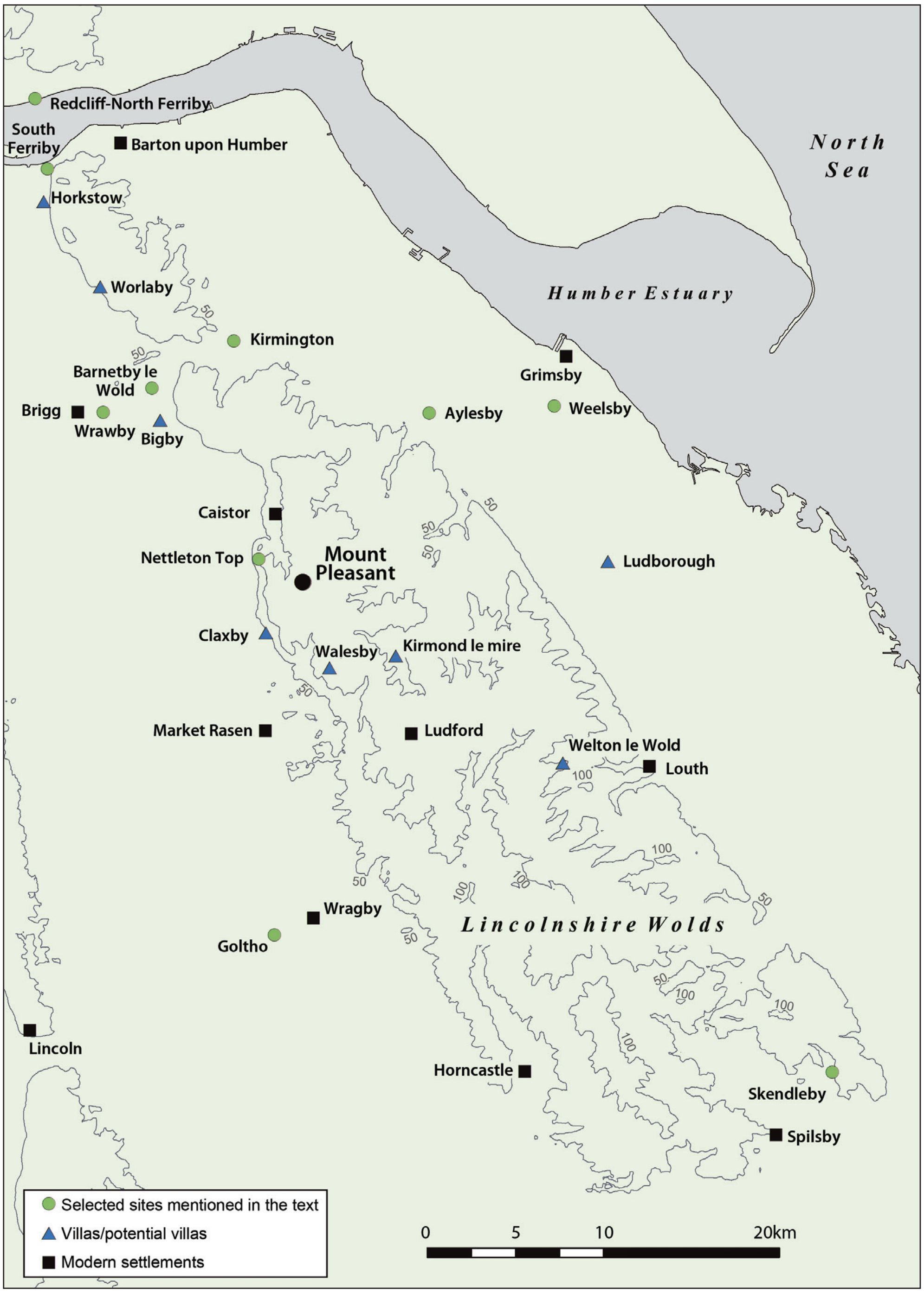


Figure 1.2 Location of the site, showing the topography of the Lincolnshire Wolds and other sites in the vicinity.

historians to describe the distinctiveness and unity of the Wolds in characterizing it as a 'pays', a physical region of rolling hills and marked meandering valleys reflecting a geological complexity (Rawding 2001, 1) to which "layers of human activity have been applied over the centuries" (2001, 8). The Wolds, whilst having an overall unity as a landscape entity, have areas of variation, the product of underlying geology, geomorphology and soils (e.g. LWCS 2001, vi, 10 and map 2). As elsewhere the physical environment strongly influenced human activities and settlement (cf. May 1976, 1), but past inhabitants both adapted the environments around them and to a considerable extent took their cue from them: anthropogenic impacts frequently respect the features of their milieu (cf. Willis 1999, 90-3).

To the east of the Wolds lie the lowlands of the Lincolnshire marshes (the Middle Marsh and the Out Marsh) and to the west lie the sandy moors and Clay Vale of Lincolnshire. The Wolds are an area of chalk plateau, with a scarp slope on its western side and a corresponding dip to the east. The eastern side has been truncated where the chalk had been cut back by the sea to form cliffs, but these are now partly masked by cover deposits. The Wolds are not solely chalk for other rock types are exposed and this geology together with long term glacial and periglacial processes have resulted in a topography of rounded forms, ridges and valleys, 'Tops' and 'Bottoms'. The Wolds are at their highest in the area between Caistor and South Willingham, with the highest point being 168m OD near Normanby Top, some 1.2 km from the location of the site described in this monograph.

The scarp slope is clear along the more northern section, north of North Willingham, to Caistor, and north to the Humber at South Ferriby, although it is unstable and has been subject to piecemeal slumping and soil creep. Along this stretch it is 'fretted' by several short incised valleys, now occupied by streams, such as Nettleton Beck. South of North Willingham the scarp is less clearly defined and here the south-western Wolds are lower and have a greater covering of glacial till. Below the scarp are the moors, a margin covered by blown sand deposits (the Ancholme Sands) which, south of Market Rasen join with the Middle Witham Vale; this is a consistently lower lying margin. The dip slope of the Wolds, on its eastern side, is cut by deep dendritic stream valleys with tributaries which break up the landscape and give it complexity and variety, with consequences for land use and communications. Its eastern margin is covered by glacial till and gives way to the flat lands of the Middle Marsh and Out Marsh which include areas of former salt marsh, reclaimed over centuries and intensively cultivated.

Water sources have been a determinant of settlement location. Settlements tend to occur in the valleys with chalk streams or on the springline, as is particularly clear along the western scarp. Rawding points out that greater population density occurs in the southern Wolds as the landscape has less pronounced undulations and a greater number of water sources (Rawding 2001, 3).

The Mount Pleasant site lies on the western side of the Wolds, in the area that can be described as the north-central Wolds. It lies on the spinal ridge that forms the watershed between the meandering valleys that drain east towards the Marsh and North Sea and the western scarp slope overlooking the Lincoln Clay Vale. At a height of around 160m AOD the site is near to the highest point of the Wolds (see above). The ridge is a natural routeway and was evidently used as such in prehistoric and Roman times, now the course of the Caistor High Street. The site lies 1.5 km east of the western Wolds edge, from which it is divided by the southern end of the deep valley known as Nettleton Bottom.

The geology of the Wolds in this area is formed of Upper and Lower Cretaceous rocks resting on Kimmeridge Clay (Boutwood 1998, fig. 2; Crooks 2007, fig. 1). The immediate natural rock on which the site sits is Cretaceous Chalk of the Welton formation. This landscape was heavily impacted by glaciation through the Pleistocene period.

Below the site, to the west, in Nettleton Bottom, Carstone, Tealby Limestone, Claxby Ironstone and Spilsby Sandstone outcrop in thin beds, all of which are rock types that were exploited for human purposes in the past (see below), though not necessarily in this valley in ancient times.

The scarp from Nettleton village south to Market Rasen is cut by deep gullies and coombs formed by streams issuing from the scarp edge and some were exacerbated in the periglacial era by solifluction. This western scarp is unstable due to soft sands lying under pressure and a number of landslips are documented, with a dramatic slip known at Nettleton village in the late 17th century; further landslips and soil creep are recorded near Acre House, in Nettleton and Normanby le Wold parishes (Everson *et al.* 1991, 3, pls 6 and 30). Quarrying of exposed stones of the scarp may have increased subsidence in places.

Underlying geology and soil are important determinants of agricultural possibilities.

On the Wolds Tops and plateau the soils are today typically loamy, free draining and easy to work, if thin. The soils of the escarpments are heavier, and this combined with slope means that scarps and slopes were more suitable for grazing. The latter will always have been the case (unless lynchets or terraces were formed, as they were on the slope east of Kirmond le Mire, TF 190 926). The soils, however, of the current arable fields of the Wolds are particularly a product of the last 200 years; in earlier times they will have been less loamy, with a greater proportion of glacial till, flint and clay and less easily worked.

Percolating ground water leaches out, over time, soluble elements within this soil, especially calcium elements (Monkhouse 1986, 488) such as chalk fragments, and any bone or mollusc shells. Whilst photos in this volume and views of nearby ploughed fields with no crop appear to have much chalk in their soil, closer inspection reveals the stone to be flint with calcified surfaces. Hence from medieval and post-medieval times there has been a practice of adding chalk to fields to maintain alkaline levels (Sections 1.13 and 2.2).

1.3 Prehistoric and Romano-British Evidence from the Area: the Nature of the Record

The core area examined in the following sections comprises the central and north Wolds and surrounding landscape, (supplemented with examples from further afield where apt). Evidence for human use of this area is introduced as this forms the background for considering the site focused on in this report.

The area was one of apparently dense prehistoric and Romano-British activity, much of the traces of which are now hidden below the arable and pasture fields and wooded valley slopes. Whilst a few prehistoric monuments still exist in the area as upstanding features such as the long barrows at Top Buildings, Normanby le Wold parish, TF 134 964 (Fig. 1.3) and 'Cromwell's Grave', Swinhope parish, TF 215 953 (see below), and round barrows at Bully Hill, near Bully Hill Top, and Gally Hill Farm south-west of Ludford, these offer only a slight, fractional, view of the use of this landscape in ancient times both in themselves and through the environmental information caught within their constituent soils.

Overall, details of these pre-medieval eras in the landscape are little known. There have been few archaeological interventions arising from modern development, and there were few before-hand, by antiquarians or 20th century researchers. The few sites that have been excavated provide a major frame of reference, together with finds arising from surveys and piecemeal collecting and observation that were in considerable part the work of a few highly dedicated local historians and enthusiasts who built up expert knowledge of the locality and passed reports to the then County Museum, Lincoln. Strong aerial photographic survey data are, on the other hand, available, much of which was collected a quarter of a decade or more ago (Jones 1988; 1989; 1998a; 1998b; cf. Bennet 2009, 18). The Wolds landscape, especially the areas of chalk subsoil have proved conducive to the production of cropmarks, while arable cultivation has enabled surface collection of items incorporated in ploughsoils (cf. Phillips 1989; Willis forthcoming). In recent decades this has been added to with the documentation of detectorist's finds. The soils of Lincolnshire have a marked frequency of ancient metalwork finds within them, compared to many other counties, spurring detectorists to scan fields for such items and much of this information has been recorded through the Portable Antiquities reporting scheme. Hence much information for the region is held in the county Historic Environment Record and Portable Antiquities Scheme database, mainly from chance surface finds, some more systematic data from local collectors and detectorists, combined with air photographic plots.

Broadly speaking the pattern of prehistoric evidence from the Wolds and Wolds margin reflects trends seen elsewhere in some parts of Britain during these eras in terms of types of monuments, artefacts and anthropogenic traces, though there are some distinctive trends. By the later Iron Age and Roman period the western margin of the Wolds in this area at least was intensively used for agriculture and industry with clear evidence of dense occupation. The site reported here lay within this environmental and cultural milieu.

1.4 Past Environment

Understanding of regional vegetational history is in considerable part dependent upon the extraction and study of samples for palaeoenvironmental analysis, with such sampling often targeted at locations where good survival of types of evidence is anticipated, particularly bogs and carrs in low lying localities (Monkton 2006; Willis 2006, 132). Drier and upland areas such as the Wolds are unlikely to have such evidence surviving except potentially in valley bottoms and bowls (e.g. perhaps north of Kirmond le Mire) where sediments and organic material may have survived in pockets, especially where the valleys are cut down to a level approaching the Kimmeridge Clay. However, there has been very limited investigation on or off the Wolds targeting this type of data (Tweddle 2001), with other adjacent areas being better understood, such as Holderness and the Humberhead/Trent Valley (Tweddle 2001; cf. Knight and Howard 2004). An exceptional pre-Devensian sample from Kirmington was studied in the 1950s (Watts 1959) while a sample has been studied from Brigg. James Rackham undertook prospection coring in the Waithe Beck valley besides the site investigated as part of this project at Hatcliffe Top, on the eastern edge of the Wolds (TF 22 02). This exercise, conducted in 2010, revealed a history of comparatively thin and dry sediments along the transect investigated, that is to say, of unpromising potential. In addition the comparative lack of archaeological investigation on and around the Wolds means that our knowledge of its past environments of the type forthcoming from routine baulk sampling for environmental remains elsewhere is limited, and dependent on the evidence recovered from few locations. Exploring human use, interaction with and alteration of landscapes and the cultural dynamics and constructs around environments are a core area of archaeological study and so much of this endeavour will necessarily be a priority in future archaeological agendas, in line with the Research Frameworks initiatives that have been advanced in recent years (Cooper 2006; Knight *et al.* 2012).

The high ground of the Wolds and its valleys and springs and chalk streams facilitated access and movement in the past whereas adjacent lower lying and less well drained areas were less conducive to human movement and in recent millennia, settlement and agriculture.

The Neolithic era in Britain is associated with forest clearance to enable arable cultivation and animal grazing. This was facilitated using well-designed lithic axes. Together with axe finds there is some environmental data available showing this process was underway at this time on the Wolds. The excavations at Giants' Hills, Skendleby, towards the south-east tip of the Wolds, provide evidence for clearance of deciduous oak and hazel woodland perhaps as early as 3,500 BC and charred wood fragments from Giants' Hill 1 long barrow site include hazel, hawthorn, ash, oak and perhaps willow (Phillips 1936; Evans and Simpson 1991; Bennet 2009, 19; cf. May 1976, 49). Pollen and land snails recovered from the ditches and cut features of the Neolithic long barrows on the Wolds investigated in recent decades show grassland environments to have been present in the immediate locality (Evans and Simpson 1986, fig. 5; 1991; Phillips 1989, vol.1). Pollen evidence shows cereal crops were being cultivated on the Wolds during the early and mid-Neolithic with wheat recorded (Phillips 1936; May 1976, 49; Phillips 1989, vol. 1). The overall impression is of perhaps widespread cleared, grassed and managed, landscapes, prior to the establishment of the long barrows in the earlier Neolithic. The many lithic axes known from Lincolnshire and the Wolds dating to this era tallies with this picture. Aurochs and sheep grazed this land as their bones were found at the Ash Hill and Skendleby sites (Phillips 1989, vol. 1; Phillips 1936; Evans and Simpson 1991).

Towards the end of the Neolithic period and the start of the Bronze Age, the environmental evidence from the excavations at the Giants' Hill long barrow, indicates there was extensive woodland clearance followed by some cultivation; here, by the Late Bronze Age and into the Iron Age the nearby area was grassland (Evans and Simpson 1991; Bennet 2009, 24). Clearly the landscape was being used for fairly intensive agriculture at this time.

Evidence of the environment and agriculture in the Iron Age from the Wolds is very limited (in juxtaposition to the wealth of data forthcoming from the Iron Age site at Tattershall Thorpe on the eastern side of the Witham Valley (Chowne *et al.* 1986)). This is probably a function of the lack of systematic studies in previous decades. Many Iron Age sites may lie by or below Roman sites (as with the present site and that at Otby Top, examined by fieldwalking and excavation as part of the present project). The Iron Age was a period of intensive mixed agriculture across Britain, with an emphasis on cereal production, sustaining population growth and the bringing of new land in to cultivation: the Wolds will have been included in this process as its relatively easily worked soils will have been highly attractive in these circumstances. Whilst pottery from the first millennium BC may not survive long in modern ploughsoils, quern fragments are more robust and beehive querns known from the Wolds are a proxy indicator of later prehistoric settlement and cereal consumption (and presumably production) as they are an Iron Age tradition type.

More evidence is available for the Roman era although this too is limited to a select number of sites where sampling has been conducted. At Barnetby le Wold, near Brigg, wheat was being grown, while a site at Stenigot Reservoir, near to Donington on Bain, in the central Wolds, shows evidence for mixed farming at this time (Bennet 2009, 25). At the latter site part of a farmstead was excavated, yielding evidence for arable cultivation producing wheat, barley and oats, together with stock control features; the faunal assemblage included cattle, pigs, sheep, horse and dog (Bennet 2009, 25). Corn-dryers, are a not uncommon feature of sites of the mid to late Roman period in Lincolnshire, as known from Long Bennington (Leary 1994) and Scunthorpe (Boyer *et al.* 2009). They may have been put to various uses, one of which was to assist grain preservation in storage and transport (important if the crop was being sold on) while another was for malting, signalling a diversification in secondary arable products at this time (cf. Jones 1981, 115-8). At Burringham Road, Scunthorpe, they were present from the later second century and include mid-third century examples; and it is likely that wheat, at least, was being dried at this site (Boyer *et al.* 2009 17-33). Several corn-dryers were excavated at Hatcliffe Top by the eastern margin of the Wolds between 2009 and 2010 as part of the present project, and at this site date to the late Roman period (Willis forthcoming). A likely corn-dryer existed at the site reported in the present volume.

At Nettleton Top, above Nettleton village (see below), excavations of the Anglo-Saxon settlement indicated likely mixed farming with the growing of arable crops, principally, barley (Field and Leahy 1993, 36). Growing of barley in the environmental context of the Wolds is noted, as it is a crop that is well suited to the exposed position and thin soils of the western Wolds edge (Carruthers 1993, 35; Field and Leahy 1993, 37), though here the subsoil was sandy.

Domesday Book recorded little woodland; only sparse woodland remained on the Wolds by 1086 (Bennet 2009, 29), reflecting the limited areas of tree cover in present times, were it occurs mainly on those slopes too steep to cultivate or as small wind breaks and 'fox covers' (Section 1.12).

Given the chalk downland environment the Wolds are more suited to sheep grazing than to cattle, except where cattle can access the chalk streams and springs and lusher grasslands of valley bottoms (cf. Rawding 2001, 26); cattle bones of Roman date were recovered from upper layers at the Ash Hill long barrow site investigated in the 1980s (Philips 1989, vol. 1). In the medieval and Early Modern era sheep grazing was a major strand of agriculture (Beastall 1978; Rawding 2001).

1.5 The Palaeolithic and Mesolithic

Evidence for Palaeolithic activity on the Wolds is limited as the landscape has been so much altered since that era (May 1976, chapter 2). Nonetheless pockets of evidence exist and the presence of early humans is attested by the finds of lithic tools. The flint found in the chalk (cf. Robinson 2009b, 5) will have been sought out for tool making, and it is significant that flint is rarely to be found on the Clay Vale to the west, which is a function of the underlying geology and cover deposits. From a former quarry at Welton le Wold hand axes associated with mammal bones are documented, while another quarry at Kirmington has produced lower Palaeolithic flint tools (May 1976, 13-6; Bennet 2009, 17-8). During the Devensian era glaciations were major processes impacting on the region. During the second of the ice ages of this era, at its maximum, the Wolds were effectively an island surrounded by ice; tundra conditions evidently characterized this period (Flenley 1990; Tweddle 2001, 35; Robinson 2009b, 8-11).

The Mesolithic was an era of marked environmental change, including the separation of Britain from the continent. The early Mesolithic era (Middle Stone Age) dating to c. 10000 – 8000 years ago has yielded few finds from the Wolds (cf. May 1976, fig. 17). A possible camp site is, however, recorded from below the Wolds in Claxby parish (Bennet 2009, 19). This area of moor below the western scarp of the Wolds sees greater numbers of finds from the later Mesolithic and this environmental margin may have been preferred for hunting and periodic stops.

1.6 The Neolithic

As elsewhere in Britain the Neolithic period (from c. 4000 BC) sees the advent of the construction of monumental features in the landscape of the Wolds. This development goes hand in hand with woodland felling, more settled communities, crop growing and animal husbandry, plus pottery making and other developments in cultural practice. Again there is evidence available for this area.

Building on pioneer mapping from the pre-war period by O.G.S Crawford and C.W. Phillips (May 1976, 45) Dilwyn Jones identified 56 long barrows or mortuary enclosures on the Wolds mainly on the basis of aerial photographic survey (Jones 1998a). These long barrows are located especially on the eastern side of the Wolds with less known in the northern part of the Wolds (May 1976, 45; Jones 1998a). A number are known as 'pairs'; and most lie adjacent to or with valleys rather than on plateau land (May 1976, 45). A good proportion survive as visible monuments in the present landscape. The institution of these impressive monuments represents a major investment of resources and a significant landscape event. Their presence on the Wolds is presumably an indication of the significance of this environment to Neolithic communities, especially when the virtual absence of long barrows and other monuments in central and western Lincolnshire is noted (Jones 1998a; Bennet 2009; Palmer-Brown and Rylatt 2011, 10; county HER). Phillips' work in 1933-4 at the Giants' Hills 1 long barrow near Skendleby (towards the south-east tip of the Wolds; surviving to a length of 65m) was one of the first excavations of this class of monument to be undertaken in Britain with a modern archaeological approach, revealing a sequence with elements later observed elsewhere (Phillips 1936). In the late 1970s Evans and Simpson excavated at the Giants' Hills 2 long barrow (1986; 1991). Questions around the siting of these monuments, overlooking valleys, aligned with routeways, occurring over earlier burials and activity foci, is a recurrent aspect of their study, pointing up the need to consider each within its own cultural and environmental setting and how each may fit with broader trends seen with such monuments. Whilst long barrows are one of the earliest cases of monument building in the landscape of ancient Britain the fact that they may themselves be located at points in the

Figure 1.3 The long barrow east of Top Buildings, Normanby le Wold, September 2011.

landscape of existing meaning and significance is a pattern seen on the Wolds as elsewhere.

In the case of the Giants' Hills 1 long barrow an earlier burial feature and other substantive traces seemingly occupied the site, prior to the construction of the barrow (Phillips 1936; Bennet 2009, 21). At Giants Hills 2 long barrow a timber façade and pits were part of an earlier phase preceding the institution of a barrow mound (Evans and Simpson 1986; 1991). Phillips' careful excavation and publication of the Giants' Hills 1 monument revealed details of the elements of the barrow seen later at other excavated sites, including the use of timber work. Developments in establishing the date of the barrow, combining the evidence of features and pottery finds and pottery typology, together with radiocarbon dating, mirror the advance in techniques and awareness for understanding the Neolithic through the mid-20th century (cf. May 1976, 61-3). The later work at the Giants' Hills 2 long barrow, Skendleby (Evans and Simpson 1986; 1991) showed this to contain grouped human bones placed in the mortuary chamber when they were already disarticulated, indicating exposure (i.e. excarnation) had occurred, confirming the results from a human skull found in long barrow 1. Direct evidence for exposure outside tombs is very uncommon although piles of arranged bones within long barrow chambers is well known, as at Hazleton North, Gloucestershire (Saville 1990).

One of the few archaeological projects undertaken in the area in recent decades was the programme of investigation of long barrow sites linked with fieldwalking, undertaken by the University of Sheffield in the early to mid-1980s (Phillips 1989). This work examined the barrows at Hoe Hill ('Cromwell's Grave') and Ash Hill in the parish of Swinhope, together with the long barrow at Top Buildings, Normanby le Wold (all Scheduled Monuments). Additionally the long barrow at Thorganby was contour-surveyed. Geophysical survey and small scale targeted excavations were conducted at the two Swinhope parish barrows with a focus on the immediate margins of the barrows examining monument flanking ditches and quarries (i.e. for procuring material for the barrows) for the potential environmental and dating evidence they might hold (Phillips 1989, vol. 1, 3). A potential second long barrow at Hoe Hill was also prospected (vol. 1, 164-8). A "deliberate" pit at Ash Hill proved rich in cultural remains with a regionally important pottery assemblage (Healey *et al.* 1989), late in the sequence of use of the monument, though the chance discovery of two inhumations buried in association with the long barrow proved to be much later and radiocarbon dates give an outcome which Philips terms 'Viking'; this is a salutary detail as the burials had no other dating index and had not been thought to be so late prior to the scientific dating (in Phillips 1989, vol. 1, 169-71). Geophysical survey and small scale excavations (in 1983) at the Top Buildings long barrow showed this 65m long feature to have no exterior ditch (from the evidence of the 10m and 3m long trenches) and whilst its positioning and morphology are firmly barrow-like (its dimensions are closely similar for instance to Giants' Hills 1) the few artefacts from the evaluation trenches and the absence of a flanking ditch led Phillips to suggest it may not be a long barrow (Phillips 1989, vol. 1, 179 and 181). Overall the work at the barrows via careful recording and integrated study of environmental indicators was illuminating, showing a cleared grassed landscape prior to the establishment of the long barrows in the early Neolithic, mirroring the findings at the Giants' Hills 2 long barrow (Evans and Simpson 1986, fig. 5). Many aspects of the barrows were similar and point to a long period of use and perhaps 'renewal' by established small communities in the Swinhope valley in the Neolithic to the early Bronze Age. The fieldwalking programme followed a transect across the Wolds between Claxby and Ludborough, a strip of land 1 km to the south of the present site, around 1 field wide, which was designed to help contextualize the long barrows (Phillips 1989, vol. 2). This work included the walking of many of the fields lying in the transect and the recovery of a large lithic assemblage (though surprisingly little by way of ceramics even where the transect passed the margins of areas of known surface material of Roman date). The flint assemblages found in the area of the barrows dating from the late Mesolithic into the later Bronze Age correspond with the evidence from the barrow investigations leading Phillips to conclude that these were traces of early settlements (vol. 1, 185; vol. 2).

Linear monuments are recorded on the Wolds and have been ascribed a Neolithic date due to their form and precedents elsewhere (Jones 1998a). A cursus type monument has been identified at Thorganby (Jones 1998a, 98-9, fig. 11). Linear pit monuments, in the form of a double alignment of paired pits which may have held timber posts at regular intervals, have been identified at Stenigot in the Bain valley as well as at Bag Enderby in the Lymn valley; they are suggested to have been ceremonial (Bennet 2009, 21).

A henge is known at West Ashby, of Neolithic to Bronze Age date, while henge-like monuments occur at Stainton le Vale and at Calceby in the Great Eau valley (Bennet 2009, 21).

Neolithic stone axe-heads are well-attested on the Wolds and Wolds margin (May 1976, fig. 29; Bennet 2009, fig. 16). Their wide distribution is presumably an index of the scale of settlement and clearance. Two clusters occur in the recorded distributions, though these could be a function of differential collection inputs (May 1976, 57; Bennet 2009). The clusters occur in the Lymn valley and around the parish of Thoresway, immediately to the east of the site reported here (the parish boundary lies just 0.25km from the site). The latter is perhaps in part the product of enthusiastic local collectors, notably David Everatt of Thoresway. Since these axe-heads were major tools for changing environments, empowering humans to bringing land into human oriented production, and were themselves the outcome of sustained skilled time in their creation it is not surprising that axe-heads and parts of axe-heads occur in evidently ritual and symbolic contexts.

Settlement sites of the era are elusive. Several rim sherds of Neolithic pottery (Grimston Ware and Peterborough Ware) were recovered during the excavations at Nettleton Top, above Nettleton village (see below), in 1986, together with lithics of similar date, though this was not thought by the excavators to be sufficient to indicate anything other than spasmodic use of the area (Field and Leahy 1993). Neolithic pottery was present in the ditch fill of a Bronze Age round barrow at Walesby and is presumably residual, but what its presence indicates is uncertain (Wilson 1971, 6; cf. May 1976, 45).

By the later Neolithic in the region, archaeologically recovered bone assemblages show cattle, pigs and sheep were being raised, alongside cereals. Bones from auroches were found at the Ash Hill and Giants' Hill long barrows (Phillips 1989, vol. 1, 186; Bennet 2009, 19). A remarkable find from the north-west of the county dating to the Late Neolithic – Early Bronze Age is the 20cm long curved flint sickle from near Dragonby, testimony, presumably, to harvest collection of the cereal crop (May 1976, 91-2, fig. 53.1).

An elongated enclosure presumed to be the location of a long barrow occurs by the site reported in this monograph. This is Jones' No. 48 in his inventory of long barrows and Neolithic elongated enclosures in Lincolnshire (Jones 1998a), and is present in the centre of North Field, aligned south-east north-west, measuring c. 60m in length according to the latest aerial photographic data from English Heritage (Jones 1998a, 111-2, gives somewhat different information). Unfortunately when the British Gas 'Skitter-Hatton' pipeline was being laid in the early 1990s a mistake was made in siting the pipe-slot and easement and the monument was stripped necessitating some emergency salvage work (Bonner and Griffiths 1994; Jones 1998a, 98). The results are not fully published but a report on the pottery finds from the west quarry ditch was prepared for archiving (Elsdon and Leary 1994). The feature had been re-cut and finds included Beaker pottery. The great majority of sherds were, however, second to early third century Roman items, indicating deposition here during the life of the site reported in this volume.

1.7 The Bronze Age

Round barrows of the earlier and middle Bronze Age were numerous on the Wolds and more than 350 certain or possible barrows are recorded (Bennet 2009); the density on the Wolds compared to Lincolnshire generally is striking (cf. May 1976, 71, fig. 39; Bennet 2009, fig. 17; information on the Lincolnshire HER). The great majority are now only known as slight physical features in fields or more often as soil or cropmarks on aerial photos, having been levelled in the past and now often blanketed within ploughed fields (cf. Whitwell and Wilson 1968, 21). Indeed only around 25 barrows are recorded on the county HER as upstanding extant monuments (Wilson and Wilson 2007, 216). They were frequently placed in prominent positions in the landscape, on ridges, rises and watersheds, and as at other locations in Britain often form linear chains in such topographic localities (Brück 2001). Many are known in the vicinity of the Caistor High Street, and indeed there is a marked concentration in the area to the south-east of Caistor where there is a distinct linear element to their distribution along the line followed by the High Street (Field and Leahy 1993, fig. 16; information on County HER). A further example of a string of barrows in the locality, occupying a rise between two valleys, is that near Rectory Farm, Thoresway, a parish adjacent to Nettleton and Rothwell, where four barrows occur in a line with another to one side, and others close-by; excavation of the latter established that it had previously been entered, though nonetheless sherds of Beaker pottery, a flint tool and a bronze basket ear-ring were recovered (Whitwell and Wilson 1968, 21, fig. 1.6; information on County HER). An unusual instance of a lowland barrow is known at Linwood Warren, south-east of Market Rasen, where it may have been one of a group (Wilson and Wilson 2007, 214-6). The distribution of Beaker pottery in the Lincolnshire region shows a cluster in the north-west of the county, a further concentration in the Grantham-Vale of Belvoir area and on the Wolds, especially the southern Wolds (cf. May 1976, fig. 33).

At Nettleton Top, above the village of Nettleton, two Collared Urns and a small plain ancillary vessel were excavated in 1986, lying within 2 metres of each other, with one of the Urns having a human cremation within; this group was suggested to be the remains of a barrow that have been levelled and which had never had a surrounding ring ditch (Field and Leahy 1993, 9).

As elsewhere in Britain Bronze Age barrows are often found to be located alongside earlier monuments, which were perhaps traditional foci for communities. Barrows have been suggested to mark points in the landscape denoting rights and territories, and in what seems to have been a relatively cleared landscape on the Wolds at this time, they may have signalled limits of grazing (cf. Bennet 2009, 24).

Reuse of earlier monuments is seen in the Late Neolithic-Early Bronze Age and in the Bronze Age. This is seen at various investigated long barrows (e.g. Phillips 1989, vol. 1, 186) and in the case of the Giants' Hill 1 long barrow where ditch fills contained later pottery (Phillips 1936).

Evidence for settlements dating to the Bronze Age is sparse, reflecting a pattern often seen elsewhere in Britain. Excavations, however, at the West Ashby barrow produced Early Bronze Age pottery and flints in the mound which may indicate settlement nearby (Bennet 2009, 22-3). At an excavated cropmark site in Kirmond le Mire, near Bully Hill Top, investigated in 1991, ditches comprising at least four sub-square enclosures were found to date from the Late Bronze Age on the basis of recovered pottery (Field and Knight 1992; Bennet 2009, 24). In addition Bennet notes that: "A large enclosure at Swinhope Hill near Binbrook may perhaps date from the late Bronze Age or early Iron Age" as cropmarks show small ring ditches in the interior that have been suggested as likely round houses (Bennet 2009, 24-5). A pipeline trench cut through features dating to the Bronze Age in Swallow, towards the north-eastern side of the Wolds, in 1986 and these were thought to represent domestic occupation (Bennet 2009, 23).

Lincolnshire has produced an impressive corpus of Bronze Age metalwork, not least axe-heads, but also rapiers and spearheads (e.g. May 1976, 97, fig. 55). The great majority of the axe-heads are examples of middle and later types but some typologically early examples, either flat or with incipient flanges (similar to the axe-head from Trench A) are known (Davey 1973; e.g. from Scunthorpe: Wilson 1970, 6, fig. III no. 1; from the Markham Moor area of the Trent Valley: Wilson 1972, 6, fig. 1 no. 3 and fig. 3 no.5; from Digby north of Sleaford: Wilson 1972, 6, fig. 1 no.4; below Fig. 4.8). An axe-head with incipient flanges was found in Osgodby just off the Wolds, c. 6 km to the south-west of the site reported here (Whitwell and Wilson 1969, fig. 1 no. 2), and a socketed axe-head is recorded from the Navigation Lane area on the west side of Caistor (Dennis 2013). Bronze Age artefact finds other than flints are not numerous on the Wolds, but an exceptional find was the gold armlet (or possibly a cup) found in the mid-19th century at Cuxwold parish (5 km north-east of the present site) which has been lost (May 1976, 97-101, fig. 57). A Late Bronze Age dagger was found on the south–east side of Nettleton Hill in 1971 (Lincolnshire HER 50202).

1.8 The Iron Age

Compared to the frequency of monuments from the preceding eras the record for the Iron Age on the Wolds seems almost silent, though this is more due to matters of archaeological input than the likely actuality. The Iron Age in Britain sees a shift away from ritual monuments and marked mortuary features, with a corresponding visibility of settlement evidence and material culture which becomes especially prominent as the first millennium BC progresses. That said there has been comparatively limited evidence for this era found on the Wolds of the types recorded elsewhere such as farmsteads, hillforts or cemeteries (cf. May 1976, chapters 6 and 7; Willis 2006; Bennet 2009). The evidence is especially thin for the Early and Middle Iron Age. On downland landscapes in southern Britain hillforts can be the prominent feature of the Iron Age. However, there is a lack of hillforts known on the Wolds or in Lincolnshire generally (Willis 1997; 2006) and the only accepted candidate is the site of Yarbrough Camp in the north-east of the Wolds (May 1976, 143 and 182; 1984), though it is not firmly dated, so its status is conjectural. The Iron Age tribe occupying this region by the Late Iron Age are now known to have been called the Corieltavi, broadly meaning the people of the land of many rivers (cf. Tomlin 1983; Breeze 2002). Certainly there is a stronger record of Iron Age occupation in lower lying regions of the county by the end of the Iron Age (e.g. May 1984; Willis 1997). Better known are the finds of metalwork and coinage. Lincolnshire has yielded a vast number of Iron Age coins, brooches and metalwork, particularly of later Iron Age date, the great proportion of which has been gathered from ploughsoils and reported to Museums and more recently via the Portable Antiquities Scheme (e.g. Daubney 2010b, fig. 1). The site reported in this volume is a case in point.

A major site of the Late Iron Age existed 1.5 km south-east of Yarborough Camp, at Kirmington, by the east-west corridor known as the Kirmington Gap, a site now partly occupied by Humberside Airport. This was evidently an extensive settlement and may have been an oppidum or similar, with finds coming from various interventions and collection exercises since the Second World War, yielding Iron Age pottery, brooches, metalwork and coins (e.g. May 1976, 181, fig. 90; Loughlin and Miller 1979, 202; Leahy 1980; Hemblade and Cooper 1989; Jones and Whitwell 1991). A Roman fort was constructed at this site in the first century, as known from aerial photographs (St Joseph 1977, 158-9, pl. 16; Riley 1977). The discovery, in an area with so few known forts, raises questions regarding Roman military deployment in the (Claudian-Neronian) conquest era and tribal relations with Rome, especially since few Roman military establishments generally are known in Lincolnshire or east of the 'Fosse frontier' but also points up the contemporary importance of this Iron Age complex (e.g. Whitwell 1982, numerous references; cf. Creighton 1990). Scholars of a previous generation had read the known evidence as indicating that the region came under Roman military domination without significant opposition in the mid-first century AD as part of the Claudian conquest of southern and eastern England (Todd 1973; 1991; 2004; Whitwell 1970; cf. Whitwell 1982, 33-4, where he includes a note of caution). Papers on this topic have recently appeared which advance awareness and discussion (Rowlandson 2010, 25-7; Clay 2010). Better dating evidence is required. The site may perhaps have been instituted following the Roman reconsolidation of the province following the Boudiccan revolt of AD 60-1.

An important collection of finds of Late Iron Age and Roman date have been recovered at South Ferriby, at the north-west tip of the Wolds, many from the Humber foreshore in decades past (Stead 1976, 1-3; Creighton 1990). Iron Age coins and first century AD brooches feature prominently but the exact nature of the site these items come from is uncertain, partly as much of the site seems to have been washed away by the changing Humber channel, but also as assumptions regarding the site have entered the literature and often been repeated to become 'factoids' (cf. Millett 1990, xvi). Hence it is questionable that there was an oppidum at this location. John Creighton has published an insightful analysis of the finds (Creighton 1990).

A major site in northern Lincolnshire, spanning both the Iron Age and Roman eras, lay not on the Wolds but at Dragonby north of Scunthorpe, on Pecten

Ironstone where there is a break in the Lincolnshire Limestone (May 1996). The extent of the excavations and quantity of recovered evidence, gathered over some 10 years of fieldwork mean that this site, and Jeffrey May's publication of the work he directed, is a major point of reference for any consideration of sites of the Iron Age or Roman period in the region. An extensive site in the Iron Age, the work revealed Iron Age settlement evidence and a well stratified and key pottery sequence for that era in the region (Elsdon 1996); subsequently the site continued as a smaller centre in the Roman era with stone founded aisled buildings (May 1996).

On the Wolds cropmark evidence again provides some indication of likely settlement sites. Much work was undertaken by Dilwyn Jones working for the Royal Commission on the Historic Monuments of England in the 1980s and 1990s, but much work still remains to be undertaken. At Binbrook an oval cropmark with a circular feature within presumably represents an enclosure ditch with a circular building structure (at TF 211 946); this would appear to be a farmstead site, typical of the later prehistoric era in southern and eastern England (Jones 1998b, 77, fig. 9), though it could be entirely Roman in date or continue from the Iron Age into the Roman era. At Otby a cropmark shows a u-shaped enclosure, presumably from a sub-square enclosure with a circular structure within (Jones 1998b, 77, fig. 9, Walesby parish TF 143 948). This would, again normally be taken to represent a typical farmstead of the Iron Age, however, fieldwork and excavation as part of the present project reveal a more complex picture as the site has subsequent Roman settlement adjacent to it (Willis forthcoming). It may often be the case that Iron Age farms on the Wolds underlie Roman occupation and their presence is obscured by the footprint of the Roman era remains, as to a considerable extent with the site reported in this volume. This may be especially true when Iron Age ceramics in the ploughsoil break down more readily than do higher fired Roman pottery fragments and where regular cropmarks are taken to indicate Romano-British establishments.

Two of the few sites where Iron Age settlement structures have been excavated in the area are at Aylesby, just off the Wolds on the Middle Marsh north of Laceby (Steedman and Foreman 1995) and, further to the east, at Grimsby, Weelsby Avenue (Sills and Kinsley 1979; 1990). At Aylesby sections of gullies were identified as likely roundhouse structures, associated with other features such as four-poster structures, ditching and cultural debris dating to the later Iron Age (Steedman and Foreman 1995, 17-9). The site continued in use into the early Roman period (Steedman and Foreman 1995, 19, 34-5). At the Weelsby Avenue site a ditched enclosure has been excavated containing two circular buildings; in a subsequent phase the site was used for non-ferrous metalworking. The full site report is being prepared for publication. Two hoards of gold staters are also known from Grimsby (Loughlin and Miller 1979, 228).

1.9 The Romano-British Period

Evidence for occupation and use of the Wolds in the Roman era is much more available than for the Iron Age. There are widespread finds of Roman pottery, metalwork and other items, especially from ploughed fields (Bennet 2009, 25). On the other hand understanding of the actuality of settlement and of economy at this time has been minimum, as consultation of the standard period overviews demonstrates; hence an up-to-date synthetic study and research framework is desirable (cf. Knight *et al.* 2012, 80 and agenda items 5.4 – 5.5). This is largely a result of the absence of concerted study of existing finds, the rarity of excavation or detailed survey and undeveloped models and syntheses. Discussions of the Wolds therefore in the general regional studies of the later 20th century are speculative in considering occupation and use of the Wolds, simply as the information was not there to work with. Jones' essay based on the aerial photographic record (Jones 1998b) is a stepping stone to a better founded comprehension.

One of the key research questions for the region (as elsewhere) relates to the consequences for local communities arising from the conquest and whether sites continue through from the Iron Age into the Roman era. At Barnetby le Wold, east of Brigg, on the north-west fringe of the Wolds, comparatively large-scale excavations encountered evidence of a farm of Late Iron Age date which continued into the Roman era. The site was located by the junction of the Kirmington Gap with the Ancholme Valley (both presumed routeways used throughout prehistory). Notably, circular structures of vernacular tradition continued to be built at this site into the Roman era, as was the practice too at Goltho, on the eastern side of the Clay Vale, below the Wolds, into the second century AD (Beresford 1987, 15). Surprisingly little pottery was apparently being consumed at the Barnetby le Wold site even by the second century AD which seems to be against the general 'ceramic habit' seen in the communities of most parts of Iron Age and Roman Lincolnshire generally, including the site that is the subject of this monograph. A larger site or settlement/activity focus on the Wolds that shows use through from the Late Iron Age into the late Roman period is Ludford, by the junction of the present A631 and Caistor High Street, 10.5 km south of Mount Pleasant. Many piecemeal finds are known from this locality, with some small scale excavations and unpublished geophysical survey in fields north of the modern settlement (Field 1980; May 1984; Whitwell 1982, 27 and 268; Lincolnshire HER).

Several villas and large farms are known on the Wolds or along the western fringe, though these have not received systematic study leading to publication and details relate mainly to antiquarian investigations, surface finds, unpublished small scale excavations of the second half of the 20th century and aerial photography. Taylor notes that villa sites in Lincolnshire and Nottinghamshire generally have received little systematic attention in modern times and understanding is reliant upon old work (Taylor 2006, 146). Villa or likely villa sites along the western fringe of the Wolds are known; from north to south these occur at Horkstow, Worlaby, Bigby, Claxby, Kirmond le Mire and Walesby. Of these Worlaby and Walesby were positioned on the Wolds edge while the others lay at the base; the exception is Kirmond le Mire located on the Wolds within a natural bowl. The Claxby, Walesby and Kirmond le Mire sites lie near to the site reported in this volume.

Evidence for a Roman building is known from the vicinity of the church of St Mary's at Claxby (TF 111 945). Blue and white tesserae from a tessellated pavement were found just west of the church in the early 19th century. In the late Victorian era further parts of a tessellated pavement were discovered near the north chancel. Roman coins and box flue tile are known, while Roman pottery has been unearthed during grave digging in more recent years. These remains seem likely to indicate a villa, and a suspected Roman road passes close by linking Ermine Street with the Caistor High Street (Allen 1834, 208; Whitwell 1982, 210-1; Scott 1993, 119).

The apparent villa at Walesby was positioned by the western Wolds edge, 5 km south of Mount Pleasant. Located at the top of a short incised valley at 140m overlooking the Clay Vale to the west (c. TF 146 927) it is known mainly from exploration in the mid Victorian period, subsequent surface finds and through aerial photographs. An apparent hypocaust system was investigated here by the Rev. Philpot (Philpot 1862) and he suggested the remains related to a villa. Roof tiles, flue tiles, "square bricks" and mortar were encountered together with pottery and glass, but no tesserae (Philpot 1862, 137). Whitwell notes finds from the site made at subsequent times (Whitwell 1982, 327), while a lead tank with a Chi-Rho monogram was found c. 180m from the villa (Petch 1961, 13-5, pl. 2; Malone 2010). Jones records the site in his reports noting its enclosures and the regular rectangular character of the cropmarks (e.g. 1998b, 73, fig. 4). The site at Worlaby, north of Brigg, occurs in a similar topographic position; exploration of the site in the 1960s is reported in notes (May 1965, 28; 1966, 19; Whitwell 1982, 341).

The likely villa at Kirmond le Mire has not been excavated but is known from the partial clearance investigation of a corridor mosaic in the mid 1970s together with an unpublished field walking assemblage collected following the discovery (White 1976; Whitwell 1982, 262). Also on the Wolds, a large scale villa at Welton Wold, on the eastern side of the central Wolds, is known principally from aerial photography (Jones 1998b). Further south in the Lymn valley relatively dense settlement of Roman date has been deduced from cropmark traces "revealing a landscape of small 'villas' and associated enclosures" (Bennet 2009, 25).

South of the villas at Horkstow and Worlaby and around 4 km west of the Barnetby le Wold site, below the western scarp, on the moor, a Roman settlement has been located at Wrawby where an aisled building of Roman date has been identified with associated painted wall plaster (Beasley 2008; Murphy 2008). The status of this site is currently being evaluated. Non-villa rural buildings are known from elsewhere in the county to have been finished with plaster as for instance is the case at Hibaldstow (Smith 1987, 189-98), but painted walls are less common and are associated with other indicators of wealth/cultural aspiration, as appears to be the case with Hibaldstow Building VI where painted plaster is associated with a winged corridor building (Smith 1987, 192-8).

Pottery scatters with associated other finds are recorded from locations across the Wolds and along the fringes indicating the use of the landscape at this time and many will relate to farming establishments. Aerial survey evidence indicates that sites of this type, of various sizes and morphologies survive as subsurface traces with a correspondence to surface finds (e.g. Jones 1998b). They are particularly dense in the area between Caistor and Ludford. To take one example from the area near the present site, an amphora handle and other pottery was collected from an arable field at a site in Thoresway (TF 17 96; Whitwell 1967, 40; see also Whitwell and Wilson 1968, 25). Detected and chance finds of coins and other metalwork also point to extensive use of the Wolds. Amongst the coins one might mention a cluster of fourth century coinage known from north of Swinhope, in Swinhope parish (TF 21 96; PAS Database for Lincolnshire) and, much earlier in date, a silver legionary denarius of Mark Anthony in the name of the 15th legion, in unusually good condition, found in the village of Rothwell around 2004 (author's records; PAS Database for Lincolnshire). Coins of this type were made of debased silver; it has no context and is likely to have arrived in Britain with the Roman army in the AD 40s rather than have been in use in Iron Age Britain. Coins of this type appear in the hoard record into the second century (pers. comm. David Holman). These scatters and aerially detected sites will be considered in more detail in volume two (Willis forthcoming).

Pottery manufacture is known at a number of locations along the western fringes of the Wolds between Linwood Warren, south-east of Market Rasen, and Caistor (see Leary below). Market Rasen was a particular focus for pottery production. Excavations of kilns at the latter site are yet to be published (Rowlandson 2005) and the character and status of the site in Roman times is not clear. Iron smelting seems also to have been undertaken at Market Rasen and along this margin. At Linwood Warren the evidence for smelting could be Iron Age and/or Roman in date (Wilson and Wilson 2007, 216-7). Again the evidence for this industry at the various potential sites has not been researched fully and brought to publication.

Late Roman centres existed at Caistor and Horncastle linked by the Caistor High Street (Burnham and Wacher 1990, 240-5). Both had stone walls dating to the late third century or later (Hawkes 1947; Bennet 2009, 26). Horncastle, located just off the Wolds at the confluence of the rivers Bain and Waring, was the location of a significant Late Iron Age settlement (May 1984, 21) which continued into the Roman era (Hawkes 1947, 22-3; Field and Hurst 1983). A range of evidence, mainly of cropmarks and finds, but some structural, indicate the site was extensive although its nature is not firmly established. The late Roman walled area was rectangular and enclosed some 2ha of ground north of this earlier focus (Field and Hurst 1983). The stone employed to construct the walls was Spilsby Sandstone, extracted from a quarry at Holbeck, six kilometres away, to the north-east (Robinson 2009c, 61).

1.9.1 Roman Caistor

Caistor, occupying a natural chalk spur or shelf on the western Wolds escarpment at around 80m OD, is known as a Roman period site principally by means of its late Roman walls. No Iron Age occupation is known at or by Caistor which makes the site unusual given that so many other Roman era sites in

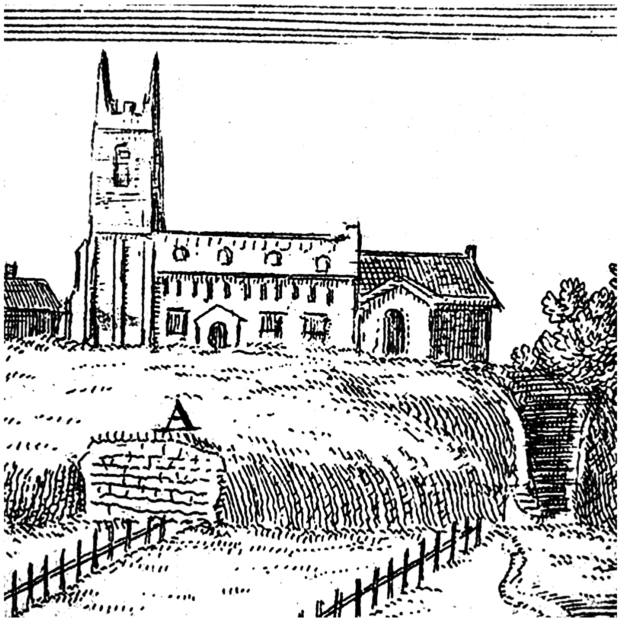


Figure 1.4 Stukeley's drawing of Roman Caistor in 1724. A denotes the remains of a bastion.

Lincolnshire have firm Iron Age predecessors (May 1984; 1996, 638-44; Willis 1997). It is possible that evidence for such occupation will emerge.

William Stukeley had observed the remains of the Roman wall in July 1724. He drew extant elements, specifically the external towers known as 'Cooper's Bastion' (Fig. 1.4) and 'Williams's Bastion', as well as the area of the Syfer Spring at the foot of the wall on its southern side (Stukeley 1724). Fragments of wall remain in various locations today sufficient to plan the course of the circuit (Hawkes 1947; Rahtz 1960, plus additions). However, what the site at Caistor represents and the type of site that may have existed there prior to the later Roman walling has proved difficult to establish through lack of substantive evidence. In part this arises from the absence of dedicated local antiquaries (Rahtz 1960, 176), the development of the medieval and post-medieval town over the earlier remains, with many buildings in the historic core of the town listed and unlikely to be re-developed, and due to areas of deep soil build-up, especially within the walled area, strikingly so in various locations (e.g. Rahtz 1960, fig. 2, pl. 34). Caistor is typically identified in the general literature on Roman Britain and Roman Lincolnshire as a Small Town, but this is a 'default statement', often repeated, for want of a firmer characterization. The conventional thinking is that these walled centres at Caistor, Horncastle and Ancaster relate to a later Roman defensive system established to offset barbarian raiding along the east coast, and housed 'rapid deployment force' units (e.g. Corder 1956). This is a matter that warrants fresh attention and thought.

The walled area at Caistor enclosed 3.5 ha, with the wall following the natural contour and springline forming an irregular polygon. The elements of the wall were mapped by Philip Rahtz in 1959 when he undertook the first excavations to be conducted at the town (Rahtz 1960). The work included an excavation across the line of the wall (Rahtz 1960). During the mid 1960s small trenches were opened by Tom Richards to establish whether Rahtz's projected town wall line was correct, thus fulfilling Rahtz's call for ongoing research (Rahtz 1960, 176 and 186). Richards' trench in the garden of the vicarage (now the Old Vicarage) confirmed the suggested position of the bastion known as 'Williams's Bastion' on the southern side of the circuit (Whitwell 1967, 36; Lincolnshire HER, consulted 1991). Subsequent identifications have been collected by Alan Dennis of Caistor. The walls had, as mentioned, external towers and one identified on the north circuit has some comparatively well-preserved stonework (Rahtz 1960, pl. 35). The walls were constructed, according to Rahtz, mainly of Tealby Limestone with some use of 'Roachstone' together with Red Chalk (Rahtz 1960, 180). 'Roachstone' is "virtually" an ironstone, presumably the Roach that lies beneath the lowest Chalk, namely the Red Chalk, and above the Tealby Limestone in the local sequence (Crooks 2007, fig. 1; Robinson 2009b, 3). Rahtz encountered Tealby Limestone used as the foundation stone in his sectioning on the western side in 1959. Few sections of the walls are visible today, but include sections not known to Rahtz; overall the visible remains are weathered and covered with lichen and so stone identification is not straightforward, but should be a matter for investigation in the near future. Rahtz's trenching yielded little indication of occupation within the walled area during the Roman era (Rahtz 1960). His investigations produced an assemblage of c. 200 Roman pottery sherds of late Roman date (Rahtz 1960, 182). In September 2013 a small section of a stone foundation or perhaps demolition rubble, with lime mortar, thought to date to the Roman era was recorded during archaeological monitoring by the gate to the Old Vicarage, within the walled area (pers. comm. Alan Dennis). Ditches outside the walled area may have been for defence (cf. Whitwell 1992; *Lincolnshire History and Archaeology* 1993, 70-1; Munford 2003), with evidence for these found at a number of points including to the rear of the Red Lion Hotel in 2003 where two substantial ditches on a parallel alignment to the Roman wall were recorded; these were evidently contemporary with the Roman wall.

Coins of Vespasian are recorded from Caistor (e.g. Phillips 1935, 131), but the sum evidence for early and mid-Roman occupation is modest (Hawkes 1947, 23). Amongst the finds from within the walled area/core area are the following items: a coin of Gallienus found at the Grammar School Boarding House in 1966 (information via Alan Dennis, including a photograph), a wire ring, perhaps of first century AD date, and Roman pottery (Whitwell 1967, 38-9). Amongst the more diagnostic items of pottery, as an example, is a form of which approximately half the vessel survives (identifiable from a photograph made available by Alan Dennis). This is an example of Lower Nene Valley Colour Coated ware, being a small straight sided, flanged bowl, with slight rim above the flange. This vessel dates to the second half of the third century and came from the garden of the Old Vicarage; the form can occur in Lower Nene Valley grey ware (cf. Perrin 1999, 87, No 108).

Two kilns were found in the 1960s to the west of the walled area, by Navigation Lane. Kiln waste, kiln furniture and greywares dating to the late Roman period were found at TA 113 012 in 1964 (Whitwell 1966, 36), just north of the kiln site located the previous year (Whitwell 1963, 8-9 and note 24; Swan 1984). At various occasions in the 20th century human burials have been encountered outside the walled area but lacking grave goods they have until recently not been firmly dated (e.g. Wilson 1970, 10; see also below under the Anglo-Saxon period). Several Roman era burials are recorded from the Navigation Lane area (Dennis 2013).

Suggestions of an earlier Roman military presence of the conquest period were forwarded by the local researcher Ian Davies, who believed he had evidence for a large conquest period fort complex (pers. comm. Ian Davies who kindly sent copies of his records). However, the veracity of the evidence was challenged over a lengthy correspondence between Ian Davies and Ben Whitwell (Caistor archive held in the Lincolnshire HER, consulted 1991) and more latterly by Michael Jones, an established expert on early Roman military defences. Separately, cropmark evidence from 1975 has been suggested to indicate a fortlet of early Roman date to the south-west of Caistor (Dennis 2013). Fieldwalking near to this area in 2013 centred around TA 104 007, produced two brooches believed to date to the first or second centuries AD (Dennis 2013).

Roman occupation is known from the area of the Sweet Factory site, c. 600m north-west of the walled area by the Brigg Road, c. TA 114 018, from where Roman pottery and tiles are documented (Whitwell 1966, 37; Wilson 1971, 8; Lincolnshire HER, consulted 1991). Slightly further north at Fonaby, c.

2km north of Caistor, Iron Age and Roman pottery is known from the site of the Anglo-Saxon cemetery, including, notably a sherd of imported Gallo-Roman *Terra Rubra* (Elsdon 1981) contemporary with sherds recorded from the Mount Pleasant site (see below; see also Whitwell 1966, 37).

1.10 The Anglo-Saxon Period

Bennet notes that the economic system in the region collapsed at the end of the Roman era, with many farms and settlements being abandoned, including larger rural sites, independent of status, as the landscape record begins to display a different archaeological signature, one of small farmsteads and minor settlements (Bennet 2009, 27). Such sites of the earlier Anglo-Saxon period are not particularly prominent and are comparatively difficult to detect. It seems that within a few decades of the end of Roman official rule Anglo-Saxons were firmly present in regions of easten England including Lincolnshire (Bennet 2009, 27).

Overall Lincolnshire has a rich record of cemetery sites and finds of the Anglo-Saxon era, but a thinner excavated record in terms of excavated settlement remains (e.g. Field and Leahy 1993, 36; Ulmschneider 2000). A major contribution to knowledge of the period has been the medium and large cemetery groups that have been explored by excavation. At Cleatham, north of Kirton in Lindsey, on the Lincolnshire Limestone, an early Anglo-Saxon cemetery, including nearly 1000 cremated burials together with 62 inhumations, was excavated by Kevin Leahy in the 1980s (Leahy 2007a). Another major early cemetery at Elsham, near the north-west tip of the Wolds, was excavated in the 1970s, with 569 cremation burials recovered along with eight inhumations; though the skeletal remains have been studied (Squires 2013) the site is not published.

With regard to the area of the Wolds, evidence of Anglo-Saxon era settlement, economy and burials is better attested on the eastern side of the Wolds adjacent to Barton Street, the modern A16/A18 which follows the edge of the Wolds for some 70km. Middle Anglo-Saxon coins and metalwork have been found there at excavated sites and small cemeteries, as well as pottery imported from mainland Europe (Leahy 1993; Bennet 2009, 29). Indeed, evidence of this date was excavated between 2007 and 2010 at Hatcliffe Top, as part of the present project (Willis forthcoming).

On the west side of the central Wolds Anglo-Saxon remains are also fairly well attested. An inhumation cemetery at Fonaby, 2 km north of Caistor, excavated in the late 1950s, is published (Cook 1981), from where Iron Age and Roman finds were also recovered (Elsdon 1981; see above). On the other side of Caistor another inhumation cemetery of this era seems to have existed between Caistor and Nettleton, according to antiquarian reports supported by the excavation of a sixth century inhumation burial in 1972 (Field and Leahy 1993, 36-7; Everson 1981, 68). At Caistor itself excavations by Pre-Construct Archaeological Services Ltd at the site of the new Coop Foodstore (the former location of The Talbot Inn), c. 100m north of the Roman walled area, and outside the circuit of ditches, in 2009 and 2010, yielded several inhumation burials thought likely to be Christian and provisionally dated as potentially late Roman (Market Rasen Mail Oct. 7, 2009; Savage and Sleap 2012). Subsequent radiocarbon dating of two skeletons showed that these burials were eighth century Anglo-Saxon; the cemetery may have been in use for a long period but associated Roman pottery was thought to be residual. Further south, c 2km south from the site reported here, at Otby Top Farm, a little to the west of the present course of the B1225 High Street is a small enclosed Anglo-Saxon cemetery on the Wolds crest, perhaps reusing an earlier monument (Lincolnshire HER).

Some early Anglo-Saxon pottery is known from Caistor, including a fifth century vessel from the grounds of Grove House, immediately outside the Roman walled area, while a stamped sherd came from the area of the Non-Conformist cemetery in 1936 (Field and Leahy 1993, 36). A settlement site is known by Nettleton Top (Field and Leahy 1993). The site known as Nettleton Top lies some 2km south of Caistor and c. 3km away from the Mount Pleasant site reported here, from which it is divided by the deep valley containing Nettleton Beck, known as Nettleton Bottom (Fig 2.1). (In recent years Nettleton Top has been confused by some reporters with the present site). The location, at TF 107 988, lies between Nettleton Hill and Nettleton Top farm, in an area of erstwhile sand extraction. Here three Grubenhäuser, three pits, two fire pits and a possible hearth were recorded over a wide area together with pottery, loomweights and a gilded great square-headed brooch (Field and Leahy 1993). The occupation was evidently short lived, beginning during the sixth century and abandoned in the seventh (Field and Leahy 1993, 24). Nonetheless, this represents a relatively rare instance of settlement features from this part of the historic county.

Horncastle and Caistor continued as significant foci in this period (Vince 2006, 174). They were royal sokes or estates and they may have hosted markets. An early monastery was established at Partney and another may have existed at Louth (Bennet 2009, 29). The later Saxon period saw the development of stone churches in the region and the church of St Mary Magdalene in Rothwell dates to this period; its tower is original, from this era. Assessment of the material culture empathizes the wealth of Lindsey during the Anglo-Saxon period (Leahy 1993), prior to the Scandinavian invasion. Viking influx occurs in the later ninth century.

1.11 Medieval Settlement

In the medieval period, as with preceding eras, settlement was influenced by topographic features. What becomes clearer is the development of villages and/or religious houses in the valleys of the Wolds (Platts 1985). Indeed, at this time settlement was much more widespread on the Wolds than in the modern era. Nowadays settlement on the Wolds is sparse with a high frequency of abandoned medieval religious and related sites and villages, some barely traceable (Everson *et al.* 1991). The settlement change was due to a number of processes: the Dissolution which effected many of the ecclesiastical establishments, population impacts of the Black Death and plague (Everson *et al.* 1991, 34-41; Russell 2009a, 33), changes in agricultural practice, especially a shift to sheep grazing, leading to less need for labour, Parliamentary Enclosures (Russell 2009b) and the development of parklands (Russell 2009a, 34). Many of the abandoned priories and Deserted Medieval Villages consequent upon these changes have been documented in recent years (e.g. Everson *et al.* 1991). Orford, 1 km north of Binbrook, had been the site of a medieval village and a priory, but today Priory Farm sits alone with just the earthworks of the village and priory close-by.

Four medieval settlements once existed within the parish of Nettleton. One is the origin of the present village, around the Church of St John the Baptist, the other three were abandoned before modern times and they may always have been quite small entities (Everson *et al.* 1991, 9). The settlement at Draycotes lay on the moor west of modern Nettleton. Hardwick and Wykeham developed along the Nettleton Beck to the south-east of the present village and their remains were removed by the subsequent quarrying in Nettleton Bottom in more recent times (see below). Wykeham lay at the south end of the valley. Field and Leahy note that the Old English name may have meant there was a small Roman settlement here (Field and Leahy 1993, 37; Gelling 1988, 70-1).

1.12 Some Trends in Settlement, Farming and Economy Since the Medieval Period

In the modern landscape villages are found along the edge of the moors below the western escarpment and along the eastern foot of the Wolds east of Barton Street. Larger settlements occur along the spring-line or just off the Wolds by points where north-south and east-west routeways meet, in places where the latter cross the Wolds (for instance at Caistor, Market Rasen, Wragby and Louth). Some smaller settlements exist on the top of the scarp as at Normanby and Ludford (Everson *et al.* 1991, 3-6). Binbrook is exceptional, surviving as a large village in the midst of the north-central Wolds. The agricultural landscape has been transformed from that of the Early Modern Era (Beastall 1978). Farms are often located in villages or hamlets; some however are isolated in the landscape and many of these are farms established following Parliamentary Enclosure, built with the aim of being more efficient farming units, and according to the notable local historian Rex Russell, characteristically bear names "such as Top Farm" (Russell 2009b, 52).

Much of this area of the north-central Wolds was subject to Parliamentary Enclosure and most enclosures occurred before 1800 (Rawding 2001, 16-7; Russell 2009b, 50). Characteristic features of this development include: straight roads, wide grass verges, straight field boundaries ignoring topography and formed of whitethorn, trees planted in the new hedge rows, but at intervals (as can be seen in fact marked on the late 19th and early 20th century maps of the area of the Mount Pleasant site reported here), screening plantations and fox coverts planted for the pursuit of fox-hunting, and new farmsteads away from the village (Russell 2009b, 50-2). These features are seen in the immediate landscape around the site reported in this monograph.

The 19th century saw a transformation in agriculture on the Wolds with the development of Victorian High Farming. By the mid-19th century farming on the Wolds was characterized by large farms, worked intensely by a rotation system geared to mixed farming which resulted in high yields and profits but with a concomitant settlement and social structure (Rawding 2001, 6-50; Olney 1975). Sheep flocks, manuring, fodder (especially turnips) and arable (grain) products were integrated in this rotation, with marginal lands brought into cultivation. Innovation and investment assisted this process which was seen as exemplary; the Model

Farm buildings at Kirmond le Mire, a short distance south of the site of the Roman villa, are an example (Rawding 2001 1-50; fig. 12). However, the later 19th century was coloured by severe agricultural depression and loss of population from market towns and villages (Rawding 2001, 11).

Further intensification of arable farming ensued as a consequence of the two World Wars and with the increased mechanization of farming. This occurred at various paces depending on resources available for investment. A leading figure in the changes during the second half of the 20th century was Joseph Nickerson who ran the Rothwell Estate and who developed a series of successful related agricultural enterprises. The dramatic changes unfolding in agriculture in the area and their manifestation and consequences are well attested in print (e.g. Whitlock 1987; Bennett 1995, 151-72; Smith 2007; Stennett 2009). These texts give much detail on the processes and human experience in the county and area; to this can be added Holmes' qualitatively rich account of agriculture in the parish of Claxby in the twentieth century (Holmes 2002, 46-50).

1.13 Local Stone and Quarrying

Local Claxby Ironstone was quarried in Roman times and employed as a building stone, being represented in the stone founded buildings reported in this volume. The stone, which is often yellowish, can be dressed, though not finely. Whether it was mined in the Roman period for smelting remains a significant question and a matter for future investigation (see Chapter 9). The stone was also extracted in post-Roman times to construct churches, houses and property boundaries in the locality. The churches at Caistor (the medieval church of St Peter and St Paul), Tealby (All Saints, which is 12th century), Nettleton and Walesby (the old church), for example, have Claxby Ironstone as a major or main constituent. The Old Grammar School, Caistor, dating from 1631 (with alterations in more recent times) was also built using this stone with sandstone and limestone dressings for windows and doors. Robinson notes that there are over twenty churches across the north-central Wolds wherein Claxby Ironstone is the main building material. While most of these churches lie within a convenient distance to transport the stone from its outcrops in Claxby, Tealby and Nettleton parishes, more distant areas with no local building stone employed this Ironstone, as in the case of Yarburgh in the Middle Marsh (Robinson 2009c, 63-4).

Tealby Limestone was used in constructing the walls of Roman Caistor (cf. above). It can be dark yellow-brown and often contains very large bivalve fossil shells. It can be worked into ashlar blocks but is markedly susceptible to weathering (English Heritage, no date, 14), and this seems to be demonstrated by the exposed walling of the North Bastion at Caistor (Rahtz 1960, pl. 35b), presuming this is indeed constructed of Tealby Limestone, as surface lichen and weathering obscure the actual rock surface. The stone was used for church building, particularly in North East Lincolnshire, as at Hatcliffe, Barnoldby le Beck and Ashby cum Fenby. It has occasionally been used in domestic houses in the post-medieval period (English Heritage, no date, 14).

Late 18th century maps and documentation show that there had been small scale stone extraction at Tealby before the nineteenth century. The location of one quarry in Tealby Vale by the angle of Caistor Lane as it turns north-west (TF 161 915; marked 'Stone Pit' on a 1795 Enclosure Award map, and specified in an 1825 valuation as a 'stone quarry') shows that it cut into the scarp slope suggesting that it may have been Claxby Ironstone that was being extracted. The quarry is also apparent on the OS map of 1906 (plot 400) but today is now less clear, being largely filled in (information and copy of maps kindly provided by Hugh Nott of Tealby). A further quarry at Tealby seems possible at a location on Papermill Lane, the B1032, to the east of the church, where the first two fields on the north side of the road were known as West and East Rockcliff (pers. comm. Hugh Nott; see also Russell 2009b, 51, the 'Tealby Before Enclosure – 1792' map which locates and names 'Rockcliff'). Hugh Nott notes that: "East Rockcliff has a rock face beside the road and could have been an old quarry before 1795" (in correspondence). The start date of these quarries is not known.

For a century, from the mid-Victorian period, ironstone was mined for its iron content, as part of the iron and steel industry of northern Lincolnshire, and in the Claxby and Nettleton area was at times a significant enterprise and employer. Claxby ironstone mine opened in 1868 and was worked for 17 years (Squires 2007; 2009); the quality of the stone with regard to iron content was found to be not particularly good (Squires 2007, 204). Subsequently there were two mines at Nettleton; Top Mine was in production from 1934 until 1959 and Bottom Mine, located in Nettleton Bottom, 1.5km east of Top Mine, ran between 1957 and 1968. Quarrying of ironstone also occurred in the 1950s along the valley sides in Nettleton Bottom at places where the stone outcropped (Squires 2009). As Stewart Squires notes: "The valley sides today [in Nettleton Bottom] look natural but have, in fact, been partly created by the hand of man" (Squires 2009, 68). The area subject to the quarrying included the find-spot of Roman-British pottery at TF 115 984 which was destroyed by the workings (Petch 1957, 16).

Chalk has been quarried on an industrial scale over the past century at locations south of Caistor and much of this was extracted for the iron and steel works at Scunthorpe. There is a major chalk quarry on Mansgate Hill, on the north side of the road that leads from the village of Nettleton up to Caistor High Street (the B1225) and it is still in operation (Robinson 2009c). Quarrying of chalk was undertaken on the east side of Nettleton Bottom to the north-west of the site reported in this monograph. A road from this quarry extends up the slope of the valley and joins the Caistor High Street, running on the north side of the hedge on the north side of East Field. This quarry has been used for land fill in recent years.

Small, short term, quarries for chalk are also to be seen in fields on the Wolds, as extant scars or hollows colonized by scrub and ringed with small trees, or more often, where they have been backfilled, as soil-mark features on aerial photographs, or latterly via google satellite images. Occasionally too they can be observed as scooped depressions seen in fields in the area where they have been backfilled but not fully relandscaped. Such depressions could be confused with World War 2 bomb craters or dew ponds (a feature more characteristic of the South Downs). These small quarries were often located at the centre of the field, or in approximately mid positions at either end of a field, or in corners by roads or where topography facilitated horizontal extraction. They typically relate to the spreading of crushed chalk on fields to maintain lime/alkaline content otherwise leached from ploughsoils (Beastall 1978, 116 and 238; Robinson 2009c, 65; Monkhouse 1986, 488), and their central positions may be for ease of spreading. Some of the small chalk pits located by roads, often by changes of topography enabling a direct cutting into (effectively) a bank of chalk rather than a 'digging down'. Location by field corners and roads, as at Hatcliffe Top may be for ease of transport by the road or in some cases was for the hardcore chalk could provide for roads (Robinson 2009c, 64). Other small chalk quarries were opened to produce lime for building or hardcore for building platforms or for surfacing crew yards (pers. comm. Gwen Bain and David Robinson); one at Tealby served a lime kiln on Bully Hill in the modern era (pers. comm. Hugh Nott).

Sand was extracted between Nettleton Hill and Nettleton Top Farm in recent times via open-casting (cf. Field and Leahy 1993). The sand, which was notably spherical, was used in the building industry. The site has been relandscaped following land fill.

1.14 The Site, Site Name and Field Names

Located in a fully rural setting the palimpsest of ancient features and traces reported here underlie agricultural soils at a place in the land that has not been occupied since Roman times. Localities on the Wolds are known to its occupants by traditional colloquial names, often applied loosely to wide areas. There is little reason for these farmed localities to be referred to very specifically except by farmers and landowners, and in recent times traditional field names have passed out of use as fields have been amalgamated into large units often now referred to by numbers (and latterly by GPS referencing). The site reported here is part of a continuous landscape of activity, now, as in the past. The particular focus was originally upon the Late Iron Age and Roman complex which spreads over three fields either side of the Caistor High Street, centred on c. TF 133 977, and divided today, as evidently in Roman times, by this arterial north-south road. Below the Late Iron Age and Roman remains are features and deposits of earlier eras, and these are all elements of this intensively used area. The location has been a place of focused activity for millennia. One reason for this broad continuity in use is the specific location of the site, something that might be lost on the motorist travelling on the modern road. The considered pedestrian, surveying the landscape hereabouts will be aware of its elevation (emphasized to the map reader by the presence of the mast in the corner of East Field). From this vantage point one can view the land, the vista to the north east, to the mouth of the Humber and Spurn Head beyond. A little walking or map observation shows the locality to be at the head of three significant radiating valleys. Modern paths and roads mark and use the natural topography from around this point, and firm indicators show this to have been the case in past times, showing Mount Pleasant to have been a nodal locus.

There is no record of a name for the site surviving by some means, or recording the name its ancient inhabitants may have known it by. It would have been a notable aspect of the Roman inscribed tablet from the site (Section 6.9) if it had included such an identifier, but it does not. Nor is there much in the way of settlement from modern times anywhere nearby preserving potential elements of a past designation.

Occupation ended in the late Roman period with no later settlement over the area. The location is sometimes known as Rothwell Top as it overlooks the incised valley leading to Rothwell village, but this is really a term for the area east of the site, described after the farm buildings of Rothwell Top Farm (Fig. 2.1). The grain barns by the site in the south-east corner of the field known as East Field are 'new', being a development of the second half of the 20th century; there was never a farm building or house there. The site described in this volume is divided by the Nettleton-Rothwell parish boundary which runs along the Caistor High Street with seemingly equal parts of the ancient site in either parish; this also marks a division in land ownership. Hence it is misleading to refer to the site as being of a particular parish, though before the extent of the site within Street Furlongs (east of the High Street) was known, the site was referred to widely as 'Nettleton'. The name Mount Pleasant is employed here, taken from the nearest habitation, not more than 300m to the south of the archaeological site, on the east side of the Caistor High Street (at TF 1340 9725). This name has been used for the duration of the Project, since its institution in early 1998. The isolated house known as Mount Pleasant has had that name since before the 1880s.

The eastern half of the site lies in the field known today as Street Furlongs. This was, until recent times, two fields. The northern two fifths of the present field were known as Street Furlong, while the southern part was called Blacklands (Whitlock 1987, the 1951 Plan of The Rothwell Farms). This latter name referenced the distinctive colouring of the soil across much of the field (pers. comm. Gwen Bain) – the signature of the detritus of the ancient site. The field bordering the southern section of Street Furlongs on its eastern side is known as Far Kiln Close. The field has a record of a cropmark on the National Mapping Programme database tile for the area (administered currently by English Heritage) at its western end by Street Furlongs. This cropmark lies in the north-west corner of the field and is drawn as a rather regular rectangular cropmark on the survey records (Fig. 2.4). No surface finds were noticed in a walkover survey of this sector of the field in September 2011 and it seems this cropmark has been generated from deeper soil lying within natural gullies (palaeochannels) running north to the valley on that side and hence not archaeological. Street Furlongs was part of the Joseph Nickerson Estate and during the course of the Project was part of J.N. Farms until being moved to the administration of Robert Nickerson latterly.

On the west side of Caistor High Street the site lies mainly within East Field. This was an eastern field of the former Nettleton Bottom Farm but is now farmed by a different farming enterprise. The name of the field to the north of East Field is not known to the writer and is not known to others who have been asked this question and so in order to identify it for this Project it has been allocated the name 'North Field'. Both East Field and North Field are owned and farmed by Hugh Bourn and Sons, as it was when the archaeological works reported here were undertaken.

1.15 The Structure of this Report

The present chapter has introduced the geographic setting and outlined the environmental, archaeological and historical milieu. Chapter 2 focuses on the discovery of the site and the background to the Project; it specifies the aims and purpose of the fieldwork over the past 15 years, focused initially on this site, but which has broadened since 2003 into a project looking at ancient sites, economy and environment over a wider part of the Wolds. Chapter 2 introduces the archaeological methodologies, aspects of the survey elements of the project and details some of the earlier evidence, prior to the present study. Chapter 3 presents the results of the excavations at Mount Pleasant, providing details of the ploughsoil study and of the ten excavated trenches. Chapter 4 contains the specialist reports on the prehistoric finds: lithics, the Early Bronze Age axe-head and the Middle Iron Age pottery. Chapter 5 attends to the types of evidence relating to the Roman period buildings. Chapter 6 covers the variety of Late Iron Age and Roman era finds. The results of the environmental sampling are given in Chapter 7, along with the reports on the faunal remains from the excavations and the oyster shell. Chapter 8 presents a summary of the other sites examined by survey in the area as part of the wider Project, prior to the statement of conclusions in Chapter 9. This is the first volume reporting the findings of the Wolds Project and some elements of the findings from Mount Pleasant will be best comprehended in comparison with the results from the other sites of the 'Project neighbourhood'; this is especially so given that the archaeology of the Lincolnshire Wolds has been so little explored in the past, meaning there was a paucity of suitable comparator sites available prior to the data gathering by excavation and survey at the other Project sites. Accordingly some elements of the study of the Mount Pleasant material are to be dealt with more fully in the synthesis study incorporating the evidence from the other sites examined in the vicinity (Willis forthcoming).

Chapter 2

Background to the Project, Previous Evidence, Geophysical Surveys and Project Aims

Steven Willis, with contributions by Phil Catherall†, Gerald Moody and Lloyd Bosworth

2.1 Background to the 'Discovery' of the Site

Steven Willis

As noted in Chapter 1 the site lies within arable fields c. 4km south of Caistor (4.5km by road) around TF 131 975. At between 154-159m OD it is bisected by the modern B1225 known as Caistor High Street. The site lies mainly within the two fields known as East Field and Street Furlongs as indicated in Figure 2.1. A site at this location was not known to archaeologists and curators at Lincolnshire County Council (LCC) prior to the work carried out by the British Gas archaeological team. Roman finds from East Field were known to a few local people from the 1960s, if not previously. Notable amongst these few aware individuals was Les Brown of Caistor whose father worked for the Moore brothers who then owned and worked Nettleton Bottom Farm, of which East Field was a part. Les collected a wide range of types of finds from the field as a boy, including pottery, glass, slag, whetstones and hones, quern and the Roma intaglio and he has made available those finds he still retains for reporting in this volume (see below, Chapter 6; though his pottery collection is not documented here). People often find that certain places can have special significance and meaning to them; they become attached to places through their experiences, interactions, connections made and memories through their life course. In this way the East Field has a particular resonance for Les, remade when he views his collection and talks about finding the items as a lad. Heritage and archaeology has become much more 'professionalized' and regulated since the 1960s, with all the associated changes and connotations. Remains were much less cared for or protected in those times and their significance and potential was much less appreciated than it is fifty years later in a world where no week goes by without the media reporting a news worthy and 'headline' archaeological or historical discovery. Half a century ago there was not the infrastructure available to deal with discoveries nor an agenda of awareness raising. Budgets, specialists and focus were much smaller. We are fortunate that people such as Les bothered to gather archaeological material in those times and to curate it and make it available to study.

Les Brown and other local people recount a consistent story that when the barns that lie at the south-east corner of East Field were being constructed in the 1960s walls and a mosaic were revealed, but not reported and then covered over and the discovery kept quiet as the building work was continued. Les Brown says his father was worried that he might be sacked over the matter, not for happening to be involved in the discovery, but presumably if the story got out and his employers thought he and others had not kept the discovery and its concealment silent. Les feels that the seriousness with which his father viewed the prospect of losing his job verifies the likelihood of this story being true. What may lie below the barns and concreted yards and standings at this location is not certain of course; they cover and effectively seal a wide area some 80m by 65m. This question is considered further in the Discussion (Chapter 9).

There is a further story that bulldozing was undertaken by the Moore brothers on the eastern side of East Field in order to remove stones which were obstructing farm machinery. This suggestion has not been verified. Larger stones in the ploughsoil have typically been carried off the fields of the Wolds, as elsewhere, to be dumped in the adjacent hedgerows or removed completely for new uses. The consequence of this practice can be observed at this site, especially in winter when plants have died back and stone in the hedge-line base is partially revealed. In the hedge-lines around East Field and Street Furlongs much Claxby Ironstone and some Roach and Spilsby Sandstone can be recognized, presumed to be stone brought to the site for building and other uses in Roman times. In a few instances Spilsby Sandstone fragments in the hedge-lines could be seen to derive from querns, and these were recovered (see the quern report, Section 6.11). The architectural stone recovered by Les Brown came from a hedge row at the site (see Section 5.1). Any such bulldozing was presumably aimed at removing stones at the base of the ploughsoil or protruding up into it, such as Roman stone walling, which the plough will have hit. This will have been a greater problem a few decades ago when machinery was lighter and engines less powerful, or indeed the stone may have been encountered via deeper ploughing from that time. There is no reason to believe this story to be other than true. If this did occur then it was undertaken some when in the 1960s or 1970s, and would represent a major denudation of any positive (i.e. above natural subsoil) archaeological layers in the most intensively used area of the site in the Roman era in the vicinity of Trenches B and E reported in this volume. There is no trace today of any bulldozing having taken place.

With the advent of metal detectors East Field became a popular location to scan for finds. Through the 1980s and into the 1990s the field was very heavily detected, with and without the owner's permissions, as it yielded some truly remarkable material (Farley 2011). There is no reason to doubt that the Iron Age coins attributed to the field (May 1998) are not from this provenance, and the list for coins of that period understood to have come from East Field before the archaeological works is second only in number to that of the East Leicestershire hoards from near Hallaton (Score 2011).

However, twenty years ago relatively little archaeological information was available on record for the vicinity of the site when British Gas began survey operations in advance of the Skitter Hatton pipeline. The route the pipe was scheduled to take in this area ran adjacent to Caistor High Street, on its western side. This was a logical position as it followed the consistent topography of the spine of the Wolds (rather than cross any valleys) and in terms of access. It was to be laid at a distance from the earlier Petrofina pipe of 1988-9. The pipe was earmarked to cross East Field. In the early 1990s British Gas had its own archaeological team led by Dr Phil Catherall; the team were based at North Killingholme. It was their role to document any potential impacts the laying of the pipe might have on archaeological remains and prepare an assessment based on both 'desk top survey' and field investigation.

Existing knowledge of archaeological remains in the area came from various piecemeal sources. In 1966 Joan Mostyn-Lewis had reported a surface scatter of Romano-British greyware pottery to be present in East Field (Mostyn-Lewis 1966, 47). In 1967 Christopher Knowles of Scunthorpe Museum reported the finding of pottery in a field 'next but one' to East Field, to the south-west, at the head of Nettleton Bottom, between East Field and Acre House (TF 122 970, Whitwell and Wilson 1968, 27). During the exceptionally hot and dry summer of 1976 a series of cropmarks indicative of ditched enclosures and trackways were recorded by Paul Everson on aerial photographs, though these had not been integrated into the LCC Sites and Monuments Record by the time the British Gas archaeologists were preparing their survey. Archaeological monitoring of trenching had been undertaken along the west side of the B1225 Caistor High Street in 1988-9 prior to the laying of a Petrofina pipeline. Although this ran immediately to the side of East Field by the roadside verge, and therefore through the ancient site, there is no record of archaeological remains being observed at this location. This is curious given the density of features and finds that were likely to have existed in this margin, perhaps better preserved than in the adjacent ploughed field. According to Phil Catherall this watching brief had evidently not been maintained at this point (Catherall *et al*. 1998, 6).

As the fieldwork element of the British Gas archaeological team survey progressed it become apparent to the team that there was a strong concentration of Roman pottery in East Field. As they began to map the archaeological evidence from East Field by fieldwalking and geophysical survey they spoke with detectorists who had frequently visited East Field recovering coins and other metalwork. Both they and the Local Government archaeological and heritage team thereby became aware that a remarkable range of metal items including Iron Age and Roman coins and 'votive miniatures' had been collected by detectorists from the field in the recent past. Michael O'Bee had gathered many finds himself, which he bolstered by acquiring finds made by others. He showed his collection to the British Gas team. Many of the coins and items from the detecting had in fact already been logged by Jeffrey May at Nottingham University and the report for British Gas states

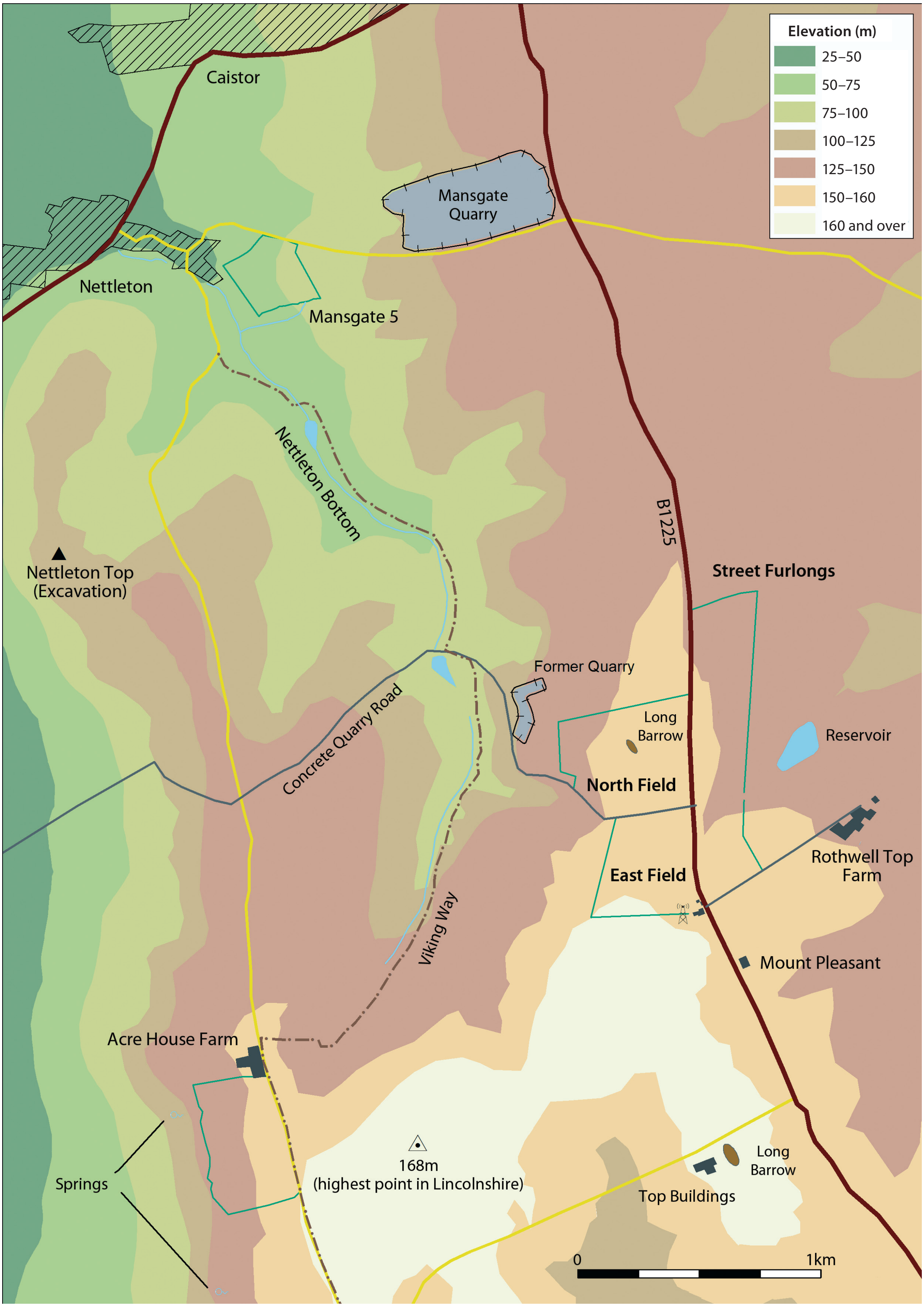


Figure 2.1 The location of the Mount Pleasant site within East Field and Street Furlongs, showing the surrounding landscape setting.

that: “good relationships with metal detectorists over many years enabled JM to examine a wide range of artefacts being recovered from the field, including Iron Age coins, brooches and votive items” (Catherall *et al*. 1998, 2). With the completion of the fieldwalking and geophysical survey it was apparent that this was a regionally significant site in the Late Iron Age and Roman period. To avoid the major disturbance that the gas pipe trench and easement would entail the route of the pipeline was altered to pass through the field directly to the west. The ‘discovery’ meant that the County Archaeologist at that time, Steven Catney, had the sudden dilemma as to what to do with a site that was yielding the greatest assemblage of Iron Age coins then known from the East Midlands and which was being disturbed by year on year ploughing, with a likely significant loss of information through erosion and the non-reporting of detected finds. In the 1990s detectorists were known to be travelling from across the north of England to ‘work’ the site, with ‘night-hawking’ reported, although unauthorized detecting in daylight was rife. In 1999 one detectorist advised the present author that he had moved house from the north-west of England to Lincolnshire in order to detect the site: he was often seen on the field that year. In the 1980s and 1990s the looting of archaeological sites by irresponsible metal-detector users was an especially heightened and, for some, emotive issue following notorious cases of devastation of sites by unrecorded large scale diggings. A case in point was Wanborough, Surrey, an Iron Age shrine and Roman temple site from where over 1000 coins and other offerings are known but evidently many more were taken (O’Connell and Bird 1994). It is worth recalling that at the time, unlike presently, there was no Portable Antiquities Scheme and no Country Stewardship scheme fostering careful management of archaeological remains amongst other briefs. The likelihood that the site could be taken out of arable cultivation was improbable. The pipeline trench was diverted, the results of the fieldwalking and geophysical survey were assessed and a report subsequently prepared (Bonner and Griffiths 1994) but not published (Catherall *et al*. 1998).

2.2 Small Chalk Quarries at the Site

Steven Willis

Approximately five small quarry holes or probable quarry holes can be noted at the site. One lies in the southern part Street Furlongs, together with one in North Field, while three or four are traceable in East Field. These are evidently the remains of chalk extraction pits (cf. Section 1.13); rather than being dismissed as ‘modern disturbance’ they have a role in the story of the site and as is discussed in Chapter 9 some seem to relate to the archaeology of the site in a significant manner. The depression at the centre of the southern end of Street Furlongs within the site reported in this volume, is a backfilled former small chalk quarry of this type, for ‘marling’. It appears on most recent maps as ‘Pit (dis)[used]’ (e.g. the 1: 25000 OS Explorer Series Map No. 282 of 1999) and registers on the geophysical survey as a major anomaly, as well as being a physically visible feature. Though backfilled, covered with modern ploughsoil and cultivated with the rest of the field it is conspicuous as a shallow crater. The geophysical survey shows that it was dug within a part of the enclosure system of the ancient (i.e. Roman) site reported in this volume. Small chalk quarries were present in East Field opposite Street Furlongs but three are now not easily seen when viewing the field (cf. Fig. 2.2, Fig. 2.5 and Fig. 2.6). There are two at the north end of the field, one of which is noticeable today as a saucer shaped crater in a central northern location (being designated F35 in the interpretation of the geophysical data) and a second seen on the geophysical survey more to the north-east corner (identified as F43). F30-1 in the south-west quadrant of the field is evidently the location of a former small chalk quarry and this feature appears on maps from the 1880s through to the mid-20th century, but not afterwards. On the eastern side of the enclosure complex A in the south central area of the field Phil Catherall identified a geophysical anomaly as a likely chalk quarry or similar (designated F33; see his 1998 report reproduced below). A further small quarry existed until recent years in the north-east corner of North Field adjacent to the B1225 High Street. It has now been backfilled and the area included in the cultivated arable field. It is visible as a green clump in Fig. 1.1 (above) and also appears on the aforementioned Explorer Series map of 1999 as ‘Pit (dis)’ and can be seen clearly in aerial views of the Nickerson Estate seed trials from the 1980s (e.g. the front cover of *Roots in the Soil* (Whitlock 1987)). The latter publication reproduces the 1951 Plan of The Rothwell Farms (Whitlock 1987) and this shows a small feature in a field next but one to Street Furlongs on the eastern side, and in this case the map is annotated ‘Old Marl Pit’. This feature lies within a field known as Near Kiln Close, which could well, I presume, refer to a lime burning kiln.

2.3 The Geophysical Survey by the British Gas Archaeological Team in East Field 1992-3

2.3.1 Introduction

Steven Willis

The following section records Phil Catherall's account of the survey, taken from the unpublished report (Catherall *et al.* 1998). It is reproduced here alongside the original interpretation (Section 2.3.3) as this survey provides fundamental information on the archaeology of the site, following significant investment of time, finance and human endeavour. The results provide a framework for interpreting the surface collected pottery (see Leary this volume) and were one of the factors determining trench locations. The results proved largely highly reliable; several of the features detected by the geophysics also appear upon aerial photographs dating from the 1960s. Sections 2.3.2 and 2.3.3 reproduce Phil Catherall's words with only slight edits and specified annotations by the present writer made to assist the reader in the context of the present publication. They are followed (in 2.3.4) by a re-examination of the results using current approaches. Note that in Phil Catherall's commentary, reproduced here as Section 2.3.3, he refers to the larger complexes via alphabetic codes but does not refer to the individual anomalies by the numeric codes appearing on his interpretation plot Figure 2.4; perhaps they were added after he wrote his commentary. This numbering has a principle role in Leary's report on the pottery distributions discerned from the fieldwalking in East Field (cf. 6.1). In some cases I have added in the numeric codes to his text but in others it is apparent which features he is referring to.

Figure 2.2 Phil Catherall's plot of results from the British Gas archaeological team's survey of East Field 1992-3 showing geophysical anomalies.

Figure 2.3 The cutting for the British Gas pipeline c. March 1993. Linda Bonner of the British Gas archaeological team investigates a large archaeological feature sectioned by the machining. This is probably the ditch recorded in the field west of East Field (see Section 2.3.3).

2.3.2 The Geophysical Survey by the British Gas Archaeological Team in East Field 1992-3: Background and Method

Phil Catherall†

In October 1992 archaeological fieldwork began on the proposed route of a gas pipeline which was to run between Skitter, on the south bank of the River Humber near Goxhill, and Hatton Compressor Station to the east of Wragby. During the earlier stages of the planning, both the Humberside and Lincolnshire SMRs had been consulted and a route chosen which avoided known archaeological sites. Originally the proposed route of the pipeline in the area south-east of Caistor had been to the east of High Street, the supposed Roman road linking the town of Caistor with the settlement further south at Horncastle but it had later been decided to move this section of the route to the west of High Street and run parallel to the Petrofina oil pipeline which had been constructed in 1988-9. On consulting the records in Lincoln it appeared that the route of this oil pipeline had been the subject of selective fieldwork, concentrating on known sites, rather than a continuous coverage, prior to its construction. Although it is now known that Roman pottery had been recorded from immediately west of High Street in the area of the site (pers. comm. Steve Catney), no indication of the presence of a major site was available from the records, although the Petrofina pipeline had been constructed in the verge of High Street immediately adjacent to the hedge forming the eastern boundary of the field in question and had been inspected during its construction by archaeologists.

During routine fieldwalking by the British Gas archaeologists, it quickly became apparent that the field contained a large spread of Romano-British pottery. Shortly afterwards, contact was made with a group of metal detectorists who regularly searched the field. It became clear that large numbers of Iron Age and Roman coins and other metal objects, including bronze, silver and gold jewellery, were being recovered from the field. These included approximately 50 gold or silver Iron Age coins. Many of the objects were of a religious or votive nature. Unbeknownst to the British Gas archaeologists or the County Archaeologist, many of these finds had been examined by Jeffrey May over a period of some eight years. It seemed likely that the site might be that of an Iron Age shrine and a Romano-British temple.

It was decided to carry out a magnetometer survey, using a Geoscan FM36 instrument in a series of 30m grids, over that part of the field which was to be affected by the pipeline route (Fig. 2.2). It rapidly became obvious that the site was extensive and eventually the geophysical survey extended to cover the majority of the field (the exception being a strip approximately 10 metres wide down the eastern edge of the site since the pipeline could not have been constructed in this area). The survey was not carried out in other areas (to the north-east and across High Street [i.e. into Street Furlongs – S.W.]), although these may have been archaeologically informative, since they were not affected by the pipeline proposals.

It was also decided to carry out a detailed field pick-up of the material on the surface of the field, using 2 metre transepts within the 30 metre wide grids of the geophysical survey. Each find was marked with a flag but not removed until it had been plotted in by British Gas surveyors. Each find was surveyed in to an accuracy of 10cm and given a unique number so that the distribution of the finds could be compared accurately to the geophysical survey. In this way, it was hoped that analysis of the pottery would enable the geophysical anomalies to be phased, since it was obvious from the first stages of the survey that an exceptionally detailed survey was likely to result from the work. Given the size of the task, both surveys were carried out intermittently from November 1992 until April 1993 as time permitted. Once it became obvious that the site covered the whole of the field, it was decided in concert with the British Gas Project Manager that the route of the pipeline should be moved into the field to the west of the site. The surface of this field, towards the north, was approximately 1.0 metre lower than that of the site and there was no sign of archaeological material in the ploughsoil and no apparent magnetic anomalies. According to the metal detectorists, the site extends to the east across High Street (finds being made some 40 metres into the opposite field) and northwards across the track leading to Nettleton Bottom. Since these areas were never within the land-take of the proposed pipeline, the geophysical survey and field pick-up were not extended to them.

During the construction of the gas pipeline, two archaeological features were discovered in the vicinity of the identified site which may have some significance. The presence of a probable long barrow in the field north of East Field had been notified (pers. comm. Dilwyn Jones) to one of the authors (PDC). A geophysical survey of the site had confirmed its identification and steps were taken to avoid the site by re-routing the pipeline. Unfortunately a mistake by the contractors' surveyors resulted in this re-routing being omitted and part of the site was stripped of topsoil [see above Section 1.6 – S.W.]. It was consequently partially investigated (Bonner and Griffiths 1994, 36). There was evidence of several recuts in the ditch, one of which produced four fragments of Beaker pottery. The bulk of the pottery which was recovered (757 sherds), however, was Romano-British in date, together with a little Iron Age pottery and a few Middle Bronze Age collared urn fragments. It is probable, therefore, that the site was still visible in the Romano-British period and was still being visited. The same phenomenon can be observed at Uley, with regard to the long barrow at Hetty Pegler's Tump, and elsewhere (Woodward and Leach 1993, 304-5). The other archaeological feature, recorded during the construction, which could be connected to the putative temple site was discovered in the field immediately to the west. This comprised two sections of a ditch cut into the chalk bedrock. Although the two sections were only some 1.5 metres apart, they varied considerably in size and in shape. The east-south-east facing section measured 1.46m in depth and 3.0m in width with a V-shaped profile [this is probably the feature seen in Fig. 2.3 – S.W.]. The west-north-west facing section was more U-shaped and measured 0.90m in depth and 2.3m in width. Its position and alignment suggest a link with the linear feature showing in the geophysical survey approximately fifteen metres to the east. It is clear that the difference of 1.0m between the surfaces of the two fields has been caused by modern ploughing resulting in the lowering of the surface of the western field which slopes away steeply westwards from the hedgeline. The difference in the sections suggests that the depth and lower profile of the feature changes quite rapidly. It is worth noting that the linear feature in the survey which would appear to correspond to this ditch makes sudden changes of direction for reasons which are not apparent. No finds were recovered from this ditch.

2.3.3 Phil Catherall's Original Interpretation of the Geophysical Survey Results

Phil Catherall†

The interpretation of the survey in Figure 2.4 is the result of a considerable amount of study and is derived, not from a single plot, but from the examination of many varied plots. It is also, perhaps necessarily, subjective and derived from the author's experience of other surveys which had been investigated through excavation. Therefore, there may be suggestions, especially of the relationships between various magnetic anomalies, with which other practitioners would disagree. The interpretation has been deliberately pushed as far as the author dare, without the benefit of reinterpretation from the results of the field pick-up, in an attempt to show what may be possible using two complementary, non-invasive techniques.

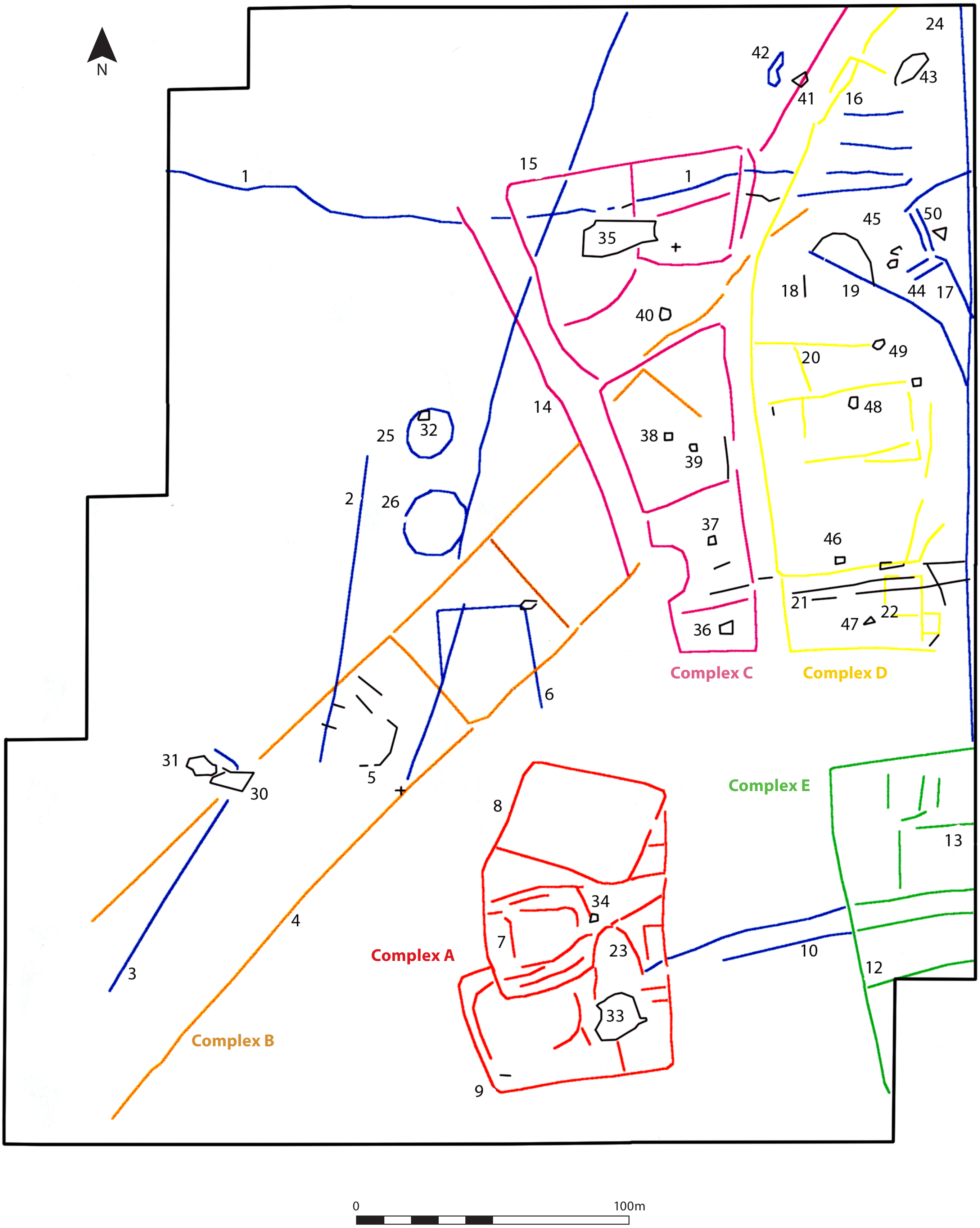


Figure 2.4 Phil Catherall's interpretation of the results from the British Gas archaeological team's geophysical survey of East Field 1992-3. Features are numbered and these are used by Ruth Leary in her report on the assemblage from fieldwalking, as well as elsewhere in this volume.

The survey was originally stored and processed using Geoplot 1.2. Subsequently, much of the work was carried out using Geoplot 2.0, although the plot shown here as Figure 2.2 was produced using Insite. This latter program enables the site to be printed as one unit, something which is currently impossible using Geoplot because of the size of the area surveyed: 135,000m^2. There is a considerable variation in the strength of the anomalies in different parts of the site. In general the magnetic response is greatest in the eastern half of the site. This is probably a response to the archaeological material which is also more prolific to the east. However, archaeological features are present in the western half of the site, although it is necessary to choose printing parameters which cause the geological background (or noise) to become very evident and which does not print well. It is clear from the plot of the whole field that the chalk subsoil has a distinctive pattern of parallel magnetic anomalies which branch out on either side of the slight central ridge running through the field in a north-south direction. It is important to remember that not all the magnetic anomalies interpreted as being possibly archaeological will be visible in any given plot.

Two chalk pits, presumably belonging to the 19th or early 20th century, occur in the field, as elsewhere in the area to the south of Caistor and west of High Street. These are visible as hollows on the surface of the field. They both produced a magnetic anomaly similar to that of a large pit but on a much larger scale. The magnetic anomaly follows faithfully the hollow visible on the surface.

Complex A lay in the southern half of the field and had escaped the attention of the detectorists prior to the geophysical survey. It consists of a number of interlinked enclosures. The survey suggests that it might have had at least two phases. An anomaly with a strong resemblance to those characteristic of the chalk pits can be found towards its south-eastern corner [F33], although there is no sign of a depression on the surface of the field. The most likely explanation is that it comprises a filled-in hollow, such as might result either from a threshing floor or an area trampled by cattle around a water-source. To the east a pair of parallel ditches which seem to run east-west from Complex A and are overlain by Complex E may be the remains of side-ditches to a roadway connecting with High Street.

Complex B comprises a ladder-like structure of square and rectangular enclosures running from the south-west corner of the field towards the north-east. The anomalies, never very strong, become weaker the further one goes to the south-west, which perhaps suggests that the focus of the settlement ought to lie to the north-east, with a decreasing amount of rubbish getting into the ditches as the distance increases from the settlement. The most obvious enclosure measures c. 50m square but two further enclosures to the north-east both appear to measure c. 50 x 84m. The magnetic response is not as strong as that from most of the other complexes and it always appeared to underlie the enclosures forming Complexes C and D. This is borne out by the date of the material from the surface pick-up. The possibly circular magnetic anomaly in the south-western most enclosure appears to be centred between the ditches and is much larger than the other possible circular features to the north [this was not, for some reason, shown on Catherall's interpretation plot reproduced here as Figure 2.4 but is shown on our Figure 3.1 - S.W.]. It also appears to be associated with Romano-British pottery, unlike the others. It is interpreted as belonging to Complex B, therefore, but this would need to be tested through excavation.

Complex C is a V-shaped complex consisting of either three or five trapezoidal enclosures. In either case there appear to be subdivisions to the majority of them. It is flanked on either side by roadways which appear to exit the field in the north-east and north-west corners. That on the western side of the complex is much less distinct to the north-west of the complex [but heads towards a convenient gradient of slope into Nettleton Bottom, one which has been used in later times, and now forms part of what is today known as the Concrete Road accessing the quarry sites in the valley – S.W.]. The road on the eastern side of the complex is either the road from Caistor to Horncastle (*Banovallum*) itself or a connection to it if it is situated under the present High Street.

To the south of the chalk pit which is sited in the northernmost enclosure [F35] is an area of confused magnetic responses. Votive items recovered by detectorists from the site appear to have come from this area which is larger in extent than the majority of known Romano-British temple sites. No individual structures can be identified within this area, which appears to be centred around a large anomaly, measuring six metres in diameter [I take this to be F40 but it is not specified in Catherall *et al.* 1998 – S.W.]. Possible pits or wells also occur in two of the other enclosures in this complex. The enclosure in the south of the complex appears to have a forecourt situated on its western side [i.e. defined by the semi-circular anomaly - S.W.]. The roadways and Complex C all give the impression (based on experience) of cutting a large ditch running across the site from east to west [F1]. This is almost certainly the ditch which, 15 metres outside the western edge of the field, was cut by the gas pipe trench. It should be noted that such impressions may not always be correct but do allow a working hypothesis of phasing to be proposed.

To the east lies Complex D, which, on the grounds of spatial arrangements and the magnetic response, may well be contemporary with Complex C. This is the area of the site where the magnetic responses are strongest and where the finds of pottery on the surface were most dense. The edge of the roadway, although remodelled in the northern sector, is clear. There is an enclosure at its southern end which was possibly added to the original layout. This enclosure appears to have a subdivision running east-west within it, dividing it unevenly into two. The northernmost subdivision is only the same width as the roadway between Complexes C and D and might, therefore, have been a roadway, although it does appear to be blocked off at its western end. There are strong indications of a small (7 x 8m) structure attached to the eastern side of the southernmost enclosure.

There appears to be a series of square or rectangular enclosures occupying the majority of the southern half of Complex D, although the magnetic background is so high and universal that it is difficult to differentiate it into separate structures. Some faint traces of Complex B might exist in an area where the magnetic anomalies seem to indicate a number of structures with a totally different alignment to the majority of those in Complex D. The eastern edge of the survey (some 20m short of the edge of the field) appears to show a ditch running north-south for at least 250m [F24]. Its relationship with the rest of Complex D is unclear although it does appear to be cut by a partially double-ditched enclosure (?) aligned north-north-west–south-south-east [F17], which itself may belong to a different phase. Further possible ditches which appear to be cut by the roadway may be indications of structures belonging to the same phase as the major east-west ditch. The indications are that a great deal of settlement and remodelling has occurred in this sector of the site. A number of large anomalies, possibly pits or wells, are associated with these rectangular enclosures. The eastern edge of the survey does not appear to have found the eastern edge of the settlement. Pottery and metal finds are known from an area to the east of the present High Street and this suggests that the settlement may have extended for at least another 70-80m to the east. It is unfortunate that a watching brief was not maintained on the Petrofina pipeline trench at this point.

Some 40 metres to the south of Complex D lies the northern edge of Complex E. Only part of this complex was surveyed because of the presence of barns in the south-east corner of the field. The alignment of the enclosure would suggest that Complexes C, D and E are contemporary. The position of Complex E would also suggest that the rumours about the discovery of walls and a mosaic during the construction of the later barns might well have a basis of truth. A number of subdivisions can be seen in the part of Complex E which was surveyed.

A number of possible features remain which do not necessarily fit into any of the complexes outlined above. Immediately to the north of Complex B there are very faint traces (which are not visible on the results data plot published here) of two possible ring ditches [F25 and F26]. They are more visible on the screen than on any printout but there does appear to be a localised change in the geological background which only occurs within the area surrounded by the possible ditches. A certain amount of worked flint was recovered in this area during the field pick-up (see Fig. 4.5). These ring ditches, if such they are, occur on the top of the slight crest which runs north-south through the field. There is also a possible ditch which runs north-north-east from the eastern edge of the southernmost ring ditch to the north edge of the field [and to the south of the putative ring ditch. This was not labelled in PC's interpretation plot Figure 2.4; however, one can also see in Phil's data image that there are in fact two linears side by side running from the north-centre of the field to the centre of the field as he describes for the one feature. Hence I have allocated the codes CLFE (Central Linear Feature East) and CLFW (CLF West) to distinguish this pairing; see Figure 2.5 and Section 3.3.7. The pair is also identified by Moody in his re-working of the original image, as mentioned in the following Section - S.W.]. It appears to be cut both by the northernmost enclosure of Complex C and the east-west ditch [F1] (itself earlier than Complex C?). It also possibly extends southwards from the possible ring ditches in the direction of a further three ring ditches which are sited on the southern edge of the next field to the south. [These are extant as vestigially observable features some 300m south of the southern edge of East Field by the field edge along which now runs a bridleway joining The Viking Way (cf. Lincolnshire HER 50204 SAM 1013898 c. TF 130 971; details forwarded by Mark Bennet, LCC) - S.W.].

Portions of two possible ditches forming a right angle on a possible pit can be seen within the square enclosure of Complex B [F6]. The north-south ditch seems to extend beyond the edge of Complex B, which suggests that these possible ditches and pit may belong to a different phase. There is also a length of ditch with a right-angled return running south-west–north-east into the southern chalk pit from the south [F3]. The return occurs on the northern edge of the chalk pit. There are also faint traces of possible ditches running from the edge of Complex E (which seems to cut them) towards Complex A [F10]. From the plan it appears possible that they may represent an extension of Complex A or, more realistically, may mark the side ditches of a trackway from Complex A to the High Street.

2.3.4 The 1992-3 Geophysical Survey Results Re-examined

2.3.4.1 Background

Steven Willis

As two decades have passed since Phil Catherall's survey it was wondered if his original readings might be re-examined by means of more recent software. The option of resurveying East Field with state of the art resistance and magnetometer instruments is attractive in principal but this is a very large area and indeed had taken the British Gas team months to complete when they were based locally and fortuitously were able to access the field at will without an *in situ* and growing crop. Having spoken to Phil I knew he was amenable to this prospect of re-examining the data. Unfortunately just at the time I decided to pursue this in earnest in the early summer of 2011 we learnt sadly of Phil's premature death. Following several months of endeavour attempting to locate the geophysical data records in the various site archives and possible archive locations Graeme Guilbert was able to locate it amongst Phil's research materials in the early summer of 2013 and forwarded a copy. However, the records required a suitable system to run the plot: the data were there but not visible to present software; further the order of the grid units was not clear. Gerald Moody and Adam Webber have worked on the data image.

2.3.4.2 Re-examination of the 1992-3 Geophysical Survey Results twenty years on

Gerald Moody (illustrations prepared by Adam Webber)

The survey data

The raw data of the geophysical survey carried out by Catherall at East Field, Nettleton parish, Lincolnshire had been captured, stored and rendered using an early DOS version of Geoscan research Geoplot software. Despite attempting to run the software under windows in a DOS shell, the complexity of the early storage method meant that the raw data could not easily be recovered. However, a reasonably high resolution image of a dot density plot of the survey was available (Fig. 2.2), which could potentially be manipulated to allow the original dot density image to be enhanced, and was shaped sufficiently closely to the boundaries of the survey and field presented in reports that the resulting image could be calibrated using GIS software, locating the new image accurately over the survey area.

Data processing

The dot density plot was processed by sampling the image to a higher resolution and then adding a Gaussian blur effect to smooth out the individual screen of dots rendered within regular square pixel blocks, resampling the average tone of the square to a continuous shade. The image was then resampled back to its original resolution, with the effect of filling each square set of pixels which captured the square dots with a continuous grey scale shade reflecting the original survey data value, smoothing out the tones in the image. The continuous tones of the new image allowed it to be enhanced using image processing tools in Adobe Photoshop. These processes essentially work with image data in the same way as the data processing tools in Geophysical survey software which might have been used with the raw numerical data. The resulting image was good enough to be able to make adjustments to the rendering of the data and possibly extract any new information that is presented by the process. The location of the survey given in the original report was used to calibrate the image to the Ordnance Survey in GIS software. Despite applying several processes to the image, none appear to reveal any hidden detail, not already identified in the dot density plot. To further enhance the interpretation plot an image was produced displaying the contrast between positive and negative responses in the data and was enhanced as much as possible.

Assessing the original survey render

To identify any variations between Catherall's base map, his interpretation of the data and the new render of the digital data, an image was produced with the original survey faded out and overlaid with the interpretation, which was re-coloured red in the image. The original interpretation rendering of the data appeared quite crude in parts, reflecting the

Figure 2.5 Render of archaeological features visible in the geophysical data as identified by the re-working by Moody and Webber in 2013, using Catherall's original colour coding. Pink features are interpreted as chalk quarries. The long linears are identified in this plot by the codes CLFE and CLFW (see Section 2.3.3).

Figure 2.6 Render of archaeological features visible in the geophysical data as identified by the re-working by Moody and Webber in 2013, colour coded by interpretation of associated feature groups and implied stratigraphic sequence with just two phases identified.

software and processes that were available at the time it was produced. The original rendering of the features used a line of single thickness to represent all the features, although the data in the image does preserve a relationship with the dimensions and extent of the underlying archaeological feature. The drawing also used fewer nodes and curves than a more sophisticated drawing software is capable of and using the drawing capability of GIS software the survey could be traced more accurately to produce a new interpretation of the site's features and other possible anomalies. The render also deviated from the survey in places and in one area at the north central end of the survey a double ditched/linear feature appears only as a single line in both Catherall's data plot and interpretation plot, whereas the render shows it as a parallel pair [these in fact are evidently the features identified in Trench G and mentioned in the previous section where they are labelled CLFE and CLFW – S.W.]. The evidence in the new image for a number of proposed ring ditches is very doubtful, although Catherall outlines his reason for including them in his discussion (Section 2.3.3).

The interpretation of some more ephemeral responses was complicated by the prevalence of periglacial patterned ground marking the surface of underlying geology. Observed over a large area it is possible to determine the general sweeping curves of the linear striping characteristic of the patterned ground effects on the site. At a more detailed level it is sometimes difficult to pick out a genuine archaeological feature from elements of the patterned ground which are more closely aligned with the general orientation of archaeological features. In places the merging of patterned ground responses with archaeological responses can lead to the exaggeration or misinterpretation of the extent of a feature. This can only be corrected by using judgement to distinguish features from geological anomalies by considering the general trend of the overall pattern of geological responses.

Re-interpreting the survey

In the new render of the survey data, the feature plots were improved by using vector lines tracing the outer limits of edges of the features, producing filled polygons that give a relative scale to the features. With polygonal features it was easy to add coloured phasing in a more sophisticated way, suggesting thereby the stratigraphic order of features in the survey. With the image calibrated in a GIS, the trenches excavated in the field could be traced and geo-located making it possible to 're-fit' excavation results accurately over features in the geophysical survey.

2.3.5 Commentary on the Re-examination of the Original Geophysics Data Plot and Interpretation

Steven Willis

The re-examination of the data plot led Moody to confirm that there are no hidden or masked features detectable that were not already visible in the original data plot. This addresses the reason for considering a re-examination warranted in the first place. As will be seen in the following Chapter the excavations showed that some features – or more accurately features filled with particular (old) soils - were not detected by the geophysical survey. These were the stratigraphically earlier features, especially where there were later deposits nearby of Late Iron Age and/or Roman date which evidently tended to give a stronger reading, masking the earlier features filled with soils lacking cultural detritus and derived from the ancient natural cover soil. There is evidently (from the excavated and geophysical evidence) a palimpsest of features around and forming Complex A not all detected by the original magnetometry. It had been wondered if the original data could be revisited to reveal more detail on this Complex, given the significance of the archaeological evidence arising from the excavations. Similarly Phil Catherall (pers. comm.) had emphasized that the density of high readings in the north-eastern corner of the field had made feature identification and plotting difficult in the mid-1990s so could more subtle detail be discerned with new plotting software? In the event this was not so but the evidence from the excavations and the existing geophysical plot are sufficient to provide strong leads for outlining the sequence and what it represents (see Chapters 3 and 9). Clearly survey by both resistivity and magnetometry using present equipment and software is likely to be beneficial and there may be an opportunity to pursue this in the future in East Field. Overall the excavations show that the geophysical readings and their interpretation are broadly reliable, while Leary's examination (Chapter 6.1) of the distribution of the surface pottery by detailed study of its spatial incidence points to a strong correlation between these two types of data relating to the ancient remains. Moody and Webber's review and new plot provides a different mode for viewing the geophysical results from data collected so thoroughly through cold months twenty winters past. The geophysical results available following the

British Gas Team's survey played an important role in the planning of the further study of the site and the excavations begun in 1998, which form the main body of this report.

2.4 The Evolution of the Project

Steven Willis

By the mid-1990s sufficient was known of the site to begin to gauge its size and character. The plot from the 1992-3 magnetometer survey, the mass of sherds from fieldwalking and the attribution of so many Iron Age coins and metalwork confirmed the presence of a large site likely to extend beyond East Field, while for some the finds pointed to the former presence of an Iron Age and Roman religious complex at the site; this was the label by which it was understood in the 1990s. It seemed likely though that the site had other functions too, and that it was a focus for settlement and economic activities. The morphology of the enclosure system, as revealed by the geophysics (e.g. Fig. 2.4), implied that during the Roman era the site was closely associated with the High Street which presumably ran through it, either following the course of the modern road or the apparent looping routeway to the west detected by the survey. Both the overall pattern and its various elements were recognised as consistent with those of Iron Age and Romano-British sites in southern and eastern Britain, together with some long linear anomalies and perhaps circular features provisionally suggested to be prehistoric. An aspect not discussed by Catherall was that the data image shows the linear arrangement of his Complex B resembles a cursus aligned south-west–north-east through the field. The possibility that this was a cursus was considered by Phil Catherall, who, on balance believed (pers. comm.) it was unlikely to be such a feature (see below 3.1 and 3.3.8). Despite its known elements the site was not Scheduled.

The threat posed by ongoing unauthorised metal-detecting and the likelihood that normal agricultural practice and other processes might be disturbing and denuding sub-surface archaeological layers was a matter of concern for the Lincolnshire County Archaeologist in 1998, Steve Catney. Evidently better information upon the nature of the site and its survival was required which could then inform an appropriate management strategy. Accordingly, Steve Catney approached the landowner of East Field, Hugh Bourn, and the writer, early in 1998 with the proposal that a programme of archaeological works be undertaken, comprising targeted excavation and further survey, so that the state and character of any surviving archaeological levels might be established. A strategy was agreed by Mr Bourn, Neil Wilson (the farm manager), Steve Catney and Steven Willis, for excavations to be undertaken during the late summer. It was recognized that excavation could be significant for understanding the nature of past activity at the site, building upon what had been revealed by the 1992-3 work, and, indeed, that sustained fieldwork had potential for shedding light on the nature of Iron Age and Roman occupation on and around the Lincolnshire Wolds, a region which had, and still has, seen very limited archaeological investigation. Indications of the occupation and use of this part of Lincolnshire during the Iron Age and Roman eras had come to light with increasing frequency in preceding years, though with very little exploration of sites of these periods via excavation (cf. Willis with Dungworth 1999, 6-7). In its rural setting the site had evidently not been disturbed by subsequent occupation or development following the Roman era which was advantageous. In 1998, at the start of the present Project two notable publications appeared covering aspects of evidence for prehistoric and Roman era occupation and use of the Wolds based on air photographic data and plotting, and these remain important studies for the region (Jones 1998a; Bewley 1998a). They were also a reminder of the rich record for the prehistoric period - in the form of elongated enclosures, barrows and by the Bronze Age and Iron Age likely farmstead enclosures - contained by this landscape but little studied beyond the synthesis of aerial photographs, with few exceptions (cf. Chapter 1).

The larger sites of the Iron Age and Roman period in Lincolnshire and the East Midlands generally had been highlighted in the publications of Jeffrey May, the excavator of the Dragonby settlement, during the 1970s, 1980s and 1990s who emphasized their scale and significant finds but also how poorly researched and investigated they were by modern standards (e.g. May 1984; 1996, 638-44). Work at the Mount Pleasant site, by degree, would assist comprehension of both sites of this period of some scale in the region, and their role within society. The type of study begun at Mount Pleasant in 1998 also meshed well with the current (then) and ongoing English Heritage survey programme being conducted at Owmby Cliff, a seemingly analogous type of site on the Lincolnshire Limestone, c. 18km south-west of Nettleton, where the archaeology of the ploughsoil was being monitored by various methodologies (Olivier 1997).

Many of the larger Iron Age and Roman period sites in Lincolnshire have suffered in recent years from ongoing threats, and there was a recognized need, as elsewhere, to establish the potential impact of threats and develop management strategies to protect sites, given they are a vulnerable finite resource. Illegal metal-detecting had been endemic, and at the Mount Pleasant site this had been intense. This was also the case at Owmby Cliff, with the English Heritage surface survey there being a response to the threat. Sites are also being eroded by piecemeal processes such as modern development, pipelines and services, as well as agriculture. At Mount Pleasant, prior to the British Gas survey, the Petrofina pipeline of 1988-9 had been laid along the western verge of the High Street and can be presumed to have cut and disturbed archaeological remains unmonitored. Hence, from the curatorial perspective more knowledge on the character of these sites, as they survive below the plough-zone was and is considered advantageous in so far as it can inform practicable management and protection policies, both general, for sites of a certain type and period, and specific, dependent upon local circumstances. It was one of the aims of the programme of work at Mount Pleasant that it help inform management and protection policy for later prehistoric and Roman sites in rural contexts in Lincolnshire, and potentially beyond (Willis with Dungworth 1999, 8).

2.5 Aims of the Mount Pleasant Project

Steven Willis

2.5.1 Project Aims, from the 1998 Research Design Statement

(Willis and Catney 1998)

The project aims were set out in a document prior to the start of the fieldwork programme (Willis and Catney 1998, Section III), following discussions and site visits, the work being designed in accordance with the guidelines contained in the *Lincolnshire Archaeological Handbook* (LCC 1998).

The Site Specific Aims of the Excavations and Survey Work were stated as the following:

A. To evaluate the degree of survival of sub-surface archaeology, that is of layers and artefacts below the ploughsoil, and to assess the impact of potential threats to their survival.

B. To evaluate the nature of the sub-surface archaeology, through identification and characterization of the types of extant features and deposits present, and to assess how successful the geophysical survey had been in their detection.

C. To clarify the nature of the site, its dating and development through time via the recovery of a sample of dateable artefacts from stratified layers. The works would aim to shed light upon priority questions, such as whether the site includes an Iron Age/Roman religious area; its trade and exchange connections; its status relative to other sites; if occupation is indeed continuous through the turn of the millennium and for the duration of the Roman era; whether there was metalworking exploiting local ores; and whether different spatial and functional areas can be identified.

D. To approach the ploughsoil zone as an important archaeological resource, so as to gain a clearer picture of the nature and quantity of ancient cultural material within the ploughsoil, and to thereby comprehend the extent of erosion at the site, and, indeed better assess what is likely to have been (and be) lost due to metal-detecting and future ploughing.

E. To better define the extent of the remains, essentially only known thus far via surface information and geophysical survey within East Field, targeted excavations should provide a sample of evidence, from controlled work, from which to interpret the complex and define its specific identity.

Expected Wider Contribution of the Work:

F. It is likely that the Mount Pleasant complex (or components within it), is representative of sites, perhaps with multiple functions, which occur elsewhere in Lincolnshire and the East Midlands, but which are not well characterized through excavation, nor through the dissemination of results.

G. The works should inform strategies for managing and preserving sites of this nature elsewhere within the region, especially when integrated with the studies undertaken at other regional sites, such as that at Owmby Cliff.

2.5.2 Updated Project Design 2010/2011

(Willis 2010; 2011a)

An updated archaeological project design was drawn up in 2010 and submitted to LCC (Willis 2010). This document, which is not reproduced here but which forms part of the site archive, examined the original project aims and the outcomes known by 2010 based on the evidence of the excavations and survey 1998-2009. It suggested means for enhancing the data thus far collected by a final phase of survey and excavation in Street Furlongs. This would (i) conclude the excavation at Trench J (aimed to gather more information on the partially well-preserved Roman stone building (Building 2) and to establish its extent and to recover indications as to its overall form, character and place in the sequence of activity), (ii) develop the geophysical survey of that field, and (iii) conduct metal-detector and hedge-line surveys with the aim of further contextualizing the remains in this field. A document revised to include a detailed methods statement was drawn up in 2011 once specifics of the prospective fieldwork were known (Willis 2011b). This work was duly completed, mainly in 2011.

Table 2.1 The Wolds Project: Inventory of fieldwork activities per year 1998-2013 (Street Furlongs, Two Chimneys, Forty Acre and Mansgate 5 are field names)

Year	Project Fieldwork Activity
1998	Mount Pleasant, Excavation: East Field, Trenches A, B and C
1998	Mount Pleasant, Fieldwalking: North Field
1999	Mount Pleasant, Excavation: East Field, Trenches D, E and F
2000	Mount Pleasant, Excavation: East Field, Trenches G and H
2000	Mount Pleasant, Excavation: Street Furlongs, Trench I
2001	No fieldwork due to national Foot and Mouth epidemic
2002	Mount Pleasant, Excavation: Street Furlongs, Trench J
2003	Mount Pleasant, Excavation: Street Furlongs, Trench J
2003	Nettleton, Fieldwalking: Forty Acre/Mansgate 5
2004	Mount Pleasant, Fieldwalking and limited Metal Detecting: Street Furlongs
2004	Mount Pleasant, Excavation: Street Furlongs, Trench J
2005	Wolds: Land use survey
2006	Mount Pleasant, Fieldwalking and limited Metal Detecting: Street Furlongs
2006	Acre House, Fieldwalking and limited Metal Detecting: 'Two Chimneys'
2007	Acre House, Fieldwalking: 'Two Chimneys'
2007	Hatcliffe Top, Excavation and Geophysical Survey: Corner Field
2008	Hatcliffe Top, Excavation: Corner Field
2008	Swinhope, Fieldwalking
2008	Otby Top, Fieldwalking and Metal Detecting Surveys: North East and North West Fields
2009	Hatcliffe Top, Excavation: Corner Field
2009	Mount Pleasant, Fieldwalking and Geophysical Surveys: Street Furlongs
2010	Hatcliffe Top, Excavation: Corner Field
2010	Hatcliffe Top, Fieldwalking: West Field
2010	Hatcliffe Top, Survey: Environmental Sampling in Quarry Field (by stream)
2010	Otby Top, Fieldwalking: South East Field
2011	Mount Pleasant, Excavation: Street Furlongs, Trench J
2011	Mount Pleasant, Geophysical and Metal Detecting Surveys: Street Furlongs
2012	Otby Top, Excavation: South East Field
2012	Otby Top, Metal Detecting Survey
2012	Nettleton, Geophysical Survey: Forty Acre/Mansgate 5
2013	Mount Pleasant, Survey: of hedge-line bases, area 'walkover survey' prior to spring growth; GPS survey

2.6 Excavation Methodology

Steven Willis

The work would follow standard procedures and conform to the guidance of the *Lincolnshire Archaeological Handbook*. Given the arable setting, with work fitted around the cultivation cycle, excavation was to be by hand but that was also by design. Trench locations were decided for the reasons outlined in Section 3.1 and Figure 3.1 shows the location of the excavation trenches in relation to the 1992-3 and 2009-11 surveys. The ploughsoil was dug by hand with the artefact content being closely monitored and recorded (see Section 3.2). Archaeological soils were scanned with a metal-detector prior to excavation to assist the recovery of artefacts intact; spoil was also scanned, context by context, upon excavation. The volumes of all the stratified deposits excavated were systematically recorded during excavation so as to enable volumetric analysis of the frequency of artefacts and ecofacts within the various site layers. These data inform the write-ups of the excavated trenches and analysis of depositional trends (Chapter 3); however these data will be used for an overall analysis of stratified cultural remains from the sites excavated on the Wolds as part of this Project, including Mount Pleasant, Hatcliffe Top and Otby Top (Willis forthcoming).

2.7 The Wolds Project

Steven Willis

The fieldwork was undertaken in the first three seasons as a research and student fieldwork training exercise based mainly around excavation undertaken after harvest in East Field in the later summers of 1998, 1999 and 2000. In those years it was made possible via the allocation of funds from Lincolnshire County Council and the Universities of Durham in so far as the latter provided bursaries which covered student food, accommodation and travel. In the first season there was participation from a team of students from Sheffield led by Dr David Dungworth. From 2002 the focus shifted to investigations in Street Furlongs and the examination in turn of other sites in this area of the north central Wolds with local volunteers playing a central role, together with University of Kent students, and from 2007 in partnership with the North-East Lincolnshire Archaeological and Local History Society (Table 2.1). Whilst fieldwalking and survey was possible in Street Furlongs between 2004 and 2009 it was not possible to complete the excavation at Trench J until 2011 due to other commitments but also, more fundamentally, as the crop regimes in the field did not mesh with possible excavation seasons involving student training.

2.8 Geophysical Survey in Street Furlongs

In the autumn of 2009 the opportunity was taken to conduct some trial geophysical survey work in Street Furlongs. The work was undertaken by Gerald Moody and Emma Boast together with S.W. using the University of Kent's Bartington magnetometer. The results produced indicated high potential for the detection of archaeological features in the southern part of the field, with the trial survey showing ditched enclosure systems and point anomalies. This work was followed up by an extended survey in 2011 undertaken by Lloyd Bosworth.

2.8.1 The Geophysical Survey in Street Furlongs in 2011

Lloyd Bosworth

The survey in Street Furlongs was undertaken in late August 2011 under the direction of the present writer with the assistance of students and site volunteers who were learning how to use the equipment. The survey area measured 300 x 80m comprising units formed of 20 x 20m grid squares. The axis of the survey grid was aligned with the B1225, with an initial survey grid being established on the first day of the survey. There was subsequent expansion of the grid over the five days during which the work was conducted, resulting in a total survey area of 24,000m^2 (2.4 hectares; 5.93 acres). A Bartington Grad601-2 dual fluxgate gradiometer was used to measure the geomagnetic field gradient. Sensor separation is fixed at 1.0m and the geomagnetic field gradient is measured in nanoTesla (nT). A zig-zag survey pattern was implemented and data were automatically logged in 20m grid units. Instrument sensitivity was set at 0.1nT, with a sample interval of 0.25m and a traverse interval of 1.0m. Raw data from both magnetic and earth resistance were processed using TerraSurveyor 3.0 (formally called ArchaeoSurveyor) to produce

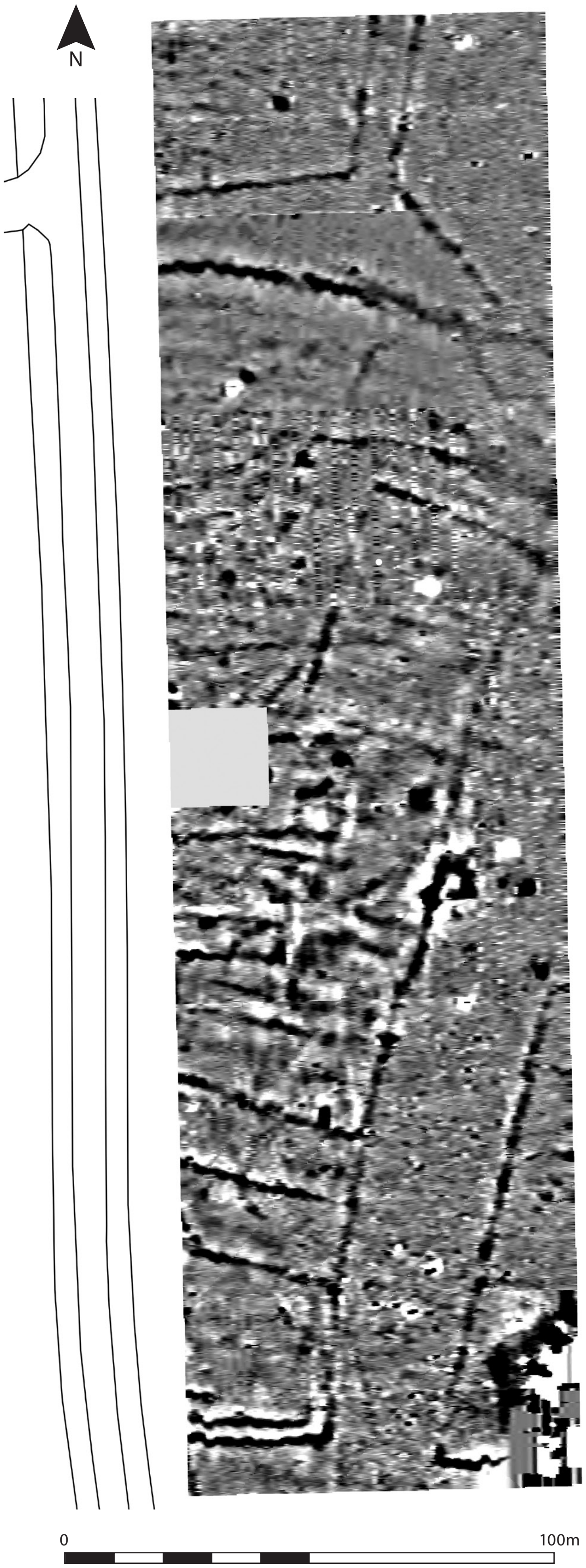


Figure 2.7 Plot of results from the magnetometer survey conducted in Street Furlongs in 2011 showing geophysical anomalies. (Note the trial block from 2009 is not included here but the anomalies detected are included on the interpretation plot, see Figure 3.1).

greyscale plots on a continuous scale from black to white. The results of this survey are shown in Figure 2.7. Moody and Boast's pilot survey was aligned with the side road to Rothwell Top Farm and covered a small block of the southern central area of the field which largely overlaps with the area of the 2011 survey. The small area of non-overlap is shown as a projecting triangle on the eastern side of the main survey block in the interpretation plots (e.g. Fig. 3.1 and the plot of the coin finds from Street Furlongs Fig. 9.7; the latter also shows the features registering in two sample 20 x 20m grid squares to the south-east (part of the 2011 survey)).

The following processing functions were applied to the raw magnetometer survey data to aid interpretation:

- Destripe: when data from a magnetometer survey conducted in a zig-zag pattern are plotted, they can exhibit alternating bands of light and dark traverses caused by the directional sensitivity of the machine. The destripe function assumes that the directional error is constant and sets the mean of all traverses to either zero or a value common to all traverses.
- Destagger: compensates for starting recording traverses early or late by shifting data values forward and/or backwards by a specified amount.
- Despike - ferrous objects on or under the ground surface cause anomalously strong spikes in the plotted data. The despike function detects and replaces these readings with a mean filter.
- Clip - the clip function removes extreme data values by replacing the min and max readings with either absolute values or by +/- standard deviations.
- Interpolate - the interpolate function increases the resolution of plotted data by generating extra datapoints between every existing datapoint in both X and Y directions.

Three types of magnetic anomaly have been identified in the geophysical data (Fig. 2.7). These comprise:

- Positive magnetic - the plotted data shows as dark grey to black where the geomagnetic field gradient is higher than the mean zero. Usually associated with soil-filled, cut features, such as ditches and pits.
- Negative magnetic - the plotted data shows as light grey to white where the geomagnetic field gradient is lower than the mean zero. Usually associated with soil-filled, cut features, such as ditches and pits.
- Dipole magnetic - the plotted data shows paired positive-negative (black- white) anomalies that are typically ferrous (service pipes, metallic litter, etc.).

Anomalies detected include the following:

Geologic anomalies. Background geology can be seen most clearly on the northern half of the survey grid as faint, fan-like lines, curving in an east/west direction. Similar geological anomalies were also recorded during an earlier magnetometer survey of the adjacent field on the opposite side of the B1225.

Erroneous anomalies caused by fieldwork. During the magnetometer survey, a metal detectorist was active in the field using flags on metal wire rods to record the location of finds. While most of these flags were removed as the magnetometer progressed across the site, some accidently found their way into the survey, causing spikes in the data. Unfortunately, no record was made of the location of these stray flags. While the intensity of these metal spikes in the data has been reduced by the despike function during processing, the reader is advised to be cautious of interpreting any small dipole anomalies as archaeological in origin.

Linear anomalies. The greyscale plot presents clearly defined linear anomalies (dark grey to black) running in an approximate grid pattern, that most likely represent boundary ditches for building plots of Romano-British date, based on the excavation evidence on site. These building plots are divided by what appears to be a linear open space, possibly a trackway, of c. 20m width running approximately north-north-east towards the valley leading to modern Rothwell, and the area within is largely devoid of any anomalies that could be interpreted as archaeological in origin. These linear anomalies terminate abruptly at the northern quarter of the survey grid, where what appears to be another trackway running in an east/west direction is visible, forming a junction with a further, narrower, north-north-east trackway (which is lightly traceable beyond the surveyed area to the north on aerial photographs).

Other anomalies. There is an unusual anomaly, just below centre, that has generated the strongest readings across the whole plot. The strength and pattern of the readings suggest that it is a thermoremanent anomaly, caused by the high temperatures generated by a kiln, or a similar source of concentrated, sustained heating. Due to the intensity of the readings, its shape is difficult to determine, but it looks to be circular or semicircular, or composed of more than one unit. Similar readings occur on the geophysical survey plot from Hatcliffe Top which on excavation proved to be corn-dryer ovens of later Roman date (see Section 8.7.5).

Chalk pit. This feature has been backfilled but is visible as a shallow crater; it dominates the lower eastern corner of the survey area in terms of the signals generated at this location.

Ancient and Modern. Due to the complexity of past activity shown in the results, and as far as it is possible to determine from magnetometer data, some of the recorded anomalies may be from earlier or later periods. The interpretation plot can be seen in Figure 3.1.

Chapter 3

The Excavations

Steven Willis

3.1 Locations and Dimensions of the Excavated Trenches

Ten trenches were opened in line with the Project Aims (cf. Chapter 2). They were placed across the site in order to evaluate the nature and degree of preservation of archaeological remains. Any stratified remains would provide a qualitatively different level of information to that forthcoming from the various types of survey as outlined in Chapter 2. Such deposits could provide secure contextual data on the chronology and character of the site. Of these ten trenches the first eight were placed within East Field as this was identified as the core area of the site by the earliest archaeological mapping. The locations of these trenches were determined by the aims outlined in the project design, cognizant of the results of the geophysical survey of 1992-3 and the recovered pottery and other finds of that phase of work. That said the positioning of the trenches aimed to assess the preservation and nature of remains across a broad area, targeting locations where survey work suggested variation in past activity. The other two trenches were placed in Street Furlongs, and since there were at the time no guides from existing surface survey or prospection, location was arrived at by means of other factors detailed below. The specifics of trench location are outlined here.

Access to East Field was permitted by Hugh Bourn and the farm manager Neil Wilson; access to Street Furlongs was granted by the Trustees of Joseph Nickerson Farms and the land owners, Merton College, Oxford, together with the estate manager Bill Emms.

Trench A

Trench A was located in the central southern end of the field (Fig. 3.1). It was placed with the intention of sampling the large discrete enclosure complex in this area detected by the geophysical survey, and was positioned so as to avoid the apparent centre of the core enclosure and the likely entrance on its eastern side. It was hoped that an evaluation trench would help elucidate the function/s and date-range of this unusual amalgam of enclosures. Pottery finds from the fieldwalking had suggested that this was a centre for activity during the later Iron Age and early to mid-Roman periods. Contrastingly, this was understood to be a part of the field from where metal-detector users had made few finds. Dr Jeremy Taylor (pers. comm.) had observed that the morphology of the complex, as suggested by the magnetometry, was highly unusual. It had been speculated in advance of the first excavations in 1998 that this particular complex could relate to a shrine, especially since it lies at the very head of the valley opening to the north-east, in the direction of the mouth of the Humber, which is visible from this point in the field.

Trench A measured 5m by 5m, but a larger trench had been envisaged at the start of the excavation, expanding this initial area to examine a wider area of this complex. In the event the scale of the main feature encountered within the trench proved to be surprisingly deep meaning that excavation became vertical (!). Thus the original dimensions of the trench were not enlarged. The area was stripped of ploughsoil following the method outlined (see below).

Trench B

Trench B was sited at a mid-point on the eastern side of East Field close to the modern road, the B1225 (Fig. 3.1). It lay within the slightly defined dip at this point in the field at the head of the valley that descends on the opposite side of the road, to the east, in a more pronounced manner. This locality was chosen for several reasons. The survey work undertaken by the British Gas archaeologists had

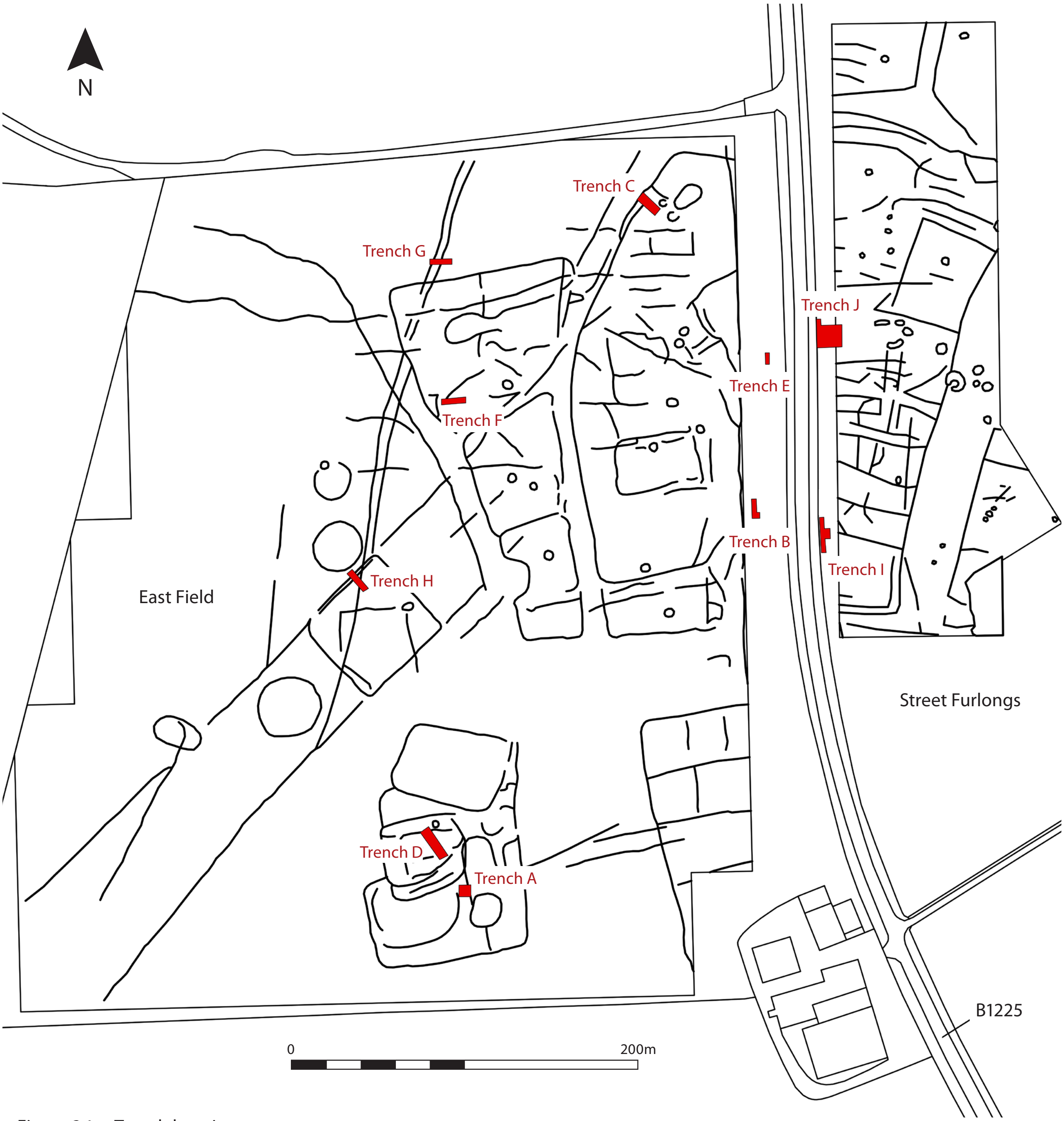


Figure 3.1 Trench location map.

indicated that the mid-eastern and north-eastern areas of the field were likely to have been a focus of activity in the Late Iron Age and Roman periods. If the modern road followed the approximate route of the postulated Roman road then there was a likelihood that Trench B would include part of the area of compounds, buildings and plots fronting on to this road, as seen at some other roadside settlements in the region, for instance, at Hibaldstow, Navenby and Sapperton (Smith 1987; Palmer-Brown 1994; Palmer-Brown and Rylatt 2011; Simmons 1976; 1995).

The trench was located by the eastern margin of the area covered by the British Gas team's geophysical survey. That survey had not been continued to the edge of the field due to the predicted interference of the Petrofina pipe known to run alongside the road. The only feature recorded in the immediate vicinity of Trench B by the geophysical survey was a linear anomaly, evidently a ditch, detected running north-south along the very edge of the surveyed area for some 250m (Figs 2.2 and 2.4). No evidence for this feature was detected in Trench B, which, assuming matching grids, lay slightly to the east of the anomaly.

Since this area lay in a slight depression off the main plateau of East Field, it was suspected that there may have been a build-up of deposits here, and that any ancient stratification would have been more likely to have survived than elsewhere at the site. Quantities of slag (albeit small fragments) had also been noted within the ploughsoil in this area, suggestive of a focus for metalworking.

Trench B was aligned approximately north-south and measured 10m by 2m. Towards the end of the excavation it was extended by 2m on its south-eastern side so as to further explore the traces of a building; accordingly it came to measure 3m in width at its southern end. It was hand dug with ploughsoil examined by the systematic method designed for the Project.

Trench C

This trench was sited at the northern end of East Field, somewhat to the east of a central position (Fig. 3.1). This location was selected for several reasons. The British Gas geophysical survey indicated the existence of ditches and compounds in this area and Trench C was therefore intended to test the results of the survey and to sample these features and the preservation of any ancient deposits. In particular it was expected that the trench would include part of an enclosure, and, moreover, lie across the major linear anomaly F16, an apparent ditch suggested by the geophysics. The latter, whether it defined the main arterial prehistoric and Roman road along the Wolds watershed or a loop off of such a road through the settlement, would appear to be a major organizational element of the site complex at this time. Also in this initial season it was recognized that an evaluation trench at this point, well away from Trenches A and B, would provide a guide as to the character and condition of the archaeology at this end of the field, which, being on slightly higher ground, may have been subject to greater erosion. This general area within East Field was also known to have been favoured by metal-detector users in the preceding years, with Iron Age coins, miniature copper alloy weapons and shields and other metal finds said to come from nearby in the north-east corner and central northern part of the field – though not specifically the area around Trench C. The then County Archaeologist, Steve Catney, was keen to see an evaluation trench opened in this area in the first season for that reason. A concentration of Roman pottery sherds within the ploughsoil in this general area was also readily apparent from Ruth Leary's unpublished report on the collection resulting from the fieldwalking by the British Gas team (Catherall *et al.* 1998). Trench C was dug by hand and the ploughsoil was examined by the systematic methodology designed for the Project. It measured 10m by 2m, with its long axis aligned north-west to south-east.

Trench D

As the main trench of the 1999 season Trench D examined a core area within the discrete enclosure complex in the central southern area of East Field (Fig. 3.1). Trench D was positioned a short distance (c. 16m) to the north-west of Trench A of the previous year, and was specifically designed to investigate the eastern and apparent front side of what seemed, from the geophysical survey, to be the central enclosure within this unusual amalgam of enclosures. Trench A had revealed a very substantial ditch ([1007]/[1026], 1.7m deep) and a rich artefactual concentration, demonstrating good survival of archaeological evidence in this area, but had raised further questions regarding the chronology of the enclosures and what they represented. The scale of the ditch at A had precluded the intended examination of a broader area during the 1998 season. Hence D was opened with the aim of gaining further information with which to characterise the nature of the remains of this particular site complex.

Trench D was aligned north-west to south-east, measuring 16m by 3.7m. All excavation was by hand. To begin with, a 16m by 2m area was stripped of ploughsoil in accordance with the established ploughsoil sampling method.

Trench E

The second trench opened in 1999 was placed on the eastern side of East Field c. 5m in from the field boundary (defined by the modern hedge), some 60m north of Trench B investigated in 1998, and c. 115m south of the north-east corner of the field (Fig. 3.1). This position was selected in order to ascertain the nature of any surviving archaeology in this part of the field by the modern road. The surface collections in 1992-3 and the geophysical survey had indicated that this general area had seen much activity in the Roman period, and possibly in the later Iron Age as well. It was expected that a trial trench at this location might shed light on the possibility that the course of the modern B1225 overlay that of the Roman and potentially prehistoric route from Horncastle to Caistor. The excavation of Trench B to the south in 1998 had revealed a corner of a Roman period structure (Building 1) and had left this question open. Trench E was located on higher ground than

B, but nonetheless off the ridge plateau running approximately north-south through the centre of East Field. There was some prospect therefore that any ancient deposits around this location had not been obliterated by ploughing and the immediate topography indicated that soils may have been accumulating here rather than being eroded. The geophysical survey showed linear features to be extant nearby but had not included the strip of land immediately west of the eastern side of East Field (see Fig. 2.4) as the Petrofina pipeline along the western verge of the B1225 had been found to distort initial surveying. Trench E was of modest scale, befitting its exploratory purpose. The trench was aligned north-south, measuring 5m by 1m. It was entirely hand-dug down to natural chalk across its extent.

Trench F

The third trench opened in 1999, Trench F, was located to the north of the central area of East Field (Fig. 3.1). This location was chosen in order to examine the survival of archaeological remains on the slightly higher ridge-plateau running approximately north-south over which East Field lies. It was expected that this might be an area subject to continuous erosion. Hence one aim was to examine the depth of ploughsoil and survival of subsurface archaeology. The selected area lay some distance from the other trenches investigated in East Field, and within the zone of enclosures, identified by Phil Catherall's geophysical survey, labelled C. These form a Y or wedge shape within the field, defined to their east and west by apparent trackways heading north-east and north-west. The trackways form a major morphological feature of the site, with a series of enclosures within zone C. Trench F constituted a sample of this area, towards its northern end. Unlike the previous trenches it was intentionally placed away from the main concentrations of surface pottery, although third and fourth century types had been recovered from this point in the field. This zone of the field was not one thought productive of finds by the detectorists who had worked on the field. Trench F was aligned east-west, measuring 10m by 2m; it was entirely hand-dug with ploughsoil examined by the established Project method. All archaeological deposits within the trench were fully excavated.

Trench G

This trench, the first of three opened during the 2000 season, was positioned in the central north area of East Field (Fig. 3.1). The location was selected for several reasons. On the one hand it was located so as to examine an area away from the palimpsest of features identified in the geophysical survey to the east, in order, to test the 'reliability' of the geophysical results in identifying sub-surface archaeological features across the field (if they existed), that is not only principally in the eastern part of the field. Secondly, the aim was to target and sample the one strong anomaly detected in this area, namely a linear feature aligned approximately north-south and assumed to be a major prehistoric land division. This feature is traceable on Phil Catherall's plot of the geophysical survey for c. 200m (Fig. 2.4); it is identified as the eastern linear of F2 in Leary's feature numbering scheme. Further, this location had the ancillary advantage of allowing further clarification of the survival of archaeological remains on the ridge-plateau running approximately north-south through East Field where ploughsoils might be predicted to be thin. Metal detector users had previously made some specific finds in this general area of the field, apparently somewhat to the west and south of the position of Trench G. These had reportedly included an Anglo-Saxon ring and a metal figurine of Mars (Catherall *et al*. 1998, 68). This area was, it seemed, not one associated with Iron Age or Roman coin finds. Trench G measured 10m by 2m on an east-west axis. It was hand dug.

Trench H

Trench H, opened near the centre of East Field in 2000, was placed to examine geophysical anomalies indicative of enclosures and boundaries (Fig. 3.1). This area of the field had not previously been investigated through excavation and so a trench at this position presented an opportunity to assess the character of remains and their survival in this locality. The trench lay a distance of c. 20m or less (depending on visual assessment of the plot images) to the south of the point at which the palisade investigated in Trench G ceased to be discernible on the geophysical readings, and immediately south of a circular anomaly, 25m in diameter, which Catherall had believed was visible as a feature in the computer screen plot of his geophysical data (Catherall *et al*. 1998, 7). The latter is here labelled F26; such a circular anomaly of this scale and at such a location, if indeed relating to a sub-surface feature, might be a barrow ditch (Fig. 2.4). This location is a high point in the field, being part of the north-south watershed which manifests as a slight ridge traversing the field.

The trench was specifically placed to examine the more northerly linear feature (ditch or palisade) of a pair of parallel features which cross much of the field from its south-west corner, heading in a north-easterly direction (Fig. 3.1), this being labelled by Catherall as Complex B in his interpretative discussion, and as Linear boundaries F4 by Leary in her analysis of the pottery. The alignment of parallel features, seemingly early in the sequence (Catherall *et al*. 1998, 6) and detectable as diagonals crossing almost the whole of the field is quite striking and differs from the great majority of other features seen in the geophysical plot. It was wondered by Steve Catney and the present author in 1998 whether this feature might be a cursus, oriented towards the highest point in Lincolnshire c. 1.2km to the south-west in one direction, and the mouth of the Humber, visible on a clear day from the field, to the north-east. This possibility was not mentioned in the British Gas report (Catherall *et al*. 1998). Subsequently, Phil Catherall (pers. comm.) advised the present author that he had wondered about this possibility but had, on balance, come down against such an interpretation, and hence did not include it in the report; he saw it as likely to be part of the Iron Age to Roman enclosure sequence. A trench over one of these linear anomalies held the prospect of establishing whether this was a prehistoric feature, or of a later date.

The geophysical results indicate that in addition to this long boundary, there occurs in this area, an apparently square enclosure (Fig. 2.4), and that here, at the location of Trench H, these features run parallel on the north-west side of Complex B. Excavation at this point therefore, was intended to clarify the nature of these features and their chronology. This general area was not one of the 'target' areas of the metal-detector users who had worked on the field, suggesting there was a lower frequency of Iron Age and Romano-British metalwork in the ploughsoil thereabouts. The results of the fieldwalking of 1992-3 had suggested that this was an area of the site with less intense activity during the Roman period, although there was a marked cluster of Roman pottery to the south-west (Leary's Cluster 2, Fig. 6.24).

Trench H initially measured 10m by 2m, being aligned south-east to north-west. It was so placed with the intention of sectioning at a right angle, the linear features indicated by the geophysical survey on the north-west side of Complex B/F4 (cf. Fig. 2.4). The trench was subsequently extended by a metre to 11m in length in order to obtain a full cross-section of a feature lying at the north-west end of the trench. Again the trench was dug by hand, with ploughsoil removed by means of the three level standard method established for the site. All deposits were fully excavated (with the exception of the lower fill at the base of one feature by a baulk).

Trench I

Trench I was opened in Street Furlongs as the third of the trenches of 2000. It was positioned slightly into the field along its western boundary, approximately opposite to the location where Trench B had been excavated two years previously (Fig. 3.1). Since this trench represented the first archaeological work of any kind undertaken east of the High Street it was a prospection exercise and its specific location could not be guided by any prior survey; nor were any cropmarks known from this field. Whilst there was no prior information for there being any archaeological features within the field three factors were influential in placing the trench. The selected location lay opposite the strong concentration of Roman finds recorded from the ploughsoil in East Field (which continued to the north-east corner of East Field), hence there seemed a better chance of encountering Roman remains at this point in Street Furlongs, or to the north from this locality, rather than to the south. A trench adjacent to the modern roadside in Street Furlongs offered the prospect of addressing further the key question as to whether the present road overlies the course of the Roman road from Horncastle to Caistor (and potentially its prehistoric predecessor). Secondly, the area chosen lay in the slight natural dip at the head of the valley which opens to the north-east, and hence it was anticipated that this would have been favourable for archaeological preservation. A determining factor, however, was that during 2000 this field was partitioned into blocks of trial crops, and only parcels at the southern end of this long field had been harvested by the time the excavation was scheduled to begin (late August). Accordingly, Trench I was placed as far north along the side of the field as the crop had been harvested.

It had long been thought that the B1225, known as the High Street, was the latest manifestation of an older arterial north-south route-way following the spine of the Wolds and dating from Roman times, if not earlier. Such a route-way would link the Roman period centres of Caistor and Horncastle (Whitwell 1982, 27). Roadside settlements on such arterial routes are a familiar settlement form of the Roman era with other examples known from the region (Smith 1987; Millett 1995; Willis 2008). They are typically manifest as linear developments, often with discrete property plots and domestic/commercial buildings opening to the road. The density of surface finds of pottery on the east side of East Field gathered in 1992-3, plus the structural remains located in Trench B and the rich cultural deposits in Trench E informed the thinking in 2000, implying that this site could be an example of the type. Hence a trench adjacent to the B1225 in Street Furlongs held the prospect of providing an answer to this question. The discovery of boundary features and structural evidence might prove that this was indeed the course of the ancient road. Independent of these questions an excavation might establish whether any archaeological remains existed in this area of the field and if so, what their character and preservation was like, given the differing topography and agricultural history of this field. This knowledge could inform a management policy designed to protect surviving deposits and structures, in line with the project design of the fieldwork (Willis and Catney 1998; cf. Chapter 2 above).

Trench I was T-shaped in plan, with the long axis aligned north-south, parallel with the modern road, (the cross of the T), and with a wide 'tail' projecting to the east (denoted below as 'the eastern area'). The long axis measured 15m by 1.3m, with the eastern projection 4m by 3.7m. Again, all excavation was by hand.

Trench J

Trench J was initiated in the late summer of 2002 on the western side of Street Furlongs (Fig. 3.1). The intention in opening this trench was to clarify the nature of the site during the Roman period. In particular the purpose was to shed definitive light on whether the site had Roman period buildings fronting on to a Roman road underlying the present modern road, the 'Caistor High Street', as was implied but not proven by the evidence from Trenches B and I, as well as via the enclosure system revealed by the British Gas geophysical survey. If so this would suggest that it might be understood as a roadside settlement. It was anticipated that the trench in 2002 would provide further indication of settlement associated with the course of the road, presumed to underlie the modern 'High Street'. In the event a substantial stone founded building was located (Building 2) and partially examined in that year. Its orientation and apparent scale conformed with the picture emergent from the earlier trenches and virtually confirmed the theory of a roadside settlement organized along the line of what is now the B1225.

It was decided that Trench J would be located on the east side of the B1225, in Street Furlongs. At Trench I in this field preservation of Roman period remains had been found to be good, though this was thought to be in part a function of the local topography of this area of the field whereby Roman levels had been covered by a colluvial layer (cf. below). No geophysical results were available for this particular field in 2002 as, unlike East Field, it had not been subject to development threats, while in terms of the present project, seed crop trial cultivation had precluded prospection. Accordingly, there was no clear guide as to what to expect via excavation (bar that from Trench I). It was decided to locate the trench close to the modern road, opposite a known concentration of Roman era pottery in East Field. The general location at this point in Street Furlongs occupies a gentle slope to the north of the head of the dry valley in which Trench I was positioned. Pottery sherds were visible, through freshly cut stubble, in the ploughsoil here and, moreover, some fragments of Claxby Ironstone thought likely to have been brought to this location for building purposes also occurred in the ploughsoil and by the field hedge and verge. The specific location of the trench was a micro-plateau that seemed at variance with the natural slope of the ground at this point. This was where Trench J was opened. It lay 84m north from the northern limit of Trench I. The western baulk of Trench J in 2002 was 11.45m east from the edge of the tarmac of the B1225; however, extension westward in 2003 brought the trench edge to the foot of the boundary hedge of the field.

The 2002 season covered eight days on site with the excavation team comprising the present author and volunteers. The trench was of modest scale ($26m^2$) being 5m by 5m with a 1m square extension at the mid-point on the eastern side. Following cleaning it was evident that archaeological deposits extended across the exposed area. A long sequence was extant, including the substantive wall foundation of a Roman building aligned east-west. The foundation was evidently for the south wall of a building perpendicular to the modern road. The 2003 season was of moderately longer duration, again conducted with local volunteers. The trench was extended westwards by 6m across the 5m width established the previous season, taking it to the field boundary defined by a hedge and bank. Below this the frontage wall was found. An extension was also cut to the north by 7m which established the width of the building. Two days were spent in September 2004 designed to examine preservation of this frontage of the building along the hedge-line where the bank at the field boundary has protected archaeological layers.

Owing to the unavailability of the field due to cropping rotation (meaning crops were not harvested until into the autumn) plus other commitments, excavations were not resumed at Trench J until the summer of 2011. This season saw a combination of students, and members of the North-East Lincolnshire Archaeology and Local History Society together with other local volunteers working on site.

Whilst it extended a distance of c 11.7m into the field, in 2011 this trench lay entirely within the then recently earmarked wildlife/conservation set-aside margin. The latter had been instituted by this side of the field in order to protect the below ploughsoil archaeology (as revealed by the excavation of Trench I in 2000 and the 2002-4 work at Trench J) from piecemeal erosion via modern farming regimes. The extension of Trench J in 2011 was undertaken in line with the Project Aims for 2011 (Willis 2011a, Section 8 (i); cf. Chapter 2). The works aimed to gather more information on the well-preserved frontage of the Roman building as it faced onto the evident Roman road underlying the B1225, and to establish to what extent the building survived on its northern side and how far back into the field it extended, and to recover indications as to its form and character.

The 2011 season completed the excavation, meaning the area explored overall at Trench J measured c. 12.5m (E-W) by 11.5m (N-S). There was an extension measuring 3.5m (N-S) by 2m (E-W) at the north-west corner, where the space on the exterior of the Roman stone building on its north side could be examined (see below).

3.2 The Ploughsoil Survey: Sampling of the Modern Ploughsoil

3.2.1 Background

The desirability of closely monitoring the artefact content of the modern ploughsoil was identified as an important element within the original Project Design (cf. Section 2: aim D; (Willis and Catney 1998, Section III). This seemed particularly expedient given that there had been no previous excavation at the site and that the programme of proposed excavations comprised an extensive evaluation. The surface collection (cf. Bonner and Griffiths 1994; Catherall *et al*. 1998) suggested that the ploughsoil was likely to contain comparatively high densities of pottery and other cultural material.

It was recognized that tight spatial control (both vertical and horizontal) of the occurrence of cultural material within the plough-zone should shed light upon the degree of site erosion and of other processes within this dynamic horizon. Seminal papers by Crowther (1983), Haselgrove (1985) and Shennan (1985), building upon earlier methodological treatises from the pioneering consideration of ploughsoil archaeology (e.g. Fasham *et al*. 1980) demonstrated how modern ploughsoils are likely to contain structured artefact assemblages. Past work and studies (Roper 1976; Gingell and Schadla-Hall 1980; Reynolds 1987a; 1987b; Yorstan *et al.* 1990; Clark and Schofield 1991) have shed some light on the nature of the material as it is likely to be recovered and on the processes it may have been subject to in ploughsoil environments.

Following this tradition studies of ploughsoil archaeology have become theoretically and methodologically advanced and show the potential of the nature of this type of resource collection (Gaffney *et al*. 1985; Gaffney and Tingle' 1989; Taylor 1999; Leary this volume).

Haselgrove (1985) presented a model emphasizing how positive archaeological deposits such as middens, surfaces, hearths, banks and layers have typically been 'ploughed-in', that is incorporated into ploughsoils, and consequently the artefact content of the ploughsoil may be anticipated to differ from the nature of material recovered from *in situ* 'earth fast' features such as pits, ditches, wells and post holes. The loss of 'vulnerable deposits' through routine ploughing has been an enduring concern for curatorial archaeologists. Martin (2007) recently demonstrated that for the Roman period at rural sites 'top layers and final fills' of features have disproportionally high frequencies of finds compared to other lower levels – but it is just such deposits that are the first to be ploughed away. The question arises how 'away' is that in terms of artefact movement? This is a question asked by Crowther (1983), Taylor (1999) and others. Circumstances and impacts vary; in some cases there is a close relationship between the incidence of finds in the ploughsoil and their spatial point of origin: Leary shows this to be strongly the case at this site, comparing the fieldwalked finds with the results of the excavations (comparing sample to sample). That is helpful in terms of the study of this site, but such an outcome was not known when the excavations began. Focusing back on the examination of the artefacts in the ploughsoil zone within the excavated trenches the significant influence on determining that this strategy was adopted was the expectation that spatially controlled recovery of the artefact content of the ploughsoil would:

- assist in identifying concentrations of material which may be archaeologically significant, particularly enabling comparison between different areas of the site and between ploughsoil and any surviving stratified archaeology.
- provide data on erosion rates associated with modern ploughing regimes (an especial concern of those with curatorial responsibilities at County Halls), but in Lincolnshire with its high arable land use this has been especially pertinent.

Although the work undertaken at Mount Pleasant sampling the artefact content of the ploughsoil has been of modest scale the coverage has been wide, and has shed light on processes of erosion as well as providing samples to compare with those gathered from other sites examined as part of this Project employing the same methodology (Willis forthcoming). The results of this study should complement similar on-going work undertaken by English Heritage as with their investigations and experiments at Owmby (Olivier 1997; McAvoy 2002; no date; English Heritage 2003; cf. Graham and Cox 2001; pers. comm. Dr Helen Woodhouse (English Heritage)) and make a contribution to our understanding of ploughsoil archaeology, beyond surface collection.

3.2.2 Methodology

Following discussion with Dr Jeremy Taylor and Steve Catney an appropriate sampling strategy was devised for implementation in East Field. The sampling would best be conducted after harvest of cereal crops but before any turning of the soil; that is when the soil was reasonably compacted, with standing stubble. This was so in all cases bar Trench J (where circumstances meant it was not valid to follow the procedure). All nine investigated areas where the method was adopted were dug by hand with the ploughsoil divided into three horizontal bands, it being hypothesised that these three levels were likely to have been affected to some degree by differing processes. The top c. 6-7 centimetres of ploughsoil within each trench were treated as separate layers and assigned individual context numbers (e.g. Trench A: (1000), Trench B: (2000), etc.) on the assumption that pottery sherds within this horizon will have been subject to weathering, and, in particular, at least one winter of frosts being near the surface, and potentially direct machine roll-over. The middle and lower ploughsoil zones within each trench were likewise allocated separate numbers (A: (1001) and (1002), respectively, B: (2001) and (2002) and so forth). The middle zone, taken as c. 16cm, was expected to contain a mix of sherds at various stages of attrition, some of which may have been in the ploughsoil for some while, while others will have been comparatively new additions if any stratified layers below the ploughsoil were being disturbed by modern ploughing. The lower zone was assumed to be c. 8-9cm thick; if there were recent disturbance of archaeological layers then this horizon might be expected to contain a proportion of 'fresh' sherds of above average weight when compared with the ploughsoil as a whole. In addition some fabrics, such as those with calcite tempering may be expected to be better represented in this lower horizon than elsewhere in the ploughsoil where their susceptibility to chemical weathering and frost action will have led to their more rapid breakdown compared to fabrics tempered with quartz/sand and grog. The middle and lower ploughsoil layers were also divided into coded square metres, which were dug out separately, with their soil then broken into crumbs on bespoke 'shovel boards' in an attempt to facilitate the recovery of finds (see Fig. 3.20). (I am grateful to Jeremy Taylor for his advice with this sampling).

Hence ploughsoil excavation followed the sampling procedure outlined above for Trenches A, B, C, D and F. The method was not adopted at E (the purpose of the trench was that of an exploratory sondage) nor at G, H and I (due mainly to insufficient time) and not at J (initially through insufficient personnel and timeframe, and from 2003 on, not valid, as the trench area was not within ploughsoil cultivation).

3.2.3 Results

The results of the survey from the three trenches of the first season and the two larger trenches from the following season (i.e. Trenches A, B, C, D and F) form a useful sample to consider as a group as the trench/sample areas were of similar size and were located across the field, though all in areas where there were indicators of significant Late Iron Age and/or Roman activity. The results are considered and the emerging picture assessed. Trench D was near to Trench A so a comparison is of potential interest, while Trench D was extended, allowing a wider sample from that point to be compared with the original 20 square metres (see below). By contrast Trench F was placed in an area that was seemingly less 'busy' from the indicators of the geophysical survey and surface collection of 1992-3, so how would this compare?

Trenches A-C

The occurrence of Later Iron Age and Roman pottery sherds within the middle and lower ploughsoil zones in each trench was recorded. The following tables illustrate the outcomes for Trenches A-C. Summary data is presented in Tables 3.1–3.3 and from these some broad patterns can be highlighted.

The three trenches were all located in areas where Late Iron Age and Roman pottery had been previously recovered from the surface and were above or near to geophysical anomalies interpretable as archaeological features (Fig. 3.1). Hence pottery was an anticipated find. The density of ancient sherds, however, as demonstrated in Tables 3.1–3.3 seems comparatively high. These data demonstrate that Late Iron Age and Roman sherds were frequent within the ploughsoil at Trench A, but that at B and C they were around twice as common than at A, with the lower ploughsoil at B being particularly prolific, especially considering the comparatively thin nature of this horizon. The latter is potentially explained by likely disturbance of the fill of a predicted ditch to the immediate north of the trench and accumulation of material above an extensive surface being incorporated into ploughsoil (see 3.3.2). In all cases sherds were less frequently recovered from the upper ploughsoil zone, and those that were collected were often larger and had a higher average sherd weight than the pottery from the middle and lower zones. This may indicate that the sherds present at this level include a greater proportion of robust pieces which have survived frost and weathering etc., though sherd visibility is likely to have been affected by the presence in the case of all trenches of straw stubble (at this level) in the recovery process which may have impeded full visibility of soil and artefacts. Subsequent work might examine this phenomenon.

The average weight of the sherds from the middle and lower ploughsoil zones is invariably low and within a short range, between 4.3g to 7.6g for all five trenches so is a strongly consistent pattern. Hence sherds from the lower zone do not seem significantly larger than those from the middle zone: the overall pattern throughout the ploughsoil at all trenches is of a highly fragmented ceramic assemblage.

The spatial occurrence of sherds is shown in Appendix 5. Appendix plots A5.1 and A5.2 show that there was a general spread of pottery within the ploughsoil at Trench A with little indication of the comparatively pottery rich layers below, namely contexts (1003) and (1005) (cf. Section 3.3.1 below). A5.3 and A5.4, plotting the incidence of sherds at Trench B, again shows a fairly consistent spread though with notable concentrations at both ends; that at the southern end coincides with a concentration of other find types, explicable seemingly by the presence of an underlying structure (Building 1; see Section 3.3.2). Finally at Trench C (A5.5 and A5.6) there is an unexplained high concentration of pottery within the middle zone near to the south-eastern end of the trench, while there is a slight increase in pottery density in the lower zone immediately above the substantial ditch [3008] (cf. Section 3.3.3).

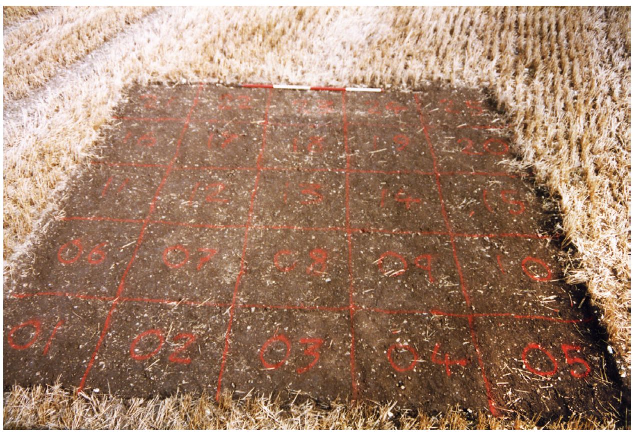


Figure 3.2 Ploughsoil at Trench A gridded and coded by square metre prior to excavation.

Several other aspects are relevant. The sherds from the ploughsoil at all three trenches were dominated by Roman greywares, typically quartz grain tempered, which in most cases account for c. 75% of the material; fabrics of this type are known to survive well within topsoil layers generally (Taylor 1996). This was in strong contrast to the pattern of the stratified deposits at all three trenches which, with the exception of one layer at Trench B, yielded comparatively little Roman pottery, the assemblages from A-C being dominated by Late Iron Age and Transitional fabrics (Leary this volume). Hence across the field, on the basis of this sample, the ploughsoil assemblage is not invariably a reliable guide to the date of underlying deposits: there may be a bias against the survival of the more fragile Late Iron Age and Transitional fabrics fired to a lower temperature, softer and when calcite tempered. A received impression is that rim sherds and bases are disproportionately present within the ploughsoil on the basis of these samples; this may be due to the fact that they are less easily broken down by normal processes within the ploughsoil. This impression can be tested but coheres with Cool's statement regarding Roman glass survival and recovery from surface pick-up exercises (Cool this volume).

More detailed analysis of the material recovered from the ploughsoil will be presented and findings discussed in volume 2 (Willis forthcoming) which compares the results *between* sites. This is especially important as studies of this type have rarely been conducted and are unlikely to form part of current commercially funded excavations; hence comparable data are rare.

Trench D

Trench D measured 16m by 3.7m. Again excavation was by hand. Initially a 10m by 2m trench it was enlarged after ploughsoil removal but prior to excavation to 16m by 2m with the area stripped of ploughsoil in accordance with the standard site ploughsoil sampling method. The ploughsoil zone was c. 27-30cm thick at this location. Removal of the ploughsoil exposed an extensive variety of archaeological deposits filling features cut into the natural chalk brash, which was only visible, at this stage, in a few small areas, testifying to the intensity of past activity at this location. It was apparent that several archaeological layers immediately below the ploughsoil included significant pottery and bone elements within their matrices and were likely to be the source of some fraction of the cultural material in the overlying agricultural soil at several locations.

A large sample of pottery was forthcoming from this operation, comprising calcite tempered wares, diagnostic Late Iron Age pottery, and sherds from Roman vessels. From the first 10m by 2m element a total of 297 sherds were forthcoming from the three ploughsoil zones, representing a higher density than was the case with the ploughsoil at Trench A. Dressel 20 type amphora was present amongst the pottery sample. Evidently there was some ongoing and fresh

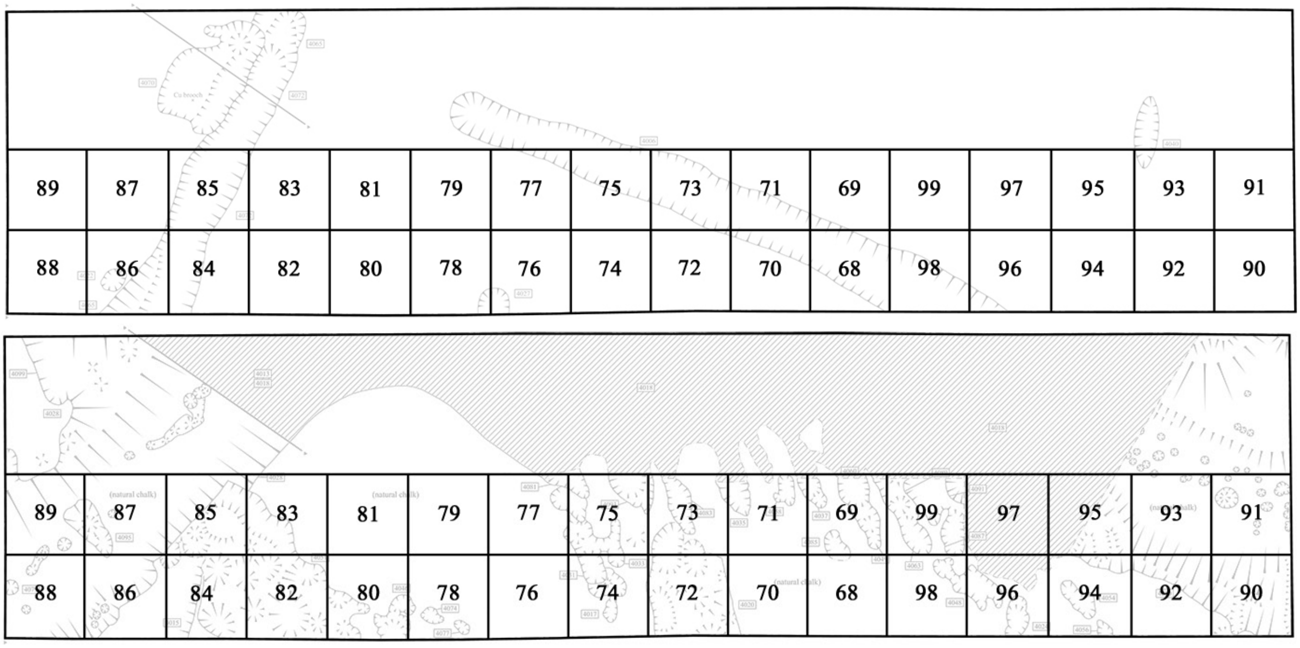


Figure 3.3 Trench D. Plans showing the relationship between the numbered square metre units by which the ploughsoil was removed and closely processed and recorded for its artefact content and the underlying archaeological features (see below for trench plans at a larger scale).

Table 3.1 Iron Age and Roman Pottery within the Ploughsoil at Trench A based on the 25 metre squares of the trench.

Context	Zone	No. of sherds recovered	Weight of sherds	Average sherd weight	Average sherd density per square metre
1000	Upper Ploughsoil	18	148g	8.2g	0.7
1001	Middle Ploughsoil	122	615g	5.5g	4.8
1002	Lower Ploughsoil	73	557g	7.6g	2.9

Table 3.2 Iron Age and Roman Pottery within the Ploughsoil at Trench B based on the 22 metre squares of the trench.

Context	Zone	No. of sherds recovered	Weight of sherds	Average sherd weight	Average sherd density per square metre
2000	Upper Ploughsoil	12	136g	11.3g	0.5
2001	Middle Ploughsoil	211	1428g	6.8g	9.6
2002	Lower Ploughsoil	190	966g	5.1g	8.6

Table 3.3 Iron Age and Roman Pottery within the Ploughsoil at Trench C based on the 20 metre squares of the trench.

Context	Zone	No. of sherds recovered	Weight of sherds	Average sherd weight	Average sherd density per square metre
3000	Upper Ploughsoil	13	116g	8.9g	0.6
3001	Middle Ploughsoil	194	837g	4.3g	9.7
3002	Lower Ploughsoil	85	500g	5.9g	4.3

Table 3.4 Average densities of Iron Age and Roman sherds per cubic metre of ploughsoil.

Trench	Context	Zone	Average sherd density per cubic metre
A	1001	Middle Ploughsoil	30
	1002	Lower Ploughsoil	36
B	2001	Middle Ploughsoil	60
	2002	Lower Ploughsoil	108
C	3001	Middle Ploughsoil	61
	3002	Lower Ploughsoil	53
D	4001	Middle Ploughsoil	73
	4002	Lower Ploughsoil	56
F	6001	Middle Ploughsoil	80
	6002	Lower Ploughsoil	38

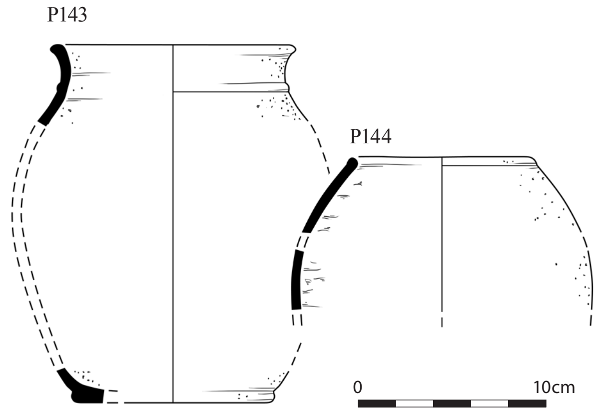


Figure 3.4 Two pottery vessels from Trench D vulnerable to ploughing or disturbed by ploughing (see Section 6.3): P143 and P144.

Table 3.5 Iron Age and Roman Pottery within the Ploughsoil at Trench D based on the Initial 20 metre squares.

Context	Zone	No. of sherds recovered	Weight of sherds	Average sherd weight	Average sherd density per square metre
4000	Upper Ploughsoil	18	215g	11.9g	0.9
4001	Middle Ploughsoil	169	1291g	7.6g	8.4
4002	Lower Ploughsoil	110	542g	4.9g	5.5

Table 3.6 Iron Age and Roman Pottery within the Ploughsoil at Trench D aggregating the Initial 20 metre squares and the 12 metre squares of extensions to the N and S.

Context	Zone	No. of sherds recovered	Weight of sherds	Average sherd weight	Average sherd density per square metre
4000	Upper Ploughsoil	34	400g	11.8g	1.1
4001	Middle Ploughsoil	375	2499g	6.7g	11.7
4002	Lower Ploughsoil	144	717g	5.0g	4.5

Table 3.7 Recorded Finds from the Ploughsoil Survey at Trench D.

Context	Square Metre of ploughsoil	Recorded Find Number	Material	Type	Notes
Upper Ploughsoil Zone – No Recorded Finds present					
Middle Ploughsoil Zone					
4001	70	4000	Ae	Pin	L 40mm; D (round section) 2mm; tapered at one end, rounded at the other - may be the complete original item – or worn/abraded; brooch pin?
4001	From extension, area E, above (4018)	4002	Fe	Nail	MD Find
4001	From extension, area D, also above (4018)	4003	Fe	Object	MD Find
Lower Ploughsoil Zone					
4002	74	4001	Fe	Nail	MD Find

erosion of deposits as a consequence of ploughing activity. Subsequent excavation of the trench showed that the ditch [4006] was being eroded by routine ploughing with a concentration of freshly broken, large but fragile, pottery sherds from several vessels present in the middle and lower ploughsoil zones above this feature, in particular in square metre 71 (Fig. 3.3). The initial 10 by 2m area was extended to 16m and then extended by 1.7 metres along its eastern side, but in this case, with a sufficiently representative sample already collected, the finds from this latter extension were collected only by ploughsoil zone, not by square metre.

A copper alloy pin fragment, RF 4000, was recovered from the middle ploughsoil (from Square 70) and is likely to be from a Late Iron Age or Roman brooch and it too is likely to have come from disturbance of the ditch [4006]. There were, however, just four items of recorded find status from the trench ploughsoil, despite the fact that this was the largest trench opened in East Field.

Turning to consider the pottery present in the ploughsoil numerically at Trench D (Tables 3.5 and 3.6) it is instructive to view the data for the initial 20 square metres (Table 3.5) and compare it with the data when the extra 12 metre squares from the extensions to the trench, north and south, are added (Table 3.6). The extension was made by one metre to the north to enable more contextualization of the Late Iron Age and early Roman gullies/ditch bases and the features [4028] and [4051]/[4099] at this point, while that to the south aimed to expose more of the large feature [4050] which was to prove to be a broad palisade slot (see 3.3.4). These data show that there is a strong correspondence between the initial sample and the extra 12 squares in terms of sherd weights through the zones and similarly in terms of densities per square metre, though the figure is a little higher for the middle ploughsoil zone when the extensions are included. The latter can be attributed to the evident recent disturbance of feature [4040] by ploughing (see below 3.3.4). Overall these data suggest the 'reliability' of the Initial data as a guide to sherd incidence in the ploughsoil in this locality. Broadly the data from Trench F (Table 3.9) show similar trends to what is seen with Trench D, despite their distance apart. Both locations are away from the main focus of intense activity in the Roman era (which lies to the east along the margin of East Field) and both appear to have been areas used for enclosures evidently relating to agriculture in the Late Iron Age and early to mid-Roman era, with the emphasis chronologically later at Trench F (see below). At both locations the fairly high frequency of pottery in the ploughsoil was not reflected in the extant archaeological deposits below.

Table 3.4 compares the data between the five trenches by calculating the frequency of sherds per cubic metre of soil excavated at these trenches, and within trenches between the middle and lower ploughsoil zones. The calculations take the zone depths outlined above as the measure and factor in the number of squares excavated; the data are thereby calibrated. The picture that emerges is one of variability and there are no straightforward patterns across the samples. This complexity is exacerbated when the nature of the sub-ploughsoil stratified deposits and their dates and artefact assemblages are reviewed against these data per trench (see below). This is not a surprising outcome as it will be a function of the variable nature of archaeological deposits and of site formation, together with post-depositional processes, relating to factors such as topography and agricultural regimes. It emphasises that there is no simple means of using ploughsoil pottery assemblages as a guide to site archaeology, unless one is undertaking multiple sampling to establish something of a picture (as achieved by Leary's sophisticated approach to the surface collected assemblage, in her report below). What is clear by this index is that there is a truly vast amount of Later Iron Age and Roman pottery in the ploughsoil across this site, and this presence is frequent through a broad area and by comparison with sites of similar date.

Trench E

The ploughsoil across this trench was excavated by hand, separating this horizon into the three zones following the established methodology. In this case, however, this was not by square metre, nor was the ploughsoil broken up on boards to maximise recovery of sherds and other finds as this trench was not intended to provide data for the programme analysing the artefactual content of the ploughsoil. The ploughsoil zone was found to be c. 27cm thick at this location.

Moderate quantities of pottery were, nevertheless recovered from all three ploughsoil horizons, despite the fact that the intense recovery method was not employed. This material comprised of Roman coarse wares, plus calcite tempered pottery of Late Iron Age and Roman association. A Roman coin (RF 5007) was located on the Trench E spoil heap using a metal detector having come from the trench ploughsoil. This proved to be a radiate copy of c. AD 271-286. Below the ploughsoil a comparatively deep sequence of remains was encountered, with archaeological deposits extending across the trench below the ploughsoil (see Fig. 3.49). These upper layers were comparatively rich

Table 3.8 Recorded Finds from the Ploughsoil at Trench E.

Context	Square Metre of ploughsoil	Recorded Find Number	Material	Type	Notes
Ploughsoil Spoil					
5007	N/A	5002	Fe	? Tool	Likely incomplete knife blade or chisel: L 44mm; thickened tang end 8mm x 4mm, opposite end 18mm across, thinning to poss. chisel end at an angle; or could be a blade snapped near the tang
5007	N/A	5003	Fe	Nail	-
5007	N/A	5007	Ae	Coin	Radiate copy c. AD 271-286
5007	N/A	5009	Fe	Nail	-
5007	N/A	5010	Fe	Object	-

Table 3.9 Iron Age and Roman Pottery within the Ploughsoil at Trench F based on the 20 metre squares of the trench.

Context	Zone	No. of sherds recovered	Weight of sherds	Average sherd weight	Average sherd density per square metre
6000	Upper Ploughsoil	31	307g	9.9g	1.2
6001	Middle Ploughsoil	255	1523g	6.0g	12.7
6002	Lower Ploughsoil	61	402g	6.6g	2.4

Table 3.10 Recorded Finds from the Ploughsoil Survey at Trench F.

Context	Square Metre of ploughsoil	Recorded Find Number	Material	Type	Notes
Upper Ploughsoil Zone – No Recorded Finds present					
Middle Ploughsoil Zone					
6001	100	6001	Fe	Pin	MD Find
6001	108	6000	Fe	Nail	MD Find
6001	113	6007	Fe	Nail	-
6001	113	6008	Faunal	Split lower canine of pig	Probably a natural split (pers. comm. James Rackham)
6001	114	6003	Ae	Coin	House of Valentinian
6001	114	6004	Ae	Coin	'Tetricus I' copy
6001	114	6005	Ae	Coin	'Constantius II Caesar'
Lower Ploughsoil Zone					
6002	110	6014	Fe	Nail	-
6002	112	6011	Fe	Nail	-
6002	112	6012	Fe	Nail	-
6002	112	6013	Fe	Nail	-
Ploughsoil Spoil					
6007	-	6006	Ae	Folded binding with decoration	Binding from a dagger scabbard terminal. MD Find. See Cooper below.
6007	-	6009	Fe	Nail/tack	-
6007	-	6015	Ae	Coin	Falling Horseman copy

in pottery finds and were perhaps a source of some of the sherds in the ploughsoil.

Whilst this trench was not intended to provide data for the programme analysing the artefactual content of the ploughsoil it does provide some useful information. It is notable that no Recorded Finds were found by eye when the topsoil was removed, even though this was removed by hand in an orderly manner adhering to the three zone methodology. The five Recorded Finds from the ploughsoil were subsequently recovered from the ploughsoil spoil heap (Table 3.8). This is some gauge as to how often such finds might be missed from ploughsoil when it is dealt with normally – that is removed 'robustly' and without detecting. That said spoil heaps are far from ideal circumstances for metal detector scanning as the instrument often has to be used at an angle and the soil is not compacted; finds can of course become deeply buried if spoil accumulation is swift.

Trench F

The ploughsoil was excavated following the sampling procedure outlined above. The ploughsoil zone measured around 26cm thick at this point and directly overlay natural chalk and the fills of archaeological features.

Quantities of pottery were recovered from all three ploughsoil horizons and from across the investigated area. The large majority of this material was Roman though some amount of Iron Age tradition pottery was present. These finds were generally small and abraded, indicating that they had been within the ploughsoil for some while. The total count of sherds recovered from the ploughsoil within the confines of the trench was 347 fragments. This figure compares with the totals for the two 10m x 2m trenches (B and C) excavated in 1998, and Trench D (above), (where an identical recovery method had been undertaken), which yielded, respectively, counts of 413, 292 and 297 (all of these finds again being Roman or Late Iron Age). This comparatively high count from Trench F is noteworthy as the mapped distribution arising from the British Gas fieldwalking had indicated this area to be one with less sherd presence than was the case in the areas where Trenches B, C and D were placed. Removal of the ploughsoil and subsequent cleaning revealed a series of independent features cutting natural chalk subsoil, with no positive stratification present. The cut features, however, proved to hold little pottery in their deposits and so the sherds from the ploughsoil must derive from either ploughed-out upper horizons which held more frequent pottery items or large sherds (now broken up) or the ploughsoil assemblage comes from another source (possibly Roman dated features nearby or via Roman manuring).

Several metal items were recovered from the ploughsoil assisted by the use of a metal detector. These included several typologically Roman iron nails (see Table 3.10) and a part of a finely decorated dagger scabbard binding and terminal in copper alloy RF 6006 (Cooper this volume).

Curiously, from the same square metre of ploughsoil (Square 114, context (6001)) three Roman coins were forthcoming, yet there were no other coins recovered from this trench bar one from ploughsoil spoil (so not spatially located). The latter, RF 6015, was a very small coin being a *FEL. TEMP. REPARATIO* (falling horseman) type copy dating to c.AD 355-365, an unusually late coin for this site (cf. Holman below). The three coins from square metre 114 are identified by David Holman (this volume); they comprise a radiate copy of Tetricus I (c. AD 271-86), a *GLORIA EXERCITVS* copy of Constantius II Caesar (c. AD 335-45) and a *GLORIA ROMANORVM* issue of the House of Valentinian (c. AD 364-78). It is improbable, given the types present, that these coins are from a dispersed hoard. Collectively these coins, suggest fourth century activity at this point at the site, marking it out as unusual given the thin record of fourth century evidence from the site. Another notable aspect of the incidence of finds in the ploughsoil zones was that three of the seven nails from the trench ploughsoil came from one square metre (112) and one of the remainder was from adjacent square (110; see Table 3.10).

Square metre 114, the source of the three coins, lay towards the western end of the trench on its southern side. The only archaeology below Square 114 was feature [6020] which continued beyond the southern limit of excavation. Within the trench [6020] appeared as a small and regular cut (see below). Whether the coins were at all related to this feature is a matter for speculation; its excavated fill within Trench F contained no finds. Square 114 lay just to the west of the large hollow [6008] but that feature too yielded very little by way of finds.

The folded metal binding from a dagger scabbard, RF 6006, contrasts with the chronology of the coins for this appears to date from the early Roman period/first century AD (see Cooper this volume) and so is in keeping with much of the other copper alloy metalwork recovered from site ploughsoils and stratified layers.

As noted the ploughsoil was found to be comparatively thin with an approximate depth of 25-26cm. This was not surprising given that the trench was positioned on the highest area of the field, where movement of soil to lower surrounding areas might be expected. Some degree of erosion of deposits seems likely be taking place in this vicinity as a result of normal agricultural activities, but at the time of the investigation of Trench F was not marked.

The 2000 Season

The established procedure for sampling the ploughsoil could not be adhered to in 2000 as the excavations on East Field had to be completed in a restricted timeframe as the Farm Manager had a tight schedule for the cultivation allowing only a two week window on East Field in which the aim was to excavate the two Trenches, G and H; the field was scheduled for sowing in late August. In addition, at the start of the 2000 season it was discovered that the large bespoke wooden boards used as platforms to break up the excavated ploughsoil using a spade, to assist recovery of finds, had, over the winter, been taken from the area where they had been stored and could not be located. Hence in the case of the three trenches opened in 2000 the ploughsoil was removed as three levels, following the site methodology and finds separately bagged, but incidence was not recorded vertically to the square metre nor was the ploughsoil intensely scrutinized for finds as with the preceding seasons.

Trench G

Trench G was entirely hand-dug with the ploughsoil removed in three spits to separate finds to the upper, middle and lower ploughsoil zones. The ploughsoil zone was found to be of a similar depth to that at Trench F, its comparatively near neighbour on the ridge of the field, being c. 0.26-28m deep.

Roman pottery sherds were recovered from all three horizons and from across the investigated area. The total amount of pottery from the ploughsoil was very modest and comprised, essentially, of small and abraded items. There were only two sherds from the upper ploughsoil (4g), seven from the middle ploughsoil zone (72g) and eleven from the lower zone (36g), so overall, 20 sherds with an average weight of 5.6g. Sherds from Roman greywares predominated and there was a single sherd of samian. No Recorded Finds were recovered from the ploughsoil. Compared to the other ploughsoil samples from similar sized trenches in East Field the recovery of sherds was only 5-10% of aggregates elsewhere (see above), although the recovery method was, as noted, less intense.

Trench G proved to contain a range of sub-ploughsoil features, not just the one linear anomaly reproduced in Phil Catherall's interpretative plot. However, these were all evidently prehistoric and/or devoid of pottery finds. The Roman pottery present in the ploughsoil in this case was an unreliable guide to the nature and date of the underlying deposits, which collectively yielded no material culture of any type, nor other finds such as faunal remains. Whilst it must be borne in mind that the small trench is point specific and other features of different date may lie close-by, the picture based on the evidence encountered suggests that the Roman sherds hereabouts must either represent 'background noise', for instance from manuring, or are the remnant of any Roman era deposits that have been ploughed out over previous decades of arable cultivation. The rate of erosion of archaeological remains at this level location within the field, on top of the watershed 'ridge/plateau' appears, presently, to be a slow. The overall picture though is not surprising. Both the geophysical survey and the fieldwalking suggested this was a much quieter area of the site in the Late Iron Age and Roman period, and those indicators were borne out. This is further evidence for the broad reliability of the methods as sampling and predictive tools.

Trench H

As with Trench G the ploughsoil of Trench H was removed in three spits to separate finds to upper, middle and lower ploughsoil. Overall the ploughsoil was c. 0.28-0.30m thick. Once more modest amounts of Roman pottery were recovered from all three horizons and from across the investigated area. Mainly these consisted of small and abraded sherds of greyware. Represented were an early rusticated jar in quartz grain tempered fabric, two samian sherds, and a fragment of a Baetican amphora, evidently a Dressel 20 form, which would have held olive oil. A copper alloy representation of a duck or similar bird, RF 8001, came from the middle ploughsoil zone (8001); whilst ducks and birds in general were a popular subject in Iron Age and Roman metalwork decoration Nick Cooper believes this particular piece to be a likely modern item (see Cooper below). Again cleaning following the removal of ploughsoil exposed a series of independent features cutting natural chalk subsoil with no positive horizons extant; some ongoing erosion of extant archaeological deposits at this location seems likely.

Trench I

The ploughsoil was once more divided into three zones which were removed separately, finds being discriminated accordingly. The ploughsoil was not fragmented on boards for the reasons outlined above. The ploughsoil proved to be a thick layer, c. 0.37m deep, doubtless due to the piecemeal accumulation of material at this location from adjacent slopes as it was located within a dip in the topography of the field (see above). A large quantity of Roman and some Late Iron Age/Transitional pottery was recovered from the ploughsoil, together with a considerable number of Recorded Finds (Table 3.11). This trench was a larger area than was the case with most of the trenches in East Field (amounting to a little over 34m²) so that should be borne in mind in any comparison. In terms of LPRIA pottery and Roman pottery the following quantities were recovered from the three ploughsoil zones: (9000): 29 sherds, (9001) 107 sherds and (9002) 210 sherds. The lower ploughsoil had a greater number of pottery sherds than the middle ploughsoil zone and this higher aggregate was also reflected in the Recorded Finds, this is especially noteworthy considering the comparative thicknesses (9001): c. 16-17cm, and (9002): c. 13-14cm (see above under methodology). The middle ploughsoil yielded a worn radiate copy of Claudius II (269-70) and several iron nails which, where reasonably extant, were of Roman type. The lower ploughsoil contained further iron nails and a brooch pin and hinge fragment RF 9007.

Trench J

The initial season at Trench J in 2002 opened an area of 26m² (5m by 5m as per Trench A but with an additional 1m). The ploughsoil was stripped by hand in the three zones, though not broken up on boards and scanned for finds by that means. Thus the recovery method was as per Trenches E, G, H and I. The method could not be vigorously followed thereafter for several reasons. The extension to the trench in 2003 moved from the cultivated ploughsoil to the verge of the field and the hedge bank, while the work in 2004 was only located on the bank, beyond the agricultural zone. In 2011 part of the trench reopened earlier areas but moreover by that time the whole area in which the trench was located had become set-aside under Countryside Stewardship. It was part of a wildlife margin and not ploughed in order to preserve a part of the site that the Project had revealed to be present in this field.

Table 3.11 Recorded Finds from the Ploughsoil Survey at Trench I.

Context	Measurement from origin: SW corner of trench	Recorded Find Number	Material	Type	Notes
Upper Ploughsoil Zone					
9000	Not known	9043	Ceramic	Pottery	Quartered & trimmed base
Middle Ploughsoil Zone					
9001	0.7m E 4.6m N	9000	Fe	Nail	Head missing; L54mm; Wt 4g; angle > 90°
9001	0.7m E 13.2m N	9001	Ae	Coin	Claudius II radiate copy
9001	0.7m E 3.5m N	9002	Fe	Nail	Head missing; L25mm; Wt 3g; straight
9001	1.6m E 7.9m N	9003	Fe	Nail	Head missing; L38mm; Wt 3g; straight
9001	4.9m E 5.6m N	9022	Ceramic	Pottery	Quartered & trimmed base
9001	3m E 8.25m N	9031	Fe	? Nail	Thin square sectioned strip with one thickened end; L 58mm; T 3mm
Lower Ploughsoil Zone					
9002	1.3m E 0.5m N	9004	Fe	Wire strip	Beaded at one end; broken at other; slight s curve; L 86mm; D 2.5mm
9002	0.4m E 1.9m N	9007	Ae	Brooch	Pin and hinge fragment
9002	1.2m E 4.3m N	9008	Fe	Nail	Head present; L42mm; Wt 3g; straight
9002	2.8m E 7.9m N	9010	Ceramic	Pottery	Possible pottery counter
9002	2.8m E 7.9m N	9011	Fe	Nail	Head missing; L33mm; Wt 3g; straight
9002	3m E 6m N	9029	Fe	Object (Corroded)	Approx. rounded; possible nail head; 9mm x 5mm x 5mm
9002	2m E 9.5m N	9034	Fe	Nail	Head missing; L22mm; Wt 2g; straight; in 2 pieces

3.3 The Excavated Trenches

3.3.1 Trench A

Prehistoric Ditch [1007]/[1026] and Recut [1063]/[1064]

The principal feature encountered at Trench A was a massive ditch [1007]/[1026] c. 1.85m deep and on a broadly north-south alignment. This feature, on the basis of the evidence recovered, is the earliest feature in Trench A. Cut into the chalk bedrock, [1007]/[1026] was sectioned at two locations within Trench A, immediately adjacent to the south and north baulks. It was found to have a U-shaped profile with a broad flat base. This base lay c. 2.15m below the modern ground surface (Figs 3.12 and 3.13). It measured over 3.7m in width with its cut on the eastern side lying beyond, though apparently near to, the eastern limit of excavation. Ideally the full profile of the feature would have been exposed and recorded but this was not possible within the scheduled time-frame of the excavation and access to the field. The base of the cut in the southern excavated section was not exposed but this would appear to be near to the depth at which the excavation was halted.

The excavated western side shows the feature to have been steep-sided and the cut fairly regular, at an angle of c. 70º, although it is likely that the upper 0.5-0.7m had been subject to weathering given the likelihood that the feature was open subsequent to its original excavation. The exact width of the ditch is unknown but the slope of layers on the eastern side suggest this was potentially around 4.5m in total width.

The two archaeological sections cut into the filling of [1007]/[1026] show a similar sequence of fills at these points (Figs 3.12 and 3.13). The lower and main fills comprised a series of chalk fragment and silt deposits with these two elements occurring both separately or combined, giving rise to light grey and yellowish brown deposits. The northern section was mainly excavated by Michael Nashvili and the southern one by Kulvinder Johal. In the northern section the primary fill comprised a comparatively thin layer of angular chalk fragments in a matrix of gritty silty clay (1048), Munsell 10YR 5/4, with a chalk grit and chalk silt layer (1054) Munsell 10YR 7/3, against the western edge of the cut. Overlying these deposits was a mixed layer of 50% chalk and flint fragments and 50% silty clay (1044), Munsell 10YR 5/4, and a silty clay (1047), Munsell 10YR 4/6. Since (1047) lay very early in the sequence and comprised principally of a soil matrix, with only occasional chalk or flint a sample was taken for the potential evidence it might yield

Figure 3.5 Trench A. Excavation in progress.

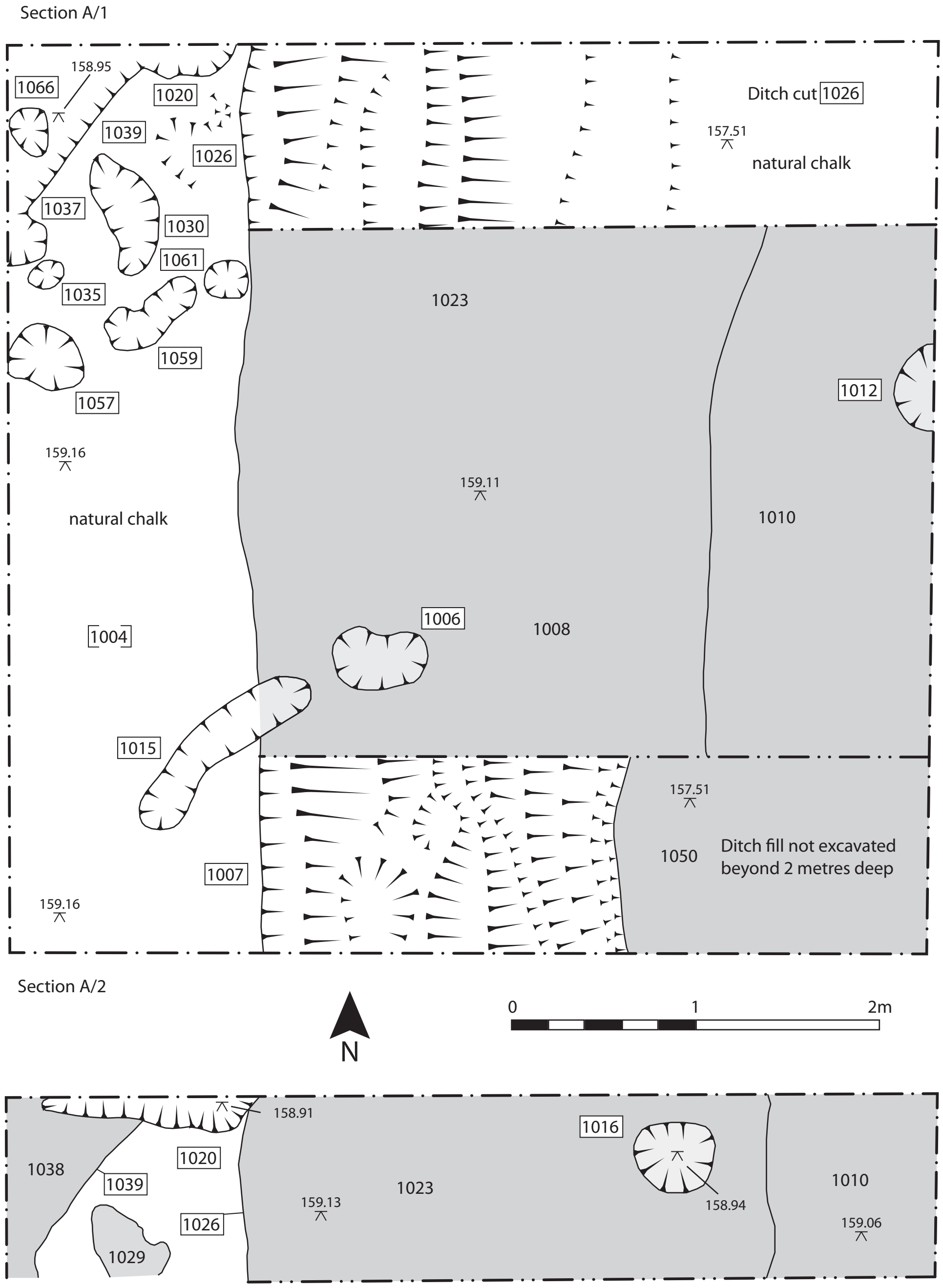


Figure 3.6 Trench A plan (with overlay plan, below, for the northern part of the trench at an earlier stage of excavation).

of the ancient environment, and perhaps carbonized remains that might be dateable. Subsequent deposits were (1051) (subsequent to (1047)) comprising c. 80% chalk fragments and (1055) over (1044), being a silty clay with chalk grit. Fill (1053) overlay (1055) and (1047) consisting of c. 65% silty clay and 35% angular chalk fragments. Next, fill layers (1052) and (1040) Munsell 10YR 5/6 - 5/8, were silt clay layers with some chalk fragment inclusions (rare in the former, and more frequent in the latter, including weathered chalk pebbles). These fills seem likely to represent a series of episodes of periodic weathering of sides and adjacent deposits washing and tumbling into the cut. Above, (1043) and (1042) constitute larger deposits, perhaps indicating more major events, including potentially some concerted backfilling. (1043) on the western side comprised c. 55% angular chalk and flint and 45% silty clay; (1042) in contrast was composed almost exclusively of small angular and sub-rounded chalk (c. 0.03 - 0.05m) in virtually no soil matrix and accordingly was very loose. It had entered the ditch from the eastern side. Over (1042) lay (1033), another silty clay deposit with frequent large chalk fragment inclusions, Munsell 10YR 5/4. (1032), over (1033) had

Figure 3.7 Trench A . General view looking east.

much more frequent chalk, though again in a silty clay matrix, Munsell 10YR 3/4. Context (1032) and to a lesser extent (1033) and (1043) appear as if they may have been truncated by a cut as the interface with the base of the layer above, (1025), does not look to be a natural angle if these are simply fills (Fig. 3.12). This is particularly so with the slope of (1032). Hence it is likely that this indicates a re-cut, with a central deeper channel [1064]. There is a similar dip at the centre of the south baulk section at this height (Fig. 3.13) which confirms the identification of a re-cutting. In the southern sectioning it was ascribed the context number [1063].

Above [1064] a deep filling of brownish yellow clay silt with few coarse inclusions built up, (1023) and (1025) being c. 0.8m at its thickest. This fill perhaps accumulated over a long period of time from the same origin (the natural soil horizon in the vicinity?) as it is homogeneous despite its thickness and volume. From (1025), close to the northern baulk an Early Bronze Age axe-head was recovered, RF 1006 (cf. Section 4.2). The axe-head was found lying flat within (1025) where it was overlain by (1024). Although not at first positively identified as an axe-head, given the care taken to lift the item with as little disturbance of surrounding soil as possible, this likelihood suggested itself from the general form. At the time this was considered a surprise as there was no indication of activity contemporary with the likely date of the item in the vicinity of Trench A prior to this discovery.

Fill (1025) was overlain by (1024) which contained abundant rounded and sub-rounded chalk gravels which were loose as there was little soil matrix, the latter being a silty loam (c. 20% of the context). Above (1024) lay (1010) which was identified across the whole of the eastern side of the trench, comprising an upper fill of [1007]/[1026]. This had less chalk gravel than (1024) and its matrix included a greater loam content than lower deposits. In turn it was overlain by a later deposit of (1023) which, further west, could not be differentiated from lower levels of (1023). Above (1023) and (1010) occurred layer (1005) which extended across the top of the fills of [1007]/[1026] and which contained later finds; it and the latest fills in this ditch are described and discussed later in this section.

The fill sequence in the southern section corresponds broadly with that of the north section. Here, up against the cut was a skim of chalk grit and chalky silt (1065), while the lowest main fill identified (1050) contained large angular chalk fragments, these deposits mirroring (1054) and (1048), and (1044) respectively. Above these a series of silt and/or chalk rich deposits built up on the western side of the cut: (1049) was c 70% angular chalk, with the matrix being Munsell 10YR 4/4, (1018) was mainly silty clay with some chalk grit and gravel, while (1045) and (1046) were similar to the latter but with less chalk, Munsell 7.5YR 6/4 - 4/4. Context (1041) was a major fill equivalent to (1042) comprising abundant angular and sub-rounded chalk (c. 0.03 - 0.05m) in limited soil (c. 10%). As with (1042) it had evidently entered the ditch from the eastern side. By its western most extent (1041) had been truncated by a re-cut [1063], with a similar profile to [1064] to the north, though here it was c. 1.03m below the top of [1007]/1026] whereas in the northern baulk the cut was 1.17m below the top fill of [1007]/[1026]. Above [1063] the fill sequence parallels that in the northern baulk, with the main fill being the clay silt (1008)/(1028) c. 0.7m thick at its deepest, with bands of sub-rounded chalk rich deposits entering from the eastern side (1027) and (1010). At this end though (1010) was not overlain by any clay silt (1008). A tail of (1031) extends partially across (1062) though this may be erosion of (1031) as this deposit conceivably predates [1063] resembling (1033) in the northern section. Above (1008) lay (1005) which is considered later in this Section.

Lower fills of the ditch below the recut [1063]/[1064] contained no faunal remains. Contexts above the recut yielded a meagre number of faunal remains: (1028) and (1008) from the southern section, two fragments and one fragment respectively; from (1023) eight items and from (1010) five fragments. There is a similar pattern with the pottery finds. None occur below the recut. Below the Late pre-Roman to early Roman layer (1005) pottery was recovered from only three contexts and in scant quantity: from (1008) 1 sherd, from (1023) 3 sherds and from (1010) 2 sherds. This is considered below under Section 6.1.10.1 Trench A. These sherds provide some indications of date based on typology, but these are not firm. The items from (1010) came from the top of that layer.

The fills of [1007]/[1026] being softer than the surrounding chalk have been subject to burrowing from snails and moles and root activity. Two vertical natural disturbances can be seen in the baulk sections Figures 3.12 and 3.13. These might look like stake holes but their crumbly loamy fillings indicate disturbance by mole or root action, and their prominence is raised as they have resulted in the introduction of dark soils from (1005) and the ploughsoil above.

Discussion

The base of the cut of [1026] revealed in a small area of the north section displayed no disturbances and there were no indications in the lower fills to suggest the feature held a palisade, indeed its scale, not least its width, indicates this would be unlikely. Indeed the fill sequence, including weathering, suggests the feature was left open. Hence it seems that it was a major ditch.

Large quantities of material had clearly entered the ditch from both its eastern and western sides, much

Figure 3.8 North section at Trench A looking west.

Figure 3.9 North section at Trench A looking north at section face.

Figure 3.10 South section at Trench A looking south at section face.

presumably the result of weathering of the sides and wash from adjacent soils. However, the bulk of the chalk rubble had entered from the eastern side (as with (1041)/(1042) (Figs 3.12 and 3.13). It seems plausible that the up-cast from the cutting of the ditch had formed a bank on this side, which was subsequently slighted. There were no artefactual finds nor faunal remains from these lower fills (below the recut) that might indicate date. The fills appeared sterile on visual scrutiny, with no charcoal or carbonized remains observed from inspection. The baulk soil sample taken for environmental analysis from (1047) was passed to the University of Durham Environmental Laboratory where it was examined macroscopically by Jacqui Huntley in the autumn of 1998. A proportion was processed and examined by Jacqui Huntley for pollen survival; the assessment was negative. A flot was prepared which proved essentially barren confirming the low potential of the sample for macrofossil preservation and likely to be indicative of natural silting away from habitation or processes involving scorching or carbonization of plant matter (Jacqui Huntley in correspondence September and November 1998). No further work was undertaken on this sample. This configuration of an absence of cultural material, faunal remains and carbonized matter may be taken as an index of the function of the feature and its early date.

The feature was recut with a central channel or slot at a time when it was approximately half filled; this appears to mark the creation of a ditch (as opposed to being, say, for a palisade). A period of silting represented by the substantial fill (1008)/(1023)/(1025) had been interrupted by further influxes of chalk debris (1024) and (1010) perhaps deriving from the lower remnants of a bank.

The first cultural and faunal matter is present from this phase occurring in the silty fills that are characteristic of the sequence, post-dating the re-cutting. Quantities are uniformly low but present in the main silting contexts. This includes some pottery, albeit not particularly diagnostic (cf. above and Section 6.1.10.1 Trench A) and the axe-head.

Stuart Needham (Section 4.2 below) suggests on balance the likelihood is that the axe was deposited in the Bronze Age. Whilst there is no dating evidence for the ditch from *below* the recut (or indeed earlier than the context containing the axe-head) this would leave open the possibility that the feature was of a date earlier than the Early Bronze Age. Given this, only a tentative interpretation may be advanced. It is possible that the ditch is Neolithic and an example of a quarry ditch for the construction of a monumental enclosure.

Since the axe-head dates to an early stage in the Bronze Age it might be suggested that a date for the institution of this massive feature in the Neolithic provides sufficient time for a period of natural silting, likely deliberate backfilling from the up-cast bank, re-cutting and subsequent silting, before the axe-head is placed in the feature. Further, this scenario, seeing the original cut as Neolithic, would be feasible given the proximity of the substantial monument attested nearby at Trench D, with a re-cutting occurring in the later Neolithic or at the beginning of the Bronze Age.

The morphology and sequence revealed in Trench A closely resembles the results of Phillips and Probert's sectioning of the quarry ditch at Hoe Hill Long Barrow, Swinhope, in 1984 and their report on works undertaken at the Ash Hill Long Barrow, Swinhope, in 1986, including the sectioning of the quarry ditch (Phillips 1989, 9-38, figs 2.3, 2.5, 3.3 and 3.4). At those sites the quarry ditches measured c. 2m in depth, cut into chalk bedrock. That at Hoe Hill was, like the feature at Trench A, of broad U-shaped profile of similar width to [1007]/[1026]. At Ash Hill re-cutting was observed (Phillips and Probert 1989b). That the nature of these quarry ditches are similar suggests a template was being adhered to. Roman pottery and other finds were present in the upper fill of the Hoe Hill feature (Phillips and Probert 1989a, 15). The similarities between these major features at Trench A and at these two (nearby) known Long Barrows is further considered in the general Discussion (Chapter 9).

Late Iron Age and Early Roman Activity

Layers (1003) and (1005)

Extending almost completely across the top of the ditch [1007]/[1026] was the upper fill deposit (1005), constituting a qualitatively different deposit from the lower fills of this feature and its recut [1063]/[1064] (Figs 3.12 and 3.13). It comprised a dark grey silty loam, Munsell 10YR 3/3, and evidently contained a significant element of decayed organic matter. This deposit almost certainly represents a filling into a sinkage as the main fills of the ditch settled, and a period of time is likely to have passed between the laying down of (1008), (1023) and (1010) and the accumulation of (1005) in the top of the ditch. At the northern end of Trench A it was at its thickest above the central area of [1007]/[1026] at 0.25m, and was thinner towards the southern baulk at c. 0.1m. (1003), above (1005), was a lighter colour, Munsell 5Y 3/2, than (1005) and had been cut by ploughing in places and probably included some turning in of (1005).

Again it was thicker at the northern end of the trench and was clearly a layer (the upper most surviving fill) in its own right rather than simply being an interface formed of disturbance of (1005) and the ploughsoil.

Layer (1005), in contrast to the underlying fills, contained sizeable quantities of Late Iron Age to mid-first century AD pottery, together with some Roman types extending into the early second century (Leary this volume). A moderate amount of animal bone was present too. (1005) yielded the only recorded finds from the trench below the upper horizon (1003) with the exception of the axe-head. These consisted of an iron nail RF 1005 and two fragments of glass. Of the latter one was a fragment of Claudio-Neronian blue glass RF 1010 (see Cool this volume) and the other a fragment of pale olive green glass RF 1009 which Jennifer Price thought an unusual colour for Roman glass but which might nonetheless be Roman or 19th century (Price 1999); Hilary Cool thought this might not be Roman (see 6.5.6). The disturbed layer (1003), and the ploughsoil/archaeology interface (1002 lower), also contained pottery, the great majority typologically similar to that from (1005), from where it presumably derived. Overall pottery from these upper fills included jars, beakers and bowls, similar in style to that from Dragonby (May 1996) and a few other sites in mid and north Lincolnshire, and most types should not date beyond c. AD 75-100 (Fig. 3.11). Some later, typologically Roman, greyware shows the accumulation was over a comparatively long period, and perhaps, that there has been some degree of contamination through animal and root activity within this soft and humic horizon. The ploughsoil at Trench A contained much Roman pottery (cf. 3.2).

Three copper alloy cosmetic instruments were found clustered together within (1003) and the lower part of (1002) into which one of the items may have been incorporated by plough disturbance above the ditch and fill layer (1005). From the ploughsoil/archaeology interface, (1002 lower), came a finger nail cleaner RF 1000, while from (1003), a pair of tweezers and an unguent spoon were recovered, RF 1001 and RF 1002. The instruments, which are in perfect condition, are of similar proportions and design and clearly formed a set (Cooper this volume). No suspension ring was encountered. Objects of this type are known from Late Iron Age and especially Roman contexts mainly occurring as individual finds (Jackson 1985; Crummy 1983; Cooper this volume).

Other Features at Trench A

Three small pits or scoops and an elongated feature had been cut into the top of the ditch after it had filled, but prior to the accumulation of (1005). Towards the southern end of Trench A a small pit or scoop [1006] had been cut into the top of (1008), while at the north end of the trench [1016] cut (1023). By the eastern baulk [1012] cut (1010). A deeper elongated cut, [1015] (Fig. 3.6) also cut the top of the ditch. Its position suggests it might have been related to [1006]. The status of [1015] is perhaps questionable as an archaeological feature; it has a curve to it that mirrors some of the striations in the top of the natural chalk brash as revealed in the trench and so may be in part a periglacial feature or disturbance, yet it appeared to cut the ditch fill; it might be an animal disturbance by the edge of the feature. Only [1016] contained finds, in the form of two small sherds of

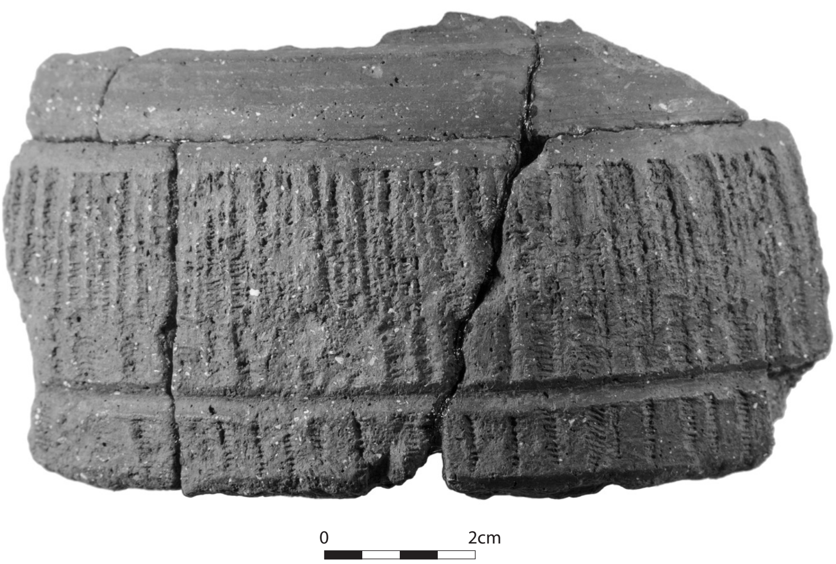


Figure 3.11 Trench A. Part of a beaker with rouletting, P105 from context (1005).

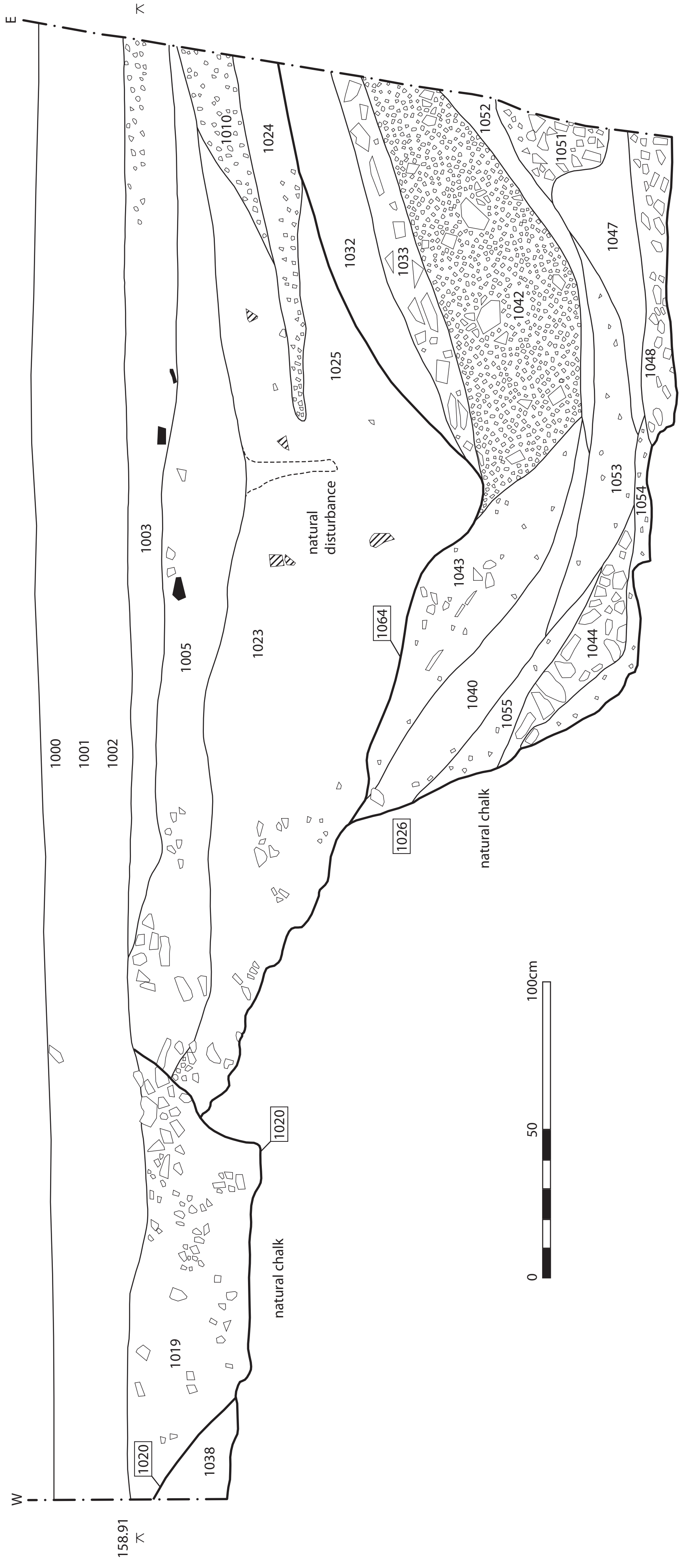


Figure 3.12 Trench A. Section drawing: the northern baulk.

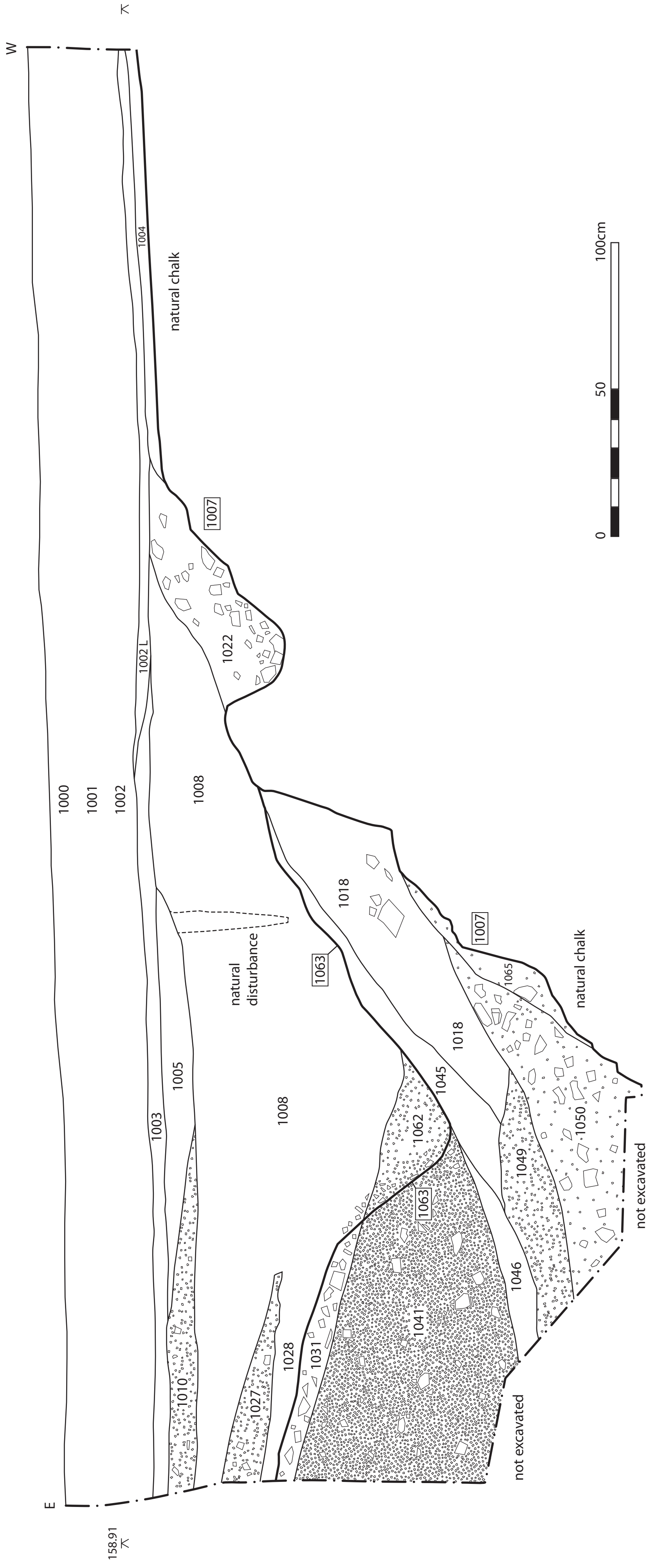


Figure 3.13 Trench A. Section drawing: the southern baulk.

sandy greyware, probably early Roman in date (see Leary this volume).

In the north-west corner of A a series of features had been cut into the chalk (Fig. 3.6). One or two may represent post holes, though they were all filled with yellowish-brown silts characteristically similar to those within the ditch [1007]/[1026] and so may be contemporary prehistoric features. Part of a larger feature, [1039], was caught in this corner of the trench and its dark yellowish brown silt fill (1038), Munsell 7.5 YR 5/4, produced one small sherd of black surfaced sandy ware, identified as Roman (Leary this volume). At the north edge of the trench a probable pit or ditch terminal, cut [1020], was the latest feature in the sequence below the ploughsoil horizon, cutting both [1038] and [1007]/[1026] (Fig. 3.12). Only two sherds were recovered from its distinctly dark loam fill, (1019), Munsell 7.5 YR 3/4 - 4/4, and these are identified as late first to second century types (Leary this volume).

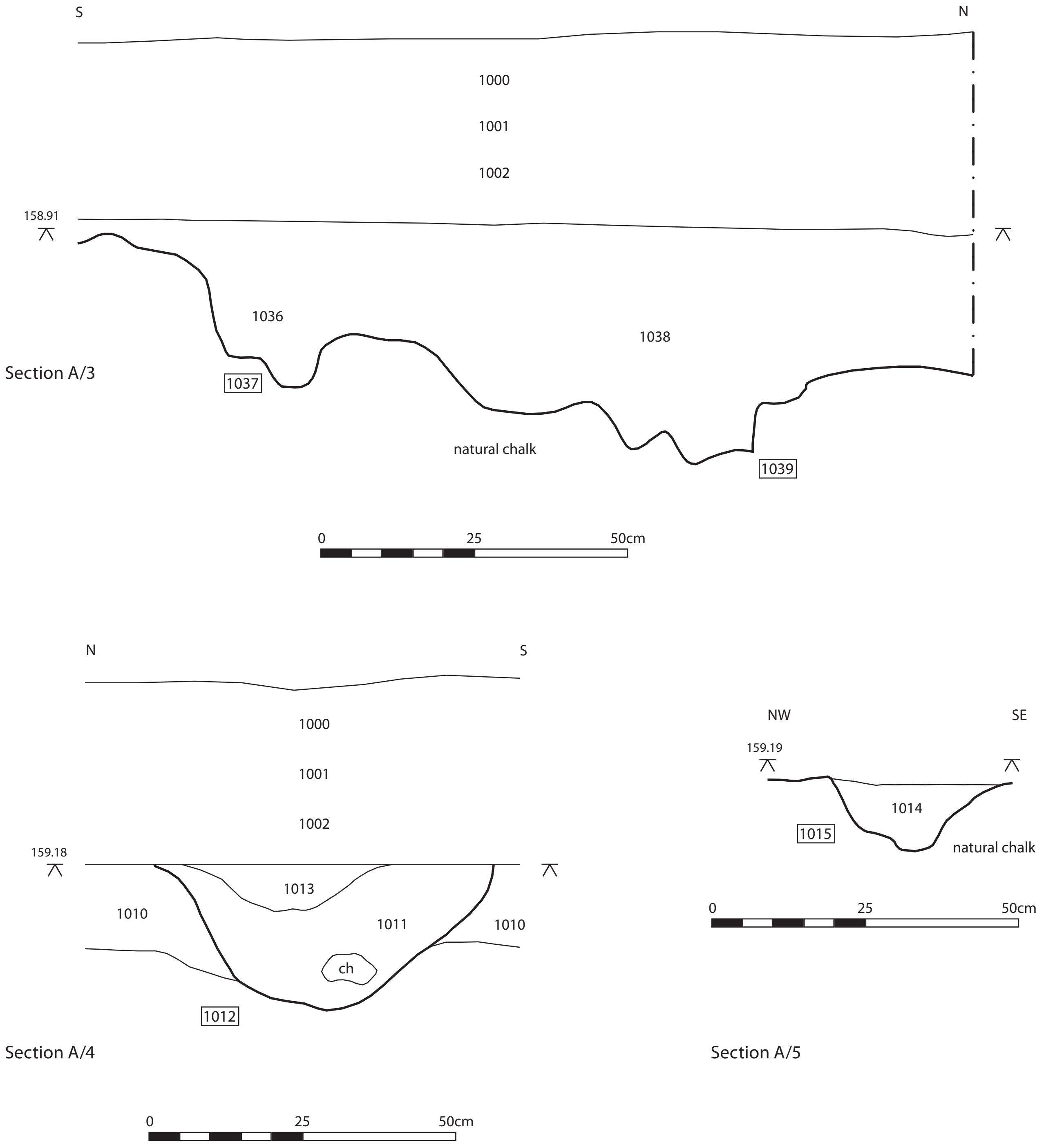


Figure 3.14 Trench A. Section drawings: part of the western baulk (A/3), cut [1012] (A/4) and cut [1015] (A/5).

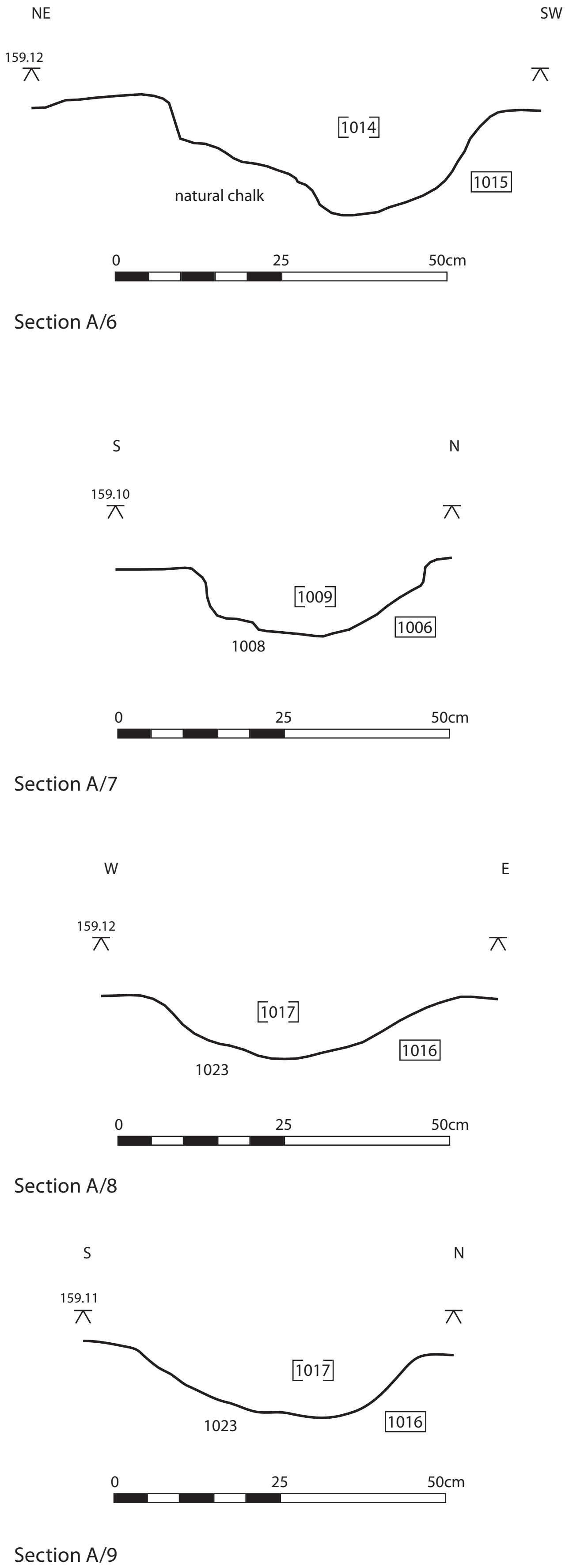


Figure 3.15 Trench A. Profile drawings: cut [1015] (A/6), cut [1006] (A/7), and cut [1016] (A/8 and A/9).

3.3.2 Trench B

Natural Channels [2016]

The earliest activity encountered at Trench B consisted of a series of 15 irregular channels in the natural chalk bedrock. They were broadly linear and gully-like in general appearance. They were found to occur throughout the extent of the trench (Fig. 3.16), and were aligned east-west (with a slight but discernable inclination such that almost all were a degree or two north-west to south-east) and generally sloped to the east with the inclination of the topography. A total of nine such channels extended across the width of the trench, while two at the southern end may do, though the trench was not fully excavated to natural at this point as surviving Roman period foundations were left *in situ* (Figs 3.16 and 3.19). The channels formed a consistent pattern across the trench and where they did not traverse the trench lengths of shorter gully on the same alignment occurred. These features were generally v-shaped in profile. Compared with each other they were of varying depths (see Fig. 3.19), though the most frequent depth was between c. 0.17-0.24m; depths also varied along their investigated lengths. Widths also varied as did the distances between these features. Overall though they lay tightly spaced, with the greatest distance between one gully and the next adjacent gully (at their nearest point) being 0.5m and in most cases they occurred much more closely to each other (Fig. 3.16). Given their shared position in the sequence and similar morphology they were assigned a collective number [2016]. They were extensively investigated with all exposed fills being excavated in an attempt, during this initial season, to understand what they represented and in order to maximize the chance of revealing evidence from their fillings that might shed light on their date and formation.

Upon excavation they were found to be uniformly filled with a characteristically compact yellowish-brown silty clay (2013), Munsell 7.5YR 4/6. This contained little in the way of coarse inclusions and was devoid of finds, with no observed snail shells or carbonized remains; the rare inclusions consisted of sub-angular flint fragments. Across the top of each fill was a spread of rounded and sub-angular flint pebbles (2012) which did not extend beyond the top of each cut (see Fig. 3.19). These pebble spreads capped the channels, though with some gaps, giving perhaps the appearance of metalling after the gullies had passed out of use. A single sherd came from (2012), deriving from a vessel that is more like early Roman than Late

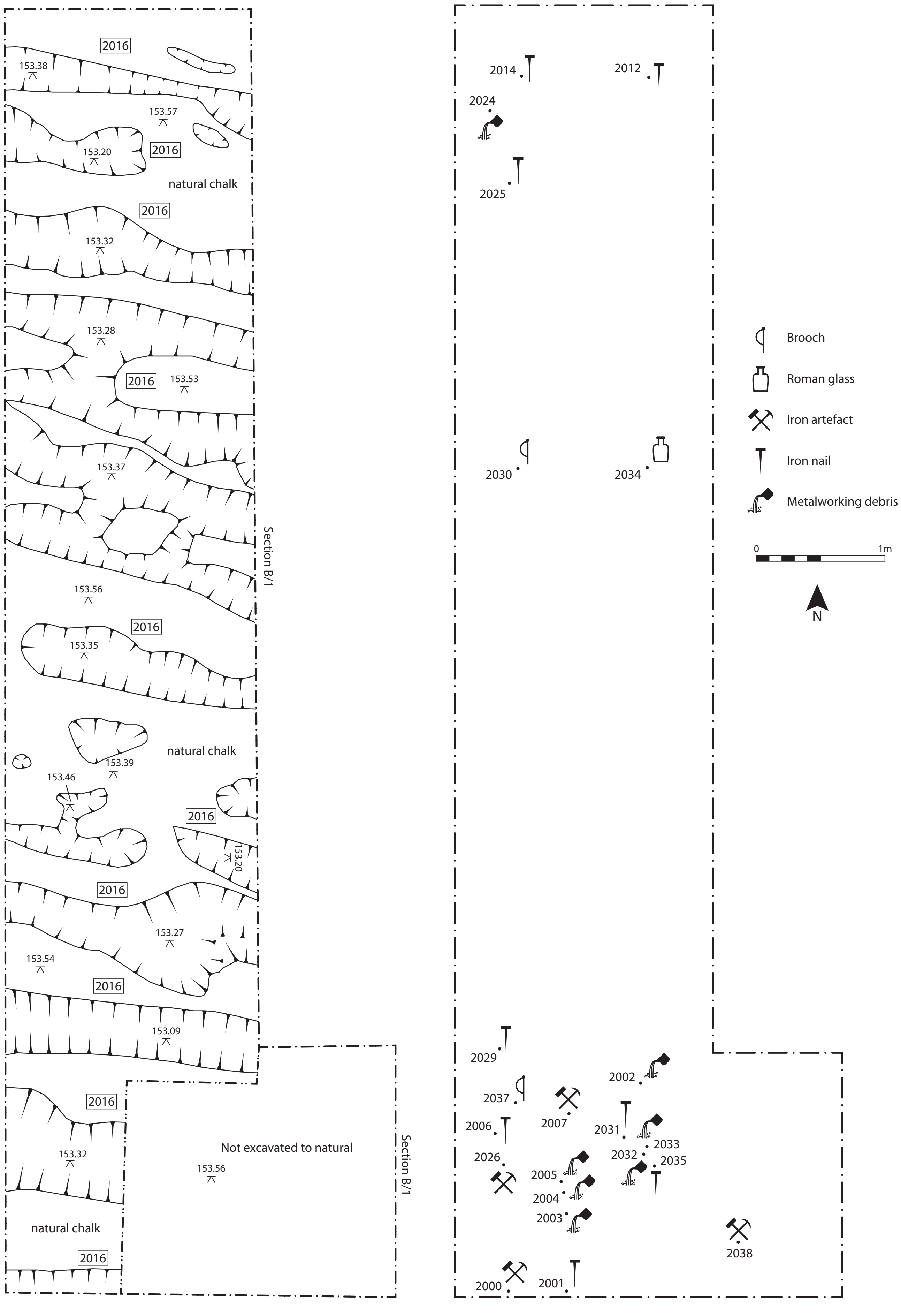


Figure 3.16 Trench B. Left: Plan of natural channels; right: Plan showing location of recorded finds.

Iron Age; this specifically was a handmade greyish buff shouldered vessel with grog and quartz grain tempering (ware group GTA10). A date in the second century would be likely for this item (cf. Leary this volume).

What the gullies represented was not readily clear at the time of excavation nor during the months following when the Interim Report for 1998 was produced. Their contemporaneity is not proven though it is strongly implied by their shared character and soil fill and stratigraphic position. At this early stage of the Project little excavation had occurred, limiting exposure, and thereby experience of, local soils and natural geology; this was to build in subsequent seasons. In addition the expectation in 1998 was that this was a site that had seen intense use in later prehistory and the Roman era and so it was anticipated that excavation would be revealing principally substantive activity and archaeology of that era. It was speculated that these channels might represent some form of cultivation, on the assumption that their apparent broad consistency indicated human activity, one that did not require the cutting of beds of a perfectly regular form. Against this was the lack of humic content visible macroscopically in their fill (2013). The filling had a high clay content, such that on excavation the soil broke into chunks that held their form. Soil samples were collected by the geoarchaeologist and soils specialist Dr Charles Frederick (then at Sheffield University) when he made a research visit to the site at the end of the season. These were assessed to establish their composition and whether they might represent a cultivated soil.

A number of factors point to the high probability that these channels are not to do with human intervention, but in fact are natural features. They perhaps formed in the periglacial or post-glacial era when the Wolds were subject to a series of dynamic processes (Robinson 2009b, 8-13). In particular they may well have resulted from freeze-thaw and the dispersal of melt-water, or rainwater following storms, before the area had revegitated, draining from the higher ground which slopes to the east from a point c. 100m west of Trench B. Not all these channels may have been open at one specific time, but some may have been, with a dendritic network in this location by the head of the valley leading to Rothwell. They may perhaps have originated through frost-wedging and cracking, forming fissures that subsequently became drainage channels.

No such similar pattern of channels was encountered at other Trenches at the site. However, both at this site (e.g. at Trench E some 63m north of Trench B) and at the other two sites excavated as part of this project (Hatcliffe and Otby) somewhat similar irregular features occur cut into the natural chalk and filled with a more or less identical clay or silty clay (at Trench E they are likewise capped with flint gravel). Dr Frederick concluded that (2013) was a near homogenous clay with few coarse fractions, and likely to represent a remnant of the ancient post-glacial soil that capped the higher Wolds in the immediate post-glacial millennia (pers. comm.; Bateman *et al*. 2001). The absence of chalk inclusions within (2013) and the profiles of these channels, with soft smooth surfaces to the chalk bedrock, as opposed to the more characteristically angular chalk sides that might be expected, strongly suggest that this clay soil had been sitting in these channels for a very long while. Although they are mildly alkaline on modern acidity testing, it seems likely they were either once more acidic or their low alkalinity notwithstanding, there was sufficient acidity over millennia to dissolve any chalk inclusions and led to weathering of the chalk at the channel sides, leaving flint as the only significant inclusion (pers. comm. James Rackham). Chemical weathering may have exacerbated the size of these features.

A capping of such clay soil over the Wolds tops will have inhibited drainage into the chalk and hence raised the probability of rapid run-off after high rainfall leading to gullying and shifting of the clay capping. Eroded gullies will have filled with the surrounding soil, which at this time will have been a residual base silty clay (cf. Robinson 2009b; cf. Bell 1977, 2, where he notes the presence of solution pockets in the natural chalk subsoil encountered during his excavations at Rookery Hill, filled with ancient soil).

As mentioned the flint pebble spreads (2012) more or less capping (2013) gave the impression of intentional metalling after the gullies had passed out of use, or to stabilize the surface. These pebbles were generally c. 4-5cm in longest dimension (with the great majority between 1-6cm in longest dimension) and the layer was essentially of one gravel thickness. It is possible that this layer results from a natural sorting process over a prolonged period and hence was not an intentional surface. A qualitatively similar layer occurs in Trench E in such a position, Trench E being the nearest trench to B within East Field. The single sherd from this horizon, described above, from (2012), seems likely to be intrusive.

Late Iron Age / Early Roman Soil Horizon (2006)/(2015)/(2019)

Overlying the gullies [2016] and their fills (2012)/(2013), and extending across the dimensions of the

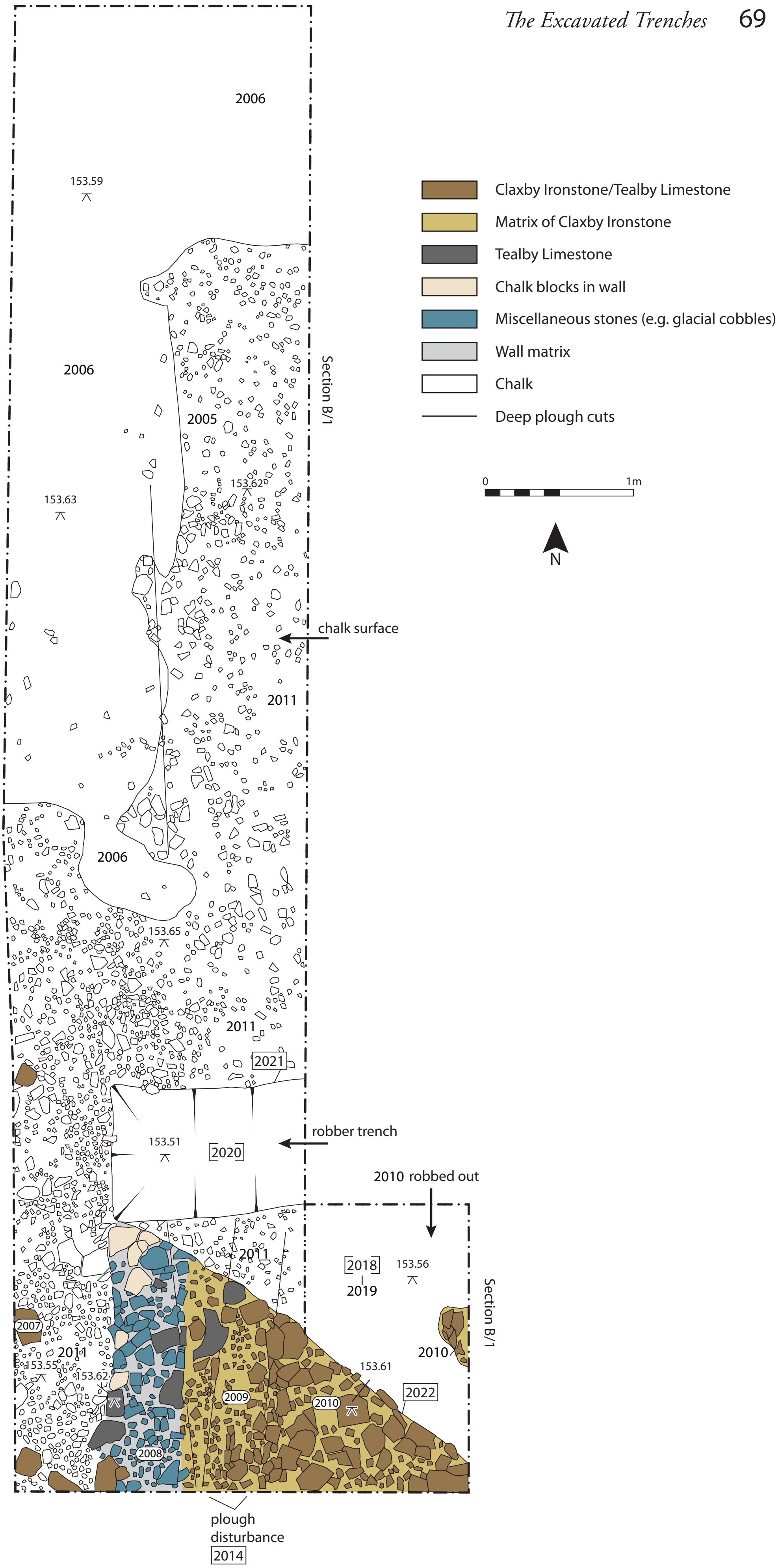


Figure 3.17 Trench B. The remains of Building 1 at the southern end of the trench, with surfacing and layer (2006) to the north.

trench, was a layer of clay silt (2006)/(2015)/(2019), c. 0.05-0.12m thick (Figs 3.17 and 3.19). This was mainly a dark brown colour, Munsell 7.5YR 3/4 - 4/4, though there were variations in part associated perhaps with thickness. It contained some rounded chalk and flint fragments though both were rare. This horizon appears to represent a soil build-up over time, perhaps in part colluvial. In her report on the faunal remains from 1998 Stallibrass noted the character of the bone fragments recovered from this horizon as likely to indicate residual material (Willis with Dungworth 1999, section 4.2.4). The horizon occurred below the wall structure (2008) and the adjacent disturbed area (2009) where it was more of a grey colour, perhaps due to staining.

An unusual one-piece copper alloy brooch of Nauheim type (RF 2030; Figs 6.42.1-2) was found within this layer (2006) at a mid-point along the length of the trench (the location of the finds within the trench were three dimensionally recorded). It was complete bar partial loss of the catch-plate and in good condition, with only a little distortion perhaps due to compression under foot or other pressure; it most likely dates to c. 90-50 BC (see Cooper this volume). Recovered too were sherds from two grog and calcite tempered vessels, perhaps of LPRIA-mid-first century AD date, and an abraded Roman greyware sherd. Along with the small amount of animal bone, this horizon also contained some fragments of oyster shell. In sum it appears to have formed over a lengthy time period with finds suggesting this was at the end of the Iron Age and into the beginning of the Roman era. Finds may have entered this layer if it was effectively an extant surface at this time.

Early to Mid-Roman Chalk Surface (2005)/(2011)/(2018)

Overlying the soil horizon (2006) was a layer of crushed chalk rubble (2005)/(2011)/(2018) hereafter referred to as (2005). It extended across most of the trench, but was absent towards the northern and western margins where it may have been removed by ploughing in recent decades. It certainly extended across the whole southern length and width of the trench for 4.6m, except where disturbed by subsequent activity. In the northern half of the trench it was only present over the eastern half of the trench and was also absent from the northern most 1.8m of the trench entirely. This layer was compact and comprised c. 75% chalk with a silty loam matrix; the chalk was frequently small at c. 4cm. (2005) was generally c. 0.05m in thickness, but at its southern end, specifically (2018), was double this depth. The top of this layer was undoubtedly truncated as it lay immediately below the modern topsoil (except in slight areas where the thin soil interface (2003)/(2004) occurred and in the south-west corner where it was overlain by the rubble layer (2007) and other contexts associated with Building 1) and its surface had visible plough cut marks from 'sub-soilers'. Hence its original depth and the character of its original upper surface is unknown. It seems likely to have been part of a laid surface, providing a consolidated expanse for activity over the soil (2006), using the convenient to hand resource which the chalk represented. In the central area of the trench the western extent of (2005) was in part demarcated by some clustering of larger chalk fragments visible on plan and in photographs (Fig. 3.17). Conceivably this may be the remnant of a margin to the surface. The clusters are also approximately in alignment with the wall remnant (2008) to the south; however they seem unrelated to it stratigraphically and no evidence was detected to suggest the clusters represent vestiges of post settings, or a continuation of the wall (and, besides, were solely of chalk, in contrast to the remains of Building 1). Overall (2005) does not appear to represent a chalk platform or raft for a building; such features normally have clear 'tell-tale' associated structural features such as post holes, slots, partitions, thresholds and hearth positions (pers. comm. Keith Parfitt). Even bearing in mind (2005) is likely to have been truncated the absence of traces of such elements is evident.

The small amount of pottery associated with this horizon generally dates to the late first and second centuries AD (Leary this volume). There is an absence of PRIA sherds with only one fragment from (2005) being Late pre-Roman Iron Age to mid-first century. A sherd from (2005) is from a bead rim bowl, probably of the carinated variety and dating to the late first or second century AD. This layer also yielded a rouletted greyware item and an everted rim jar also in greyware. There is nothing that looks later than the second century in terms of either fabrics or forms (pers. comm. Ruth Leary). A brooch represented by the spring case and the top half of the bow was recovered from (2011) being a copper alloy Langton Down type (RF 2027; Fig. 6.43.3). The brooch should fall within the decades prior to c. AD 55/60 (see Cooper below). As with the Nauheim from the layer below it was somewhat flattened. Two iron nails also came from this surface (RF 2025; RF 2029).

Middle Roman Stone-founded Building: Building 1

The southern end of the trench revealed traces of the north-west corner of a building of Roman date:

Building 1. This was represented by several associated elements, comprising the remnant of a wall foundation (2008), being the western end of the building, an associated stone tumble or (less likely) construction debris to the immediate west (2007), a robber trench [2021] on the line of the north wall and a rammed stone floor base (2010) – the hard-core of the floor of a room. These elements were clearly related, indicating the position of a former building (Fig. 3.17), though they were the base remnant and of little depth.

The wall foundation (2008) ran approximately north-south and was traceable for c. 1.7m north from the southern baulk; in width it measured c. 0.5m. It was composed of a random mix of Claxby Ironstone, Tealby Limestone, glacially derived cobbles and large chalk fragments, the largest of which were c. 0.2m in longest dimension (stone identifications verified in 1998 by David Schofield, University of Durham, Department of Geology, keeper of reference collections). One arranged course survived, with no sign of mortar; below this was a slightly wider plinth of stone fragments laid approximately flat. The face of the surviving course on its western side largely survived displaying a consistent alignment. On its eastern side, however, it was disturbed by modern plough cuts which had dislodged, mixed and repositioned some stones originally belonging to (2008) and (2010). In particular a comparatively deep furrow or sub-soiler (c. 0.09m in depth) had cut through the area on the eastern side of the wall at its junction with (2010). These disturbances resulted in the appearance of a channel or gully (simply a plough furrow) [2014], filled with the dislodged stones (2009), mainly consisting of Claxby Ironstone, which had seemed initially, due to its alignment and position, as though it was contemporary with (2008), perhaps representing a slot or drainage channel. Detailed study however shows that it was the result of modern plough disturbance c. 0.33m wide, c. 0.09m deep and traceable for c. 1.4m through the building remains. It was to prove similar in fact to the contemporary modern 'sub-soil' furrows subsequently encountered in Street Furlongs.

Some 1.7m north from the southern baulk the wall remnant (2008) ended abruptly in an area of disturbed fragments. Immediately north of this was an approximately rectangular area of silt with a conspicuous absence of rubble fragments, aligned east-west, this being context (2020). Its western extent was approximately coterminous with the western side of (2008). On excavation this area proved to be a shallow broad feature [2021] where, in contrast to surrounding areas, the rammed chalk layer (2005) was absent. It measured c. 1.3m east-west, continuing beyond the eastern limit of the trench; it was c. 0.8 to 0.9m broad and extant to a depth of c. 0.1m (Figs 3.17 and 3.19). No finds were associated with this fill. In the form of a regular cut at a right angle to (2008) this feature seems certain to represent a robber trench retrieving stone from the position of the north wall of the building and it had removed all trace of stone and rubble along this side. Perhaps the robbing did not extend to the western foundation, at least to its full depth, because it was apparent the stone was insubstantial, so not worth quarrying when there may have been better alternatives nearby at this site. West of (2008) a small number of larger stones c. 0.2m in longest dimension were encountered in a broadly silty matrix (2007); several by the northern end of (2008) were chalk and may have been dislodged by the robbing and not retrieved; others west of (2008) might represent fragments derived from the wall at some point, or left during construction.

Overall (2008) seems to represent a rather insubstantial wall foundation, perhaps improvised from various stone types to hand. It lacks the pitching and systematic stone selection seen with Building 2 at Trench J or say with some contemporary Roman stone founded rectilinear buildings excavated at

Figure 3.18 Trench B. Part of the floor foundation (2010), formed of a mix of Tealby Limestone and Claxby Ironstone, showing below the ploughsoil.

Dragonby, such as building 3 at that site (May 1996, 82-4), Hibaldstow (Smith 1987, e.g. 190 and 193) and Sleaford (Herbert 2010, 103-4). However, it should be noted that all that is available is the vestigial surviving information at foundation level. What was positioned on this foundation is a matter of speculation, but it may have been more substantive and carefully prepared than this foundation might imply. If this missing upper structure was of stone then it was probably not held together with mortar given there were no traces, unless the fragments of mortar had weathered down or had been removed with structural stone. It is possible that the foundation was a base for a timber sleeper beam.

East of (2008) and [2014] lay a tightly packed spread of fragments of ironstone and limestone (2010)/(2017). This survived largely as a triangular layer within Trench B, extending to the southern and eastern baulks. Within the trench it measured c. 1.5m by c. 1.2m as a continuous spread, though there was an 'outlier' pocket of this deposit to the north by the eastern baulk (Figs 3.17 and 3.19, where it is shown *in situ* with (2018) removed from around it), and was at least 0.15m in thickness. It had been laid over the rammed chalk layer (2005)/(2011)/(2018) and it had been pounded into a dense matrix of fragments, with c. 95% of the deposit being stone. It lay directly below the modern ploughsoil and indeed was cut by plough marks. It evidently formed part of a layer bounded by the walls of the stone founded building and can be understood as a contemporary floor foundation. It was missing on the side of the robber trench and it seems probable that it too had been removed by this robbing exercise on its northern and eastern sides (bar the aforementioned pocket) leaving the part extending to the un-robbed western wall (this robbing identified as [2022]). This probability is strengthened by the fact that the Ironstone included substantial fragments up to 0.3m in longest dimension (bigger therefore than the stones forming (2008)) and so amenable to reuse. That said, there was indication from the eastern baulk that the extant part of (2010) lay in part in a depression (?sinkage into an earlier feature below) or a cut into the (2006)/(2019) horizon, which may have assisted its survival. It may be that (2010) was capped simply by a level surface of rammed stone, although there may have been a more elaborate surface.

No finds were associated with the *in situ* structural elements (2008) and (2010)/(2017) in a manner that would suggest they were in their original positions, though an iron object, RF 2038, probably a nail (of Manning 1985, type 1) was recovered from (2010) (see Cooper this volume). No datable finds came from the disturbance (2009) or the area to the west, (2007), nor from the fill of the robber trench (2021). (2008) was not placed in a visible cut but constructed over (2005)/(2018), with ground then seemingly made-up to the height of the foundations; (2010) did partly sit within a cut into (2006)/(2018) or in a sinkage above it. Hence, overall, there was no direct dating evidence for the stone building. Judging from the finds from the (2005) horizon, which it overlay, it is likely to have been constructed no earlier than the later second century. The area of plough disturbance of the wall and floor foundation, (2009), contained a droplet of smithing slag (RF 2033), a droplet of copper ally (RF 2032) and two iron nails (RF 2031 and RF 2035). At least ten other similar recorded finds came from ploughsoil and cleaning/interface deposits (2003)/(2004) in the area of (2008) and (2010). Collectively, with the items from (2009) this exposed area of Building 1 yielded an exceptional density of recorded finds, certainly in terms of this trench yet also compared with others at the site. It may be that the nail (RF 2029) also derived from this building, given its location close to (2007) and (2008). Figure 3.16 (right side plan) shows the spatial incidence for recorded finds where their locations were known (cf. Table 3.12). The sixteen recorded finds from this vicinity comprise six nails used in timber construction, two fragments from iron objects (taking RF 2038 to be a nail), a length of a copper alloy strip, part of a brooch, a copper alloy droplet, a droplet of smithing slag, fuel ash slag and other miscellaneous slag. The nails suggest structural timbers in association with Building 1. The droplets and slag are small items and hence do not provide strong evidence for metal working activity at this location, although their spatial correspondence with the building seems more than a coincidence. Moreover the ploughsoil from this area yielded a comparatively high frequency of iron working slag and fuel ash slag.

The aforementioned brooch fragment was recovered from the lower ploughsoil (2002), immediately above (2007), in Square 28, and so may have been lifted into the ploughsoil from a context associated with Building 1. This part of a third brooch from the trench, (RF 2037), is represented by a pin and spring from a Nauheim related or similar type, dating to the Late Iron Age (see Cooper below). If it was directly associated with Building 1 in the life-time of the structure then this brooch will have been an heirloom or curated piece.

In terms of finds and dating evidence it is potentially useful to note the pottery from the cleaning/interface contexts (2003)/(2004) over the (2005) layer and Building 1. Although not secure stratigraphic units they contained purely Roman pottery finds, the

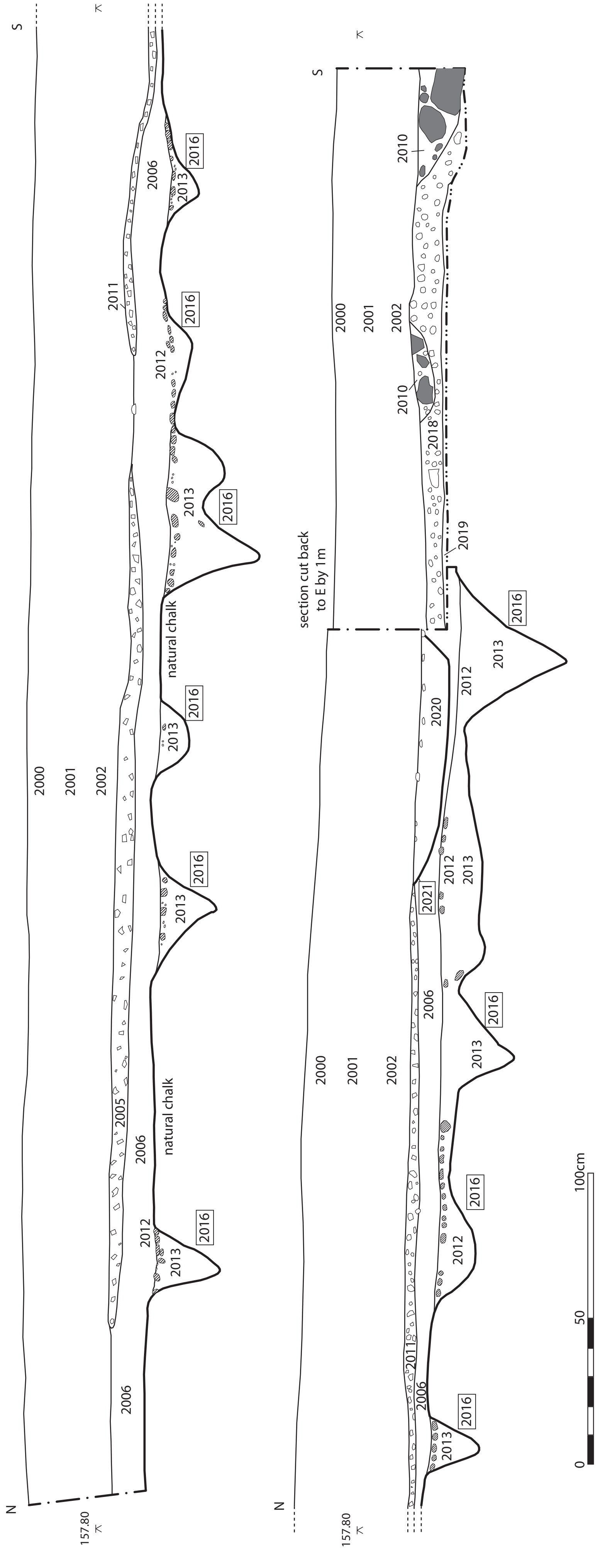


Figure 3.19 Trench B. Section drawing: the eastern baulk.

diagnostic pieces amongst which cover a mid- to later Roman date range (cf. Leary this volume). This implies that Building 1 was in use during the mid- and possibly later Roman period. The assemblage from (2003)/(2004) includes some fragments of Roman roof tile and a pottery collection of around 50 sherds consisting of mainly Roman greywares, some calcite tempered ware, a sherd of Central Gaulish samian c. AD 120-200 and a Nene Valley colour-coated sherd from a late second to third century beaker, as well as a mortarium from the Doncaster area with slag trituration grit, dated to the late third or fourth century. The greyware includes a dish of the mid-second to fourth century, a second century rebated-rim jar, a late first to early second century rusticated jar, and a late third to fourth century wide-mouthed jar (cf. Leary this volume). Overall the pottery from (2003)/(2004) indicates that ceramic debris was accumulating in this area, by the (2005) horizon and Building 1, through to at least the late third century. It may derive from deposits that were directly associated with Building 1 that have not survived, having been disturbed (? by stone robbing) and ultimately been 'ploughed in'.

Discussion

The only feature recorded in the immediate vicinity of Trench B by the geophysical survey of 1992-3 was a linear anomaly, seemingly a ditch, detected running north-south along the very edge of the surveyed area for some 250m (Figs 2.2 and 2.4). No evidence for this

Table 3.12 Recorded Finds from the ploughsoil and stratified contexts at Trench B.

Context	Recorded Find Number	Material	Type	Notes
Upper Ploughsoil				
2000	2036	Ae/Ag	Coin	Radiate copy. MD Find. From within Trench B
Middle Ploughsoil				
2001	2008	Fe	Nail	-
2001	2009	Fe	Nail	-
2001	2010	Fe	Nail	-
2001	2011	Fe	Nail	-
2001	2012	Fe	Nail	Square 45
2001	2013	Fe	Nail	-
2001	2014	Fe	Nail	Square 44
2001	2018	Fe	Nail	-
2001	2023	Fe	Nail	-
2001	2015	Fe	Lynch pin?	-
2001	2016	Slag	Unidentified	Non diagnostic, 14.5g
2001	2017	Slag	Unidentified	Non diagnostic, 9g
2001	2019	Slag	Unidentified	-
2001	2020	Iron Ore	-	2g
2001	2039	Slag	Ironworking slag	1 Fragment, 17.8g. Square 66 (Possible smithing hearth base or furnace base slag residue)
2001	2040	Slag	Ironworking slag	2 Fragments, 9.4g. Square 67
2001	2034	Glass	Bottle glass	Roman bottle glass. Square 39
Lower Ploughsoil				
2002	2037	Ae	Brooch	(Spring and pin); Late La Tène type. Square 28
2002	2022	Fe	Nail	-
2002	2021	Slag	Unidentified	-
2002	2041	Iron Ore	-	4g. Square 66
2002	2042	Slag	SHB/FB	Smithing hearth base or furnace base slag residue, 87g

feature was detected in Trench B, which, assuming matching grids, lay slightly to the east of the anomaly. The feature might represent the back of building plots fronting on to the Roman road to the east, in the same way that the back of the property plots detected in Street Furlongs are marked by a contiguous ditch (Fig. 2.7). It might be wondered if this anomaly in East Field is in fact spurious, being an 'edge effect' as it corresponds so consistently with the edge of the surveyed area and the eastern alignment of the modern field over such a long distance. If so it should not be a product of any fence or the Petrofina pipe that runs along the western side the B1225 as the survey began some 20m into the field to avoid any interference from the latter. Phil Catherall thought it was a likely sub-surface feature, and indeed the consistent nature of the readings is not of a type one associates with pipelines which have a different distinctive magnetic signature (pers. comm. Lloyd Bosworth).

The archaeological stratification in Trench B was shallow and there is an absence of features cut to depth. Much has clearly been lost from this location through stone robbing of Building 1, routine ploughing, and maybe through bulldozing in the 1960s as has been suggested took place on this side of the field to remove densities of stone that were impeding the plough. The recovered stratified pottery is essentially early Roman and so it may be that later Roman layers, if they existed, have been lost. The earliest dateable item is the Nauheim brooch from (2006) dated to c. 90-50 BC. Overall there was comparatively little stratified pottery and this

Table 3.12 Recorded Finds from the ploughsoil and stratified contexts at Trench B (continued).

Context	Recorded Find Number	Material	Type	Notes
Cleaning/interface contexts (2003)/(2004)				
2003	2007	Ae	Flat strip	L 10mm; W 2-3mm (tapers); T 1mm; 0.1g
2003	2001	Fe	Nail	-
2003	2006	Fe	Nail	-
2003	2026	Fe	Sheet	-
2003	2000	Fe	Ring	-
2003	2005	Slag	Unidentified	-
2003	2003	Slag	FAS	Fuel ash slag, 6g.
2003	2004	Slag	FAS	4 Fragments of fuel ash slag, 227g
2004	2002	Slag	Unidentified	Non diagnostic, 9g
Chalk surface (2005)/(2011)/(2018)				
2005	2025	Fe	Nail	Frag. Probably part of tip and shank
2005	2024	Slag	FAS	Fuel ash slag, 3g.
2011	2027	Ae	Brooch	Langton Down type. MD Find
2011	2029	Fe	Nail	-
2011	2028	Fe	Nail	MD Find
Soil Horizon				
2006	2030	Ae	Brooch	Nauheim related type
Disturbed foundation of Building 1				
2009	2032	Ae	Droplet	Spherical; D 5mm; 0.1g
2009	2035	Fe	Nail	-
2009	2031	Fe	Nail	-
2009	2033	Slag	Droplet	Smithing slag
Floor Foundation, Building 1				
2010	2038	Fe	Object	Probably a nail

(Slag identified by Dr David Dungworth. Note that not all slag from this trench was or has been registered as a Recorded Find, though the above is representative of the incidence and character of this material at Trench B; see David Dungworth's listing for a full record (this volume, below)) is generally likely to date to the late first and second centuries AD judging from the typological indicators, with nothing present appearing later than second century. One coin was recovered from Trench B, being a metal detected coin from the upper ploughsoil, an issue of Tetricus II dated c. AD 273-4 (RF 2036). Pottery from the ploughsoil, especially over Building 1 includes some late Roman types.

Despite loss of upper stratification Trench B did include extensive survival of soil horizons comprising (2006) and the chalk surface (2005). Although the top of the latter had been truncated it provided evidence for the consolidation of the area for activity in the early Roman period. It is unlikely that this surface was a raft for a building, of the type seen with some medieval buildings in chalk areas and as seen at Folkestone in a contemporary setting (Parfitt 2012). This seems improbable given the lack of structural features, nails or other indicators in association. Presumably it provided an exterior hard-standing in a yard, storage or collection area; it does not appear likely to have been a track or roadway.

Sufficient of Building 1 survived at the southern end of Trench B for it to be identified and its traces characterized. Yet its survival was partial and testimony to the vulnerability of positive archaeological stratification at this and other routinely ploughed sites. Since the building remains were only extant to foundation height it is impossible to extrapolate reliably what the above ground structure would have looked like. The rammed floor foundation of ironstone and limestone showed selection of comparatively robust rock brought to the site (perhaps from Nettleton Bottom or the escarpment base near Claxby), whereas the foundation (2008) looked more improvised and whilst it was disturbed on its eastern side, may never have been more than 0.5m in width. Compared to the other recorded stone building, Building 2 in Trench J, it was a less solid foundation. The floor foundation (2010) was a selected material, well-laid, so implies a careful investment. It might be an addition or replacement after the building had been in use, though there is no reason why it could not have been original, and if it were a replacement there was no survival of an earlier floor below it. Whilst some roof tile fragments were recovered from Trench B they were few and far between, suggesting this building was not tiled. The distribution of nails shows an association with the area of Building 1 (see Fig. 3.16, right side plan), consistent with it having a timber element. From (2008) and [2021] it is apparent that the alignment of the walls is broadly consistent with those of Building 2 at Trench J. Given the location of Trench B it is likely that this corner is part of an aisled or strip building that fronted onto the main Roman road through the site to the east, by the modern B1225.

The rammed chalk surface (2005)/(2011)/(2018) was an extensive layer laid prior to Building 1. It is possible it was associated with an earlier structure that Building 1 replaced, forming a contemporary hard standing, or was utilized as a pre-foundation for Building 1, that is, laid to establish a working area; certainly there was no build-up of deposits over the chalk prior to the construction of Building 1 and so it may be that there was little time gap between it being laid down and the erection of Building 1 over its southern end. The extant expanse of the chalk layer to the north of Building 1 would then have constituted a useful yard or firmly surfaced access area by the side of the building. From the middle ploughsoil above (2005) came a fragment of an early Roman glass bottle (RF 2034) probably dating to the second half of the first century AD, though a second century date cannot be ruled out.

Building 1 seems likely to have stood within its own compound, as was the case with contemporary stone buildings at the roadside settlement at Hibaldstow (Smith 1987, 25, 344, figs 2 and 3, pl. 13), and as seems likely at Trench I. This would be likely to be in the form of a ditch (perhaps with a bank and hedge). It may be that just such a feature lay just beyond the northern baulk of Trench B. This is implied by the exceptional number of finds recovered from the ploughsoil in the northern-most two square metres of the trench (Squares 44 and 45). When the numbers of pottery sherds from the middle and lower ploughsoil horizons from each metre square in Trench B are added together per metre these squares are highlighted as the two within the trench with the highest numbers of pottery sherds (36 and 40 sherds respectively)). The ploughsoil from these two squares also each contained an iron nail (RF 2014; RF 2012). There would seem a strong possibility therefore that these finds derive from a ditch or other cut feature just beyond the northern baulk of Trench B, the top filling of which has been cut by ploughing, spreading some material culture from its fill into adjacent topsoil. It is a reasonable hypothesis that this feature is the enclosure boundary of Building 1 on its northern side. If Building 1 lay within its own compound this would help to explain why there is an absence of features on the northern side of the building, as this area was evidently not disturbed with the introduction of any features but maintained as a firm chalk surfaced area through the life of Building 1. The building compounds at Hibaldstow also display some maintained surfaced areas to their sides, within their enclosures/property limits, with evidence for cut features to the rear

(Smith 1987, 26). Further, in this case the north-south anomaly detected by the 1992-3 geophysical survey lying to the west of Trench B (see above) might represent the western, back boundary, of such compounds.

The evidence of the pottery is consistent with this interpretation. The pottery from the ploughsoil in the northern-most two square metres does not give the impression of being freshly lifted from a stratified layer and one would not expect it all to derive from a solitary adjacent feature. That said, the dates of the diagnostic sherds suggest a date range from the mid-second century to the early third century (pottery from Square 45 included a lid-seated jar of the second century, a grooved flat-rim bowl of late second to mid-third century, an everted-rim jar and a fragment from a Nene Valley beaker, and Square 44 has a rebated rim and grooved rim dishes). This suggests the putative ditch was filling in the mid-Roman period, contemporary with the likely date of the institution and use of Building 1.

Pottery from the ploughsoil ((2001) and (2002)) over the remnants of Building 1 presents a similar pattern to that noted with the sherds from the interface/cleaning layers (2003)/(2004). It includes some second and third century pottery but also late Roman items, presumably relating to the later use and abandonment of Building 1. The groups, unsurprisingly, comprise predominantly small greyware sherds that are not closely dateable. Few early fabrics are represented and the date-diagnostic items are as follows: Square 67 yielded a sherd from a colander and a greyware jar sherd probably second century. Sherds from Square 26 included likely Dales ware and a Nene Valley beaker fragment; Square 27 contained a further Nene Valley beaker sherd from a rim-grooved, long necked from probably of late third to fourth century date, a flange in oxidised ware probably from a vessel form copying the Drag. 38 form and so late Roman in date; Square 29 pottery included a LPRIA shell-tempered fragment, a Parisian type ware sherd, and a Dales ware rim; Square 28 pottery included a bowl of developed flange type of late third to fourth century date.

In summary the pottery from the ploughsoil and interface/cleaning layers at Trench B shows consistent spatial and chronological patterning, with a coherent chronological picture emerging when the types present within the stratified groups are compared with the items from these less secure horizons. Leary (this volume) notes that the ceramic evidence from Trench B correlates with that of her Cluster 8 from this area arising from the East Field fieldwalking which has a second century start, peaking in ceramic deposition in the third to fourth century.

3.3.3 Trench C

Iron Age Trackway and Major Ditch [3008]

A range of features were exposed within Trench C (Fig. 3.21). The majority of deposits within the trench can be placed into sequence, though several features were stratigraphically independent, directly underlying the topsoil and produced little or no dating evidence. The most striking feature within the trench was the large ditch cut [3008] which appears to be the anomaly detected by the British Gas geophysical survey and which is identified as feature F16 in this report (cf. Chapter 2). Trench C was positioned at this location in order to examine this feature since it appears to be a major element in the organization of the landscape and settlement. Ditch [3008] lay towards the north-west end of the trench and was found to be associated with a likely trackway.

The earliest deposit encountered at the north-western end of Trench C was a comparatively thick layer of redeposited clay, (3005), which had been laid onto natural chalk to the north-west of [3008] (Figs 3.21 and 3.22). This deposit filled a cut shelf at least 2m broad but which was evidently much more extensive as it continued beyond the limit of excavation to the north-east, north-west and south-west. This cut, [3036], was c. 0.25m to 0.4m deep and had removed the upper level of natural chalk, consisting of brash, immediately west of [3008] down to the undisturbed jointed chalk bedrock. The clay fill (3005) was compact, hard and tenacious, varying in colour through grey, brown and yellow, and it contained occasional large angular flint fragments (but no chalk); with such a high clay content it was unlike any other deposit encountered in the trenches opened in East Field. It was contiguous with [3036] and extended beyond the limits of the trench in three directions, while on its fourth side was the ditch [3008]. There was not sufficient time to fully excavate this deposit down to natural across its full expanse particularly as it proved stubbornly resistant to cutting tools, though it was lowered by up to 0.4m, being removed down to natural on its eastern side (Fig. 3.21). The c. 348 litres of (3005) which were excavated yielded just one splinter of bone and a single sherd, from a wheel-made Roman greyware vessel (in GRB7A). During the excavation of (3005) the lower sections of two post holes, [3027] and [3029], were encountered cut into the top of the jointed chalk (Fig. 3.21). Cut [3027] measured c. 0.18m by 0.1m while [3029] was more circular and c. 0.13m in diameter. Both post holes were regular in form and were filled

Figure 3.20 Trench C. The structured removal and processing of the ploughsoil in progress.

with similar deposits of mid-brown silty clay; these fills contained no dating evidence or other finds.

Ditch [3008], cut into jointed chalk bedrock, was aligned north-east to south-west, and was fully excavated within the trench. It had been cut to a depth of c. 1.75 m below the (current) top of the natural chalk, and its base lay 2m below the modern ground surface. It measured c. 3.1m in width at the top of the cut, narrowing to a flat base c. 0.9m wide. Both edges, as encountered, were regular and steeply angled. The lowest 0.5m of the cut was U-shaped in profile while above that depth the profile was a sharp 60° (Fig. 3.22) though presumably this upper portion, when open, had been weathered so the sides encountered in the excavation were eroded rather than the original faces. The fill sequence and, indeed, the character of the fills was closely reminiscent of the fills in ditch [1007]/[1026] at Trench A, constituting a series of chalk fragment and silty deposits, though this is a function of the nature of the adjacent geology and soils rather than being a simple chronological indicator. The bottom fills, (3021) and (3023) (Fig. 3.22) are presumably the result of initial weathering of material from the ditch sides and initial silting. (3021) on the north-west side was a silty clay with chalk grit together with rare to moderate small chalk fragments, Munsell 10YR 3/3 - 4/4; (3023) comprised mainly of small angular chalk fragments (generally c. 60mm in longest dimension and forming c. 80% of the deposit) in a chalk silt and silty clay matrix, Munsell 7.5YR 6/2 – 5/2. Above these fills (3019) and (3022) appear as single discrete units in terms of their composition but are interleaved and so probably represent episodes when similar processes occurred resulting in filling of the lower part of [3008]. (3019) was largely (80-85%) composed of sizable fragments (generally c. 90mm in longest dimension) of loose angular chalk, together with some flints, in a partial soil matrix with voids between chalk fragments (the soil matrix was a dark brown silty clay, Munsell 10YR 3/3 - 4/4). Lying near the base of the ditch some elements of (3019) could have entered from either side, although it is most likely that the source was the south-east side and this may include weathering of the ditch face. (A presumed worked flint RF 3022 from (3019) proved to be natural (pers. comm. Dr Barry Bishop)). Deposit (3022) on the south-east side of the feature included chalk grit and small fragments of chalk but the bulk of the deposit was a dark brown silty clay, Munsell 7.5YR 4/2. Fill (3020), which accumulated on the opposite side of the feature, was of broadly similar character with some variations, and evidently represents several episodes for filling from the north-west (7.5YR 4/4, with darker area 10Y/R 4/3).

The main fill, (3011), comprised a fairly homogenous mix of angular chalk debris in a silt matrix (Munsell

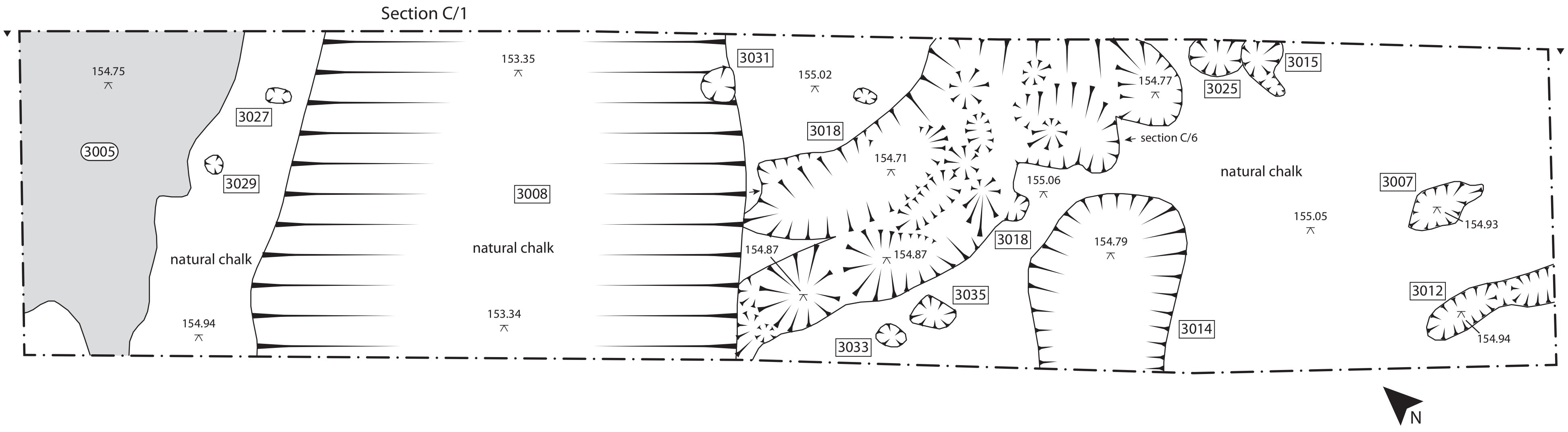


Figure 3.21 Trench C. Trench plan showing excavated features.

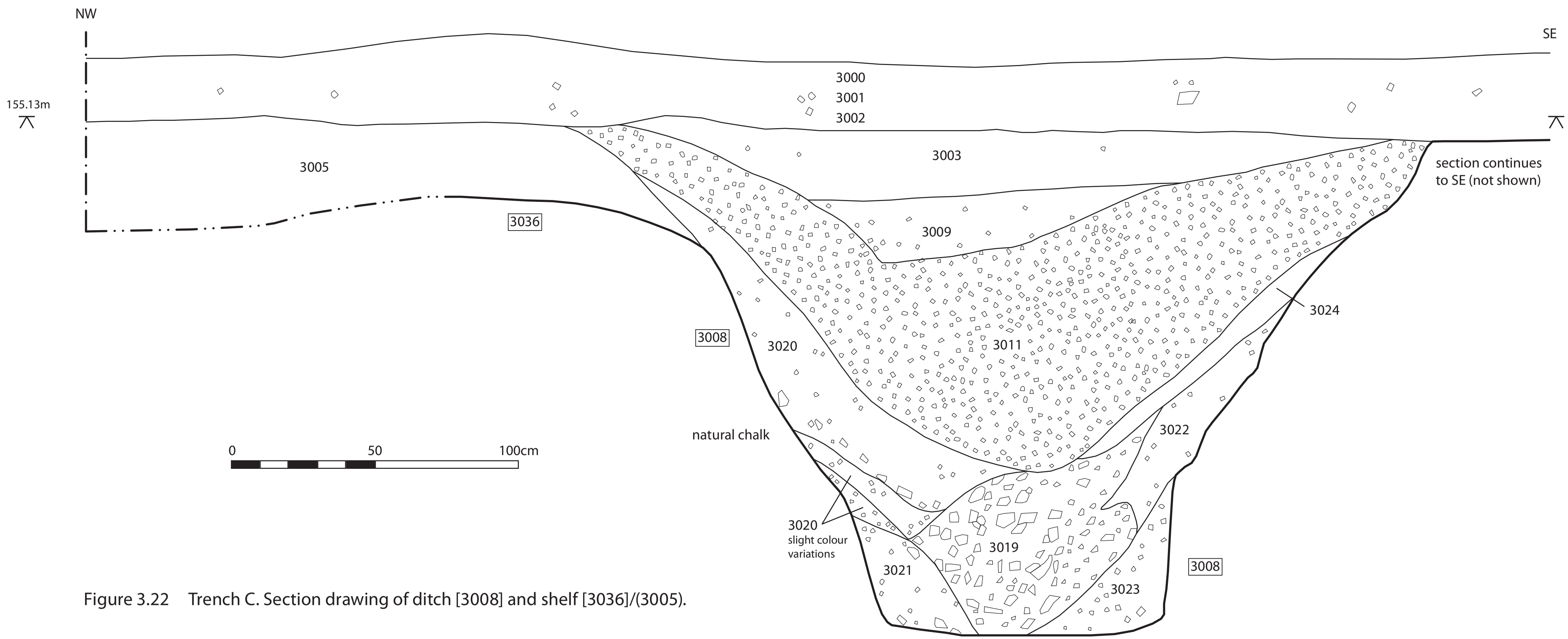


Figure 3.22 Trench C. Section drawing of ditch [3008] and shelf [3036]/(3005).

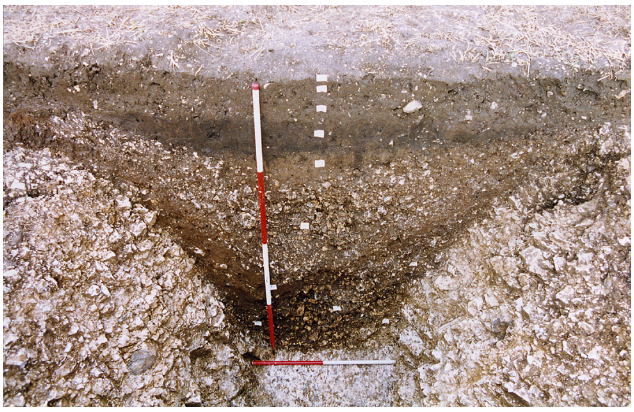


Figure 3.23 Trench C. The north-east baulk showing ditch [3008] and its fills.

10YR 3/3 - 4/4) up to 0.8m in depth and extended across the whole of the cut. The scale and uniformity of this unit suggests that it represents a deliberate backfilling. Above this was a dark yellowish brown silty clay with some loamy element, (3009) Munsell 10YR 4/4. This filled a central dip along the axis of the ditch and was up to c. 0.22m thick. It contained few chalk fragments, together with occasional flints and appears to represent the accumulation of material from adjacent soils being washed or blown into the top of [3008]. Above (3009) was the uppermost fill in the ditch, (3003), a dark grey silt loam. The latter deposit dates from the mid-first century AD into the early Roman era and is accordingly described and discussed separately in this Section (below). There were no evident recuts within [3008].

No finds came from the lower fills of [3008]. A small quantity of animal bone was recovered from (3011) including a bone from a domestic fowl. Pottery sherds from (3011) were found in a discrete cluster and are all from a single calcite tempered (CTB1) handmade jar with vertical scoring/brushing characteristic of the regional Scored Ware tradition of Middle to Late Iron Age date (see 6.1.10.1 Trench C). The late fill (3009) yielded relatively few finds from the c. 432 litres excavated, in marked contrast to the soil above it (3003). Specifically (3009) produced two sherds, one undiagnostic, the other a thin sherd in a light red white-slipped fabric which can be confidently identified as early Roman and most likely to be from a flagon. Since other sherds from this vessel came from (3003), which produced pottery of similar date, it seems likely that this sherd is intrusive within (3009). Some 44 faunal items were present in (3009), with horse represented (see faunal report this volume, Chapter 7). The excavated volume of these lower and middle ditch contexts (3011), (3019), (3020), (3021), (3022), (3023) and (3024) was c. 7500 litres.

Discussion

Together with other aims (cf. above Section 3.1) Trench C broadly targeted the area of the major linear anomaly detected by the geophysical survey, labelled F16, seeming to mark the eastern side of a major north-south trackway. The trench confirmed the presence of a major feature at this point (i.e. the ditch [3008]) and the simplest interpretation is that the ditch encountered is the detected anomaly. However, the actuality may be more complicated than this, especially given the number of features encountered in the trench and the fact that the geophysical survey detected another ditch with a strong signal in this area, but (as is clear too from other Trenches) did not detect all features, and given the limited scale of the trench. Hence caution is necessary before taking the excavated evidence as providing a full picture of the sequence in this area.

The discussion focuses on what was encountered and what this represents, with these qualifications in mind. It is helpful to look first at ditch [3008] since there is greater information available for this feature and then turn to cut [3036]; these features may have been contemporary and associated.

As with the ditch at Trench A most of the fill of [3008] through its lower and middle layers consists of silt/silty clay and chalk deposits, with an absence of cultural debris. These layers appear to be derived from the immediate natural deposits and perhaps redeposited up-cast material which could have formed an adjacent bank on the south-east side of the ditch.

The paucity of finds implies the section sampled in this trench was not close to an area of habitation. The main filling of the ditch, (3011), yielded a few finds, but these were sparse considering its bulk. Crucially present in terms of dating were many fragments from a jar belonging to the Middle to Late Iron Age and there was no other pottery. The presence of a bone from a domestic fowl in (3011) sits comfortably with an Iron Age date given that this species is not present in Britain before the Iron Age. A date for the institution of this feature in the Middle or Late Iron Age (or possibly before) would account for the paucity of finds in everything but the upper-most filling, on the assumption that this is a period when there is less cultural debris being generated, compared to the end of the Iron Age and Roman period (cf. Willis 1997). One uncertainty is whether the ditch was periodically cleaned out during its currency; this may have been so but it was not seemingly recut. The latest fill that can be ascribed to the Iron Age is (3009), which appears to be a silting from adjacent soils.

The character of (3009) resembles many prehistoric silty clay layers at the site which have a strong component derived from the ancient post-glacial soil capping the Wolds at this point. Hence this soil may represent material gathering naturally into the top of [3008] over a period of time when there was comparatively little cultural or other debris, including charcoal and organic matter, nearby. It may be that this material represents 'run-off' from the trackway surface and/or contemporary soils on the opposite side. This overall signature to (3009) and its marked contrast with (3003) might suggest it dates to a time when the immediate area was not settled or a focus of activity. The faunal assemblage from (3009) included a humerus from a woodcock, which is notable as wild bird bones are rare in Iron Age contexts, and indeed its presence might be more than chance. Wild bird species are, when found in Iron Age contexts, often part a selected structured deposits (see below, this section). Woodcock was hunted as a game species in the Roman period and in prehistory (pers. comm. Dr Umberto Albarella).

It is unfortunate that as with the lower ditch fills at Trench A the lower soil fills in [3008] contained nothing suitable for radiocarbon dating. Without firmer dating evidence the interpretation here is conjectural, but the sequence and dating indicators available present a logical sequence along these lines. The final fill (3003) may be into the depression made by the settlement of earlier fills, though nonetheless this may still have represented an important boundary into the mid-first century and early Roman era.

The cut shelf [3036] and its fill (3005) were distinctive elements but it is not conducive to firm interpretation that they were only partially exposed, extending as it did beyond the limits of excavation on three sides. The cutting of [3036] had removed the weathered surface layer of the natural chalk and created a shelf of firm base, then filled with redeposited stiff clay with flints. The mixed and mottled colouring of (3005) suggest it was brought in from another location, while the angular flints present seem also potentially to have been extracted from elsewhere for incorporation in this layer. No silts or fragmented chalk had accumulated over [3036] before (3005) was laid down and so it may be that the latter was deposited soon after the cutting of [3036]; the essentially sterile character of (3005) also points to it having been rapidly laid down. It may be that this was the base for a bank associated with ditch [3008] but if this were so it would appear to be on the outer side of the ditch, exterior to the area [3008] appears to be defining. Whilst this possibility cannot be ruled out it is more likely that if there were a bank it was on the opposite side of [3008] and indeed fills (3019) and/or (3011) in [3008] could represent redeposited bank material. Alternatively (3005) could represent a compact robust base for a trackway, reinforced with flints, which the geophysical survey implies would have existed here, with [3008] the roadside ditch on the eastern side.

From the drawn section (Fig. 3.22) it could be thought that [3036] and the deposition of (3005) represent the earliest activity within the trench and that could be so. If this were the case it would mean both were cut by ditch [3008]. However, it seems more likely that the cutting of [3036] and [3008] were related and contemporary. Whilst it cannot be demonstrated unequivocally that the cutting of the shelf, and the laying down of (3005), were associated with the creation of the ditch [3008], and part of a single the original design, this is both possible and plausible: the filling of [3008] is later than (3005) but that does not mean the cutting of [3008] could not be contemporary with [3036] and (3005), indeed if they were contemporary then one would expect this exact sequence. This interpretation is supported by the stratification which shows that (3005) had been deposited at some time prior to the accumulation of fill (3020) within the ditch (Fig. 3.22), that is, before the ditch was half full. Moreover the junction of [3036] and [3008], below (3005), is rounded, which may indicate wear whilst the two features were open and functioning at the same time. The creation of the trackway surface would be Iron Age in date by this interpretative scheme; the Roman sherd from (3005) may be a late addition to the (now) unsealed (3005), either intrusive (perhaps from ploughsoil which immediately overlies (3005)) or an indicator of the likely use of this trackway into the Roman era. If there was a trackway here then (3005) may have been surfaced with rammed chalk and flint from the ditch cut [3008] indeed some of the backfill in the ditch may be from erosion off this putative surface. [3008] may have been cut in part to drain rainwater off the trackway.

The two post holes [3027] and [3029] lie near to the edge of [3008] and may be elements of a fence forming a protective barrier between the track and the ditch. Another post hole occurred on the opposite side of the ditch, [3031]. This was a regular cut feature, circular in plan, which tapered to an extant depth of 0.3m; its fill (3030) was a greyish brown silty clay. Prior to erosion of the south-east margin of [3008] this feature may have been just outside the original cut of [3008] and it too may have related to the fencing off of the ditch. In sum there is a case for believing that [3036]/[3008] represent a significant trackway and date from the Middle or Late Iron Age.

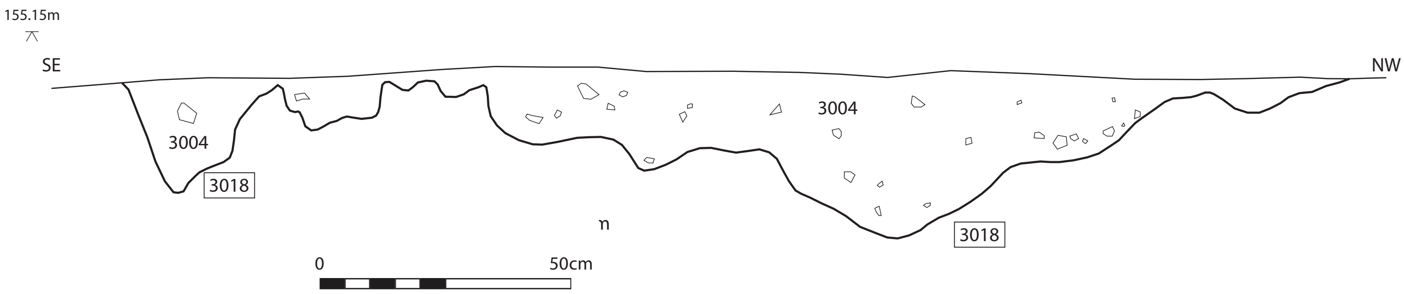


Figure 3.24 Trench C. Section through post alignments [3018].

Post Alignments [3018], etc. Contemporary with Ditch [3008]

Adjacent to ditch [3008] on its eastern side occurred as series of post settings apparently contemporary with the ditch and forming a discrete spatial group. Up to 17 post positions may be present. The majority form a slightly arcing cut, or perhaps contiguous group of cuts, containing a series of around ten apparent post settings, ascribed the general cut number [3018] (Figs 3.21 and 3.24). The feature ran in an approximately west to north-east arc to the north-east baulk of Trench C and seems likely to have continued beyond the limits of the trench. It did not extend across the fills of ditch [3008] and indeed seems quite clearly to begin by its edge and so was therefore contemporary with [3008]. On its southern side there are five individual post-settings at regular intervals of c. 0.6 to 0.8m, each c. 0.2m deep (that is below the top of the current level of the natural chalk). Several other independent post holes or likely post holes which lay outside the group defined as [3018] follow its alignment, specifically from west to north-east, [3033], [3035], [3025] and [3015] and seem likely to be components of the same feature, or replacements. They were cut to a similar depth. Feature [3018] and individual post holes were filled with a homogeneous reddish brown silty clay (3004)/(3016), with occasional flints but lacking chalk which may have been leached out. This soil filling doubtless derived from the natural background soil over this area at the time, which would not be surprising in the case of post settings likely to be backfilled soon after their original cutting. The fill (3004) produced only two splinters of bone and two small pottery sherds, both calcite tempered and not chronologically specific. The fills of the post holes [3015], [3025], [3033] and [3035] contained no finds. This set of post positions was evidently a palisade or fence arrangement with perhaps some pairing of posts.

Discussion

The post settings represented by [3018], [3033], etc. appear to be one group, given the fact that they occupy a distinct band across the trench. They are unlikely to all be contemporary and there could be several phases of replacement represented, although there may too have been pairing of posts. They abut ditch [3008] and so most plausibly are contemporary with its long currency. The fills of these post settings are similar and resemble the 'clean' silty clay fills of other later prehistoric features excavated at the site. The low level of finds and the absence of any certain Roman material culture are further factors which, when all combined, suggest that these post holes date to the Middle to Late Iron Age. What they represent is less clear and understanding their function/s is impeded by the small area exposed: more patterning and idea of alignment and function may have emerged if the trench had been larger. When post settings are cut into chalk and occur close-by one and other they tend to result in a rather amorphous cut shape when excavated (as with [3018]) and with this cluster of post settings it is speculative to attempt to read individual alignments and sets when there is no other index, such as stratigraphic relationships, the inclusion of finds types or distinctive fills, as a guide on which to base groupings. In sum they appear to relate to a boundary or land organization feature such as a fence or palisade maintained over a prolonged period, that was related to [3008] but which meets the latter at an oblique angle. Their presence suggests that there was no hedge or bank on this side of the ditch [3008].

Late Iron Age and Early Roman, Fill Layer (3003) in Ditch [3008]

The upper fill of ditch [3008] comprised (3003) (Fig. 3.22), which extended almost completely across the top width of the feature. A dark grey, silty loam, (3003) Munsell 10YR 3/2, contained a significant element of decayed organic matter and little chalk was present. It was up to c. 0.24m deep in places. The nature of this dark and loamy soil, together with a high frequency and variety of cultural debris present, highlight this deposit as qualitatively very different from all the preceding fills of this ditch. Whilst the lower fills of [3008] contained very little faunal or cultural material (3003) was comparatively rich in bone and pottery fragments, together with a range of other finds indicative of settlement activities. The latter included some tiny fragments of glass and a spherical bead of blue-green glass (from the environmental sample), the tabular stone RF 3024, being a well-used hone, two copper alloy items, RF 3002 and RF 3005, a probable nail RF 3012 (square sectioned shank; L 68mm), an iron object RF 3010, perhaps a hook, three worked long bones, potentially used as handles, some metalworking slag and fragments from two crucibles, RF 3008 and RF 3025, which EDXRF showed to have traces of copper and zinc present (for further details of these items see the specialist reports; cf. 6.13.1 for the crucibles).

The pottery group from (3003) was sizeable and broadly similar in character to the material from (1005). This ceramic material ranges from LRPIA/mid-first century beaker, bowl and jar types to late first to mid-second century items, together with one example of a jar type of second century or later type (see for example illustrated vessels P106-108, P111, P114, P115, P131 and P132). There is a wide range of individual vessels represented with very few cross-joins suggesting mixed debris; the material is quite fragmented. In sum the pottery suggests the latest filling in the top of [3008] may have begun in the mid-first century AD and continued into the late first and perhaps early second century (cf. Leary below).

The faunal assemblage from (3003) was also comparatively sizeable (344 fragments), and indeed was the largest group from a single deposit from the first season of work (i.e. from Trenches A-C). This relative richness is verified by volumetric analysis for the frequency of finds per litre of soil excavated (c. 1224 litres). Part of a copper alloy fingernail cleaner RF 3000, similar to that from Trench A, was found in the ploughsoil above (3003), specifically from (3001) Square 60, RF 3000 (see Cooper this volume).

Discussion

As the final filling of the ditch (3003) may have accumulated in a depression resulting from the sinkage of earlier deposits within [3008] or accumulated whilst the ditch was still a functioning visible feature through its course (identified as F16 in the discussion of the geophysical survey results). Whether the trackway immediately to the north-west of the ditch was still in use at this time is not certain. There is a case for believing that it was still extant, given the trends in the pottery distributions either side of F16 noted by Leary in her report. The section (Figs 3.22 and 3.23) shows the ditch fills (3020) and (3011) accumulating against the side of the putative trackway base (3005) but it is not covered by a later stratified deposit (but, rather, by ploughsoil) so there is no certain indicator as to when it passed out of use. It was perhaps several metres across and the accumulation of deposits by its side would not have impacted on its functioning. One should bear in mind here that as elsewhere the upper archaeological horizons are very likely to have been lost as a result of past ploughing and so if the trackway and ditch had continued in use into the Roman era, deposits of that date may have been truncated and been included within the adjacent ploughsoil (cf. Leary's report on the pottery from the fieldwalking in East Field), as would any solid-material surfacing of the track.

This fill yielded a range of artefact types and significant groups of pottery, animal bone, and environmental evidence through charred remains. The faunal assemblage from (3003) was of interest, and included a relatively high number of juvenile calf bones. These hint at the possibility of ritual deposition (Stallibrass 1999, 30) perhaps marking the boundary or the passing out of use of the boundary. This possibility might be supported by the presence of the bone from a woodcock in (3009) (immediately below (3003)) as parts of wild bird species are often an element of such deposits in the Iron Age era (cf. Hill 1995, 64), although equally the latter could be a natural chance inclusion.

The pottery from (3003) provides the best guide to the chronology of (3003) and as noted above it overlaps the LPRIA with deposition continuing into the late first and perhaps into the early second century. The trackway itself probably continued in use into the mid-Roman period; certainly F16 does not appear from the geophysical survey to be traversed or overlain by later features (F1 and the north linear of F4 seem certain to predate it). Leary's study of the pottery collected during the British Gas fieldwalking from this location demonstrates (via the distribution of dated types) that this ditch (F16) constituted a major element in the spatial organization of the site in the LPRIA and early Roman era (cf. Leary below), and there is some indication that its significance continued to some degree thereafter. Important boundaries at other sites received symbolic/votive deposits (cf. Hingley 1990a; Gwilt 1997) and this may be the case here. The impact of the boundary may have been eclipsed in the late second/early third century with the reorganization of the site when the roadside settlement is laid out with a new scheme of enclosures fronting on to the Roman road below Caistor High Street (though the track may still even then have been in use).

Late Iron Age Ditch [3014]

To the south-east of [3018] another cut feature [3014] was partly exposed and appears to be the terminal of a small ditch (Fig. 3.21). [3014] was aligned north-east to south-west and measured 0.8-1m in width, with around 1.1m of its long axis exposed within the trench. It was c. 0.32m deep with

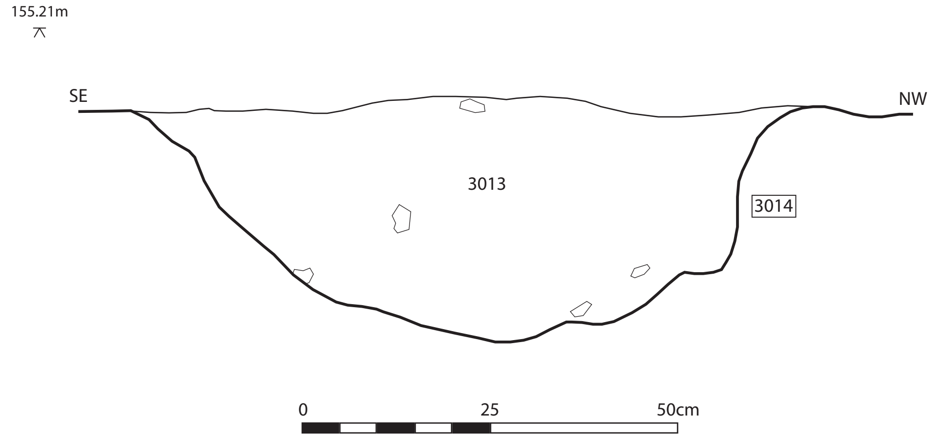


Figure 3.25 Trench C. Section through ditch [3014].

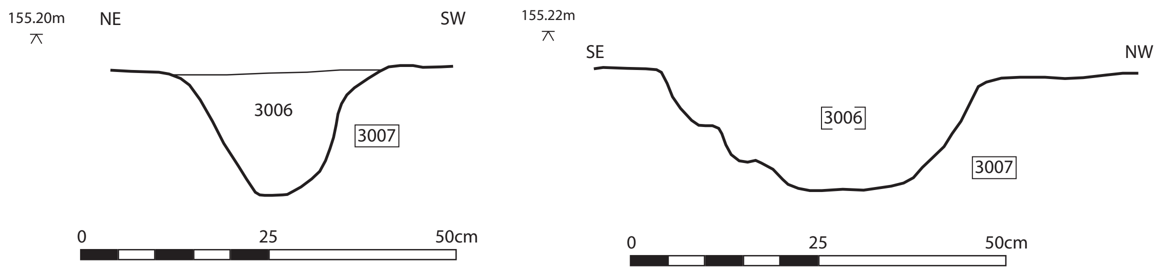


Figure 3.26 Trench C. Section and profile across post hole [3007].

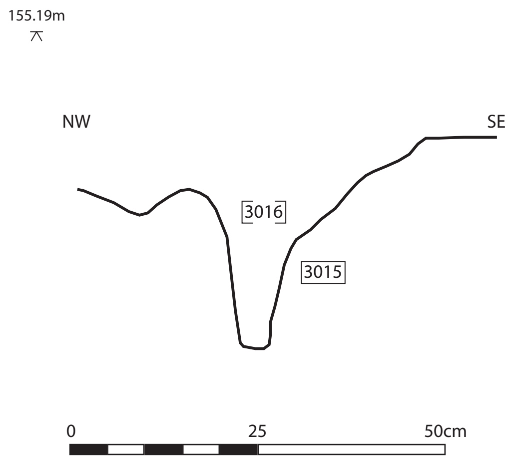


Figure 3.27 Trench C. Profile across post hole [3015].

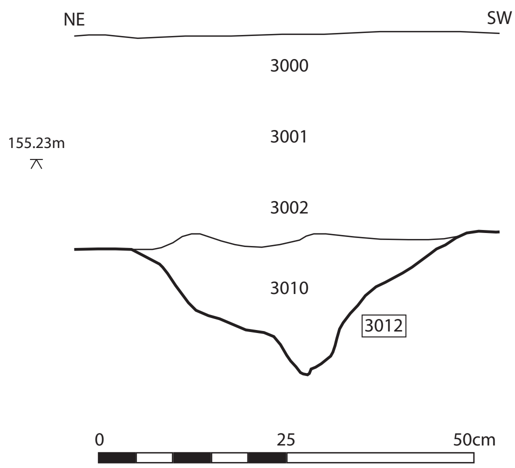


Figure 3.28 Trench C. Section through gully [3012].

a broad U-shaped profile. There were no cultural finds from its yellowish brown silty loam fill, (3013). A horse tibia comprised the only faunal item present in (3013). It would seem likely that [3014] is later Iron Age in date in so far as it shares broadly the same alignment as [3008], while [3014] and [3018] do not impinge on each other, implying their contemporaneity.

Roman Gully [3012]

By the south-east corner of Trench C were a likely post hole, [3007], and a short length of a small gully, [3012] (Fig. 3.21). The putative post hole was lozenge shaped in plan, and c. 0.17m deep, with steep sides and with a flat base; its silty fill contained no finds. To the south-west the narrow gully [3012] was 0.9m in length within the trench, though extended beyond the limit of excavation. At most it was 0.25m across and c. 0.18m deep. Its silty clay fill (3010) produced two fragments of greyware indicating a Roman date range. It is possible that [3012] represents a fence line; [3007] may be associated with this feature, though this is only implied by three aspects: their proximity (in an area where otherwise there are few features), their similar depth, and because [3007] could be seen as aligning with the terminal of [3012].

Figure 3.29 Trench C. View of the excavated trench looking to the south-east.

3.3.4 Trench D

An Early Neolithic Palisade, [4051]/[4099]

The earliest phase of activity at D was represented by a linear band of post holes, [4051]/[4099], at the north end of the trench. This feature was comparatively shallow and doubtless has been truncated by ploughing in recent decades; the ground surface will be lower than at the time of its institution (cf. Atkinson 1957). The feature had been cut through by the later palisade slot [4028] which bisected it within the trench. The feature was also cut by the two shallow ditches or gullies ([4015]/[4065] and [4072]) of much later date (see below). Hence [4051]/[4099] survived in a vestigial form, though with its morphology somewhat clearer on the south-west side ([4051]).

This feature followed a south-west to north-east alignment, traversing the exposed area, and continuing beyond it in both directions; there is some possibility that it arced to the east. In total the feature was traceable for 5m within the trench, being approximately 1.4m wide. Ideally more of this early feature would have been exposed for examination

Figure 3.30 Trench D. Looking south-east with ploughsoil removed and prior to excavation and extension.

but that was not possible. It had well-defined edges and some regularity; the post holes were between 0.25-0.40m deep (Figs 3.32 and 3.34). A continuous line of post settings/post holes was discernible on its eastern side, with some evidence of pairing across its width. The detailed morphology of the feature presents a complicated impression but it may have been of more obvious structured nature in its original 'working' form. The complication, as elsewhere, is exacerbated by the fact that it was cut into crumbly chalk brash and then has weathered for millennia. In general the feature was 3 to 4 post settings wide. It was morphologically similar to feature [7004] - [8017] examined in Trenches G and H (see below)) and may well be of similar date (see below). Perception of its character and function is hindered by the fact that it is evidently a large scale feature of which only a small section lay within the trench. The whole of this complex was filled with a homogenous yellow-brown silt (4013)/(4075) of similar appearance to (4012); apart from some chalk flecking in (4075), rare flints were the only coarse inclusion. No ecofactual or artefactual remains were detected with the exception of a tiny undiagnostic quartz grain tempered pottery sherd, and even this may have been introduced by burrowing rodents or snails. The position of [4051]/[4099] in the stratified sequence demonstrated its relative age and this was confirmed by the dating of the subsequent palisade slot [4028] as itself early Neolithic (see below), thereby placing [4051]/[4099] earlier than that date. The absence of finds from its fills and the sterile leeched nature of its soil fills are consistent with such an early chronology.

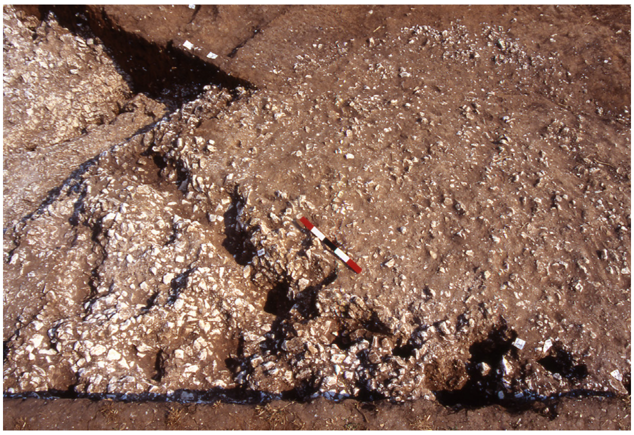


Figure 3.31 Trench D. The post holes of palisade [4051].

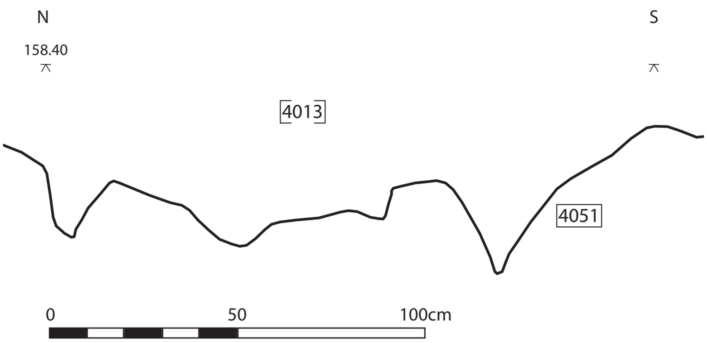


Figure 3.32 Trench D. Profile of [4051].

Figure 3.33 Trench D. View of palisade cut [4050] at the southern end of the trench looking east-south-east.

A Second Neolithic Palisade, [4028]/[4050]

Feature [4051]/[4099] was cut through by a more substantive palisade [4028], which bisected it at a right angle. This was part of the largest feature revealed in the trench, comprising [4028] and [4050] cut into the chalk bedrock (Figs 3.33-6, 3.38-42). This feature, of monumental scale, was only partially caught within the trench, which exposed its north-east corner. The feature turns at this location. One arm is aligned north-south and was traceable over a distance of over 11m within the trench, prior to turning near the north end of D, to run in a north-westerly direction and traceable on this alignment for a little over 5m (this arm being labelled [4028]). Significantly this feature was not recorded by the British Gas geophysical survey which seems here to have identified the later deposits located within the trench with their greater humic and cultural debris content. This feature was sectioned at the north and south ends of Trench D and was found to be of similar morphology at both locations. At the northern end of the trench the cut slot [4028] was excavated over a length of 4m. It was c. 2m in width at its surface, had a U-shaped profile and was cut to a depth of c. 0.7m. Along the base of the slot, in approximate alignment, were a series of conical cuts. These appear to be the bases of post holes or 'settings' either made to receive the shaped bottoms of timber uprights, or, more probably, the cuts made by the driving of posts. A very deep pair of cuts, [4094] and [4095], was encountered, the larger

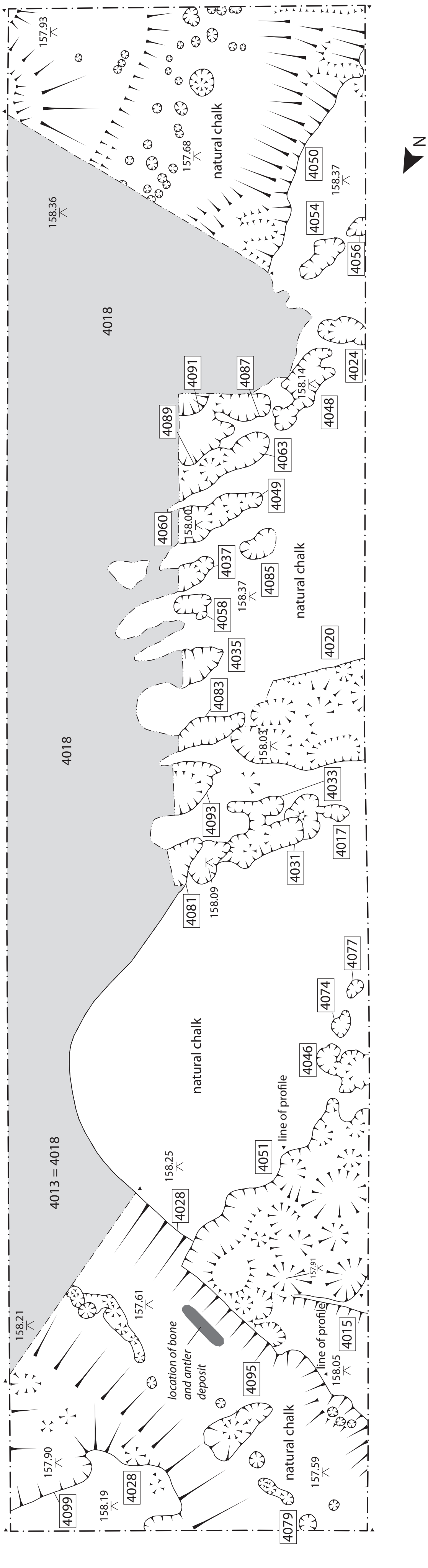


Figure 3.34 Trench D. Plan showing early features.

of the two sharing this alignment, the other probably for a support timber; some enlargement of this feature via water percolation had occurred. The lower fill of the slot consisted of a deposit of chalk fragments held in a silty clay matrix (4038), which formed a packing for the bases of the palisade timbers. Above this, the main fill of the slot was a yellow-brown silt, (4012), Munsell 10YR 4/6 - 5/8, reminiscent of the apparent 'old soils' encountered elsewhere at the site, particularly associated with prehistoric features. The northern baulk bisected a well-preserved post hole (cut [4079]) cutting the chalk bedrock in the base of the slot. A clear post pipe (fill: (4078) Munsell 10YR 3/6) is visible in the section as it rises vertically from this hole through the chalk rich lower fill (4038) on either side, as can be seen in the photograph and drawing (Figs 3.35 and 3.36). This evidence indicates that the palisade was constructed of round timbers (trunks), c. 0.23m in diameter. From (4038) came a small collection of relatively well-preserved bovid bone and the brow tine of a large red deer, found grouped against the cut of the slot on its south side (Fig. 3.34), with the impression of being a placed deposit. James Rackham notes that the group includes the fragmented distal shaft of a large 'Bos' radius, probably sub-adult and that this could derive from a small aurochs, together with bovid vertebrae (Rackham this volume).

Despite the large volume of fill excavated (3000 litres of (4012) and 432 litres of (4038)) the only artefactual material present was a small number of calcite tempered sherds of typologically later prehistoric association (potentially Bronze or Iron Age) recovered from the top of (4012) but these items were probably intrusive. Samples from the faunal group in (4038) were submitted to the SUERC Laboratory for AMS radiocarbon dating in 2006 following the allocation of a grant for this purpose from Lincolnshire County Council. The results are presented in Figure 3.37. These determinations are in close agreement and demonstrate that the remains were deposited at around the end of the early Neolithic/beginning of the middle Neolithic (SUERC-13202 (GU-14895) and SUERC-13203 (GU-14896) 2007).

The sectioning of this (same) feature at the southern end of Trench D resulted in the excavation of a c. 2.5m length of slot assigned the cut number [4050]. The feature was again found to have a U-shaped profile and had also been cut to a depth of 0.7m below the current top of the natural chalk. It was of comparable width to the northern section but in this case a broad shelf existed on the eastern side to a depth of 0.3 to 0.4m, perhaps dug for practical purposes by those constructing the palisade (or possibly for the removal of the timbers for their reuse at a later date).

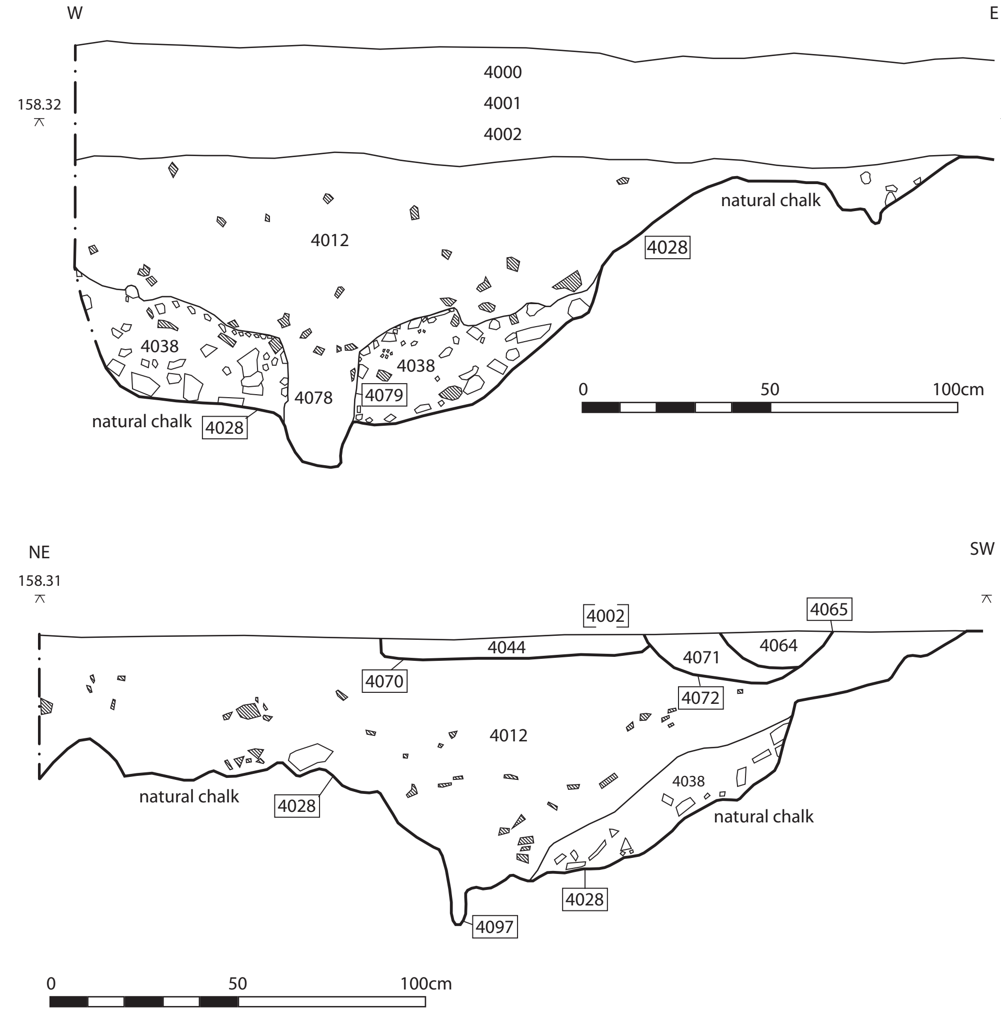
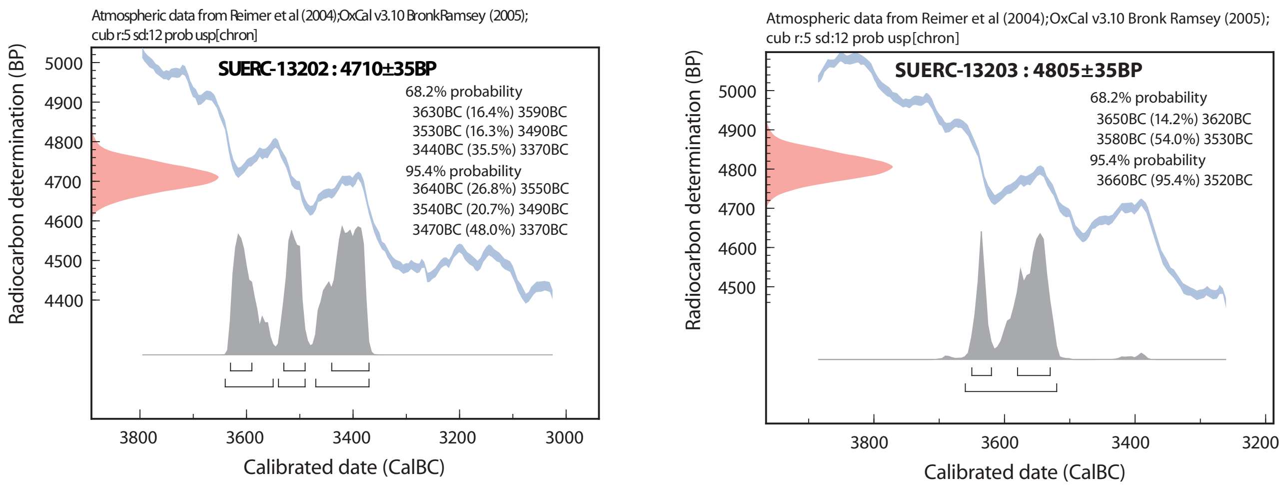


Figure 3.35 Trench D. Sections across palisade [4028], with the lower illustration also showing the later scoop [4070] and gullies [4072] and [4065].

Figure 3.36 Trench D. Post pipe [4079] in palisade [4028].

Along the base of the slot, in a narrow band on its eastern side, were a series of conical cuts (some up to c. 0.25m deep), mirroring those found in a similar position in the northern section. These are likewise explicable as 'settings' to receive the shaped bases of the timber uprights or the result of the driving of timbers (Fig. 3.34). Whilst coherently aligned they do not seem to display a pattern; that may be because the timbers were replaced. The lower part of the fill had chalk fragments present within the silt matrix (Munsell 10YR 5/8) but this 'packing' backfill was very much thinner at this location than in the northern sectioning and could not be firmly differentiated from the principal filling, a homogeneous yellow-brown silt (4018), Munsell 10YR 3/6 - 5/8, characteristically identical to (4012). There was a greater clay element within the soil on the shelf on the eastern side (4100), Munsell 7.5YR 5/6, with a similar appearance to the lower fill at the edge of [4050] on the opposite side of the cut, (4101). Whether (4100) and (4101) represent discrete earlier fills with slightly higher clay content or, more radically, point to a re-cutting of [4050] is doubtful as the soil difference is not marked and the degree to which there is a difference may be an



Sample Code	Sample Type	Sample Ref.	δ13C (‰)	14C Age ± 1σ (years BP)	Calibrated range (95.4% confidence)
SUERC-13202	Bone (bovid vertebra)	4038 Sample 1	-22.3	4710 ± 35	3640-3370 cal BC
SUERC-13203	Horn (tine) (Red deer)	4038 Sample 2	-23.1	4805 ± 35	3660-3520 cal BC

Figure 3.37 Radiocarbon results for samples from Trench D context (4038).

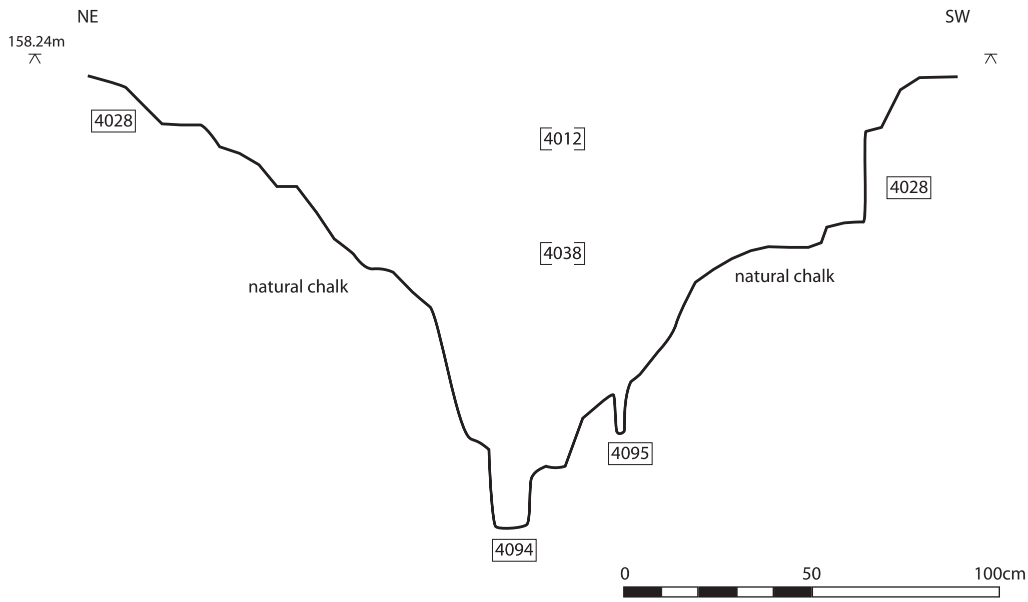


Figure 3.38 Trench D. Profile across [4028] showing [4094] and [4095].

effect of soil processes *in situ* rather than represent a distinct filling event; perhaps the silt content had broken down more at these locations than elsewhere. These differences are shown on the section drawing (Fig. 3.40, south-east baulk). No finds came from the fill elements designated (4100) and (4100). The only artefactual material recovered from (4018), consisted of one or two pottery sherds from the top of (4018) that were probably introduced from overlying ploughsoil (or later deposits now lost). A total of 3132 litres of soil were excavated from this sectioning of [4050], a figure which emphasizes the absence of finds.

Bulk soil samples for environmental analysis were taken from the two sections cut across the palisade feature at either end of the trench, specifically from suitable lower levels of (4012) and (4018), as well as from (4078), the fill of the post pipe, as noted above, caught in the north-west baulk. Following processing and examination these were found to contain very little environmental or other evidence (see Rackham this volume).

(Note that the number (4018) was used to identify this main fill in the palisade feature, cut [4050], at its southern end and for the continuation of the feature northward through the trench, where it was not excavated, to the point where the northern sectioning was conducted, where the equivalent cut and fill numbers [4028] and (4012) were used (see Fig. 3.34)).

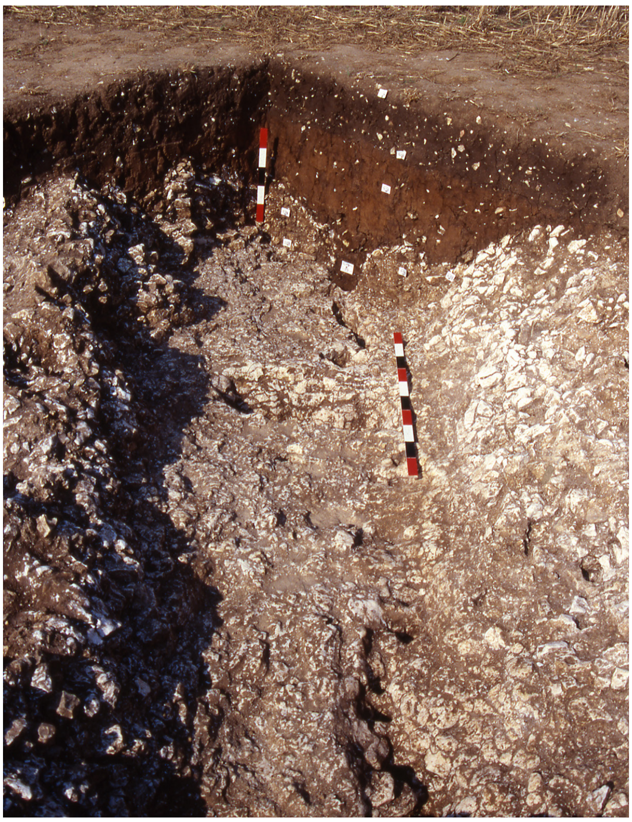


Figure 3.39 Trench D. [4028] looking north-west.

Discussion

At the time of the excavation the early date of these two palisade features was apparent and in the interim report written in 2000 it was thought – in the absence of associated artefacts and prior to the scientific dates – that they were potentially Bronze Age or Early/Middle Iron Age (Willis 2001, 78). That their actual date, identified by the subsequent radiocarbon analysis, was significantly earlier was illuminating.

The [4051]/[4099] complex of post holes resembles the feature examined in Trenches G and H in the following season, namely [7004] - [8017] and they share similarities in all major respects (see general discussion below, Chapter 9). Its alignment, in so far as this is discernible within the confines of the trench, is mirrored by the direction of [4050] before it turns a right angle to become [4028] and hence [4051]/[4099] could be an earlier manifestation of a structure – perhaps an enclosure – that [4050]/[4028] replaces. Hence sufficient survives to envisage two phases of timber construction on an elaborate scale, the second more emphatic than the first, which perhaps served the same function/s. Taking a cue from other monuments of this date, this could have been a meeting place or ceremonial focus.

The essential absence of material culture from the sections exploring the two features is to some extent explicable due to the likelihood that there was a rapid turn-around between the cutting of the features and their backfilling, although material culture is, of course, generally much less frequently encountered for periods pre-dating the Late Iron Age. A paucity of charred material is not uncommon for features of such early date, especially given that the activity/activities represented did not necessarily occur associated with settlement.

The placement of the faunal assemblage in (4038) proved vital for obtaining the radiocarbon dating. Not only was it helpful in this respect but it also provides evidence on two animal species in the environment at the time, and on likely structured deposition. Placed hard against the edge of the cut of [4028] this position may have assisted preservation as it was adjacent to chalk which would have ameliorated the surrounding soil environment. That this represents selected items is likely as a large deer and a large sub-adult bovid animal could have provided prime meat. Equally the tine is most readily explained as having been removed in fashioning an antler pick of the type that would have been employed to create the cut feature (cf. Serjeantson 2011, 77). Accordingly, these are likely to be symbolic and 'charged' items. It is surely no coincidence that they were placed in [4028]

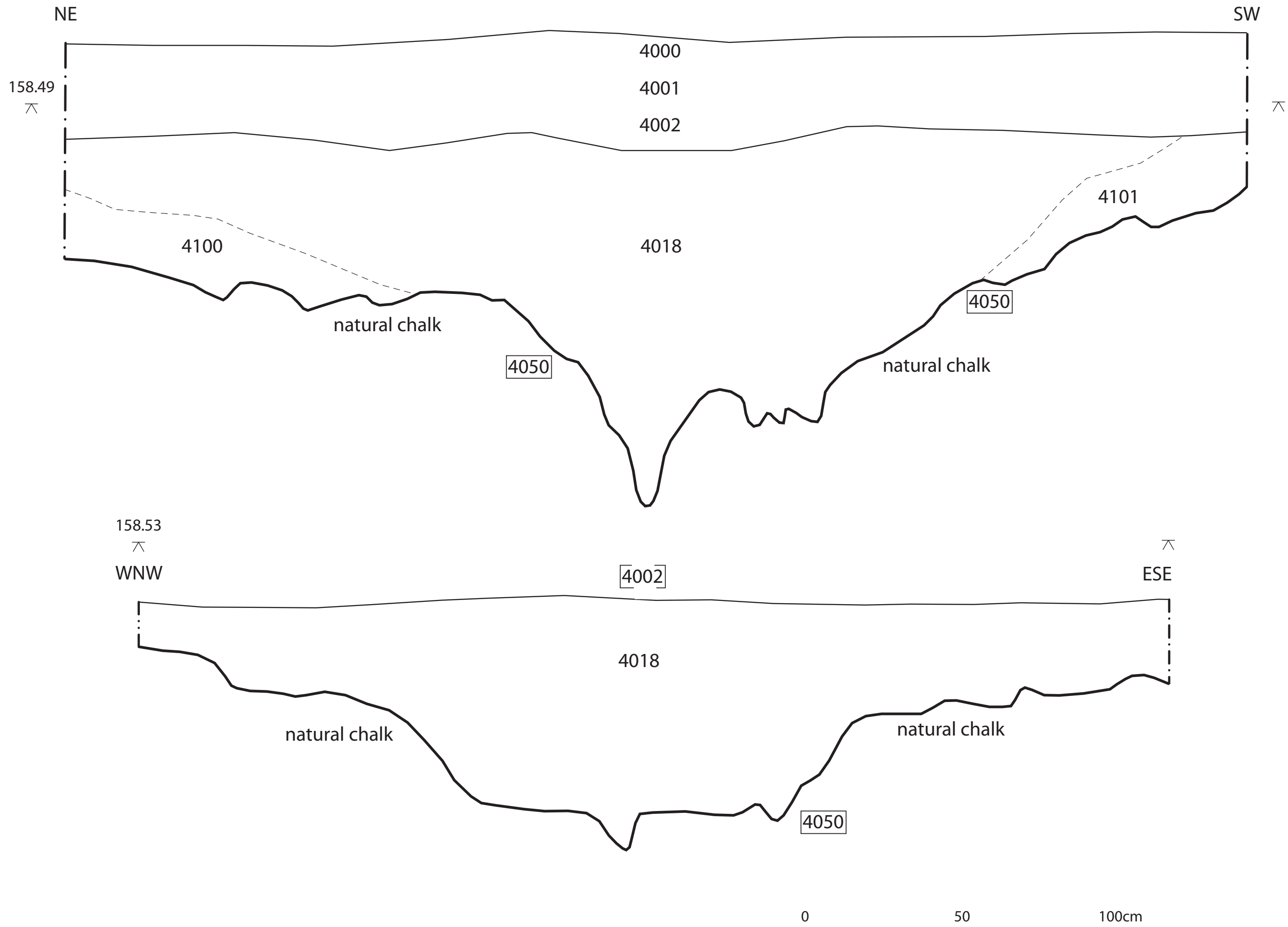


Figure 3.40 Trench D. Sections through [4050]: south-east baulk (above), and within the trench (below).

immediately below the point where the earlier palisade [4051] was cut through by [4028], its likely successor (see Fig. 3.34).

The AMS dates show the second palisade was instituted around end of the early Neolithic/beginning of the middle Neolithic. This would be after some of the Long Barrows of the Wolds had been constructed, though contemporary with the mound construction dates at Giants' Hills 2, Skendleby, and during the era of the use and continuing role of these monuments in Neolithic society, as seen in the cases of the Hoe Hill and Ash Hill Long Barrows (cf. Evans and Simpson 1986; Phillips 1989, 169-71 and 181-6).

Other Early Post Hole Complexes

A band of post holes was identified in the west central area of the trench aligned west-south-west to east-north-east. These comprised cuts [4017], [4020], [4031], [4033] and perhaps [4093] (see Fig. 3.34) cutting the natural chalk. Several post hole settings, cut to various depths, were contained within the larger slot like cut, [4020], which was traceable for 1.4m before running into the western baulk. To the immediate north of [4020], were six individual settings occurring within cuts [4017], [4031] and [4033], again cut to variable depths. Fills were macroscopically homogeneous, consisting of a compact silty clay (as with (4011) filling [4020], and (4016) in [4017], Munsell 7.5YR 4/6). No cultural or ecofactual material was recovered from any of these features. Whilst they comprise a band of features they appear to form no coherent pattern; this may in part be a function of the small area examined, although they may include more than one phase, with some of the post holes relating to replacement of posts in approximately similar positions. [4020] had been cut by ditch [4006] (see below).

Adjacent to [4050], on its western edge, a series of post hole like features occurred, approximately 18 of which were examined by excavation. These include,

Figure 3.41 Trench D. Southern end looking north along [4050].

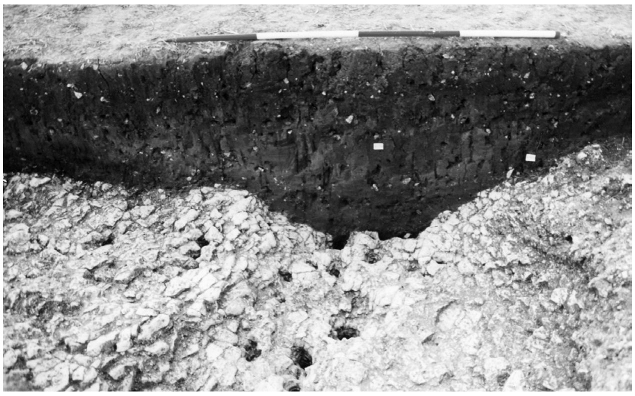


Figure 3.42 Trench D. Looking south along [4050].

moving north-west, [4087], [4063], [4049], [4060], [4037], [4058], [4035] and [4083] (see Fig. 3.34). A number of these cuts have contiguous upper lips and consequently in plan resemble short gullies. On the whole these were comparatively deep cuts (several c. 30-35cm deep), many being conical in plan; generally they were c. 25-30cm in diameter at their surface. There is a clear south-west to north-east alignment to these features. They were filled with macroscopically uniform compact yellow-brown silty soils, characteristically very similar to the fill of [4050], namely (4018). By [4050] their fills could not be differentiated from (4018).

Discussion

What the post hole complex represented by [4020] etc. relates to is not clear, though it is tempting to associate it with the early palisade [4051]/[4099] since it too may be cut by [4028]/[4050]. It is of similar morphology to [4051]/[4099], while its fills contained equally sterile yellow-brown silty soil. A direct association might be the case since the [4020] group and the [4051]/[4099] feature look to be converging to the immediate west of the trench, where there might have been an entrance to an enclosure that these features defined.

Understanding the post hole like features on the western side of [4050] is not straight forward. Since both their soil fills and the fill of [4050] are identical no immediate cutting sequence was presented. These soils have a shared character, and the nature of that character points to their being of similar earlier date. Silty leeched deposits at the site point to filling by ancient soil from surrounding cover soils and a ‘long residence’ *in situ*. Equally the nature of their morphology and position does not suggest that they are necessarily related to [4050], or that they represent a different phase of the land division or activity. It may be that they relate to the [4020] group as they share the same alignment of that band of post holes. Whether they are themselves contemporary or include ‘replacements’ is not clear. Several in the central area of the trench, none of which yielded any finds, were cut by the ditch/gully [4006] indicating, at least, that they pre-date the Late Iron Age. Four of these cuts yielded a little pottery; whilst these four features all lay south of [4006] it is unlikely this has significance. These are very likely intrusive items (a Late Iron Age/Transitional rim in calcite tempered ware from (4024), while sherds in quartz grain tempered wares, from typologically Late Iron Age/Transitional or early Roman vessels came from (4049), (4056) and (4060)). Sherds of such types were plentiful in the ploughsoil above these features and in nearby deposits presenting some chance they represent contamination via natural processes, though in each case sherds were relatively unabraded, of some size, and found within the feature fills rather than near their current surface. To reiterate: in plan they look like gullies, but in actuality they resemble post settings; that said the gully aspect might be considered. Are these gullies formed naturally in the ancient past, with irregular bottoms exacerbated by weathering and solution? Are they like the gullies seen at the bottom of the sequence at Trench B? They too lay tightly spaced and aligned, while it is also worth bearing in mind that the geophysical survey has revealed this is ‘naturally patterned land’ with striping arising from freeze-thaw conditions (cf. Monkhouse

1986, 256-7). In contrast these Trench D features do look more post hole like in form. Finally they do not seem to be the result of rabbit burrowing, but the possibility that they are the product of natural phenomena should not be ruled out.

Late Iron Age Pits [4040] and [4070], and Late Iron Age/ Early Roman Ditch and Gullies [4006], [4065] and [4072]

A much later phase of features was also present at D, comprising a ditch and two gullies, together with three small pits/scoops (Fig. 3.43). Collectively these three linear features look to have formed part of an enclosure, evidently detected in the geophysical survey of 1992-3. It was this enclosure that the opening of this trench was designed to examine. In this case there was a close correspondence between the results of the geophysical survey and the archaeological features encountered.

Running north-south through the centre of Trench D, a ditch cut [4006] was exposed for a length of 7.3m. It was U-shaped in profile with regular sides. This feature continued to the west beyond the western baulk of Trench D. For much of its length it was c. 0.25 to 0.35m deep but shallowed progressively to the north until it ceased to be detectable c. 2m south of the perpendicular gully cuts [4065] and [4072], with which it was broadly contemporary. The single dark grey silty loam fill of this ditch, (4005), Munsell 10YR 3/2, was entirely excavated within the trench. A total of 480 litres of soil were thereby excavated; cleaning across the top of [4006] had though also led to some finds being recovered belonging to this feature, and designated as context (4042). Context (4005) yielded a sizeable assemblage of animal bone, the largest from this trench (see Rackham, this volume).

The character of the latter was somewhat varied indicating that the material probably derived from a mix of processes, though overall the assemblage was highly fragmented and strongly dominated by primary butchery waste from sub-adult sheep/goat, with pig and horse also being present. One hundred litres of (4005) were dry-sieved through a 5mm mesh to check for finds and this exercise led to the recovery of 53 small fragments/splinters of bone/small bones. Approximately 65 pottery sherds were recovered from (4005) by hand through normal excavation procedure, the diagnostic pieces being mainly from typologically Late Iron Age/mid-first century AD vessels in calcite tempered and Transitional fabrics: carinated bowl, beaker and carinated jar forms occur (see Leary this volume). A few sherds of typologically Roman quartz tempered greyware present included rusticated jar of

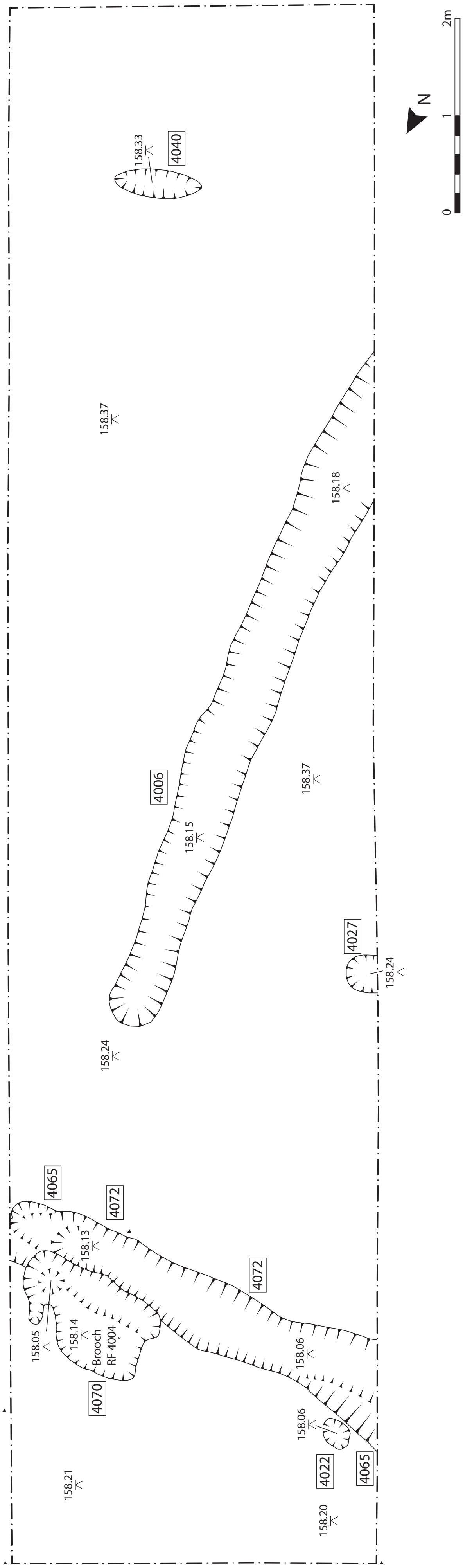


Figure 3.43 Trench D. Plan showing later features.

the mid-first to early second century. These sherds probably relate to the latest filling of the feature; they suggest that the feature was still filling in the second half of the first century AD or beginning of the second century. From careful monitoring of the artefacts from within the ploughsoil it was possible to establish that many sherds from a carinated bowl, tempered with fine calcite, identical in form to a vessel from Dragonby (Gregory and Elsdon 1996, fig. 19.51 588) had been retrieved from the ploughsoil immediately above this fill (P109 Fig. 6.34). So too had c. 16 sherds from the contemporary beaker, P144, though in this case sherds came from the lower ploughsoil in this area. These sherds were all specifically from square metre 71. This was quite a striking discovery at the time since 10 fresh sherds from P109, (many sizable, giving a full profile), of the one vessel were recovered from the middle ploughsoil, (4001). Sherds from other contemporary vessels were also present in the ploughsoil forming a clear group indicating active erosion from ploughing (the results are considered in volume 2 where the ploughsoil archaeology from the Project sites is considered as a whole).

Hammerscale and fuel ash slag were identified amongst the soil sample taken for environmental analysis from (4005), though this was of a nature consistent with 'background noise' rather than industrial activity (see Rackham this volume).

Two successive U-shaped ditch bases or gullies, [4065] and [4072], 2m to the north of [4006], were aligned east-west. These features were hence at right angles to [4006], with which they were essentially contemporary and seemingly related. The 2m gap would be a convenient width for access to an enclosure defined by these features (as suggested by the geophysical survey). As was the case with [4006] these features appear on the geophysical plot; likewise (as with [4006]) they are deeper on their western sides. Both [4065] and [4072] cut the palisade slot [4028] and the linear post hole complex (palisade) [4051]/[4099]. They were both shallow features but doubtless had been truncated by routine ploughing. The earlier of these two cuts, [4072] traversed the width of the trench. It was c. 0.65m in width and c. 0.11-0.15m deep. Its silt loam fill (4071), Munsell 10YR 2/2, contained small angular chalk fragments in moderate frequency. A small but significant group of sherds was present within the fill, including rims from typologically Late Iron Age/first century AD vessels in calcite tempered fabric, one sherd from a first century (c. AD 40-100) rusticated ware jar in a Transitional fabric analogous to the typology of vessels known from Dragonby, a small sherd from a Gallo-Belgic beaker in *Terra Rubra* 3 (c. AD 25-50/55), and several sherds in quartz grain tempered greywares that date to the second half of the first century; sherds from late first to early second century types indicate the latest items in the group.

[4065] followed a closely similar alignment to [4072] and seems likely to be a recut. It virtually traversed the trench, terminating just before the eastern baulk, opposite the point where [4006] terminated/ceased to be traceable, and thus formed a right angle with that feature. Cut [4065] was c. 0.40-0.35m wide and c. 0.12m deep. The loam fill of this feature, (4064), Munsell 10YR 3/3, produced a small group of pottery. This group included a rim from a typologically first century AD beaker in a regional fabric, calcite tempered sherds, Roman quartz tempered greyware and two small sherds of Lezoux samian (c. AD 120-150), one recovered by eye, the other from the environmental sample. A small sherd of Parisian ware with a concentric stamp was also amongst the group. The latter items indicate a clearly later date for the completion of this filling than is the case with (4071) and (4005). Leary notes that the pottery was similar to the later types from [4072] (Leary this volume). Generally the pottery from the fills of [4065] and [4072] is of closely similar type and condition to that from (4005). The modest quantities of bone recovered are also comparable, being, for instance, highly fragmented. Context (4064) yielded bones from sub-adult sheep. A notable difference, though not a potentially significant one given the suggested variable origins of the material in (4005), was the presence of several oysters shells associated with [4065] and [4072]. (4064) and (4071) also each contained slag and cinder; charred cereal grains were present too.

To the north of gully [4072] was a shallow pit or scoop, [4070] which had presumably been truncated as with other features in Trench D. This feature was approximately D-shaped, measuring c. 1.55m by 0.9m and was 0.07 to 0.012m deep. [4070] cut the palisade slot fill (4012). Towards the eastern side of this feature, within it, was a circular cut 9cm deeper than the general base of [4070], filled by the same soil as the rest of the feature. It is possible that this was a post hole, and if so its institution could well have been the purpose of the cutting of [4070]. The position of this potential post hole looks to be related to the ditch [4006] as it lines up with that feature. Both this likely post hole and the wider cut ([4070]) were filled with a silt with loam deposit, (4044) Munsell 5YR 3/2 (amounting to 102 litres of soil). From it came a further small group of Late Iron Age/mid-first century AD pottery and, from the westerly side of the feature fill, a reeded Langton Down brooch RF 4004 (Figs 6.43.1-2) with tinning and punched decoration (see

Figure 3.44 Trench D. [4065] and [4072] and scoop [4070] above fills of [4028].

Cooper this volume). Parallels occur at the regional sites of Old Sleaford (Mackreth 1997, 184, fig. 86 no. 11) and Dragonby (May 1996, 460, fig. 19, no. 29). The evidence from other sites suggests an association for this type with deposits which are pre-conquest or date up to c. AD 1-50/55, which accords with the stratification of this item at Mount Pleasant, as well as the pottery evidence. From the section it appears that [4070] was cut by [4072]; this is possible and consistent with the pottery dating (see Leary below), but the extant relationship is only a matter of centimetres.

A small scoop, [4027], near [4051], which had a dark brown loamy fill (4026), and contained a small amount of pottery and a jaw from a sub-adult sheep, evidently belongs to this latest identifiable phase. Assignable also to this phase are a post hole, [4022], by [4065], and an isolated pit at the southern end of the trench, cut [4040], cutting (4018), containing animal bone, typologically Transitional pottery and Romanized greyware.

No middle or late Roman remains were encountered at Trench D.

Discussion

Overall, this phase, including [4006], [4065], [4070] and [4072], dates to the Late Iron Age/first century AD, and was still filling into the beginning of the second century. Hence these fills are essentially contemporary with the main artefact bearing deposits (nearby) in Trench A. The exception is [4065] which was extant into the first half of the second century.

Feature [4070] with its post hole in alignment with [4006] seems likely to have related to [4006] and indeed pottery finds from both features were contemporary (Leary this volume). [4070] seems likely then to have been related to an entrance to an enclosure at this point, with the post hole being for a marker post, totem or gatepost. The presence of a complete brooch from the fill of this feature would be no chance loss but a placed deposit at a threshold in line with the wider contemporary practice of marking such points (Hill 1995; Hingley 1990a). [4072] and its recut [4065] were elements of this enclosure, which appears to have been rectilinear.

3.3.5 Trench E

Natural Features at the base of the Sequence

At the base of the Trench E sequence three features occurred, cut into the top of the natural chalk bedrock. Moving from south to north these comprised an east-west U-shaped gully, [5016], c. 0.35-0.40m deep which traversed the trench, and two not particularly regular scoop-like features, [5015] and [5014] (c. 0.17m and 0.27m deep respectively) both of which extended beyond the limit of excavation to the west (Figs 3.46 and 3.49). All three of these features were filled with a homogeneous chestnut coloured tenacious, somewhat silty, clay, (5013), Munsell 10YR 4/6 - 7.5YR 4/6, with rare flint fragments c. 30mm in longest dimension the only coarse inclusion. Upon excavation (5013) proved to be artefactually

Figure 3.45 Trench E. Detail of gravel (5012).

sterile, while no ecofactual evidence or charcoal was identified within it either. Overlying both these fills and extending across the top of the chalk natural where it had not been disturbed by these three features was a continuous layer of flint gravels, both angular and sub-rounded, being context (5012). This compact layer was uniformly present across the entire base of the trench. It was largely one gravel thick, with the gravels on average c. 50mm in longest dimension, with some larger items up to 120mm. This layer had the appearance of a carefully laid metalled surface. A single animal bone was recovered from (5012), perhaps an intrusive item.

Discussion

The three features ([5014]/[5015]/[5016]) were reminiscent of the series of irregular gullies cut into the top of the chalk previously recorded in Trench B (see above). It is possible that these features were fashioned by natural processes, related to periglaciation and post-glacial history (cf. Robinson 2009b, 8-13). On the other hand the regularity of [5016] might strongly suggest that it was a deliberately cut feature. That said, only 1m of the feature was exposed, while it may be recalled that some of the gullies interpreted as natural at Trench B had a regular form. [5016] may represent the base of a natural water channel of periglacial date; James Rackham examined the feature and thought it was a natural channel. Likewise [5014] and [5015] may be natural solution features of early date. The character of (5013) suggests that it is a natural deposit. Similar to the appearance of (2013) at Trench B, but darker, it may be a glacial till in origin. Whilst the layer of gravels (5012) had the look of a laid surface it nonetheless follows the undulations of the base of the trench formed by the occurrence of the aforementioned cut features below. Whilst the possibility that it was a deliberate surface cannot be ruled out on current evidence, on balance it is likely that the layer represents natural sorting, along similar lines to that observed in Trench B.

Late Iron Age / Early Roman Soil Horizon (5009) and Gully [5011]

Above this horizon of gravels (5012) a uniform mottled yellow-brown silt with loam layer, (5009), Munsell 10YR 5/8, extended across the whole of the opened area. Although (5009) had a level upper surface it proved to be of variable depth (0.12 to 0.3m) depending upon the underlying micro-topography. It contained a small highly fragmented assemblage of bone (25 pieces) and calcite tempered pottery, charcoal and an iron nail RF 5006. The small amount of cultural material present dates the deposit to the Late Iron Age or early Roman period (see Leary below). This may in fact be a natural soil extant at the time of the Late Iron Age and Roman use of the site, with some mixing in of cultural debris. In part the deposit may be colluvial, as the natural topography by Trench E slopes gently to the east.

In the south-east corner of the trench (5009) had been cut by an apparent ditch or gully, [5011], only partially revealed in Trench E (Figs 3.46 and 3.47). The cut of this feature comprised two elements: a gully, c. 0.2m deep, aligned south-south-west/north-north-east, with a maximum length of 1m exposed within the trench, and a contiguous deeper cut (a gully or ditch edge) in the extreme corner c. 0.4m deep on an identical alignment. It is possible that these are two separate features or that one is a re-cut, or that this was a single cut with a change of angle of slope. However there was no firm evidence for these possibilities as a homogeneous filling was present throughout. The latter was a dark silty loam, (5010) Munsell 10YR 2/2, similar to (5004) which lay above. (5010) produced a small faunal assemblage, and this and the contents of a wet-sieved sample taken for environmental analysis showed the following to be present: cow, sheep/goat, frog/toad, vole and jackdaw. A base sherd of calcite tempered pottery was recovered but is not chronologically specific being either Late Iron Age or early Roman. The deposit, however, evidently dates to the early Roman period or possibly to the Late Iron Age.

Late Iron Age / Early Roman Soil Horizon (5003)/(5004)/(5004 Lower) and Chalk Surface (5006)

Above (5009) and (5010)/[5011] a continuous black silty loam horizon was encountered, (5004 lower) Munsell 10YR 2/2. This layer extended across the

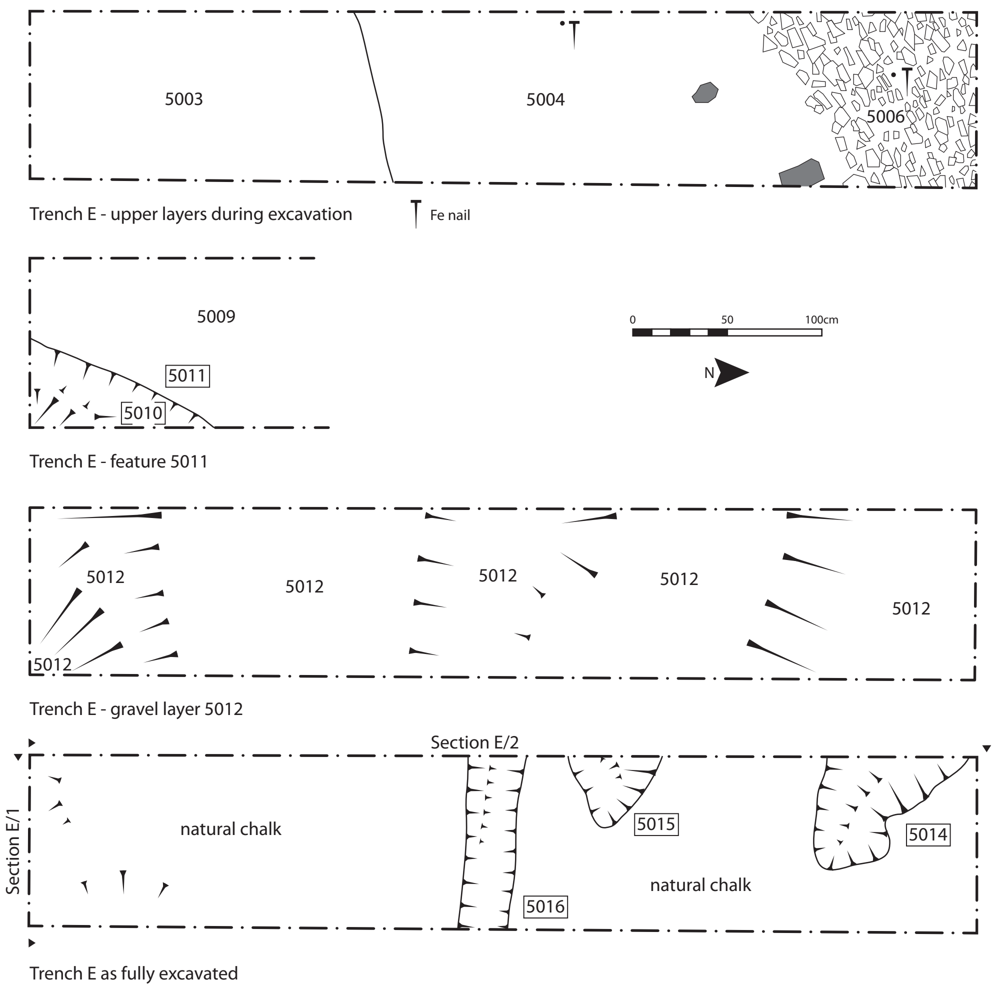


Figure 3.46 Trench E. Plans.

dimensions of the trench and was c. 0.2 to 0.25m deep. Overlying it at the northern end of the trench was a fairly well-structured continuous rammed chalk surface formed of angular chalk, (5006), covering an area a little over a square metre with a straight edge running west-south-west to east-north-east. This surface had been deliberately laid with some care, being level and even, though it was not noticeably worn, nor particularly thick at just 100mm. That part of (5004 lower) below (5006) was allocated the number (5018) in order to distinguish any finds from below the surface, although (5004 lower) and (5018) represent the same layer. Above both the surface and, to its south over (5004 lower), was a dark silty loam (5004), very closely similar in character to (5004 lower). Across the northern 3m of the trench this soil horizon, labelled (5004), differed only from (5004 lower) in so far as some occasional chalk flecking and pea grit occurred, perhaps some of the flecking, at least deriving from the chalk surface. In the southern 2m of the trench this horizon become somewhat mottled with dark olive green pockets and hue,

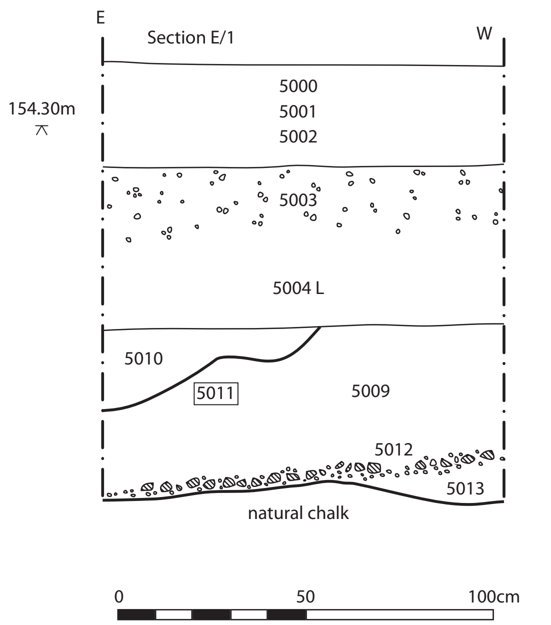


Figure 3.47 Trench E. Section drawing of southern baulk.

though the difference in colour from (5004) was not pronounced. The latter area was allocated a separate context number, (5003), though (5003) and (5004) are unequivocally part of the same stratigraphic unit extending across the dimensions of the trench, but which changes in degree over its extent. The Munsell codes are (5003): 10YR 2/2 with pockets of 5Y 5/3 - 4/3 and (5004) 10YR 4/3. (That part of (5004) above (5006) was allocated the number (5017) again in order to distinguish any finds as coming from above the surface, once it was identified). The horizon (5003)/(5004) was c. 0.2m thick. It was directly overlain by the modern ploughsoil, and therefore may have been truncated.

Finds from the (5003)/(5004) and (5004 lower) horizons were comparatively numerous and the pottery types present in these layers reflect their positions in the sequence (see Leary below). Overall pottery from these layers shows a broadly consistent picture indicating Late Pre-Roman Iron Age/mid-first century AD activity, (with *Terra Rubra* present). Pottery deposition continued through the late first and second centuries. There is a small amount of later pottery but Dales ware is conspicuously absence with a later Roman wide mouthed jar from trench spoil perhaps coming from the ploughsoil (cf. Leary below). Sizeable samples of faunal material were also present: horse was represented in both (5003) and (5004); sheep/goat and cow were identifiable amongst the bone from both (5004) and (5004 lower). In addition, oyster shells were present in (5004) as well as being recovered from the (5002)/(5004) cleaning interface. Both pottery sherds and bone were in good condition and comparatively less fragmented than elsewhere at this site. A domed tack RF 5008 was present in (5004) which may have been elongated rather than circular and had been employed to hold a copper alloy sheet in place, as a fragment of the latter survived being preserved under the dome more or less contiguous with its circumference but otherwise was snapped or corroded away; this may be from a decorative sheet over a wooden chest or furniture. A nodule of slag was recovered from (5004). Hammerscale, fuel ash slag and burnt flint were identified amongst the residues from a floated sample taken from (5004) for environmental assessment (Rackham 2000; cf. Rackham below), and it appears that smithing and perhaps other small scale industry was occurring in the vicinity of Trench E. Two Roman iron nails lay upon the chalk surface (5006).

Soil Characteristics at Trench E

On completion of the excavation of the trench a soil column was collected to the natural at the base of the trench. The sampling was taken from the baulk on the western side of the trench 0.75m south of the north-west corner of the trench. The samples examined weigh between 100-140g bar that from (5017) which weighs 62g. Based on the sample from (5001) the ploughsoil at this location is a loam with a strong clay component and contains ill-sorted chalk and flint fragments with chalk ranging from flecks through to fragments up to 50mm; flint fragments present range from 7-18mm. The pH of (5001) is neutral. Layer (5017) is more friable and contains less clay than (5001). This sample contains small fragments of angular flint (e.g. 15mm), while chalk is more frequent than in (5001) with sub-angular fragments up to c. 13mm being occasional (cf. Boddington 1978, 31-3), together with small fragments and flecks, perhaps deriving from the surface (5006) below this layer. The pH for (5017) is unsurprisingly alkaline. The sample from (5018) below the chalk surface was marginally darker than (5017) but in terms of soil character otherwise similar, but with an almost complete absence of chalk and flint inclusions with only rare chalk flecks. Charcoal fragments up to 4mm are present but rare. The pH is neutral. The silty soil layer (5009) has some loam/humic content and is friable and crumbly and can be crushed in the thumb and fingers to powder. Some chalk flecking occurs but is rare and may occur through comparatively recent introduction via worm activity; otherwise coarse inclusions are limited to well-sorted angular flint fragments c. 2-4mm. The pH of (5009) is alkaline. (5013) is a silty clay and dry chunks amongst the sample are impossible to crush between thumb and finger; small pieces crush to powder. The chunks of this soil have a distinct hackly aspect. There is some fine flint present up to 2mm. Larger flint is all but absent, though contrastingly this sample contains the largest flint fragment from amongst all the samples and this is angular and 25mm in longest dimension. No chalk

Figure 3.48 Trench E. The north-west baulk, showing (5006).

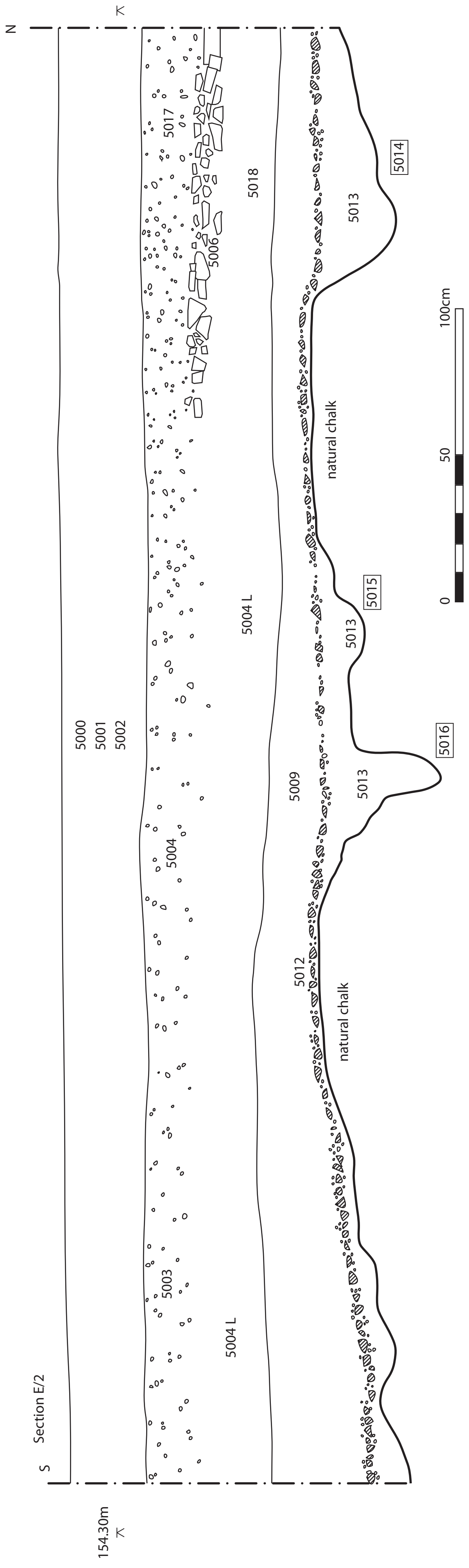


Figure 3.49 Trench E. Section drawing of western baulk.

is present of any size. Comparison of (5009) to (5013) shows the latter to be a much purer deposit and (5009) to be more mixed in composition. The pH of (5013) is slightly alkaline.

Discussion

It would appear that the process/es leading to the deposition of the humic and probably charcoal rich (5004 lower), continued after the laying of the chalk surface (5006), going on to form the (5003)/(5004) horizon. The nature of these archaeologically rich layers is not certain though they have the characteristics of midden deposits and presumably human habitant had lain close-by and was the source of the debris. The chalk surface was intentionally lain with care and although not substantive within the confines of the trench, it may have been thicker beyond the exposed area, whilst Trench E might only have revealed its margin. It had nothing to mark or consolidate its edge and was simply laid over (5004 lower). It may represent a hard standing, but significantly its alignment (as indicated by its southern edge) mirrors that of the early Roman ditches in nearby Trench J with which it seems likely to have been contemporary. It may be the surface of a track placed to surface the silty loam and allow access between and behind Roman era properties.

The excavations at Trench E demonstrated the existence of well-preserved deposits, comparatively rich in archaeological evidence at this location. The stratification encountered within the trench (Fig. 3.49) was comparatively deep for a rural site. While the dimensions of the trench were too small to allow for the reliable expansive interpretation of the features and deposits encountered, these remains demonstrate significant occupation at this location during the early Roman period and perhaps before. Various Trench E contexts above (5009), including ploughsoil, contained infrequent fragments of Tealby Limestone and Claxby Ironstone, some pieces being substantial. The selective use of these rock types in the foundation of Building 1 in East Field at Trench B indicates their association with structures of Roman date. Fragments of these stones from Trench E, and identifiable in the adjacent ploughsoil by this eastern margin of East Field, could well derive from a nearby Roman building. Six iron nails (including one possible nail) were recovered from the trench, one from (5004), one from above (5006), one from (5004 lower), another from (5009), and two from trench spoil (located by metal detecting) (Table 3.13). The ploughsoil from the trench contained an iron tool or blade, RF 5002.

Table 3.13 Recorded Finds from stratified contexts at Trench E.

Context	Context Type	Recorded Find Number	Material	Type	Notes
5004	Layer	5000	Fe	Nail	Intact but bent so had probably been extracted. Square shank with oval head. L 53mm; Head 11 by 15mm. (On Plan) Fully conserved.
5004	Layer	5008	Fe & Ae	Fe tack with Ae sheet	Apparent domed or elongated tack with pin through copper alloy sheet; the latter only survives under the dome. Dome: D 15mm extending to 19mm, H 5mm; pin L 2.5mm; sheet T 1mm
5004 Lower	Layer	5004	Fe	Nail	Straight length of shank, square in section. L 60mm. Partially conserved.
5004 Lower	Layer	5005	Fe	Object	Not identified
5005	Cleaning over (5006)	5001	Fe	Nail	(On Plan)
5009	Layer	5006	Fe	Object	Not identified

3.3.6 Trench F

Several features were located within this trench, cut into the natural chalk, all evidently Roman, and they are described here moving across the trench from west to east focusing to begin with on the three larger features.

Roman Ditch [6010]

At the western end of the trench the eastern side of a ditch, cut [6010], was revealed and excavated. This ditch is clearly a feature detected by the geophysical survey (Figs 2.4 and 3.1) running south-west to north-east for some 25m, but not firmly traceable south-west of Trench F. The ditch was only partly caught within the trench and there was no time available to consider extending the trench with a view to examining the feature via a (presumed) full cross-sectioning. As exposed with the trench confines it was cut to a depth of c. 0.45m below the present top of the natural and appeared to be U-shaped in profile and of regular form. Its fill, (6009), was a friable brown silt and clay loam, Munsell 10YR 4/4 - 4/6. (6009) contained a small amount of Roman pottery fragments, including a sherd from a jar with rustication; there were no other finds and no faunal remains were present from c. 246 litres of excavated fill. The ditch had a shelf or gully on its eastern edge, cut to a depth of c. 0.2m. It is possible this represents a separate feature or a re-cutting though it contained the same fill as the main part of the ditch and so therefore is likely to be contemporary. The rusticated sherd will be of late first to mid-second century date.

Hollow [6017]

Some 2m east of this feature was a somewhat amorphous cut or complex of cuts, [6017], some 2.25m wide forming a general bowl shape, with, in part, a flat base (Fig. 3.51). The feature was not entirely caught within the confines of the excavation, for it extended to the north and south, though the main depth (c. 0.55-0.7m) lay within the centre of the trench and its sides rose towards both baulks. A series of cuts on the eastern side of the feature may constitute associated post-settings as they had some regular form to their shape. The feature contained a single uniform fill, despite its scale, this being (6008). This fill was characteristically similar to (6009) to its west, though perhaps with a greater proportion of silt. Overall the fill was surprisingly sterile and homogenous given that 1458 litres of deposit were excavated. A further small amount of Roman coarse pottery was present, which Leary (below) dates to the early Roman period: the sherd dates potentially span the mid-first century to the late second century, but could point to second century (perhaps mid-second century) deposition. Two conjoining bone fragments were recovered, as well as a nodular fragment of ironstone with an apparent unusually high ferruginous content given its mass (weight-for-size) and colour. An unidentified iron object was also present (RF 6010).

Roman Ditch [6014]

Around 0.8m east of [6017] was a substantial ditch, [6014] (Fig. 3.51). This measured, 2.7m wide and

0.9m deep (as measured from the present level of the natural chalk). Generally the form was very regular and flat bottomed (1m across) following a bedding plane in the chalk bedrock. The western side had a slope of c. 45° but the eastern side was stepper near the base. There had probably been some modification of the original profile through weathering and erosion of the sides. Aligned north-south, this feature had not registered as a significant anomaly during the geophysical survey, perhaps because its fills were lacking an organic element. Its orientation mirrors that of a number of other ditches in this area of the site complex. Upon exaction four fills were discernible. The lowest fill, (6023), lay only on the western side of the cut and consisted of a compact clay with some chalk gravel around 0.12m in thickness (Munsell 10YR 3/6). Above this (6016) was likewise compact but with much more frequent chalk gravel and angular fragments and of lighter soil matrix, c.0.23m in thickness (Munsell 10YR 5/6). Above this, (6015) was a thick fill (0.36m in depth) of greyish brown silty loam (Munsell 10YR 3/4) with coarse inclusions being rare. The upper fill, (6013), was c. 0.3m deep comprising a brown silty loam with

Figure 3.50 Trench F. Fully excavated looking west.

chalk gravel (c. 8mm) in moderate frequency and occasional flints (Munsell 10YR 3/3).

Excavation of (6023) and (6016) removed around 1200 litres of soil. These lowest two fills produced no cultural material; nor was faunal material present bar one tooth from (6016). A rim from a Roman everted-rim jar was present within (6015), while a small selection of Roman coarse ware sherds and calcite tempered pottery was associated with (6013) but none of these items were at all closely dateable and the rim can be second or third century in date (see Leary below). A fragment of iron-rich Carstone was present in (6015). A typologically Roman iron nail was recovered from (6013) while an iron object, RF 6002, perhaps a ring, was found in cleaning over (6013). Carstone directly underlies the chalk beds forming the Wolds and is exposed in the valley of Nettleton Bottom, to the west of East Field. Curiously the only faunal remains recovered during excavation in the normal way (rather than from environmental sampling) were two sheep teeth, one from (6016), the other from (6015), these being the same tooth from different animals of approximately the same age (second molars (M2) from the left jaw); these were both young animals (pers. comm. James Rackham and Keith Dobney; Rackham this volume). This occurrence is all the more striking considering the volumes of soil excavated, though it may be a product of taphonomy as bone and teeth could have been lost in these deposits through natural break down. A sample taken for environmental analysis from (6015) contained a few small fragments of bone and a single flake of hammerscale. Given that some 1350 litres of soil were excavated from (6015) and 648 litres from (6013) the volumetric stats show that little cultural material was entering this ditch during the period when it filled (see Rackham below) which contrasts with the strong presence of pottery and other finds in the ploughsoil.

Other Features

Several smaller features were also encountered and excavated, including likely post holes (Fig. 3.51). Feature [6018], approximately conical in form and c. 0.27m deep, lay immediately east of [6017] and its fill (6024) was closely similar in character to the fill of [6017]. It may have been a post setting. There were no finds from this feature. To the west of the hollow [6017], by the southern baulk cut, [6020] was only partly exposed within the trench and may represent a double post setting as the feature comprised (as examined within F) two semi-circular conjoining cuts. [6020] was 0.55m across and 0.16m deep, with regular

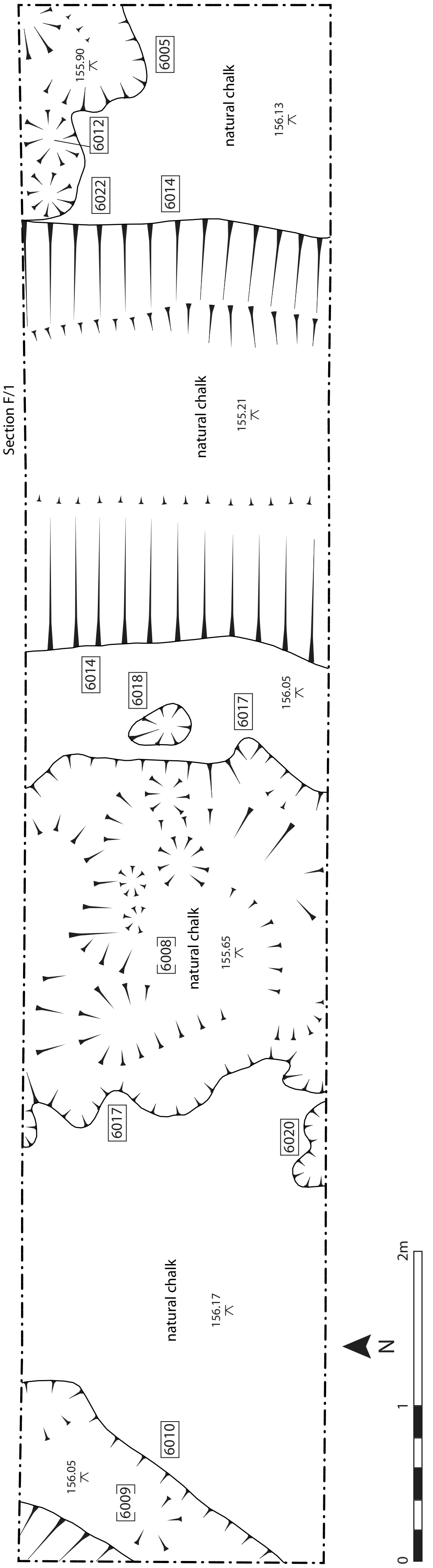


Figure 3.51 Trench F. Trench plan showing excavated features.

sides and a flat base. Its fill (6019) was an orangey brown mix of silt and loam, Munsell 10YR 4/4 - 4/6. The remaining features were present in the north-east corner of the trench. Here two conical cuts [6012] and [6022] c. 0.38m and c. 0.36m in diameter respectively, appear to represent a pair of post holes immediately east of ditch [6014] near to the northern baulk (Fig. 3.51). They were filled with identical silt with loam soils, Munsell 10YR 3/4 - 4/4. Neither feature yielded material culture. Part of a larger feature, cut [6005], perhaps a pit, was located in the north-east corner of Trench F. The extent of this feature exposed within the trench measured 0.8m east-west by 0.55m north-south. It was cut to a depth of c. 0.3m below the present top of natural, with its deepest point lying in the extreme corner of the trench. Its silty loam fill, (6004), Munsell 10YR 3/4, produced three sherds of Roman pottery, one of which is a rim from a storage jar, of mid-Roman date (see Leary below).

Discussion

All archaeological deposits within the trench were fully excavated and a range of features were found to be present. All stratified deposits yielding dating evidence appear to be of Roman date and all the substantive features encountered within the trench were probably filling in the second and third centuries AD. The features and the finds can be taken to indicate that whilst this area was in use in the Roman era it may not have been immediately close by to habitation. The veracity of any interpretations is, however, offset by the fact that the trench represents such as limited sample and what stratified dating evidence there is may indicate that the main features were filling in the Roman period but there is little that can be said in terms of precision within that era. The large amount of pottery from the ploughsoil (cf. above Section 3.2) presents a contrasting picture that hints at there being no straightforward explanation. It suggests that there is more intense use of the area than the material from the sampled stratified features presents, as it has been incorporated into the ploughsoil by some means, possibly from the truncation of the top fills of features in the trench and the vicinity. Three of the four coins from the ploughsoil in this trench (see above Section 3.2) are consistent with pottery finds hereabouts recovered in the British Gas survey in indicating activity in the late Roman period/fourth century at this location within the site.

That by far the majority of the finds from Trench F, ceramic and otherwise, came from the ploughsoil zone in itself justifies the close attention to the study of the ploughsoil that is part of this Project. The trend replicates the high frequency of artefactual remains in the ploughsoil seen at the other trenches and via the fieldwalking.

That faunal remains were few is probably a real pattern, given the paucity of stratified pottery, rather than being a function of soils unconducive to the survival of bone over the long term.

The deep feature described here as a hollow [6017] was somewhat amorphous and is difficult to interpret given its form and the lack of any associated evidence indicating its function. It had a single uniform fill which was qualitatively similar to the soil in the ditch to the west [6010] and the potential post hole [6018]. It yielded little in the way of finds and for its volume was largely sterile. It seems too deliberate a shape and too deep (in respect of its width) to be a tree bowl, and there are no evident root channels or linear disturbances or traces of decayed roots in the chalk; it differs in form to the tree bowls on chalk noted at Rookery Hill (Bell 1977). It seems unlikely to have been some form of working hollow as it is not regular and although there was an ironstone block present such stones are not uncommon in East Field. There was no trace of burning from the feature. It may perhaps have been a quarry hole. The fact that it has no cut relationship with either of the two ditches in Trench F may be some grounds for suggesting that it was contemporary with one of them and in this respect the fact that it has a similar fill to [6010] might be noted. From this perspective [6017] may be respecting the existence of one of the ditches. It might though be a post-Roman feature. A structural function is also possible given that several possible post-settings are suggested by conical cuts on the eastern side and with [6018] just outside to the east where it (that is [6018]) may be part of a row with cuts detected in the base of

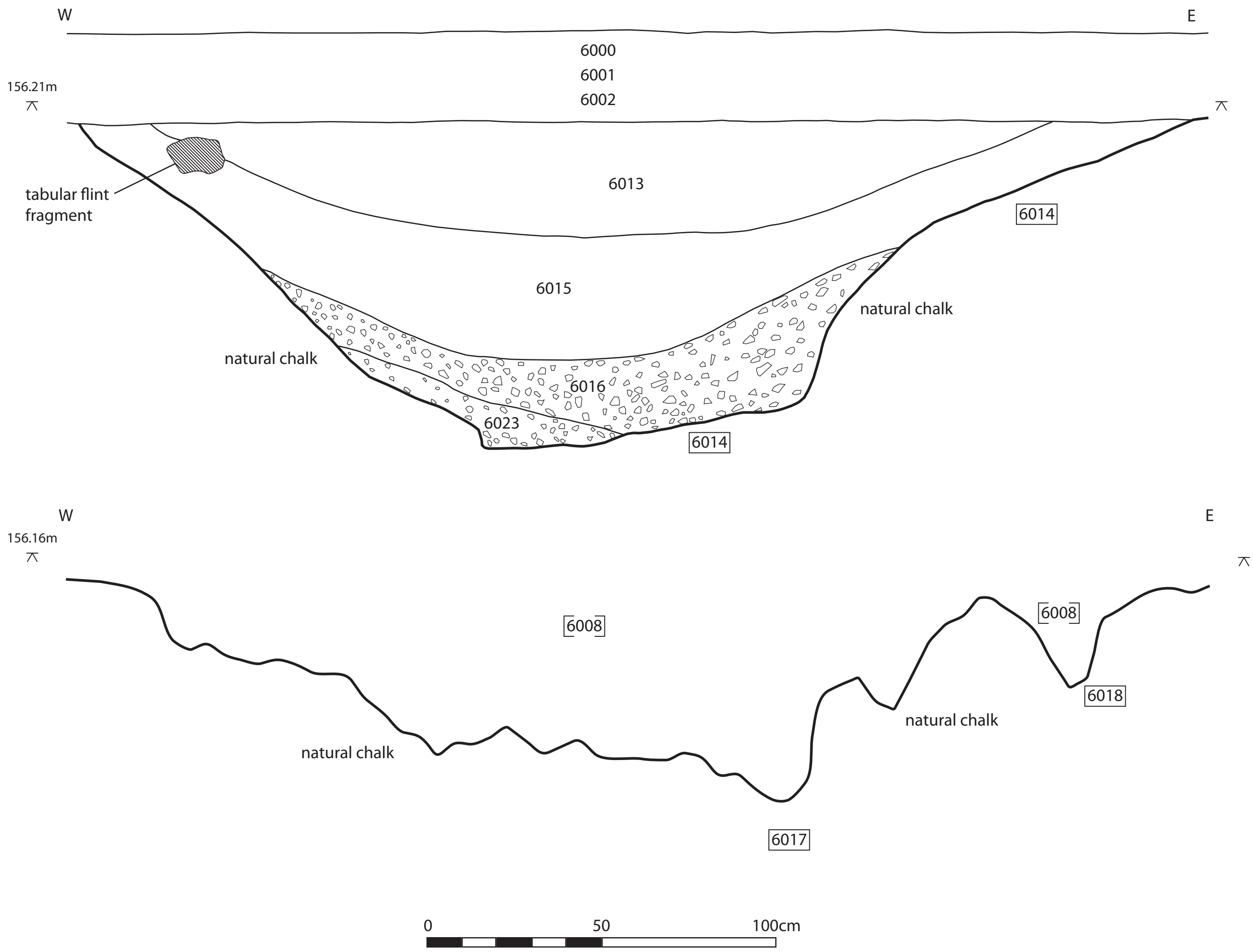


Figure 3.52 Trench F. Section through ditch [6014] and its fills (above); and profile through 'hollow' [6017].

Table 3.14 Recorded Finds from Trench F.

Context	Context Type	Recorded Find Number	Material	Type	Notes
6006	Trowelling clean after topsoil removal over (6013)	6002	Fe	? Ring / ? chain link	From Square 104. Penannular ring but perhaps a sector is missing; 18mm over outer diameter
6008	Fill of hollow [6017]	6010	Fe	Object	(3.60m E; 1.35m N)
6013	Upper fill of ditch [6014]	6016	Fe	Nail	-

[6017]. A structural function might explain an absence of finds from the fill, whilst of the six spatially located nails from the ploughsoil five came from directly above [6017] and the other from within 1m of the feature.

Ditch [6014] has the character of an enclosure boundary, but was not detected in the British Gas geophysical survey. The lowest two fills had a strong chalk element and presumably incorporate weathering and frosting of the exposed chalk sides of the feature. The two identical sheep teeth from (6015) and (6016) from different animals is a remarkable coincidence given the paucity of other faunal remains from this ditch.

3.3.7 Trench G

Prehistoric Palisades [7004] and [7006]

Trench G was positioned in the central north area of East Field, being aligned east-west and measuring 10m by 2m (Fig. 3.55). One purpose in selecting this location was to examine the linear anomaly detected by the geophysical survey which runs approximately north-south from the northern edge of the field (or more accurately the northern limit of the magnetometer survey area) towards the central area of the field for a distance of c. 200m. It follows the slight ridge in the field which marks the watershed between east and west drainage on the Wolds. Seemingly unrelated to the sub-rectangular enclosure complexes it was assumed that is was a significant prehistoric land division. (It is identified as the eastern linear of F2 in Leary's feature numbering scheme).

Cleaning following the removal of ploughsoil revealed a series of independent features cutting natural chalk subsoil with no positive soil horizons present. Around 5m east of the western end of the trench a soil spread, (7005), c. 2.2m in width was observed. This soil proved to be the top fill of a substantive feature, [7006], traversing Trench G in an approximately north-south direction, extending beyond the northern and southern baulks (Fig. 3.55). This was presumed to be the linear feature registered on the geophysical survey, given its scale. Of the 2m length exposed within Trench G, it was decided to excavate the southern metre initially and the northern metre should time permit. As it happened there proved to be insufficient time available to investigate the northern metre as the farming schedule that summer between harvest and re-sowing was only two weeks and a second trench (Trench H) was also to be excavated. Upon excavation the edges of the cut were found to be vertical. On the eastern side this sheer cut stopped at a depth of c. 0.47m, where a shelf had been left in the natural chalk, c. 1m wide. This was evidently a 'working platform' or

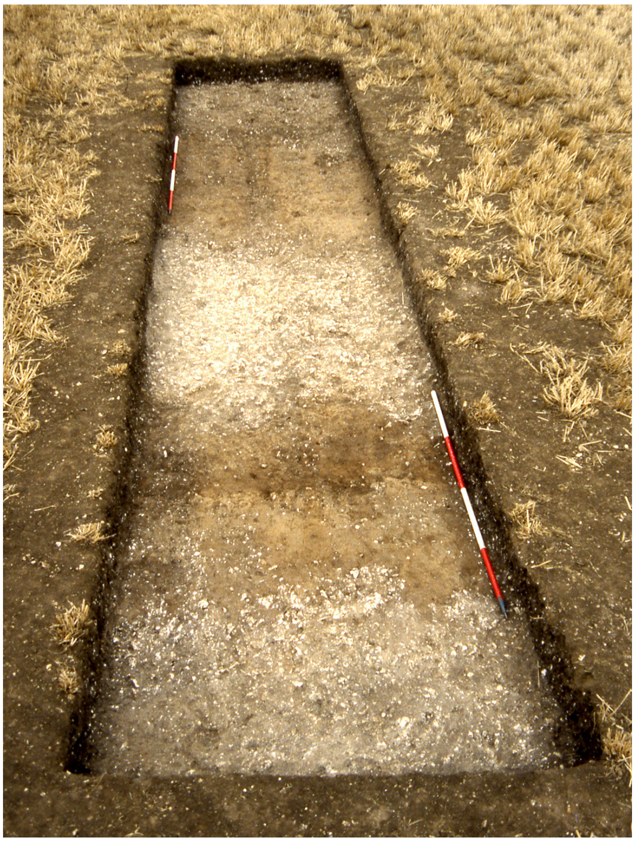


Figure 3.53 Trench G. Looking west with ploughsoil removed and prior to excavation.

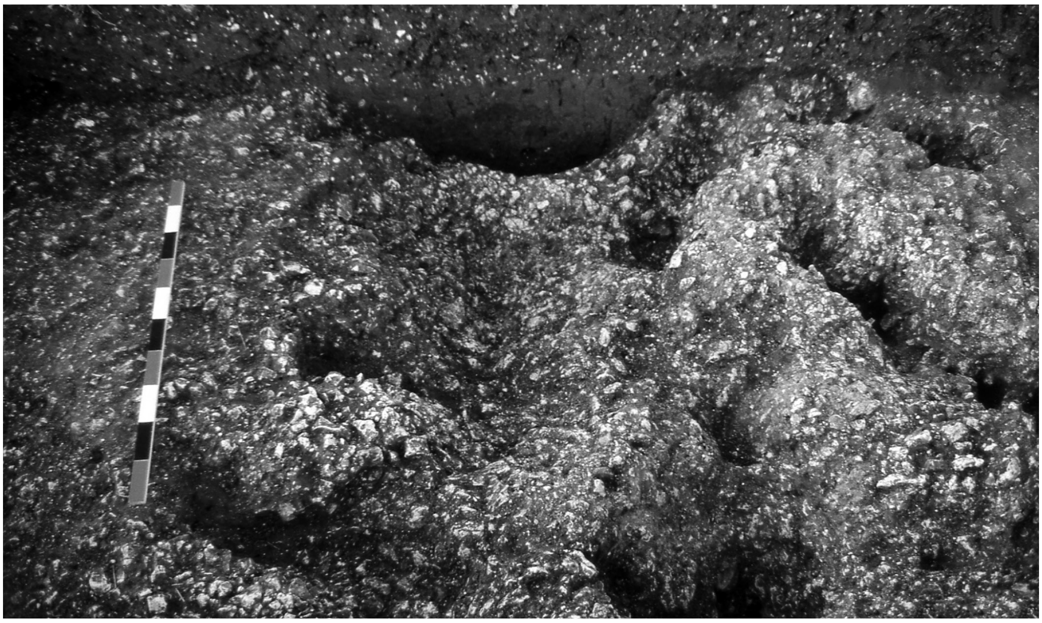


Figure 3.54 Trench G. View of the palisade feature [7004].

step for the original diggers to access and excavate a further deeper narrow slot. On the western side there likewise occurred a change at a depth of c. 0.47m, though here, instead of a shelf, the cut took the form of a gentle slope down towards a central slot, for some 0.6m, before steepening for 0.2m (Fig. 3.56). The central slot was very regular in form, measuring c. 0.8m deep and 0.4m wide with essentially straight sides and a flat base, cut into the chalk bedrock. Overall the feature survived to a depth of c. 1.27m below the top of the natural chalk. Its dimensions were just sufficient to enable its excavation, indicating an attention to the economy of effort in its original formation and/or an intention to create a trench of a precise scale to hold timbers of a certain width firmly in place. This central slot contained four fill deposits. The lowest of these, (7025), consisted of chalk and some flint fragments in a silt matrix with chalk flecks; above this, and particularly against the eastern side of the cut, was a similar deposit, (7024), with chalk forming c. 70% of the deposit. It is possible that these two fills derive from packing around the timbers. Above these deposits were a chalk flecked silt without coarse inclusions, (7028), and finally a silt and grit fill with some chalk fragments, (7023). No post pipes nor ghosts were detectable. The upper part of this central slot and the remainder of the feature, including its 2.2m wide 'access' area was filled with what appeared to be a single deposit, (7005), a mid-orange-brown silt containing occasional flint fragments and no chalk. In the upper central area of the feature (7005) had a silvery white component which might be the result of more weathered particles accumulating during its final filling, perhaps aeolian, as it passed out of use. It seems likely that (7005) was a leached environment unconducive to the survival of calcareous and perhaps other remains. No material culture or other remains were recovered from any of these deposits, and a 24 litre soil sample from (7005) was likewise essentially sterile (Snelling and Rackham 2001). A close interval soil column was collected from the feature to its base (Fig. 3.56) in the anticipation that its examination might shed light upon the nature of the processes relating to its filling, and possibly aspects of the immediate environment. Testing for pH demonstrated that at all eight sample points the soils are presently alkaline; at points 2 and 3 the alkalinity was less strong than at the other sample points. The character of (7005) appeared qualitatively similar to (7003), a fill excavated to the west which may be of similar date (see below) and is closely reminiscent of other leached soil deposits encountered at the site that are generally associated with features pre-dating the Late Iron Age. These silty clay soils presumably derive from the ancient soil existing in this area after the last ice age. The absence of any finds from the fills of [7006] is not too surprising since it was a structural feature unlikely to have remained open for any time to receive cultural debris and, besides, only a small amount of the feature was sampled (e.g. c. 1404 litres of (7005) were excavated). In sum, this feature, evidently a slot to hold a timber palisade, is presumably the linear feature detected by the geophysical survey.

An alignment of three evenly spaced post hole cuts of like scale was encountered along the eastern lip of [7006] and would appear to be associated with that feature. These cuts comprise [7010], [7020] and [7022]. They were c. 0.22m across and c. 0.12m deep, excepting [7010] which was 0.32m deep, though they presumably had been truncated to some degree. Fills consisted of light brown silts. Again, none of these features yielded any artefactual material. These cuts could represent a fence or ancillary element of [7006].

Towards the western end of Trench G a second discrete spread of light to mid-brown slit, (7003), c. 1.8m in width, traversed the trench north-south. This too lacked chalk inclusions but included some rare angular flint. Upon excavation this deposit proved to be the sole fill of a contiguous band of features constituting clear post holes/settings cut into the natural chalk. This band of post holes was given the collective feature number [7004]. Individually the cuts were somewhat conical in form and ranged between 0.3m – 0.6m in diameter from the height at which they were first individually discernible, and cut to a depth of c. 0.4m. Approximately 12 separate settings are apparent, forming [7004], being morphologically similar, though some are smaller than others and shallower than 0.4m in depth. A further two pairs of post holes occurred immediately to the east, [7016] and [7018], evidently part of the same general group. Their respective fills, (7015) and (7017), were qualitatively similar to (7003) being light to mid-brown silt/silty clay. Both [7016] and [7018] were regular cuts, c. 0.32-0.35m deep. Evidently this spread of post settings extended beyond the limits of excavation to both the north and the south.

Overall this complex is reminiscent of the linear band of post-settings encountered in Trench D (Feature [4051]/[4099]). No finds or ecofactual remains of any type were present amongst the 936 litres of soil excavated from [7004] and none from the 60 litres from [7016] and [7018]. Following the excavation (7003) was tested for pH in the laboratory and proved to be strongly alkaline. A two bucket soil sample taken for environmental analysis from (7003) processed by the Environmental Archaeology Consultancy was found to be essentially sterile (Snelling and Rackham 2001).

It is difficult to discern a precise pattern in the arrangement of the settings. Only a short length of the feature (2m) was exposed but at least that was fully excavated; it is regrettable that more of this feature could not be explored, but as noted there was no time leeway available. It would be hazardous to endeavour to present a firm interpretation as to any patterning in the arrangement of the settings. It may not have been composed of more than a single alignment at any time,

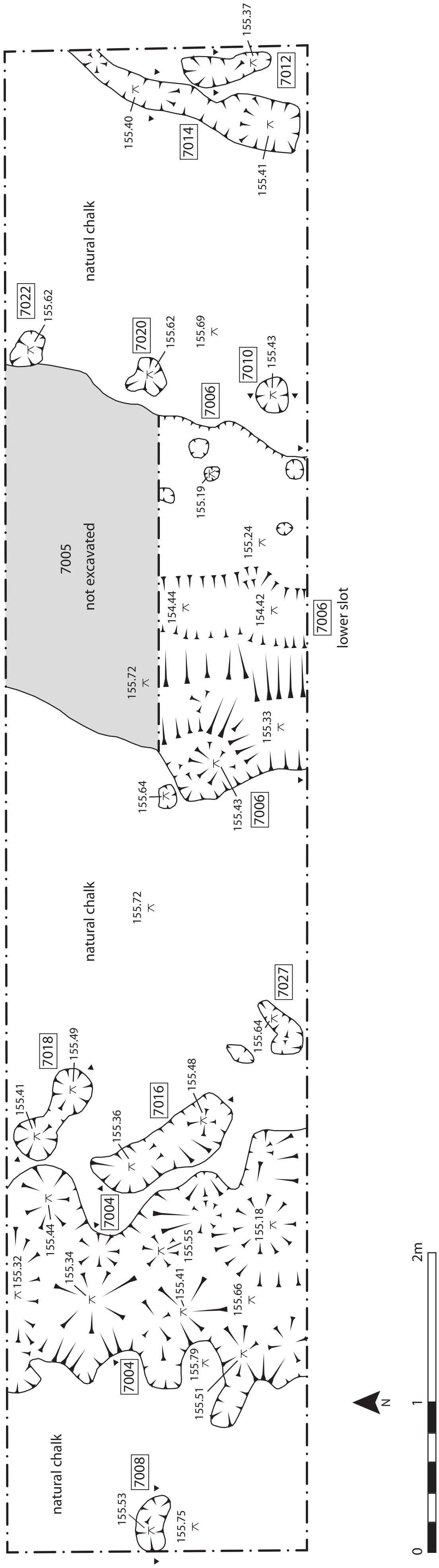


Figure 3.55 Trench G. Trench plan showing excavated features.

and with successive phases of replacement resulting in the tight clustering (see below); the homogeneous nature of (7003) contributes to the openness of this question.

By the extreme eastern end of Trench G two further features were present. These comprised a narrow gully, [7014], and an adjacent elongated cut, [7012]. The gully [7014] extended from the eastern baulk for a distance of 1.6m, arching to the south, where it terminated in a deeper cut, possible a post setting, immediately before the southern baulk. At its southern end this feature was 0.3m in width and 0.34m deep, and otherwise c. 0.16m wide and c. 0.17m deep, cut into the chalk. To the east of this gully, [7012], measuring c. 0.36m deep was perhaps a double post hole. The fills of [7014] and [7012], ((7013) and (7011) respectively) were darker greyish brown and contained some loamy element and therefore differed from the fills of other features in this trench. No finds were recovered from these two fills.

Discussion

Feature [7006] was evidently a palisade, which from the small section examined had been carefully dug to a design. It is presumably the anomaly detected by the geophysical survey at this point (Figs 2.2, 2.4 and 3.1), where it can be seen to extend south from a mid-point along the northern boundary of the field (the limit of the surveyed area) to a point near the centre of the field immediately adjacent to two circular anomalies that may be the remains of barrows. Phil Catherall had this linear feature continuing further to the south, after a break (where it was not discernable) and the British Gas report paired it with a second linear to the west of the circular anomalies. In combination these linears form a corridor or avenue (identified in Catherall *et al*. 1998 as F2, and around 40m in width), running approximately north-south, along the highest ground in the field and into its south-west quadrant. An association with the circular anomalies could be coincidence but one might posit that these are Bronze Age barrows placed by an earlier avenue or land division following the high ground. The possibilities are further considered in the general discussion. This palisade effectively follows the watershed between Nettleton Beck on the western side of the Wolds, and the valley to the east which ultimately opens to the Lincolnshire Middle Marsh and Outmarsh. Its creation will have been a major investment of timber, effort and time. The geophysical plot demonstrates that this feature is not part of the Late Iron Age and Roman complex. Whilst there is a lack of anything datable from the investigated sample, its morphology,

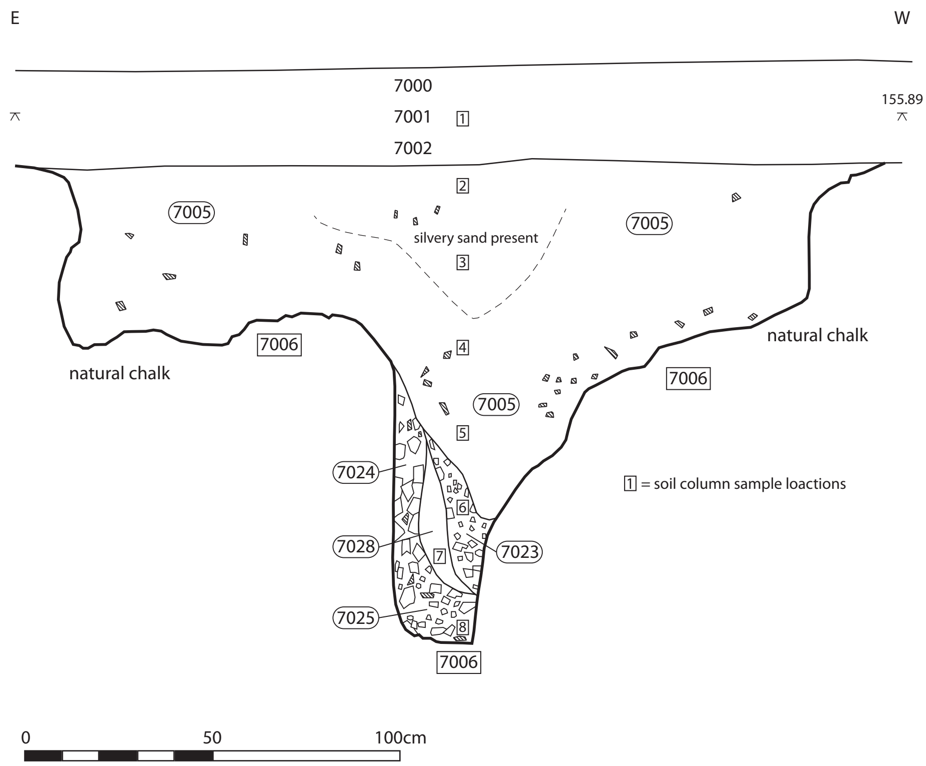


Figure 3.56 Trench G. Section through palisade [7006] showing fills.

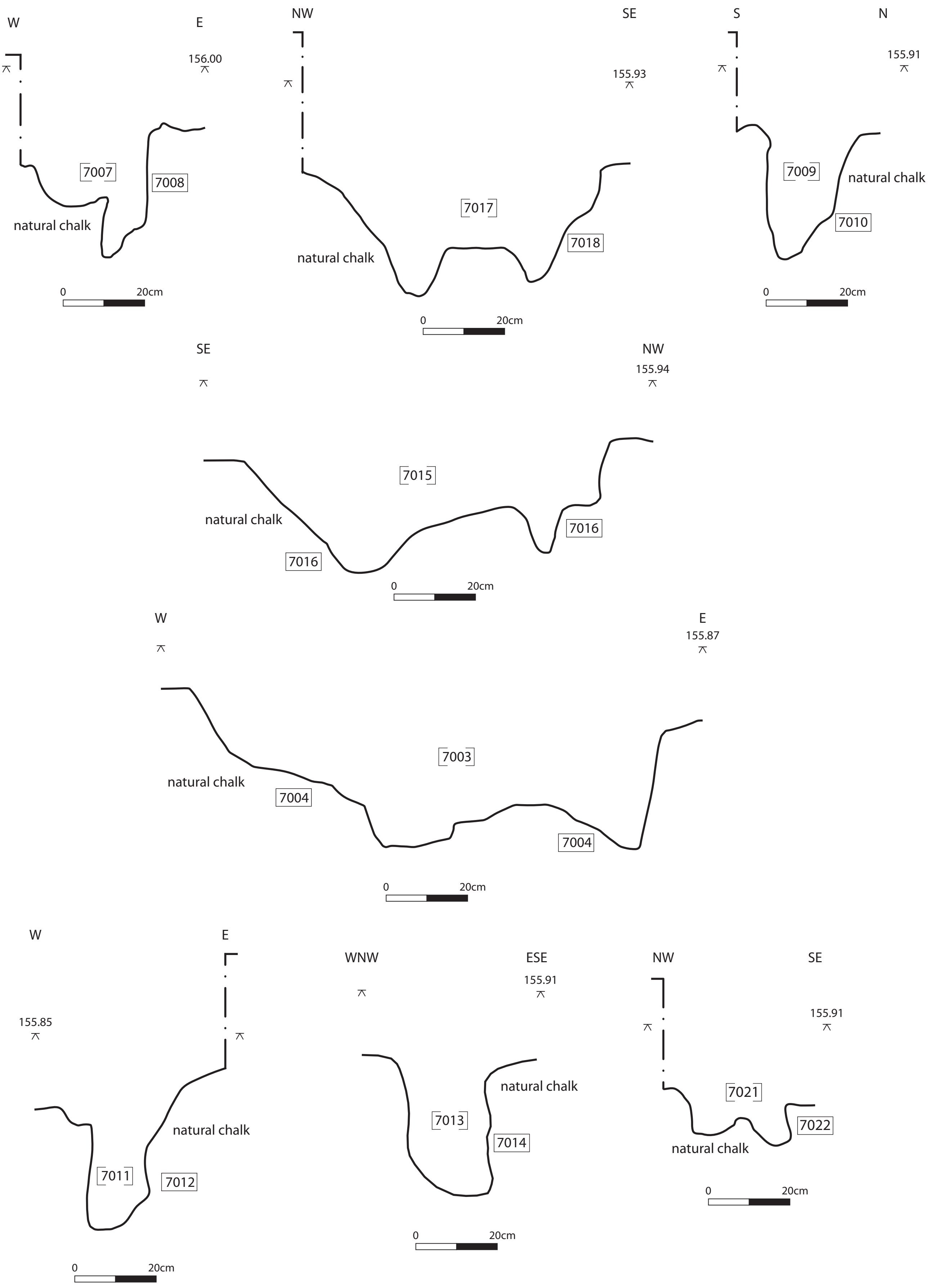


Figure 3.57 Trench G. Feature profiles.

the nature of the leached soil fill and the position of the feature relative to the topographic setting, together with its marked difference from later features, point to it being a prehistoric monument.

The second apparent palisade feature, [7004], was shallower and formed by multiple post settings. It had seemed not to register in the plot of the geophysical survey undertaken by British Gas. In other words there was no clear second linear anomaly observed at the time nor recorded by Phil Catherall in his interpretative plot (see 2.3.3). However, as I point out in Section 2.3.3 it is discernible on the image plot of the geophysical data and with hindsight having physically encountered the feature it is possible to see this feature on both a monitor screen image of the data and on the plot extending for over 200m. It was discerned too via the methodology employed by Gerald Moody (Sections 2.3.4-5). The fact that it hardly registers is not surprising given that it is a shallow feature and has a fill derived from the natural ancient soil. Hence [7006] can be confidently identified as the long linear feature identified by Catherall and [7004], which he did not discern, is the parallel linear to the west, as pointed out in Section 2.3.3 where the features are labelled Central Linear Feature East (CLFE) and Central Linear Feature West (CLFW) respectively (Figs 2.5 and 3.1).

As with [7006] there was an absence of anything dateable from [7004], and that in itself points to an early date. Given that the post holes/settings were probably not open for any length of time the absence of cultural remains and debris is not surprising, especially given that it may have been positioned in an area at distance from occupation. The likelihood is that this feature and [7006] are prehistoric (perhaps Neolithic or Bronze Age). This type of feature would be unusual in a Late Iron Age or Roman context unless it was some sort of piled foundation, but had it been constructed during that period some contemporary pottery sherds might have been expected to occur in the fills (given their ubiquity in deposits of that period in East Field and in the ploughsoil). The brown silt fills of [7004] and [7006], with little or no humic, charcoal or chalk content, are evidently heavily leached, suggestive of a prehistoric date (pers. comm. James Rackham following on-site inspection). From the geophysical data visible on screen and from the slice revealed in Trench G [7004] closely mirrors the course of [7006] to its east but whether they are contemporary or sequential is not established.

Whilst [7006] is a more substantive feature it is also of one phase. By contrast [7004] (with [7016] and [7018]) was shallower, and its tight clustering of post settings suggest it may be of more than one phase;

Figure 3.58 Trench G. Excavated, looking west.

there is some possibility there were paired settings of posts or a double, or even triple alignment of settings, contemporary or otherwise. The actual arrangement may have been clearer had more of the length of the feature been excavated. It may have been the case that these post holes were dug separately and their fills might once have been distinguishable, but if that were so, over the course of time any differentiation had been lost through natural soil processes for the fill (7003) was uniform in appearance.

[7004] might be an ancillary feature related to [7006]. Some post holes may have been for timber bracing of timbers or the posts might have supported a raised causeway. The morphologically comparable feature in Trench D ([4051]/[4099]) had similar soil filling and a lack of secure dating evidence.

Given the nature of their soil fills [7012] and [7014] were potentially later in date than the two palisades and their associated features, though they too are likely to have contained posts.

In sum, Trench G contained relatively well preserved features, in an area where archaeology might be vulnerable to further truncation from routine agricultural practice. Its excavation showed there was more archaeological evidence present than was apparent on the original reading of the magnetometer survey data. On the basis of current knowledge it is likely that the palisade slots are Neolithic or possibly Bronze Age. Given their extent they will have constituted major timber structures signing and dividing the land on a monumental scale, reflecting the natural watershed. The potential for securing radiocarbon dates is low given the infrequency of suitable material from the examined sectioning. However, suitable material might be sought as a priority if the opportunity for further excavations in East Field arises.

3.3.8 Trench H

Prehistoric Palisade [8017]

Trench H was laid out with a south-east to north-west orientation as it was designed to bisect, at a right angle, the two linear anomalies of Complex B at this location (cf. Section 3.1). Cleaning following the removal of ploughsoil exposed a series of independent features cutting natural chalk with no extant positive horizons (Fig. 3.59). Towards the south-eastern end of the trench an X-shaped spread of yellowish brown soil was revealed (8005) filling a cut in the top of the chalk [8017] (Fig. 3.60). This turned-out to be the most substantial feature in Trench H. As revealed within the trench, this proved to be an X-shaped feature. [8017] was composed of two alignments, extending beyond the limits of the trench to the north, south, east and west. The junction of the two alignments was also the deepest part of the feature. The approximately east-west alignment or 'slot' was revealed for a length of 3.5m. It had been cut to varying depths as it included a number of conical cuts into its base which appear to be the positions of posts. There was some clearly evident pairing of settings (paired width-ways across the feature). Five 'pairings' are discernible (Figs 3.60 and 3.61). The four settings towards the eastern side were clearest and cut to depths between 0.39 and 0.48m below the present top of the natural chalk. At the western end of this alignment, however, the settings were shallower and here there may also have been pairing but the preservation of the individual features was not so good and hence coherence in design is less apparent.

At its extreme eastern end, by the trench baulk, the nature of the cut of [8017] altered abruptly. The alignment was maintained but the cut dropped very steeply, descending to a depth of 1.15m below the top of the natural, prior to its disappearance at the baulk (Figs 3.60 and 3.61). This part of the cut was allocated a separate number, [8027], in order to distinguish it, though it seems an integral element of [8017]. Only partially exposed, [8027] is only represented by its

Figure 3.59 Trench H. Looking north-west with ploughsoil removed and prior to excavation.

western and southern sides and it was not effectively excavated to the base of the cut as this was not caught within the trench. It had regular sides at a consistent angle. Its fill was qualitatively the same deposit that was filling the rest of [8017] but within the central and lower part of [8027] this was distinguished from (8005) as (8016); not surprisingly it was damper at such physically lower depths and more compact than (8005) and probably included a greater proportion of clay, perhaps due to the decay of the silt due to the depth of time it had been *in situ*. There were no finds from (8016). Ideally the trench would have been extended with the aim of revealing more of the extent of this interesting feature, but no time was available for this as the field was scheduled for immediate cultivation and the farm team were posed to promptly backfill the trench.

Overall the north-south alignment was of like character and scale to that of the main length of the east-west alignment, though it was slightly deeper overall. Some 3m of the length of this alignment lay within the trench, and it measured c. 1.35m in width, with the base, at deepest, c. 0.41m below the top of the natural chalk. It was less clear that this alignment had contained discrete paired post settings, though it seems quite possible that it had contained aligned pairs of posts (Figs 3.60 and 3.61).

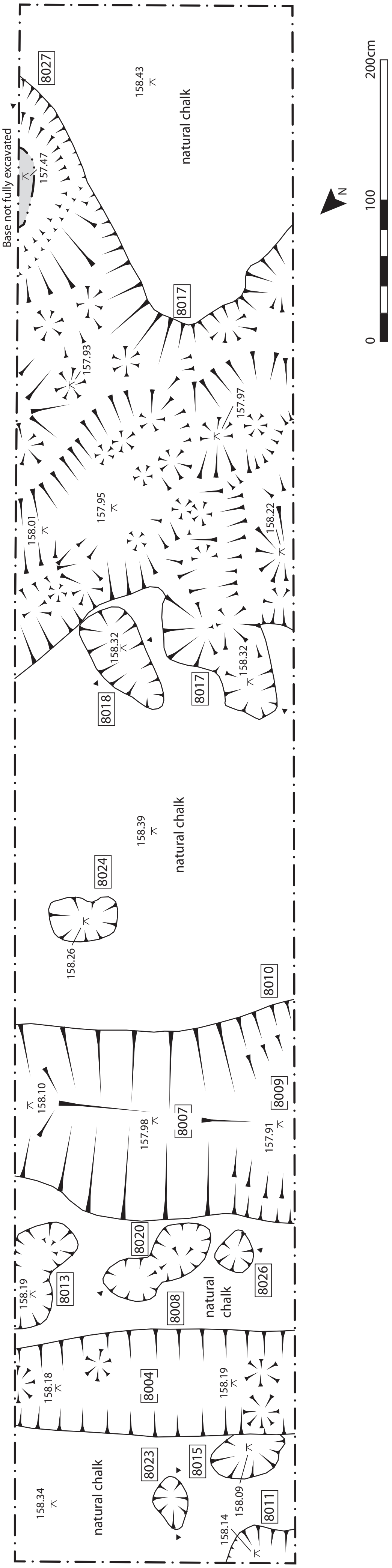


Figure 3.60 Trench H. Trench plan showing excavated features.

Throughout [8017] contained a single homogeneous soil, (8005), a light brown silt (Munsell 10YR 4/6) with few coarse inclusions, the latter comprising rare, evenly spread, angular/sub angular natural flint fragments, c. 50mm in longest dimension. Some 8 sherds of pottery, all of Iron Age and Roman character, were collected from (8005). All came from the upper part of the fill and are small and abraded, characteristics which support the probability that they had been introduced by natural agencies. Soil samples for environmental analysis were collected from (8005) and (8016); both proved archaeologically barren (Snelling and Rackham 2001; see Rackham *et al*. this volume).

A small pit, [8018], measuring c. 0.8m by 0.38m and 0.25m deep, essentially contiguous with [8017], was encountered on its northern side. It had doubtless once been part of [8017] but was separated via truncation (Fig. 3.60). It contained a fill deposit characteristically identical to (8005). This feature appears to be part of [8017] and may represent a post setting.

Discussion

What [8017] represents is perhaps not immediately self-evident from plans and photographic records. Excavation showed [8017] to comprise two alignments of post settings, and presumably therefore it was part of a palisade complex. The deeper element [8027], only exposed in part, is a curious component of the overall feature, although containing essentially the same fill. Whether half or less of this latter feature was caught within Trench H is not known. It may have been a post pit for a larger timber by the X-intersection. As exposed it was very regular in form which indicates an intentional design.

The X-shape of [8017] in plan and the exposure of two deep, if not entirely regular, 'slots' mirroring this form, and the detail of the conical cuts, suggest two alignments of post settings. There is no evidence to indicate that the two separate alignments are not contemporary (though they may not be). The feature type, its homogeneous silty clay fill, leached appearance and lack of securely stratified finds suggest that this is likely to be a feature of prehistoric date. Hence it was the earliest feature in the trench. The British Gas geophysical survey, as interpreted by Phil Catherall, had not detected [8017] despite its scale but that survey seems to have not detected other features where ancient soils are the fill (doubtless because they generated little magnetic signal). However, it occurs in a vicinity of the field where other prehistoric features are evident. The nature of [8017] in terms of its morphology, general alignment, post-setting

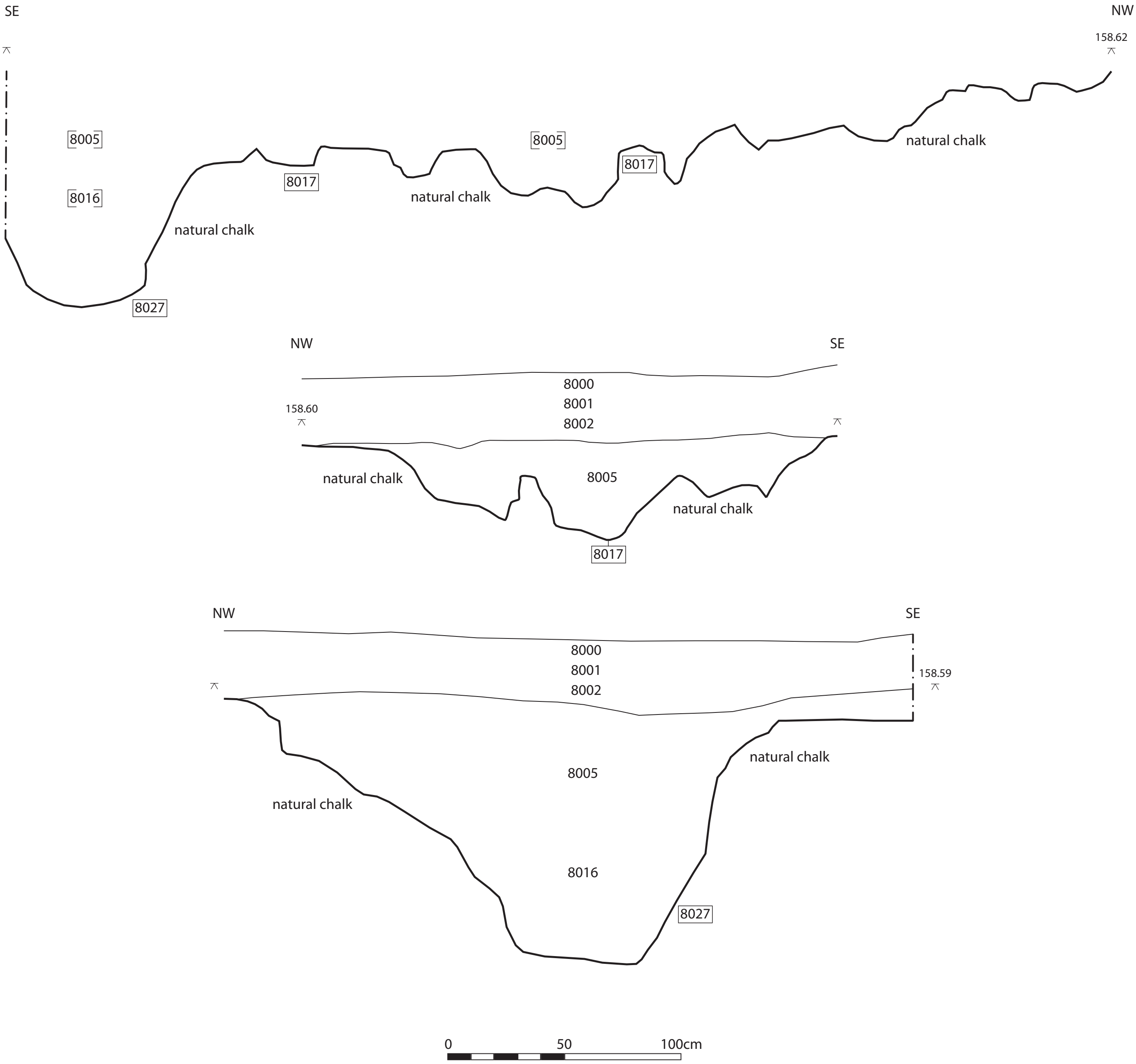


Figure 3.61 Trench H. Profile and sections across palisade [8017] and pit [8027].

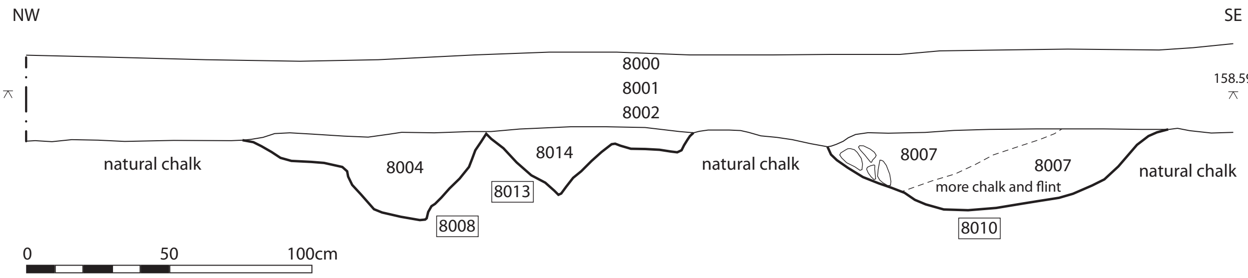


Figure 3.62 Trench H. Section through ditches [8008] and [8010] and post hole [8013].

elements and ancient barren soil are reminiscent of the palisade [7004] in Trench G. Indeed reviewing the original geophysical data there is a strong indication that this feature continued as far as Trench H (see the review of the geophysical data by Moody, this volume), something that was not appreciated by Catherall nor by Steve Catney and the present author at the time of the excavation. Therefore [8017] appears to be the continuation of the palisade boundary located in Trench G, [7004], along the north-south ridge in the field, with an ancillary perpendicular arm aligned east-west, perhaps terminating in a pit or large post hole [8027].

Early Roman Ditches [8008] and [8010] and post holes

At the north-western end of the trench two parallel linear features, [8008] and [8010], were encountered cut into natural chalk and visible immediately upon cleaning the trench following removal of the ploughsoil (Fig. 3.59, Fig. 3.60). They ran perpendicular to the axis of the trench and could represent the two linear features registering in the geophysical survey (the target of this trench). The more southerly feature was a ditch cut, [8010], U-shaped in profile. It narrowed and shallowed markedly within the trench such that at the south-west baulk it measured 1.6m in width and was 0.5m deep, though by the north-eastern baulk the dimensions had diminished to a width of 1.0m and a depth of 0.27m. This diminishment implies the feature may have been terminating, a possibility that accords with the geophysical evidence. The main fill of this feature, (8007), consisted of a mixed deposit of chalk and flint fragments in a light to mid-brown loamy silt matrix, Munsell 10YR 4/6; the coarse inclusions were more frequent in the lower half of this deposit and collectively formed c. 50% of the context. A thin layer (0.04m) of dark humic soil, (8009), Munsell 10YR 4/6, represented the upper fill, though this was only present on the deeper south-western side of the feature. Animal bone came from cleaning across the feature and from (8007). The bone was in a poor state of preservation; sheep (or goat) bones predominate, with cattle present too (Rackham *et al*. this volume). Some pottery sherds, were present in (8007), though these consisted of small fragments of calcite tempered ware not chronologically closely diagnostic. Cleaning across the surface of the fill was labelled (8006) and had dislodged a calcite tempered sherd from the shoulder of a jar with a band of semi-circular/herring-bone style impressions, this being a decorative feature associated with certain jars and bowls in similar fabrics, found in the Humber region. Leary notes (below) that in total only eight pottery fragments were found in context (8007), all CTB1, while the sherd from (8006) is also her CTB1, noting that these items date from the LPRIA to the mid-second century. The sherd from (8006) probably dates to the early Roman period. None of the later wares such as the GTA8 and greyware sherds present in ditch [8008] are present.

Fragments of two likely querns were recovered from (8007). One is in coarse grey-green Spilsby Sandstone, the other is formed from Basalt (Quern catalogue item Nos 1 and 2; see Shaffrey this volume). One of these fragments (No. 2) includes part of the milling surface, while the other includes part of what could be the handle socket. The fragments could be from beehive or Romano-British type querns, and are not chronologically specific. The use of these rock types for the production of ancient querns is attested elsewhere. Land snail shells were also forthcoming from (8007) collected by eye. Soil samples for environmental analysis were processed from (8007) and (8009). Both samples contained terrestrial snail shell assemblages dominated by taxa associated with open country/grassland (see Rackham *et al*. this volume). Charred cereal and weed remnants were barely present (Snelling and Rackham 2001; see Rackham *et al*. this volume).

The more northerly linear feature, [8008], was of modest scale; presumably its top along with that of [8010] had been truncated. [8008] lay some 0.8m to the north-west of [8010]. It measured c. 0.8m in width at its surface (though slightly narrower at its north-eastern side) and was of U-shaped profile, being cut to a consistent depth of 0.21m below the present top of the natural chalk. Hence it was of trench like form but given the nature of its fill seems very likely to have been an open gully or ditch base. Its single fill, (8004), was a dark brown silt with loam, Munsell 10YR 3/3. This, in contrast to the fill of [8010], contained only sparse coarse inclusions of flint and chalk. Oyster shell and a small group of Roman pottery, plus an amount of animal bone were recovered. The faunal remains were again in poor condition and include sheep and cattle or horse. Leary observes that the pottery from (8004) dates to the late first to mid-second century including types found at the Antonine Roxby kilns (Leary this volume). A 2 bucket soil sample collected from (8004) for environmental analysis contained a large assemblage of terrestrial snails. The latter were dominated by taxa preferring shade or woodland implying perhaps a period of scrub growth in the ditch or that a hedge existed to one side of this ditch (Snelling and Rackham 2001; see Rackham *et al*.

this volume). This picture was in marked contrast to the evidence of the molluscan assemblage from the adjacent ditch [8010], indicating they were not contemporary.

A number of likely post holes were encountered between the two ditches and between [8008] and the north-west baulk. Three such features lay between [8010] and [8008]. The most north-easterly of these was [8013], which partly extended beyond the north-eastern baulk. As observed within the trench it was near S-shaped, and cut to a depth of c. 0.3m deep. Its fill was a silty loam (8014). It seems likely to be two intersecting cuts, of oval form, perhaps for two posts. Since no differentiation was observed in (8014) it may represent a single contemporary cut for two posts. Some 0.24m to the south-west of [8013] lay a second cut [8020] which again appears to be a double post-setting, with two oval cuts c. 0.22m in longest dimension that intersect giving the feature a dumbbell shape in plan; both cuts were to a depth of 0.4m into natural chalk (Fig. 3.63). The single fill (8019) was a silty loam. Just 0.06m south-west of [8020] was a further likely post hole, [8026], sub-circular in plan and 0.2m deep with as single fill (8025). All three features yielded pottery sherds.

North-west of [8008] three further cuts were revealed of which two at least are potential post settings. Cut [8023] was c. 0.28m north-west of [8008]. This cut was oval in plan, c. 0.38m in longest dimension and cut to a depth of c. 0.21m below the present height of the natural chalk; its fill (8022) contained no finds. Adjacent to [8008] was a further oval cut, [8015], c. 0.5m in longest dimension and c. 0.28m deep; again there were no finds. [8015] was cut by [8008]. In the north-west corner of the trench a further feature was partially exposed, being [8011] which extended into the baulk. It measured 0.48m by 0.24m within the trench, and was cut to a depth of 0.28m; its fill, (8012), was a silty loam, Munsell 10YR 3/4. Again there were no finds.

A scooped feature, [8024], was the only feature between ditch [8010] and [8017]; it lay 0.6m south-east of [8010]. [8024] was oval in shape and extant to a depth of 0.1m. Its fill (8021) was a silty loam which yielded a rim sherd in GRB7B from a bead-rim bowl dating from the late second to third century. This feature might be the base of a post hole; it could be contemporary with [8008], but seems more likely to be later in date.

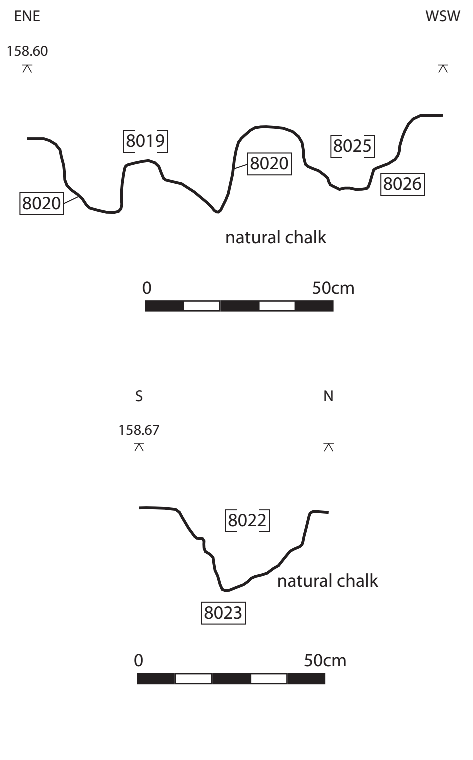


Figure 3.63 Trench H. Profiles of post holes [8020], [8026] and [8023].

Discussion

These two ditches ([8008] and [8010]) sampled in Trench H had evidently been detected in the geophysical survey, as the plot shows two parallel linear features on the same alignment as the ditches exposed in the trench. These boundaries, clearly later in date than [8017] at the south-east end of the trench, relate to compounds/enclosed fields and revealed evidence for agriculture and crop processing and were probably on the fringes of domestic settlement with clear indications of adjacent open fields in the immediate vicinity (judging from the environmental indicators (see Rackham *et al*. this volume)). With [8010] filling in the Late Iron Age and/or early Roman period, [8008], on the same trajectory, contained developed Roman pottery, and is therefore probably the successor to [8010]. Four small cuts encountered in the base of [8008] might be the bottoms of post settings, and if so may be associated with the other post settings in this area of the trench. If that were so they would pre-date [8008] and their upper elements will have been removed by its cutting. They were, however, very shallow and might be the result of natural disturbance dislodging chalk fragments: there is no evidence that [8008] was a palisade trench with which these possible cuts were associated.

Collectively the three post-setting features between the ditches ([8013], 8020], [8026]) do not suggest a coherent layout, but that may be a function of having such a narrow area exposed; a wider area might have revealed more such post holes. They may represent more than one phase of activity, and indeed suggest a fence running parallel with the ditches, which may have been replaced more than once. Their location, together with the ditches, emphasises there was a boundary at this point over a sustained period. The fact that all three post settings yielded pottery is noteworthy. The three features north-west of [8008] might also be post settings but none of these yielded pottery and morphologically they were less regular than the likely post settings between the ditches. The environmental evidence suggests a hedge may have stood beside ditch [8008] at some stage, or that its interior contained scrub growth. Perhaps the post-settings were for stakes supporting young hedging plants, or indeed holes cut to plant the hedge, in the Roman period. No post holes occurred to the central area of the Trench (south-east of ditch [8010]), only the shallow scoop [8024], thereby emphasizing the cluster at the north-western end of the trench associated with this enduring boundary.

Turning to the wider picture, one of the main aims in opening Trench H at this location was to establish whether the broadly spaced parallel linear features labelled as Complex B by Catherall in his discussion of the geophysical anomalies, and as Linear boundaries F4 by Leary, represented a cursus, by examining the more northerly linear (cf. Section 3.1). Within Trench H [8008] and [8010] appear to be the parallel linear features detected on the geophysical survey at this location with the outer one seemingly the long linear of Catherall's interpretative plan (cf. Chapter 2). Hence the feature on this evidence is not a cursus.

3.3.9 Trench I

Introduction

The third trench opened in 2000 was located in Street Furlongs, on the eastern side of the B1225, opposite East Field (see above 3.1). The parish boundary follows the line of the road and Street Furlongs is in the parish of Rothwell. This field was, in 2000, part of the Joseph Nickerson Estate; the Estate Trustees and estate manager (Bill Emms) kindly agreed access to the field and to the opening of the archaeological trench.

No archaeological works of any description had

Figure 3.64 Trench I. Excavations in progress.

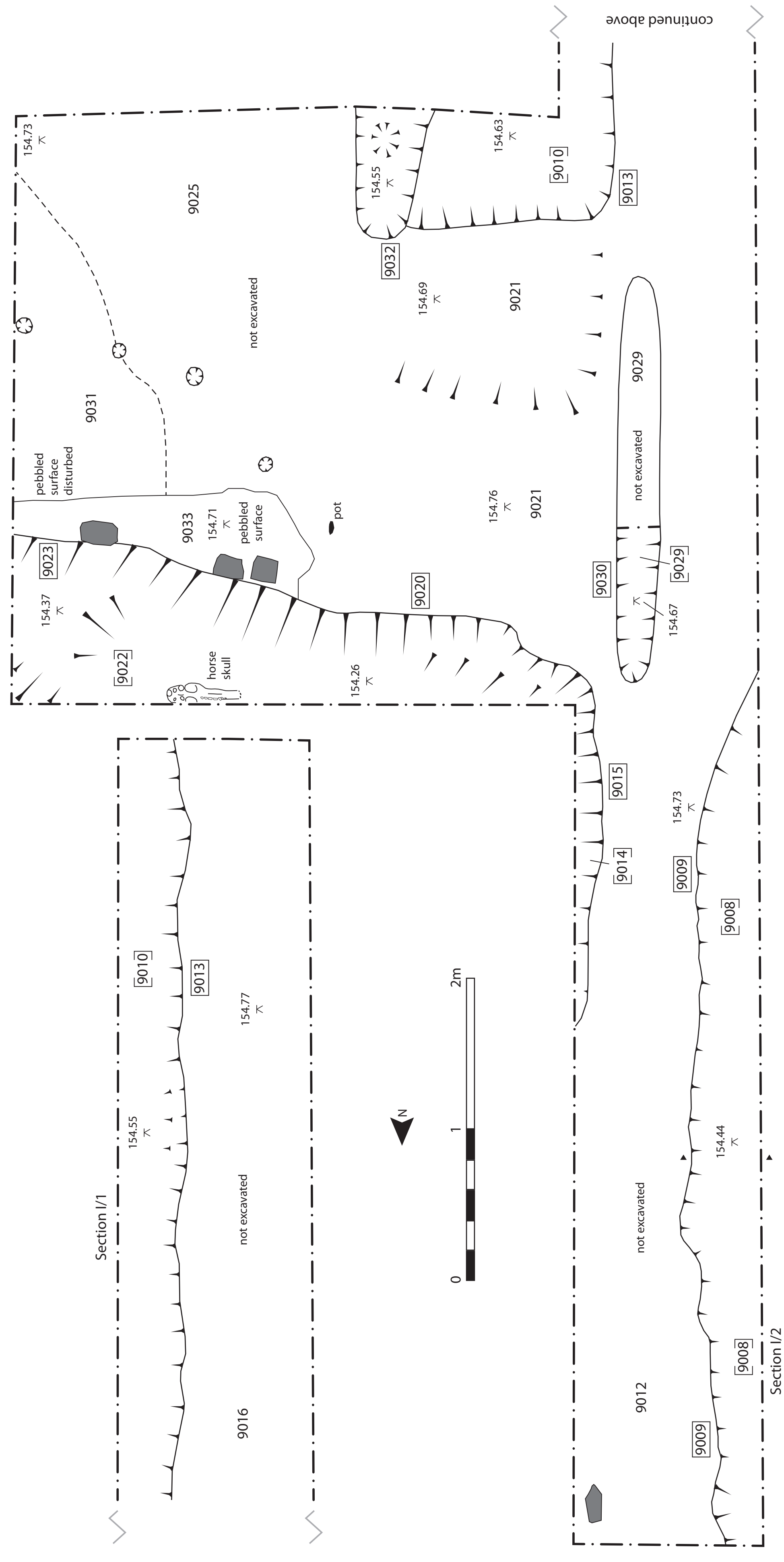


Figure 3.65 Trench I. Trench plan showing excavated features.

previously been undertaken on land to the east of the B1225 and hence this trench provided an opportunity for prospection in an area where the site complex was thought likely to extend. Gwen Bain, of the Estate, had collected a small amount of Roman pottery and other archaeological finds from the surface of this field over a number of years which she made available to the Project, specifying where finds had come from. This was the only archaeological material known from the field. The collection included the two polished stone axes published here (Section 4.1).

Trench I was T-shaped in plan, with a long axis running north-south, parallel with the modern road, and with a wide 'tail' projecting to the east denoted below as 'the eastern area' (Fig. 3.65).

Removal of the ploughsoil was by hand digging. This exposed a brown to dark olive green silty loam, (9003), across the entire extent of the trench, evidently a colluvial deposit. This layer was found to seal substantive deposits of Roman date. The trench was excavated to a minimum depth of c. 0.65m below the top of the ploughsoil and more deeply elsewhere were excavation was to a greater depth as feature fills were emptied. Natural subsoil (i.e. the top of the natural chalk or post glacial clay) was not reached at any certain point as the excavation was concluded at the level where a continuous clay silt (that is (9012)/(9016)/(9021)) and a (?contemporary) more mixed silt clay and laid surfacing, (9025)/(9033), were encountered. These silty clay/clay silt layers are likely to be an old soil surface in use at the beginning of occupation at this locality. The sequence is described starting with the earliest deposits.

Phase 1: Natural Layer

The earliest deposits observed comprised mottled yellow sand (65%) with pockets of loam (35%) recorded at the base of two ditch cuts: (9034) at the base of [9013] (see below), and (9035) at the base of [9020] (see below), and a mottled clay with silt at the base of the ditch, [9009] (see below). It is possible that the mottled sand, a type of deposit not seen elsewhere at the site, is a single continuous layer. No dating evidence was recovered from these earliest contexts which were observed but not investigated. The sand may well be aeolian in origin, and caught within the bottom of this head of the valley (cf. 3.1). The mottling seems likely to represent disturbance of the sand through roots, worm and rodent activity working out from the softer silty fills of the ditches into the sand. This seems likely therefore to be a natural layer.

Phase 2: Early Roman Surface

On the western side of the trench these contexts were overlain by what appeared to be a single comparatively thick layer of yellowish brown silt with clay, with few coarse inclusions, but some chalk flecking, which extended the entire length of the trench north-south. This horizon was allocated three context numbers, which broadly divide the length of the trench into three: (9016) at the southern end, (9021) through the middle area and (9012) at the north end. These numbers relate to minor variations in the character of the deposit and the Munsell range was 10YR 4/6 - 6/6. With the exception of an area of (9021) which was lowered by 0.07m as a test sondage, the horizon was not excavated, and so it remains unproven as to whether it is a single stratigraphic unit, though this is the presumption. It is likely the soil had accumulated naturally in this dip in the topography. Its surface at least was contemporary with the Late Iron Age / Early Roman activity at the site and it was probably the ground surface when the site was in use at that time. This will have disturbed its upper margin. Its surface may have been consolidated with coarse material, since eroded/removed, and (9033) in the eastern area, comprising sub-angular, sub-rounded and rounded pebbles of flint and other stone types, shows this idea was in use for it appears to be a remnant of hard surfacing (see below under Phase 3). This (9012)/(9016)/(9021) horizon mirrors the continuous silt layer (5009) seen at a similar stratigraphic position in Trench E, though that had less clay content. The horizon was cut by the three ditches of phase 3 (see below). A few finds were forthcoming: an iron object, perhaps a gouge, RF 9062 was recovered from (9016) and oyster shell was observed in (9012). Pottery was collected from (9012) and (9021) and comprised greyware, including a dish similar to Gillam form 337 (c. AD 70-130), a sherd from a Lezoux Drag. 37 samian bowl, and a sherd from a white ware flagon c. AD 50-130. Leary suggests a late first to second century, and perhaps into the early third century, date for the pottery in these deposits (Leary below).

An extensive spread present within the eastern area of the trench appears to be essentially contemporary with the (9012)/(9016)/(9021) horizon. Layers (9025) and (9031) were revealed but not excavated (Fig. 3.65); they were essentially areas of the same layer. To the west, contiguous with (9021), was a mixed and mottled yellow and grey silt with clay, containing chalk and flint fragments, (9025) Munsell 10YR 3/2 – 3/4 and 5/6. Towards the eastern end of the eastern area this deposit altered somewhat becoming less mottled, and was identified as (9031), being more

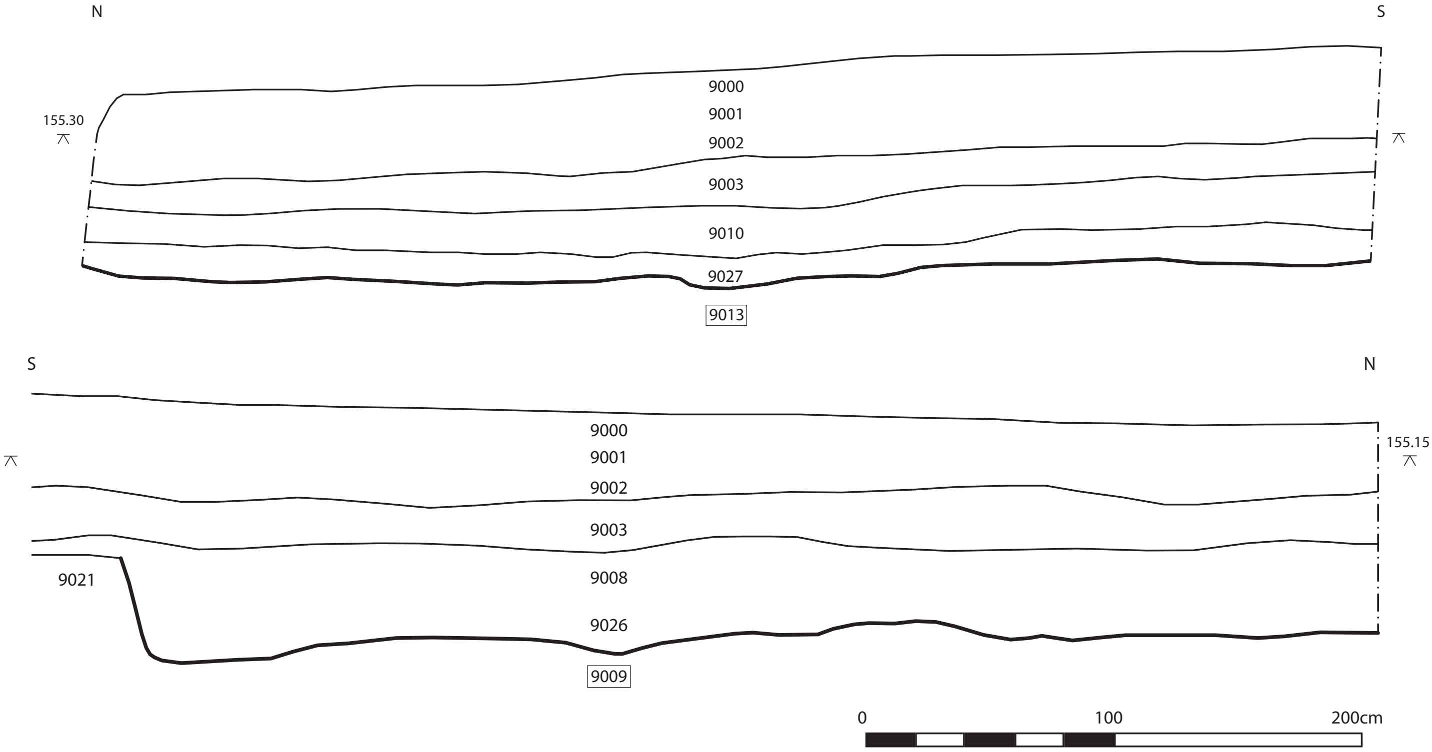


Figure 3.66 Trench I. Section drawings along ditches [9013] and [9009].

strongly yellow (Munsell 10YR 5/6) and physically a lower part of (9025) presumed to lie closer to the natural silt/clay below. It contained chalk, flint and charcoal inclusions. These contexts seem likely to be a base of a surface. Some pottery was recovered from (9025) and a single sherd was retrieved from (9031), coming from a white ware flagon c. AD 50-130 probably made at Lincoln, with this ware was also present in (9021).

Phase 3: Roman Property Boundary Ditches, hard surfacing and gate structure

The (9012)/(9016)/(9021) horizon was cut in the western part of the trench by two contemporary straight ditches aligned north-south. These ditches were asymmetrical: [9013] at the southern end of the trench lay a little to the east of the alignment of the other [9009] and terminated c. 2.5m south of the latter's southern recorded limit (Fig. 3.65). Hence an apparent gap existed between the two, opposite the eastern area of the trench.

Ditch [9013] was recorded for a distance of c. 6.25m along the eastern side of the southern arm of the trench. It extended beyond the eastern and southern baulks of the southern arm of the trench, but its northern terminal was exposed within the eastern area of excavation. As exposed within the trench the feature was fully excavated, and was found to be a regular cut with a U-shaped profile. At its deepest it was c. 0.4m deep, but became shallower to the north. At its northern terminal it was c. 1.3m in width, and here a deeper gully-like cut was present at its base on the eastern side [9032], possibly acting as a soak-away. This gully was c. 0.4m wide and c. 0.11m deeper than the main width; it contained the same fill as the ditch proper at this point (9018) and did not appear to represent a re-cut. That [9032] represents a slot for a fence on the same alignment as [3013] might be posited; this could be supported by the fact that there was a small depression within the base of the cut revealed in the short length of this feature to be exposed with Trench I, but the nature of the fill does not demonstrate this to be a distinct separate feature, as the soil fill appears the same as in the main section of the ditch. Investigation of more of the length of [9032] would prove instructive. Alternatively it may have held a post for a gate structure at this point where there was evidently an entrance between ditches [9013] and [9009]. Such a scenario only works if it were the case that the ditch and the slot were separate features but happen to have characteristically identical soils, and that could be so if [9032] was cut through [3013] and its fill after that latter had passed out of use. That is possible, and has the attraction of suggesting a sustained boundary, defined by different means over two phases.

Overall the ditch and gulley had a combined width of 1.7m. The main fill of [9013] was a grey silt loam, (9010), Munsell 2.5Y 3/2, with occasional chalk flecks and fragments of Claxby Ironstone c. 80mm in longest dimension. A lower fill was present, this being a grey-dark olive green silt (9027) Munsell 10YR 3/6, lacking coarse inclusions. The fill at the northern terminal of the ditch was numbered separately as (9018) but was characteristically similar to (9027). Overall the feature yielded sizeable animal bone and Roman pottery assemblages. Also recovered was a copper alloy spoon handle, largely missing its bowl, RF 9067, (see Cooper below); the item had been 'tinned' to appear as white-metal. Oyster shells were present in contexts (9010) and (9018). A bulk sample taken for environmental analysis contained much evidence by way of carbonized remains and in terms of bones from small mammals (see Rackham *et al.* below).

The pottery group from (9010) of ditch [9013] consisted mainly of late first to early second century and second century types, while a single sherd from a Dales ware jar indicates closure in the third century; the pottery from (9018), was of closely similar date range (see Leary below).

Ditch [9009] was recorded for a distance of c. 5.6m along the western side of the northern arm of the trench. It extended beyond the western and northern baulks of the northern arm of Trench I. Unlike [9013] no part of the full width of [9009] was caught within the limits of the excavation, rather, c. 0.35m of its width was exposed. At c. 9.5m north from the southern limit of Trench I, opposite the northern edge of the eastern area of Trench I, the ditch ceased to be traceable, for it either turned to the west, or (more probably) terminated. As exposed within the trench the feature was fully excavated. The edge within the trench was regular and steep, descending to a flattish base suggesting the profile was a regular U-shape. It had been cut to a consistent depth of c. 0.4m. Hence the morphology of this ditch mirrored that of [9013]. The main fill consisted of a somewhat similar deposit to that filling [9013], this being a dark silt loam with clay, (9008), Munsell 10 YR 4/3, with chalk flecks and small fragments, plus some Spilsby Sandstone, with a lower fill, (9026), Munsell 10 YR 3/4, being a grey-dark olive green silt. Again sizeable animal bone and pottery assemblages were collected from this feature. The pottery from (9008) was of closely similar date to that from [9013], although the pottery from the lower fill was earlier, dating to the late first and early second century (see Leary this volume). Nearly 2kg of Roman pottery was forthcoming from (9008), and calibration via volumetric analysis shows that, in comparative terms, this is a markedly 'rich' deposit for pottery. Oyster shell was also present in this ditch.

A third ditch was partially exposed within the trench. This feature, [9020], ran east-west along the northern side of the eastern area of Trench I, before turning to the north near to the junction of the eastern area and the northern arm of the trench (denoted here as [9015]), so as to run parallel with ditch [9009] some 0.6m to its west (Fig. 3.65).

Figure 3.67 Trench I. Horse skull *in situ* within ditch [9020]/[9023].

[9020], which extended beyond the eastern and northern baulks of the trench, was recorded for a distance of c. 3.8m along the northern side of the eastern area. Its alignment was not parallel with that of the baulk, the difference being c. 10°, meaning that more of the width of this feature was exposed at its eastern side. Here a maximum of 1m of its width was exposed, with the likelihood being that its actual width was c. 1.25m. As [9020] turned at an angle of c. 90° by the junction of the eastern area with the northern arm of the trench, only a 2.3m stretch of the lip of the ditch was caught within the trench along the eastern baulk of the northern arm. At c. 11.5m north from the southern limit of Trench I, the ditch ceased to be traceable, lying fully beyond the limit of excavation. Again, as exposed within the trench this feature was fully excavated. Excavation proved this to be a fairly regular cut, which at its point of broadest exposure was U-shaped and to a depth of c. 0.52m. The lowest fill, (9028), was a grey-green silt and clay mix, with many fragments of Spilsby Sandstone, Claxby Ironstone, ?Tealby Limestone and chalk, with longest dimensions between 0.11 and 0.17m. Near to the turn of the ditch these were clustered and on top was the inverted skull of a horse which may perhaps have been intentionally placed at this position (Fig. 3.67). Other animal bone was recovered from this fill, (9028), and the main fill above, (having the context numbers (9014)/(9019)/(9022)). The latter was a dark grey silt loam, Munsell 5YR 3/2 to 10 YR 3/3, with chalk flecks (becoming redder with more clay by the eastern baulk). It contained some larger stone fragments (i.e. 44cm x 27cm x 18cm and 32cm x 29cm x 11cm) and these may well once have formed part of the stone curb to (9033), as described below, and rolled-in. An iron nail, RF 9066, part of a quern, RF 9065, in Spilsby Sandstone (Quern No. 4), and oyster shell were present in (9022).

Analysis of soil samples from the fills of the three ditches (i.e. fills (9008), (9010) and (9022)) by the Environmental Archaeology Consultancy identified a rich range of palaeoeconomic and palaeoenvironmental evidence (see Rackham *et al.* below). Slag was recorded in two of the samples and hammerscale in all three indicating iron smithing in the vicinity. These samples were comparatively rich in charred grain of barley and spelt, with the (9010) sample containing a significant amount of chaff. Context (9010) also yielded an assemblage of small vertebrate fauna including bank vole, field vole, common shrew, pygmy shrew and house mouse. Present in the (9022) sample were house mouse, toad/frog and water shrew, a rare archaeological record of this species; the house mouse is a strong indicator that there was human habitation nearby (Snelling and Rackham 2001; Rackham *et al.* below).

Immediately south of ditch [9020] was a laid hard surface, (9033), contemporary with the ditch. This had been constructed of pebbles of medium to coarse size range (following the standard of Boddington 1978, fig 10). This had been a more extensive layer but had been disturbed on its eastern side (where ghost impressions of pebbles were encountered together with matrix material including grit and fine pebbles, at the same level), and evidently to the south. Along the northern edge of (9033) where it met the edge of the ditch, three large Claxby Ironstone blocks occurred in a row and had evidently been placed as a curb between surface and ditch. The stones may have belonged to a continuous line or perhaps they were intermittently placed sufficient to guide movement and as a precautionary barrier along the ditch edge; stone blocks found within the ditch may have derived from this curb (see above). (9033) contained pottery of LPRIA/mid-first century and the earlier Roman period date, presumably incorporating coarse material around at the time it was laid down; both it and its associated remnants overlay the mixed clay spreads, (9025) and (9031) described above.

Across the ‘front’ of the gap, between [9009] and [9020] on the north side and [9013] to the south, a distinct shallow north-south linear slot feature [9030] occurred (Fig. 3.65). This measured c. 2.7m in length, 0.28m in width and was c. 0.06m deep. Its fill (9029) was a silt, Munsell 10YR 3/2, noticeably darker than the surrounding material (9021).

Within the eastern area of the trench, probably contemporary with the later life of the boundary ditches and building up across the coarse pebble surface and elsewhere was a mottled grey layer of silt and loam with flint and chalk pebbles, (9024). This overlay (9025) and (9031) and included disturbed coarse pebble surface. This rather mixed layer was evidently accumulating for some time during the use of the area and conceivably the whole area was originally surfaced with pebbles which were disturbed by traffic. Roman tile (*tegulae*) occurred in this layer, along with sherds from a rusticated greyware jar, Gauloise 4/Pélichet 47 amphora, samian, sherds from GTA8 and GTA10 jars and a rim of a Dales ware form in quartz tempered greyware. These types suggest a date range covering the late first century into the third century.

Discussion

The north-south ditches [9009] and [9013] appear to be contemporary and part of the same system, judging from their arrangement, morphology and the date and character of the pottery types recovered from them. The turning ditch [9020] is also a part of this system and may have been contemporary with [9009] and [9013] although it appears to have begun filling towards the end of the life of the other two ditches (see Leary below). Perhaps it had been maintained through periodic cleaning-out whilst the other two ditches had received less attention of this kind. Significantly the alignment of these three ditches mirrors that of the modern road lying just c. 6m to the west of Trench I, and hence the implication must be that the modern B1225 overlies the course of the Roman road. Ditches [9009], [9013] and [9020] therefore appear to represent roadside and/or property boundaries associated with the course of the Roman road.

Significantly the point at which [9020] turns is mirrored by the apparent termination of [9009] opposite this point (Fig. 3.65). The turn and the termination of [9009] results in a gap between these ditches and [9013], to the south, of some 2.8m. Further, after [9020] has turned to the north its alignment continues the line of [9013]. The gap between these ditches, visible within the eastern extension, can be seen to be a causeway entrance for a side trackway, joining the Roman road approximately under the B1225, at a right-angle. The medium-to coarse pebble surfacing and curb surviving on the north side of this area, (9033), and an area to the east of this extant spread where impressions showed this layer to have previously existed, are consistent with this proposition. The layer below the coarse pebble surface, (9025)/(9031), was a mixed layer with cultural debris present of early Roman date and was perhaps a used surface (sticky and slidy no doubt when wet but with some coarse component) prior to the consolidation of the area when the (9033) surface was instituted.

The presence of house mouse bones in the fills of ditches [9013] and [9020] confirms domestic occupation or buildings nearby, a likelihood further supported by the proliferation of finds from these features, together with boulders and fragments of building stone (Tealby Limestone and Claxby Ironstone), the preferred building stones of the Roman period, as well as the nails.

The linear slot-like feature [9030] in the gap between the three ditches [9009], [9013] and [9020] seems deliberately placed as part of the ditch-boundary system. It 'closes' the access to the causeway/track to the east. On the evidence recorded this looks to be the position of a timber ground plate for a gate structure or threshold that may have held timber uprights in place for a gate structure controlling access to the track between two properties. The gully or slot with apparent post setting, [3032], could be part of a similar system. If the latter were cut through ditch [9013] after it had filled (see above) it could be that this feature was contemporary with [9020]. [9020] and [9032] could then be a second phase, subsequent to the filling of [9009], [9013] and [9030] but maintaining the definition of property and access. This may have been so but what is emphatically clear is that collectively these features, whilst only partially exposed in this exploratory trench, represent a system for organized movement and space with occupation close-by (Fig. 9.4).

Phase 4: Roman structural remains and assemblage of large bone

Above (9024) a distinct spread of mixed 'debris' items, (9004) and (9005), was encountered. These items comprised a clustered band of c. 12 medium to small stones (chalk, Claxby Ironstone, Tealby Limestone and flint), with the largest pieces in a more or less continuous north-south alignment over 0.6m: (9005). Alongside this loose alignment was a broader spread 1.2m by 1.8m, including also Roman tile and brick fragments and animal bone (collectively (9004)). (9004) and (9005) lay at the base of, the colluvial soil matrix (9003) (see below). It is possible that (9005) represents the vestigial remains of a wall foundation, late in the site sequence, though evidently Roman. Disturbance may have obscured a once more coherent form, but that is speculative. Pottery from this horizon had the appearance of residual material.

Phase 5: Colluvial cover deposit

Overlying all the archaeological deposits and extending across the entire trench below the ploughsoil was the homogeneous silt (9003) (see above). The deposit was dark olive green, Munsell 10YR 3/3. A pH test showed that it was alkaline. This proved to be a compact settled layer, and c. 0.15 to 0.2m thick, lacking coarse inclusions, with occasional flecks of chalk. It contained only a modest amount of material culture considering its large volume, nonetheless in aggregate much material culture including over 2.5kg of Roman pottery (nearly 400 sherds: see below) and half of all recorded finds (small finds) from the trench, 35 in total, were recovered. Of these approximately 20 comprise iron nails or fragments of nails, and where reasonably extant are confirmed as of Roman type. Other items included a likely iron window grille of Roman type RF 9033 (see Cooper this volume), and a radiate coin (of Postumus, c. AD 262-265). The pottery ensemble included late third to fourth century types not found in the earlier phases at this trench (see Leary below).

Discussion

This layer can be interpreted as a colluvial deposit, formed of hillwash from the surrounding slopes, from where some of its artefactual material could derive. The character of the pottery is consistent with this

Table 3.15 Recorded Finds from the colluvial layer (9003), the ploughsoil or (9003) spoil and adjacent ploughsoil at Trench I. (Representative nails are described and measured).

Context	Measurement from origin: SW corner of trench	Recorded Find Number	Material	Type	Notes
9003	0.9m E 14.2m N	9005	Fe	Nail	Head and top of shank only
9003	1.1m E 14.1m N	9006	Fe	Ring	Intact. Int. D 21mm; Ext. D 28mm; 3.1g. Conserved. Durham Lab. No. 1040
9003	1.2m E 11.0m N	9009	Ae	Fragment	Strip/sheet; L 13mm; W 5mm; T 1mm
9003	0.7m E 4.0m N	9013	Fe	Object	? Nail head
9003	0.45m E 1.6m N	9014	Fe	Nail	-
9003	0.07m E 1.7m N	9015	Fe	Nail	-
9003	0.02m E 1.7m N	9016	Fe	Nail	-
9003	0.5m E 13.5m N	9017	Fe	Nail	-
9003	3.5m E 5.6m N	9026	Fe	Fragment	? from a nail
9003	3.6m E 5.6m N	9027	Ae	Coin	Postumus. Radiate
9003	1.2m E 7m N	9028	Fe	Nail	-
9003	1.4m E 0.7m N	9030	Fe	Nail	Head only
9003	3m E 5.5m N	9032	Fe	Nail	Intact. Distal point bent through likely extraction; square section c. 6mm; L 57mm; sub-square head 13mm across
9003	0m E 2.05m N	9033	Fe	Object	? Window grille
9003	0m E 1.8m N	9035	Fe	Nail	Square sectioned part of shank; L 26mm; T 4mm
9003	2.4m E 9.4m N	9036	Fe	Nail	-
9003	0.75m E 2.05m N	9037	Fe	Nail	-
9003	0.2m E 14.2m N	9038	Fe	Object	Tapering part of strip turning 45°; L 23mm; W 11-8mm; T 4mm
9003	0.25m E 14.2m N	9039	Fe	Object	L 20mm; W 10-8mm; T 6mm
9003	0.6m E 10.2m N	9040	Ae	Fragment	Heavily corroded; L 10mm
9003	0.7m E 9.5m N	9041	Fe	Nail	Head only
9003	1.2m E 12.8m N	9042	Ae	Object	? Catch fitting for ?chest or similar; heavily corroded; possible hook, spring and attachment shank; 20mm x 20mm x 9mm
9003	1.2m E 2.5m N	9044	Ae	Rivet	Half of small rivet; L 7mm; W 5mm; T 2.5mm
9003	1.2m E 3.5m N	9045	Fe	Nail	Largely intact, but end of shank is missing as broken where the item has been bent through likely extraction; square section; L 39mm; sub-square head 8mm across
9003	0.5m E 8.5m N	9046	Fe	? Nail	-
9003	0.2m E 7.0m N	9047	Fe	Nail	-
9003	1.4m E 9.35m N	9048	Fe	? Hook	Broken; U-shaped; square shaft; T 5mm; extant outer curve is 65mm L; possible hook
9003	0m E 7.0m N	9049	Fe	? Nail	Head only

interpretation as it is largely composed of small and abraded pieces. It is possible that this layer represents survival, in the natural dip, of post-Roman cultivated soil forming at some time subsequent to the end of the Roman settlement and including a colluvial component, as well as ploughed-in latest layers of Roman occupation, though the finds present were Roman.

Summary, Trench I

A deep and comparatively well-persevered sequence of deposits was found to be present, covered by soil build-up subsequent to the Roman occupation. Whether activity occurred at this particular location during the later Iron Age is not certain but there was no evidence encountered that points to activity at that time. The remains identified were all Roman and rich in artefactual material and palaeoenvironmental and palaeoeconomic indicators. The nature of the features and deposits firmly point to occupation in the early to mid-Roman period, with domestic buildings nearby. The ditches excavated evidently form part of a coherent system representing property boundaries fronting onto a road immediately to the west. There was a controlled access side road between these properties. Various economic and daily processes are suggested by the collected evidence, including iron smithing, grain milling and, potentially, cereal processing. Sherds from wine amphorae occur along with an exceptional white metal-coated spoon.

Table 3.15 Recorded Finds from the colluvial layer (9003), the ploughsoil or (9003) spoil and adjacent ploughsoil at Trench I. (Representative nails are described and measured) (continued).

Context	Measurement from origin: SW corner of trench	Recorded Find Number	Material	Type	Notes
9003	2.20m E 8.5m N	9051	Ae	Fragment	Folded sheet
9003	1.6m E 7.7m N	9052	Ceramic	Pottery	Fragment of Pélichet 47
9003	0.9m E 0.5m N	9053	Fe	Object	Amorphous lump; L 24mm; W 15mm; T 14mm
9003	0.65m E 9.1m N	9054	Fe	Nail	Nail head and top of shank
9003	1.2m E 15m N	9069	Fe	Sheet	Fragment of sheet; L 21mm; W 19mm; T 1.5mm
9002/9003	0m E 11.9m N	9070	Fe	Blade	Knife blade; broken at tang & along blade; L 92mm; W 23mm; T 4mm on spine edge
9003	0m E 11.5m N	9071	Fe	Large Nail	Intact. Shank is bent through likely extraction; square sectioned shank c. 8.5mm; L 85mm; sub-square head c 18mm across
Finds from 9000 / 9001 / 9002 / 9003 spoil found by Metal Detector					
9000 etc.	MD find	9012	Ae	Coin	Postumus. Radiate
9000 etc.	MD find	9018	Fe	? Nail	-
9000 etc.	MD find	9019	Fe	? Nail	-
9000 etc.	MD find	9020	Fe	Object	Segment/wedge shaped fragment; L 35mm; W 17mm; 10mm at thickest
9000 etc.	MD Find	9050	Fe	Object	
Finds from ploughsoil outside of Trench I found by Metal Detector					
Ploughsoil	10m E 15m N	9021	Fe	Nail	-
Ploughsoil	10m E 6m N	9023	Pb	Object	Hemispherical on one side, two flat surfaces on the other, angled at 30° either side of a central line; possible plug. D 24mm; T c. 10mm
Ploughsoil	10m E -2m N	9024	Fe	Nail	Head only
Ploughsoil	10m E -10m N	9025	Fe	Object	D-shaped; L 26mm; W 12mm; T 3mm
Ploughsoil	29m E 7.5m N	9064	Fe	Nail	-

Table 3.16 Recorded Finds from Stratified Deposits at Trench I.

Context	Context Type / Location	Recorded Find Number	Material	Type	Notes
9004	Matrix of 'wall' 2.7m E 55m N	9060	Fe	Nail	-
9010	Ditch fill 1.2m E 2.9m N	9063	Ae	Sheet	Folded
9010	1.2m E 5.4m N	9067	Ae (tinned)	Spoon	Handle; bowl largely missing. See Cooper this volume
9011	'Layer' 1.65m E 7m N	9055	Ceramic	Pottery	Samian base
9011	1.72m E 9.3m N	9056	Stone	Quern	Fragment. Quern No. 3
9011	4.4m E 6.15m N	9057	Fe	Nail	-
9011	4m E 9m N	9058	Fe	Nail	-
9011	4m E 6.8m N	9059	Fe	Nail	-
9016	Layer 0.9m E 0.7m N	9062	Fe	? Gouge	Pointed hollow sheath; L 20mm; D 14mm narrowing to a point; ⅓ of side missing
9017	'Layer' 4.2m E 8.5m N	9061	Fe	Nail	-
9022	Ditch fill 4.5m E 9,.4m N	9065	Stone	Quern	Fragment. Quern No. 4
9022	4.6m E 9.4m N	9066	Fe	Nail	-
U/S	From trench spoil	9068	Fe	Object	Flat strip; L 33m; W 15mm widening to 17mm at ? rounded terminal; T 2.5mm

*Table 3.17 Quantities of Pottery and Bone from stratified deposits at Trench I and deposit volume. * horse skull in fragments.*

Context	Context Type	Number of Pottery sherds	Number of Bone Fragments	Litres of Soil Excavated
9003	Silt layer: hillwash	394	178	4527
9004	Silt layer: hillwash	18	7	106
9006	Fill of 'subsoiler'	9	-	N/A
9008	Fill of ditch [9009]	220	67	918
9010	Fill of ditch [9013]	70	87	708
9011	Clearance 'layer'	156	55	1620
9012	Early layer	5	-	Not excavated
9014	Fill of ditch [9015]	2	4	78
9017	Clearance 'layer'	110	29	1404
9018	Fill of ditch terminal etc.	58	31	396
9019	Fill of ditch [9020]/[9023]	7	59	762
9021	Early layer	12	3	351
9022	Fill of ditch [9020]/[9023]	15	30	660
9024	Layer (area of track)	62	29	228
9026	Lower ditch fill [9009]	9	2	156
9028	Lower fill [9020]/[9023]	8	131*	114
9029	Fill of slot	1	-	48
9031	Early layer	1	-	Not excavated
9033	Coarse pebble surface	5	1	9

3.3.10 Trench J

Positioned by the western boundary of Street Furlongs, Trench J extending up to the hedge and bank of the field (Fig. 3.1; cf. Section 3.1).

Phase 1

Middle Iron Age Pits [9645] and [9704]

The earliest stratification encountered at J comprised two elongated pits, [9645] and [9704], dating to the later prehistoric period (Fig. 3.70). The more westerly of these sausage shaped features, pit [9645], was c. 1.9m in length and around 0.4m deep (Fig. 3.69). It was of regular form and cut into natural; it had presumably been truncated by ploughing, potentially including subsoiler cut [9532] traceable further to the south, but not observed by [9645]. The more easterly pit, feature [9704], lay 0.7m to the north-east of its apparent partner and measured 2.2m in length and was also c. 0.4m in depth. It was cut into natural and was also of regular form. It was cut on its eastern side by three features: the shallow pit [9682], the post pit [9678] (both of Roman date) and the modern subsoiler [9642]. These cuts were into the top of the feature and its general form was not obscured. No other features or finds from Trench J were of this date, bar a stray sherd of Vessel 1 (see below) recovered from a later level. The fills of the pits were of closely similar character: both had single fills, consisting of brown silt.

Fill (9644) in [9645] had occasional flint and rare chalk inclusions in a yellowish brown matrix of silt, Munsell 10YR 4/6-5/8 (and lighter near its base). Small (rare) pockets of light green-grey clay occurred 5GY 5/1 (unusual for this site, but known at Trench B and at Otby Top, Trench A 2012). It was distinguished by small fragments of charcoal (some up to, for example, 22 x 17 x 9mm, others, for example 10 x 5 x 5mm) and charcoal flecks which ‘peppered’ the silt matrix throughout. A bulk sample for environmental analysis was collected and charcoal from this was identified as oak (see Rackham *et al*. below, Table 7.3).

The pit contained a small group of typologically Middle Iron Age pottery with excavated sherds coming from eight vessels, with a further six sherds recovered from the unscreened bulk sample for environmental analysis. These items are reported in Chapter 4. Poorly surviving fragments of bone and horn were present amounting to c. 250 pieces. Carbonized items included some cereal crop remains (see Rackham *et al*. Chapter 7). Also present were occasional burnt and fire-cracked stones and cobbles up to c. 7cm in longest dimension though some have broken apart. Some at least are probably glacial erratics collected from the locality, but local stone is also present including limestone (probably Tealby Limestone). Cleaning off adhering silt and closer scrutiny of these stones reveals that they are perhaps not quite the mundane items one might assume of ‘pot boilers’ and hearth bases. One rounded burnt cobble of dolerite with superficially damaged surface may well have been a pounder or rubber. A facet at one end was missing and had perhaps been deliberately removed so that the stone could fit comfortably in the grip of the hand or palm depending upon how it was being used (W 76mm, L 67mm and T 45mm; weighs 405g; Fig. 3.72). Dolerite would be a suitable material for such a function given its hard robust character. Another stone of interest is a fragment of highly micaceous fine gritstone evidently burnt and cracked but with one surface that has been worn perfectly smooth; this might be thought to be

Figure 3.68 Trench J, 2011. Early clearing of the hedge bank underneath which lies the western wall of Building 2.

Figure 3.69 Trench J. The Middle Iron Age Pit [9645] fully excavated.

natural but the smoothing is slightly concave showing the stone has been subject to wear, so may have been used as a hone or as a saddle quern (55 x 50 x 43mm; 164g). A third stone is Spilsby Sandstone and has one flat smooth surface consistent with coming from the working face of a rotary quern; no grooving is extant (59 x 52 x 41mm; 180g).

The silt fill of [9704], labelled (9646)/(9661) was qualitatively identical to (9644) and also contained flecks and fragments of charcoal of similar character to those in (9644). Two sherds of Middle Iron Age pottery came from this feature, both from the same vessel and this was one also represented in pit [9646], being Vessel 1 (see Section 4.3). Again many

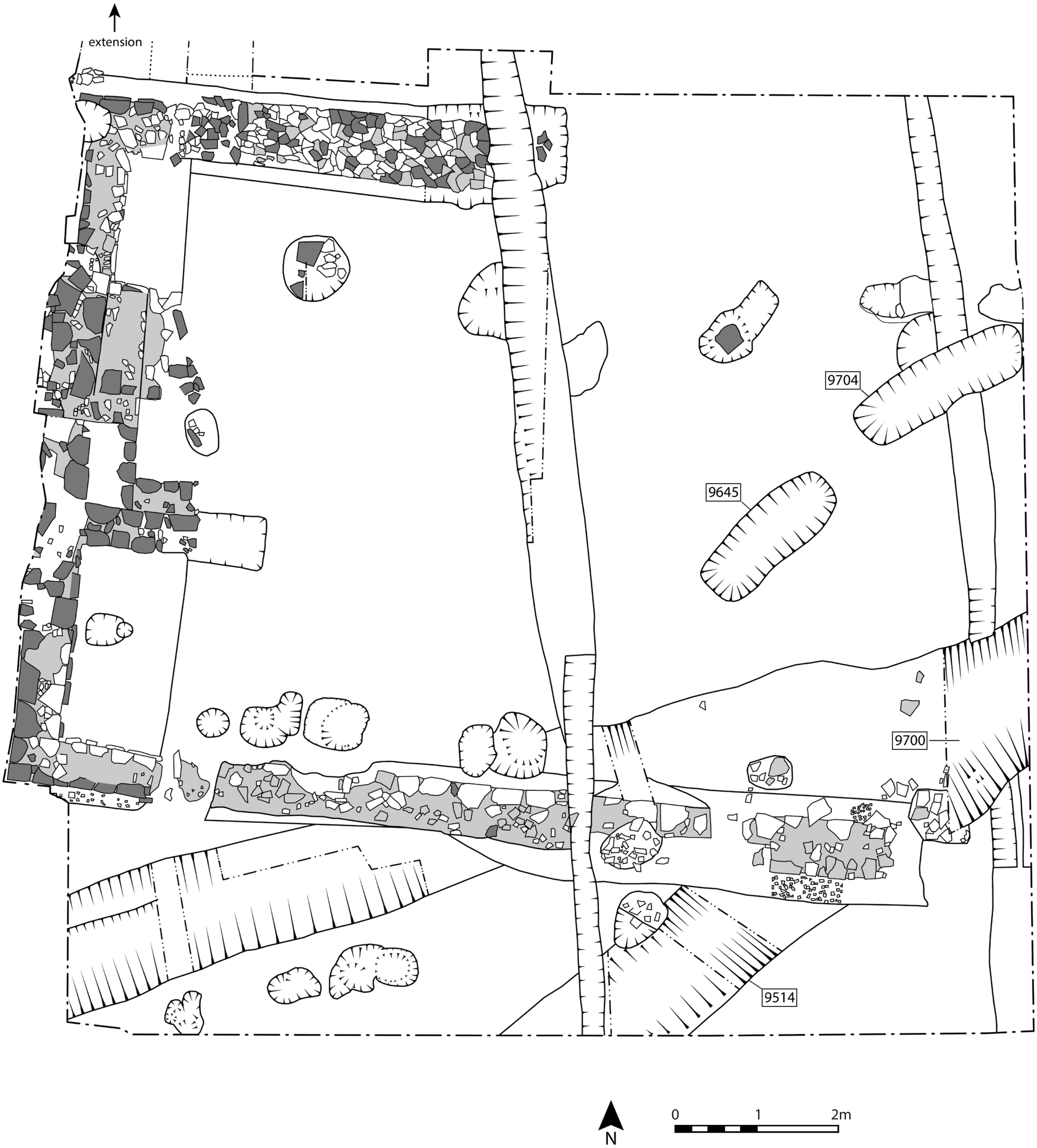


Figure 3.70 Trench J, showing the two Middle Iron Age pits [9645] and [9704] of Phase 1 and the ditch [9514]/[9700] of Phase 2.

animal bone fragments were present, though in poor preservation, with almost 250 pieces recovered by hand (see Rackham *et al*. Chapter 7), together with burnt/fire-cracked stones. Fish bone was present but of indeterminate nature (see Rackham *et al*. Chapter 7). A small but complete Mesolithic/Early Neolithic blade was present in (9661).

Samples from the pits were submitted to the SUERC Laboratory for AMS radiocarbon dating in 2012. This was enabled by the allocation of a grant for part of the cost from the Lincolnshire Wolds Area of Outstanding Natural Beauty small grants scheme. The results are presented in Figure 3.74. These determinations are in close agreement and demonstrate that the remains are contemporary, dating to the Middle Iron Age.

Figure 3.71 Trench J. A rim sherd of Vessel 1, typologically Middle Iron Age; this vessel coming from the pits [9645] and [9704].

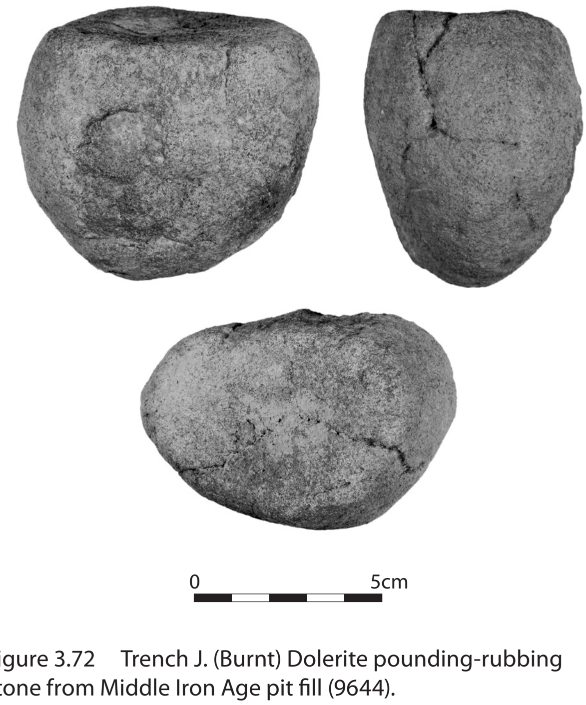


Figure 3.72 Trench J. (Burnt) Dolerite pounding-rubbing stone from Middle Iron Age pit fill (9644).

Discussion

Feature morphology, position, fill type and inclusions indicate that these features were contemporary and related, and this is supported by the AMS dates. Sherds from the same vessel (Vessel 1) were present in all three pit fill contexts. It is possible that these two pits represent elements of a segmented ditch extending beyond the trench to the east, while within the investigated area a third such pit to the south may have existed but been removed by subsequent ditch cutting. There was no indication that these pits were settings for posts, nor that they were associated with an entrance; no other contemporary features were encountered within the excavated area. Contemporary features might once have existed hereabouts but if so had been removed by the construction of Building 2 in the Roman period. That said there were a few sherds of East Midlands Scored Ware from the later but nearby context (9505) together with types which could span the Middle to Late Iron Age (see Knight Chapter 6), though if they were actually from the earlier end of that date range they would be residual in (9505).

Finds from the pits were generally consistent and small in quantity given the size of the features (468 litres from [9645]). The cereal and other carbonized debris indicate to the specialists that this was material around a site at this location at the time and not a concentration, nor indicating a particular process at this location (see Rackham *et al*. Chapter 7). The fire cracked stones present were occasional rather than common, while hazelnut shell was present (suggesting consumption) but not in number. The animal bone also recovered was present in moderate quantity (its highly fragmented nature boosting the count figures). Pit [9704] contained two finds which may be significant or represent 'background noise' One was the small flint blade (see Bishop, Section 4.1). This was of Mesolithic/Early Neolithic date and may have been in soils around the pit at the time it was filling and entered by chance though it is possible it was a found item in use in the Iron Age. The presence of fish bone is curious and might be remarkable if there were more than a small remnant. Fish remains are very rare on sites of the Iron Age in England (Dobney and Ervynck 2007; Willis 2007) as it appears fish was rarely consumed in that period. It may be explained as deriving from a raptor pellet. That said there is a suggestion from the composition of the fills of these two pits that they might contain some unusual and perhaps selected items. It is possible that they were deliberately filled and a selection of culturally significant items was chosen to be included within them: pottery, bone, quern, pounder, flint tool, fish (bone), nutshell. Cases like these are known from Iron Age domestic settings in the North-East of England (Willis 1999). This is an interesting, precedented, possibility, but it is not proven.

The homogeneity of the fills of these two pits suggests they filled either rapidly or slowly but with the same source material, presumably the background soil of the site at the time, especially as the charcoal was well-sorted through the contexts. This soil perhaps also held the finds (pottery, stone, etc.) and they and the soil entered the pits at the same time. The fire cracked stones are of types of hard stone selected perhaps for hearth bases and include fragments from likely querns and a pounder; these may have been broken and then re-used in a process involving heat, but it is possible they were deliberately

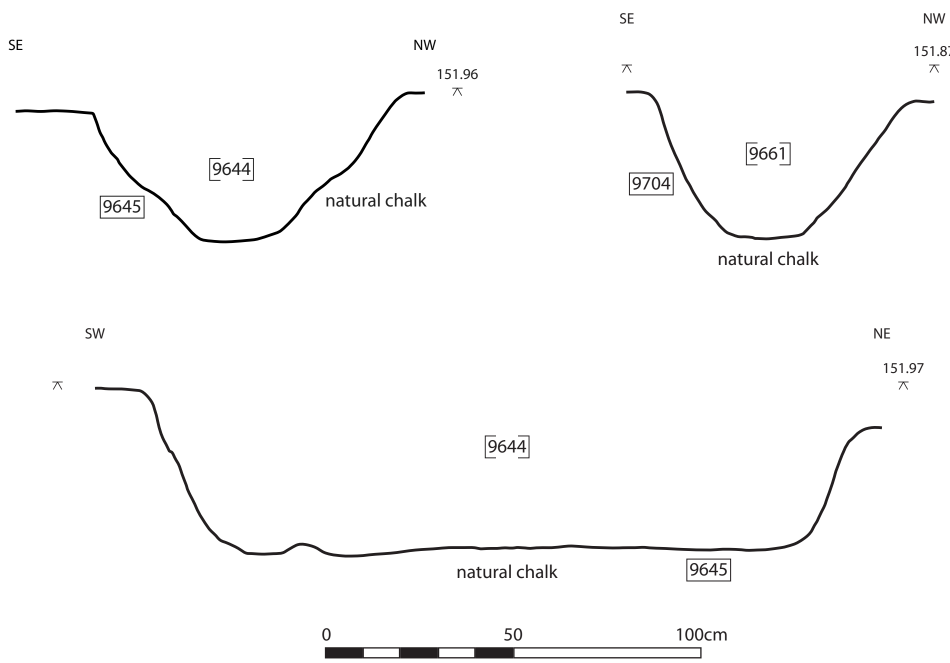
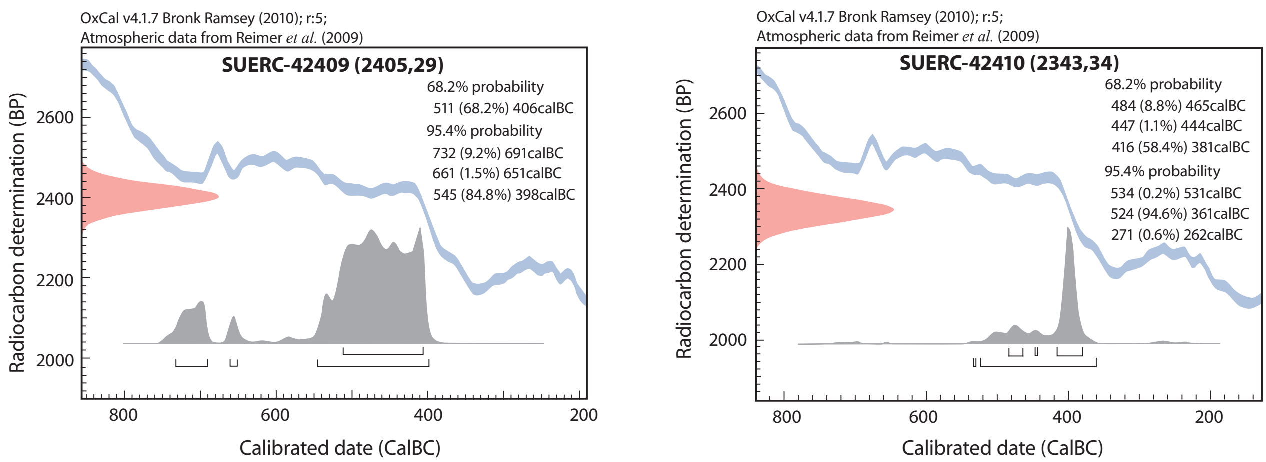


Figure 3.73 Profiles of Middle Iron Age Pits [9645] and [9704].



Sample Code	Sample Type	Sample Ref.	δ13C (‰)	14C Age ± 1σ (years BP)	Calibrated range (95.4% confidence)
SUERC-42409	Nutshell (Hazel)	9644	-23.7	2405 ± 29	740-390 cal BC
SUERC-42410	Grain (Barley)	9661	-22.2	2343 ± 34	480-380 cal BC

Figure 3.74 Radiocarbon results for samples from pits [9645] and [9704].

burnt in some type of rite. Overall the various finds suggest the pits could have received general settlement waste which had been accumulating nearby rather than receiving primary material or feasting detritus, although consumption and cooking was seemingly taking place nearby. Their value in terms of comprehending the site sequence lies in the indication they give of settlement activity prior to the Late Iron Age, for which the evidence is fuller. Their function and the process of their filling is less clear.

Phase 2

Later Iron Age Ditch [9514]/[9700], with LPRIA/ Early Roman final fill (9505)

The earliest feature of the main (i.e. first to fourth centuries AD) *floruit* of activity at this location was a ditch, feature [9514]/[9700] running south-west to north-east (Figs 3.70 and 3.75). This was traceable from a mid-point along the southern baulk, continuing across the trench to the eastern baulk. It was cut into chalk bedrock to a depth of c. 0.7m and overlain by the south wall of Building 2, the construction trench of which had cut into its top fills. It was better preserved south of the wall, where it measured c. 1.4m in width (labelled here [9514] and north-east of the wall labelled [9700]). It was sectioned in two locations: south of the wall and to the north-east of the wall, by the eastern baulk, where it was found to be truncated by the later ditch [9670] which had removed its northern edge and upper fill at that point. Sectioning of its filling south of the wall revealed four fill contexts (Fig. 3.75), of which the lower three included chalk and silts likely to be from adjacent natural, while the top fill was a darker silt with an amount of cultural material and debris (9505). A comparable sequence was evident in the section by the eastern baulk.

The lowest fill (9543)/(9706) comprised common to abundant angular and sub-angular chalk fragments and chalk grit with some silt. Above this was a layer with much less chalk and more silt (9542)/(9705), Munsell 10YR 4/4-5/6, and above that a fill with again much chalk (9522)/(9680), the latter was more angular compared to (9522) which had more rounded chalk. The upper fill was only extant south of the wall. This deposit (9505) was a dark brown silt, 10YR 4/4. Some 432 litres of (9505) were excavated compared to 480 litres of the lower three fills. The latter yielded few finds (11 bone fragments from the eastern sectioning and 43 from the section south of the wall); by contrast (9505) produced 298 bone items. There was also a small amount of oyster shell from (9505). Equally there was no pottery from the three lower fills but 91 sherds from the top fill (9505); this pattern is consistent with a trend noted above (cf. Section 3.2) by Scott Martin (Martin 2007). A bulk sample for environmental analysis was collected from (9680); this proved to support the evidence from the hand collection of finds during excavation, but yielded evidence for house mouse and the largest assemblage of terrestrial snails from all the excavations (see Rackham *et al*. Chapter 7). Another bulk sample from (9522) presented similar results, with less snails, but with a similar occurrence of types. This sample included a piece of glass and amongst faunal material was evidence for a range of small vertebrates and fish bone (see Rackham *et al*. Chapter 7). Both of these samples from lower fills include evidence for cereals albeit in small quantities.

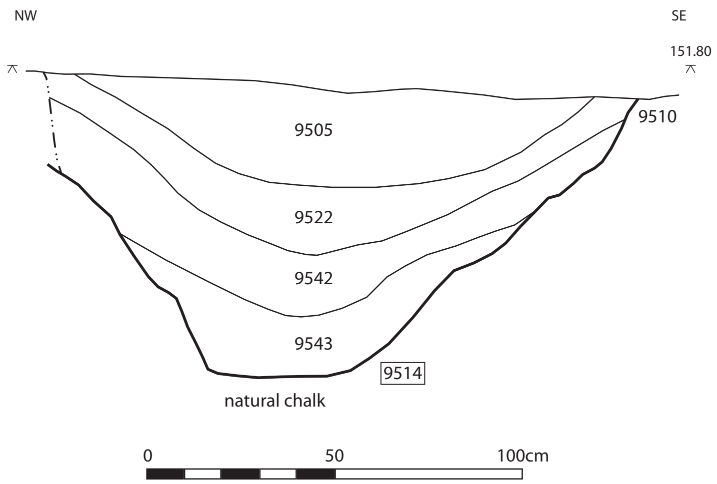


Figure 3.75 Trench J. Section through ditch [9514].

The pottery from (9505) consisted mainly of LPRIA/mid-first century types but there were some later ceramics. Types included beakers, a carinated bowl, a flagon handle and some late first to second century types (Leary, below Section 6.1.10.1j). A decorated copper alloy brooch of Colchester Derivative-Rearhook type, was present (RF 9511) dating to the mid-first century AD. Four other recorded finds from this context were all iron: a tack RF 9517 (L 18mm, D of head 7mm), a nail RF 9523 (L 55mm, square in section with incomplete head), part of a nail shank RF 9507 (L 44mm) and a small fragment of iron sheet RF 9518. A bulk sample from (9505) again showed some evidence of cereals in low quantity and amongst the small vertebrates house mouse was present (Rackham *et al*. this volume, Table 7.3).

Discussion

The alignment of this ditch is noteworthy for two reasons. Firstly its south-west north-east trajectory is similar to that of the two earlier pits [9645] and [9704] which lie a few metres to the north-west. Second its alignment is different from its near contemporary successor ditches that also occupy this area showing that there was, in the early Roman period, a re-organization of space. The lower fills of the ditch include what is surely weathering of the sides and wash material from adjacent soils. The snail and faunal record from the three lower fills is instructive, but the absence of pottery or other finds mean they are undated though presumably the feature dates from the Late Iron Age. There is a rural flavour to the small vertebrate and charred plant remains for these lower levels but human occupation cannot have been far away given the presence of husbanded animals and indeed house mouse from this level. The top fill (9505) is a very different deposit, rich in occupation detritus: iron items and pottery, together with a faunal and environmental assemblage of wide variety and some size but representing chance inclusions from final stage crop processing or cereal consumption (Rackham *et al*. Chapter 7). Human habitation was again near as the house mouse was again represented. This upper fill was accumulating in a ditch which was nearly full and indeed perhaps the ditch was essentially an Iron Age feature with slightly later material filling the depression created as lower fillings settled over some while. If this were the case the alignment of the ditch in the early Roman period may already have become irrelevant as it had ceased to be a functioning ditch; this may mean that [9514]/[9704] was potentially originally contemporary with the two Middle Age pits, but its latest filling was early Roman. The overall assemblage from (9505) indicates occupation close-by from the LPRIA/mid-first century AD. The feature was still filling up in the late first and into the early second century, with some final pieces of the mid-second century (cf. Leary this volume), though these may have been 'trodden in' at a later stage after the ditch had filled, since this became a heavily used area. The picture emerging from the recovered material points to some continuity in the presence of types of culturally generated debris in the lower and upper fills indicating occupation, and that significant indicator, the house mouse, was present in the lower fill from the east sectioning of the feature and from the upper fill of the section south of the wall of Building 2.

Phase 3

Early Roman Ditches at the South of Trench J: [9699] and [9698] etc.

Across the southern part of Trench J were two early Roman ditches on the same west-south-west to east-north-east alignment (Fig. 3.76). One of these traversed the trench and cut [9700]. The earlier of these two ditches was [9699] and was traceable from the south-west corner of Trench J for around 5m almost up to the point where it is overlain by the construction cut of the wall of Building 2. Across that distance it was cut by the subsequent ditch [9698]/[9525]/[9573]/[9670] (hereafter [9698]) which truncated it across its middle and its north side. Though at the south-west end the later ditch was not as deep as its predecessor. The two ditches converge around 2m east of the south-west corner from which point the later ditch over lies the earlier cut. Only one ditch seems to have continued eastwards from around this point though, unless they both followed exactly the same course, in which case the later ditch [9698] had completely removed traces of [9699]. This was not a straightforward matter of replacement or re-cutting for as the section drawing shows (Fig. 3.81) a surface was laid down between the filling of [9699] and the cutting of [9698]. The question arises as to which one of these ditches follows through to the east to become [9670]. The indications are that it is the later ditch that follows through and this is supported by the evidence of the pottery. [9699] is now described.

The earlier ditch [9699] had a U-shaped profile, cut into natural, and was best preserved by the western baulk (Fig. 3.81) where it can be seen to have been 0.6m deep and would have been c. 1.3m in width. A primary fill of chalk fragments in a brown silt (9602) was thin and recorded in the middle of the length of the feature; this probably represented initial

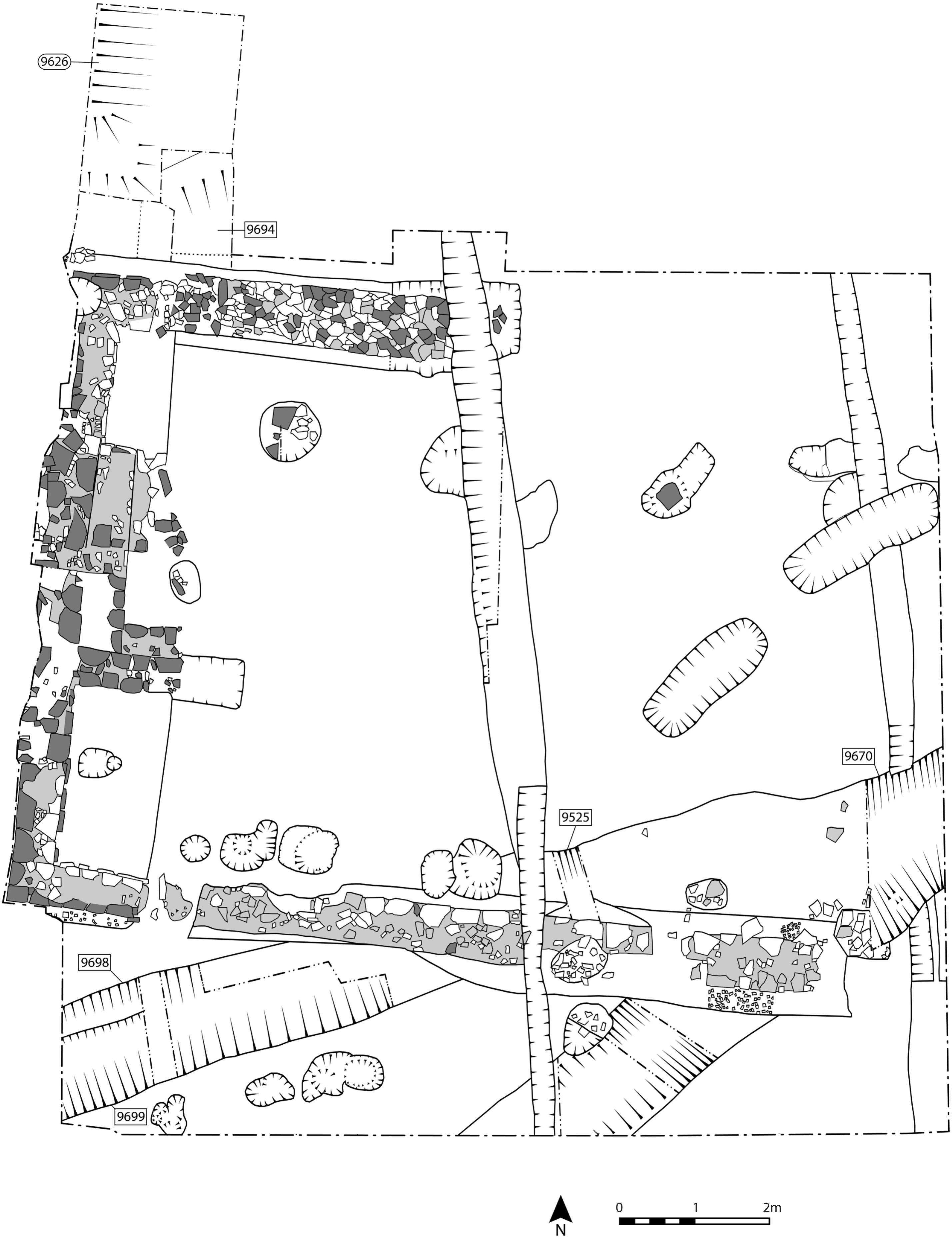


Figure 3.76 Trench J, Phase 3: The early Roman ditches at the south of the trench [9699] and [9698]/[9525]/[9670], and at the northern extension, ditch [9694] and the chalk surface (9626).

weathering. A relatively thick fill (0.23m) overlay this, comprising a distinctly ash and charcoal rich soft silt deposit (9577)/(9684), 10YR 4/3. Charcoal and chalk flecks were also present in its later filling (9676). Two pieces of bone came from (9602) and 140 from (9577), while 47 bone items came from (9676). Considering the pottery Leary (cf. below) notes that (9577) and (9676) contained pottery of mid- to late first century date to which the feature evidently belonged and it was ceramically later than the fill of ditch [9514]/[9700]. A fragment from a probable quern (Quern No. 6, see Shaffrey this volume, 6.11) in Spilsby Sandstone was recovered from (9577). Bulk samples for environmental analysis were collected from (9577) and (9684). Chicken eggshell was present as well as some quantity of evidence for cereal crop processing (see Rackham *et al*. Chapter 7). The charred plant material was suggestive of accidental burning during final stages of crop cleaning and food preparation and perhaps the use of chaff as tinder (Rackham *et al*. Chapter 7). It is possible from the profile of (9684) that this feature was re-cut before (9676) was deposited.

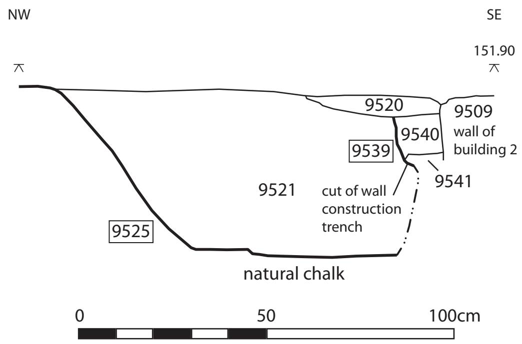


Figure 3.77 Trench J. Section through ditch cut [9525].

Figure 3.78 Trench J. Part of the eastern baulk showing ditch [9700] cut by [9670].

The fills of [9699] were then sealed by three thin layers, collectively 0.2m thick (see section drawing Fig. 3.81). The uppermost of these three layers was a compact chalk layer that was seemingly a surface (9673), of which (9683) to the north was a part. This surface was originally at least 2m across. Below this layer were silt clay (9675) 10YR 4/3 which held pottery, bone and oyster shell, and (9679) a greyish light green layer c. 2-3cm thick of very fine silt and ?ash 2.5Y 7/1, with some micro colouring of yellow and pale grey. This was a very atypical deposit for this site, and colouring, volume, fine particle size, micro-morphology and absence of coarse fractions suggested this could include faecal material. Enid Allison, Environmental Project Officer with Canterbury Archaeological Trust examined a sample of (9679) amounting to 0.75 of a litre. Her examination did not lead to a firm conclusion as to the origin of this layer or what it represents.

Enid Allison writes: The sample was gently sieved so as to retain any weakly concreted lumps. It was examined wet firstly, and there was no obvious survival of non-charred organic material. The main component was fine sand and small lumps (~2-5mm) of weakly concreted sand/sediment with a 'crunchy' texture often typical of mineralised material. The concretions break up very readily. When wet, some of these concretions had an orange tinge (?ferrous). Some contain porous-textured ?silicaceous or ?calcareous material. Very occasional small, harder concretions, very finely textured internally, might possibly have originated in cess. The finer material has a 'feel' reminiscent of ash. Other material in the sample consists of small stones, traces of brick/tile, charcoal, slag, and spheroidal hammerscale. There were also traces of recent root fragments and fungal sclerotia.

These layers were cut by the second ditch [9698] which was cut from the level of the chalk surface (9673)/(9683). It is clear then that the second ditch was cut some while after the earlier one on this alignment had passed out of use. On a similar alignment to [9699] it measured 0.53m deep and 0.95m across at the western baulk (Fig. 3.81) and was of U-shaped profile. East of the baulk and into the field its top had been truncated and it was c. 0.45m deep, but slightly broader. As noted it is deduced that it is this ditch that continues through to the eastern side of the trench where it is labelled, cut [9670]. Here the cut is still U-shaped and was a little over half a metre deep. At this point it may originally have been c. 1.2m in width but its single homogeneous fill (9669) spread over the top of the fills of [9700] where perhaps they had settled and this may give an appearance that exaggerates the width to the original feature. Hence

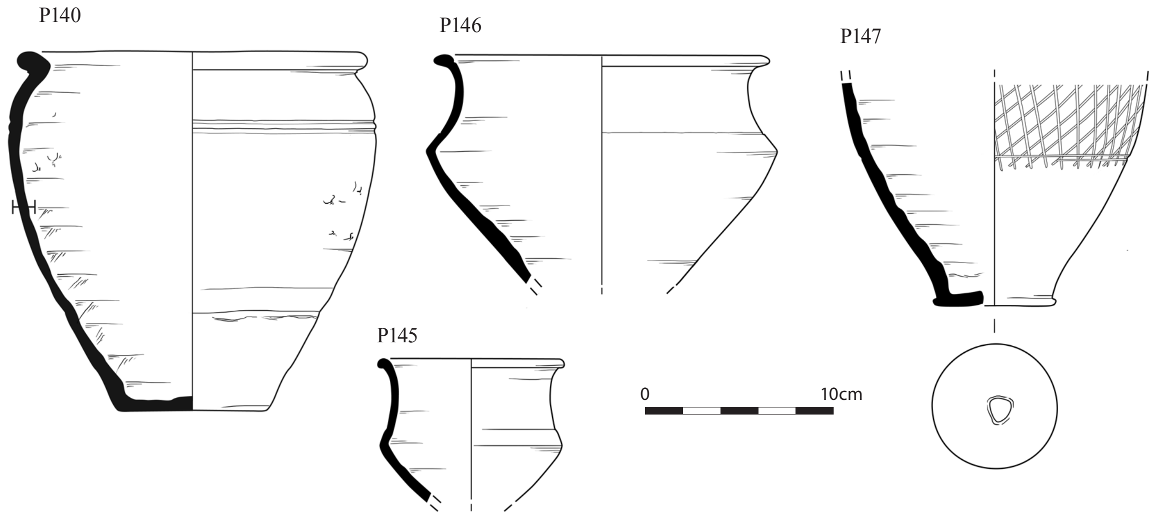


Figure 3.79 Trench J. Some pottery vessels from ditch [9698]/[9525]/[9670].

overall this feature was of consistent dimensions. At its western end the ditch had a main fill comprising (9651) 10YR 4/4, a silty deposit rather loamy and with flecks of chalk. There was an upper fill at this point, (9647), closely similar in character, also a silty loam but less compact than (9651) (Fig. 3.81). Further east where this ditch fully over-lay [9699] the fill was best seen as one deposit, identified at this point as (9577), where it remained similar in character but was slightly darker (10YR 3/3). Where it was sectioned just north of the south wall of Building 2 it was again a single fill (9521), and at the eastern end (9669) was a dark greyish brown silt, 10YR 3/2. Thus the fill was consistent throughout the exposed length, with some micro variations in colour that might reflect proportions of soot/powdered charcoal present. The fill throughout contained a high frequency of finds, not least pottery, but also animal bone and oyster valves.

The pottery included a comparatively high proportion of large sherds indicating that the fill had received some relatively fresh material, less fragmented than in many other contexts at this site. Vessels represented include a decorated Parisian ware beaker P126, late first to early second century greyware bowls, rusticated jars, carinated bowls, a painted parchment sherd, a mid- to late second century Mancetter-Hartshill mortarium, Lezoux samian dating to c. AD 150-200, and second century Roxby Type E vessels being P145 and P146 (Fig. 3.79). A fuller listing is given by Leary (Section 6.1.10.1j). Leary notes that an amount of later types also occurred including a third century Dales ware jar, greyware wide-mouthed jars with everted rims and a lipped-rim bowl of later second to third century form. She suggests that this ditch ([9698]/[9670]) was cut very late in the first or more probably in the early second century and that the pottery indicates it was filling predominantly through the second century with pottery perhaps contemporary with its use, with a final silting up with sherds dating to the third century. It is possible that these latest sherds were entering the top of the fill after the ditch had passed out of use and when Building 2 was being constructed or occupied as there is a close proximity of the ditch to the Building and the ditch does not appear to be sealed. There is, however, no indication of disturbance and indeed the chronological picture is confirmed by the most easterly section where the ditch was sealed as it underlay the interior of Building 2 with no sign of interference once the subsoiler cut which traversed its top had been cleaned out. This ditch fill (9669) produced pottery dating to the late first to early second century. It included a lattice and burnish decorated jar which had a pierced base (Fig. 3.79 P147) and a stamped mortarium from Lincoln, P139 (Figs 6.30 and 6.35), consistent with this chronological picture. Also present though were some pieces of late second to early third century date: indented jar or beaker and a hooked rim wide-mouthed jar dated by Leary as probably of the third century (Leary Section 6.1.10.1j).

As well as pottery this ditch produced the largest group of oyster shells, with a small concentration coming from (9571) (Fig. 7.5 below). Some evidence for bone working also came from this ditch (see Stallibrass and Rackham, Section 6.10) together with a sizable group of animal bones including an exceptionally large ox probably a traction animal (Rackham Chapter 7). Recorded Finds included a bone spindlewhorl RF 9554, and an iron bucket pin (or similar) from (9651) RF 9563. From (9521) came a probable rotary quern fragment in Millstone Grit, RF

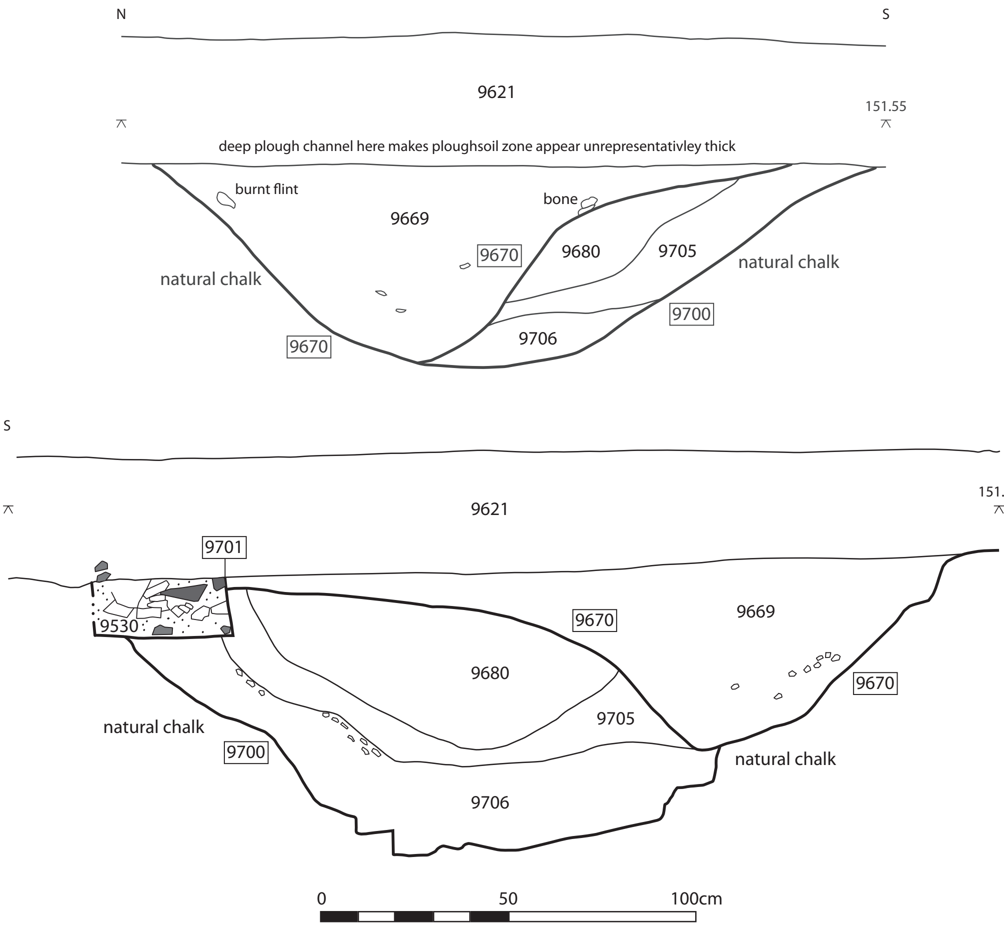


Figure 3.80 Trench J. Sections through ditch cuts [9670] and [9700].

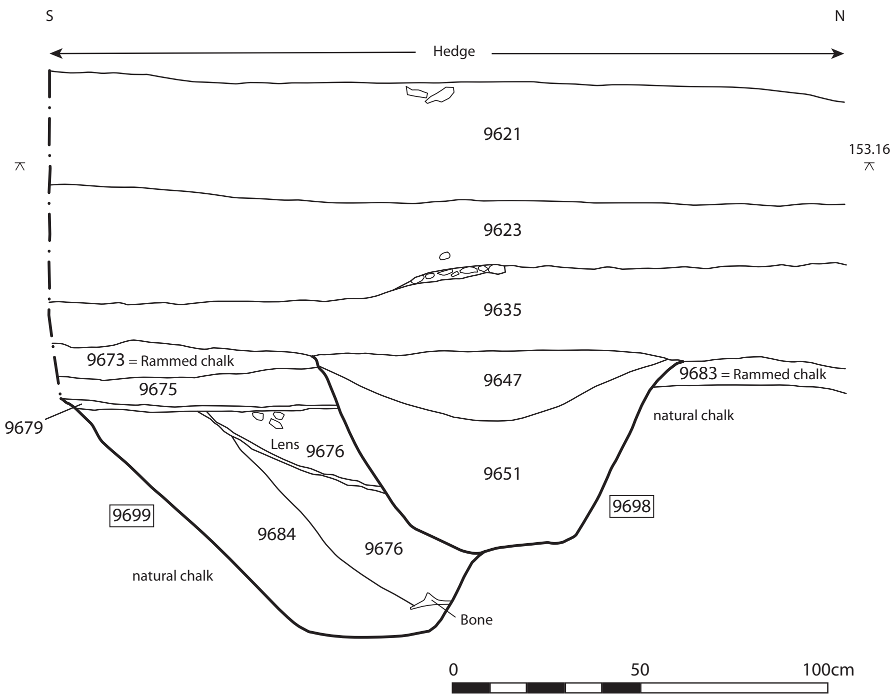


Figure 3.81 Trench J. Section through ditch cuts [9699] and [9798], at the western baulk.

9527 (Quern No. 5, see Shaffrey this volume, 6.11). Part of an iron nail came from (9571), RF 9543. Coal fragments were found in three of the fills of [9698], specifically (9571), (9647) and (9669), as well as in the layer above (9571), which may include material from (9571). A group of fuel ash slag fragments were clustered in (9571) weighing some 309g.

Discussion

The two ditches [9699] and its successor [9698] follow more or less identical alignments and their fill sequences are close in date. [9699] represents a change of spatial organization as it follows a more east-west direction than [9514]/[9700]. There is no direct evidence that [9699] cuts [9514]/[9700], as it seems [9699] either stops or is fully obliterated by [9698] before the point where an intersection with the earlier ditch would have occurred. There is no reason to think that [9699] and [9514]/[9700] were at any stage contemporary, though some of the latest types in the latter overlap with those in [9699]; significantly, however, Leary (Section 6.1.10.1j) identified the latter as later in composition. [9699] shows some possibility of being recut, before the spatial division it defined was firmly re-instituted with the cutting of [9698]. Yet between the filling of [9699] and the cutting of [9698] there was a period of layering over the top of [9699] including a laid chalk surface. [9698] could have been cut at the end of the first century AD; certainly it was receiving pottery into the late second century and seemingly into the beginning of the third century. Since it underlies Building 2 this provides a clear indication of when that Building was established; that building was on a differing alignment. There is some trace amongst the geophysical results suggesting similarly aligned features to [9698] and [9699] but not strongly so. This raises the question of what their purpose was and what they might relate to. There is nothing present in Trench J that they can be seen to relate to bar the indication that the contemporary ditch [9694] to the north of the trench was on a similar alignment (as much as that might be discernable from is partial examination).

What is clear is that as with [9514]/[9700] this was an area where space was being organized through ditches of similar scale and that these were not relating to the immediate topography nor the position of the modern road, and this was clearly an earlier scheme than the regular enclosures that gave the strongest signals in the geophysical survey in Street Furlongs. As with the earlier fill (9505) these two ditches at the southern end of the trench must have lain near zones heavily used for a variety of activities and occupation judging from the richness of the cultural debris. The assemblages include charred cereal remains and quern fragments of different stone, a huge ox likely to be an import or bred from imported stock for traction (and perhaps an indicator of status, but certainly a beast to have been prized), evidence for bone working, and for textile manufacture; there was intense use of pottery including elaborate forms and a wide range of types. The impression is of a busy area with crafts and processing nearby. A significant aspect of the signature of these fills is the consistent presence of coal, an amount of fuel ash slag and deposits with much ash and soot content. This was once a busy locus. Structural evidence in terms of tile or nails was not well represented and the absence of stone types used elsewhere for buildings at this site such as the Tealby Limestone and Claxby Ironstone is an important indicator as it suggests that layers without such material are potentially early Roman. The presence of the jar with the post cocturam pierced base (P147) in (9669) might be explained by various means and one should not assume it was a votive deposit.

Ditch at the North of Trench J filling in the Early Roman period: [9694]

A further ditch was encountered toward the north-west corner of the trench, being cut [9694] (Fig. 3.76). At a minimum of 1.5m in depth this was a substantial feature, and much deeper than the ditches to the south of the trench. Its alignment was seemingly west-south-west to east-north-east and therefore mirrored the alignment of ditches [9698] and [9699], with which it was approximately contemporary. The stone foundation and wall of Building 2 overlay the southern side of [9694] and the construction trench for that wall cut its upper filling. This meant that the ditch could not be fully sectioned perpendicular to its alignment as it had been decided to leave the stone remains of Building 2 *in situ*. [9694] was presumably at least 2.3m in width but to its northern side ditch [9694] underlay a rammed chalk surface (9626). Excavation was complicated as its scale was not fully apparent until the last days of the excavation, partly because fills on its northern edge resembled natural and at first were taken to be close to its actual edge. Further it lay within the area of the trench extension at this point which was only two metres wide. Hence overall this was a very restricted area to work within. The base of the feature was reached on the early evening of the final full day of digging on site, when chalk bedrock was reached. The feature had at least seven fills (Fig. 3.82). Its lowest fill (9702) included common to abundant chalk pebbles. Above this was a silting fill (9693) 10YR 4/2, and above that another fill with abundant chalk, (9692). Both (9702) and (9692) had the appearance of being backfill (naturally or otherwise) from up-cast chalk or chalk used nearby, maybe for surfacing. Over (9692) was a yellowish brown silt with clay, with pockets containing ash and charcoal flecks, and some loamy silt (9691) 10YR 5/6. This in turn underlay a thick layer of silt (9666) 10YR 4/2-4/3. There were two upper fills. The lower of these (9665) containing large sub-angular chalk fragments which comprised 60-65% of the deposit in a dark silt matrix, 10YR 4/2. The uppermost fill, (9650) was a comparatively loose silt 2.5YR c. 4/2.

Pottery was recovered from fills (9650), (9665), (9666) and (9693). Of interest, the single sherd from (9693) by the base of the cut is dated by Ruth Leary to around the mid- to late first century but its significance for dating the feature is diminished by it being a singleton. Sherds from (9666) were a little later in date, of the late first to second century, with samian present in agreement, while (9665) contained samian dating to c. AD 120-160. Animal bone from the ditch amounted to 122 items. There was one bone from the lower fill (9693), but otherwise the bones were from the uppermost fills (9665): 1, (9666): 53, and (9650): 67. Oysters were also present in fills (9666) and (9650). Bulk soil samples were taken from (9666) and (9650) for environmental analysis. The sample from (9666) was informative. It contained a high level of charred grains, mainly spelt but with a quantity of hulled barley. Spelt grains and spelt chaff occur in equal amounts suggesting accidental burning in storage or during de-husking (Rackham *et al*. Chapter 7). This sample also included fish bone and a small item of mortar, presumably intrusive from the wall of adjacent Building 2.

Discussion

Leary (Section 6.1.10.1j) suggests this ditch may be LPRIA or even Middle Iron Age in original. From its lowest fills more by way of Late Iron Age and Roman pottery might have been expected if its origins and early filling dated to those periods. This, however, is an open question given the meagre dating evidence or indication of its function and relationships. If indeed it is of such an early date, it is possible that it relates to [9514]/[9700] and that the latter is shallower as it is in a physically lower position topographically.

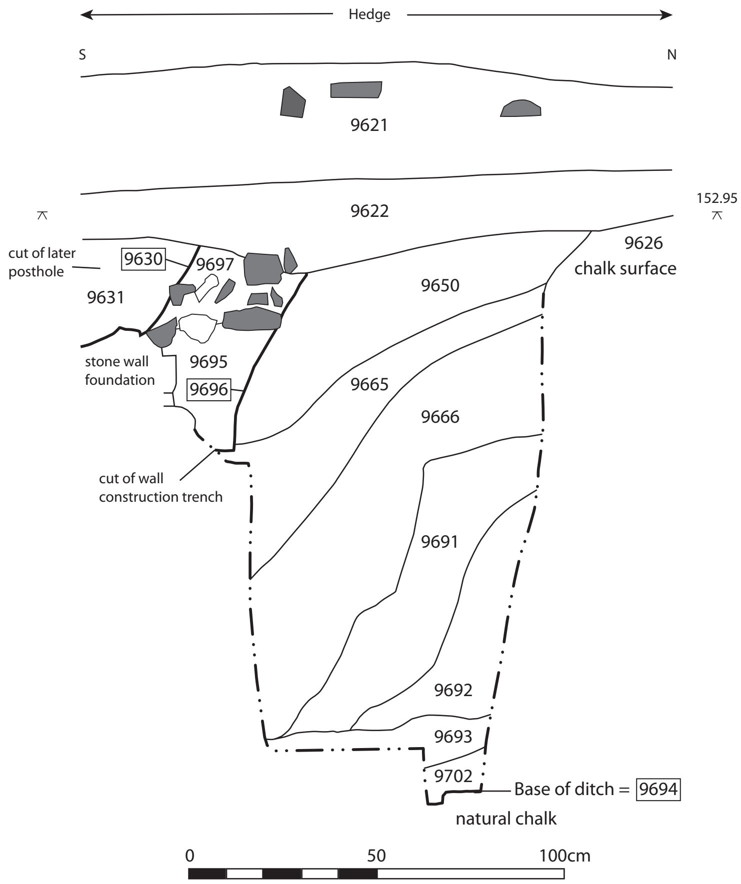


Figure 3.82 Trench J. Section through ditch [9694].

[9694] was though still filling up in the late first to mid-second century and so was extant during the time when the ditches at the south of the trench, [9698] and [9699] were in use, and there is no strong reason to suppose it was not cut around the mid-first century AD. [9694] provides further indication of the date of the institution of Building 2 but less precisely so than do the fills of [9698]. The upper layer (9665) formed mainly of sub-angular chalk fragments either represents 'cascade-in' from the adjacent layer (9626) to the north, that being a thick surface of rammed chalk, or it could be that originally (9626) extended over his ditch fill and (9665) is a stretched and slumped element of that layer that has descended into the ditch as its lower contents settled. The relationship between [9694] and (9626) is considered further below.

Surface (9626) and layers in the North-West Corner of the Site

North of (9650) a continuous spread of rammed chalk fragments c. 0.2m in depth and forming a firm surface was encountered, this being (9626). This layer continued to the northern and western limits of the trench and presumably extended beyond. The area exposed (c. 2.6m by 1.15m) was a small part of what had been a more extensive layer. The surface had survived under the field boundary bank (9621)/(9643) where this was taken down (see Fig. 3.83 showing a section through (9626) etc.). It had, however, been eroded to the east as the bank gave way to the field margin. Presumably it had once extended further to the east but had been removed by centuries of cultivation and is testimony to the marked truncation of archaeological levels in this area. (9626) had been laid down in the middle Roman period after [9694] had largely or completely filled but very probably before Building 2 was erected. It is possible that (9626) was laid only partially across the fill of ditch [9694] when [9694] might still have been functioning as a boundary but on a less substantive scale. A key layer in this respect is the layer below (9650), namely (9665) which rises to meet (9626). As noted above (9665) included angular chalk fragments characteristically similar to those forming (9626). Is then (9665) the southern continuation of (9626) which had been laid across the filled up ditch [9694], but here the chalk surface had slumped as the earlier fills of [9694] settled? Alternatively (9665) may represent erosion off (9626) on its southern side and its accumulation into the semi-filled but still partially open [9694]. Given the large scale of [9694] marked settlement would not be surprising and so the interpretation of (9665) as a slumped element of (9626) might be favoured. The sequence of deposits at this point is not in question, rather it is a matter of their interpretive explanation with only a smallish window on the archaeological sequence at this point as a guide; the answer would have been forthcoming from a wider excavation of the deposits at this point.

It is tempting to see (9626) as a laid surface or hard standing contemporary with Building 2. It lay at a height equivalent to the floor level of Building 2, so this might be a reasonable hypothesis. However, it would appear that the laying down of (9626) predates Building 2 and it may have been contemporary with the chalk surfacing detected south of Building 2 (9673)/(9683). Between (9626) and Building 2 there is no direct relationship in terms of stratification as at this point layers are affected by sinkage into [9694]. It had at first appeared as if the top fill of [9694], namely (9650) might be the top of a drain or gutter running along the north side of Building 2 but upon excavation

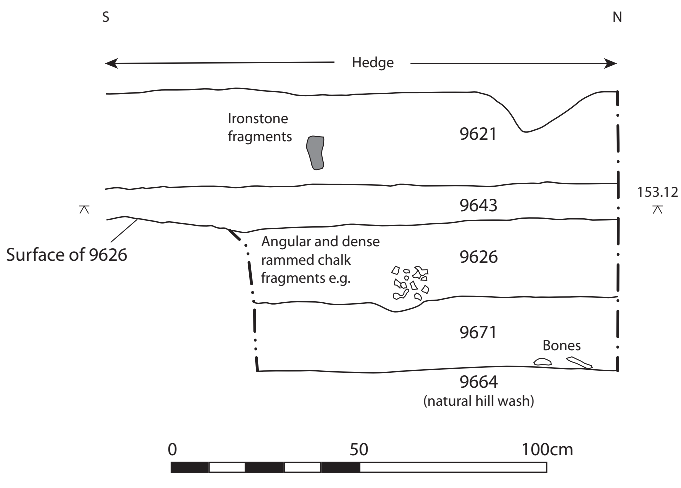


Figure 3.83 Trench J. Section showing surface (9626) and layers in the north-west corner of the site.

there was no such feature. (9626) may have been laid down before Building 2, but continued to function as a surface into the lifetime of Building 2 and may be the surface of a track or hard standing by its side for accessing the back of the property.

An area of approximately 1m square at the north-west corner of the extension was cut as a box section into (9626) to establish its character and what lay below it. At a depth of 0.2m it as found to overlie a silty deposit with some loam and clay (9671) 10YR 4/4, 0.2m thick (Fig. 3.83). Box sectioning of (9671) yielded a small group of animal bones, an oyster valve and a number of small pottery sherds, including handmade items. In turn it overlay a silty clay deposit (9664) 10YR 5/8, which was apparently natural; (9664) was lowered by 10cm within a second c. 1m square box section to the east of the aforementioned box section. Overall, this extension confirmed the good preservation of archaeological layers and features under the hedge bank, including [9694] and the chalk surfacing. A miniature metal treasure chest with hinged lid came for the topsoil (9621) in this area but contained no treasure (!). One can imagine this well-crafted model (see Cooper, Section 6.7.8), may have been thrown from a car window on a return trip from an outing to Skegness in modern times.

Phase 4

Stone Founded Building of Mid-Roman date: Building 2

As noted above (Section 3.1) an aim in opening Trench J was to establish whether further evidence of Roman era properties and buildings could be located and if so to establish their nature and whether they fronted onto a Roman road below the B1225. The initial 26m² trench in 2002 immediately located the foundation of a stone building of Roman date and subsequent seasons in 2003, 2004, and 2011 recorded its extent and survival through its western and central extent. The building measured c. 8.45m on its short axis and was extant on its long axis approximately east-west for c. 11.6m along its southern side, but beyond that distance it had been fully truncated by ploughing, exacerbated as the field surface slopes to the east. The line of its north wall was preserved east of the hedge bank only at foundation level for c. 6m (including the north-west corner of the building in this measurement) before being lost to truncation. The southern wall was only traceable for a longer distance as its foundations had settled into the top fills of the earlier ditches at this point. Stone robbing for reuse or removal to facilitate agriculture may have played a part in the denudation of the structure but there were no discernable robber trenches, in contrast to the picture at Trench B. That there was some degree of internal division is shown by interior walling near the centre of the western wall and in this area too there were extant floor deposits yielding finds and environmental evidence. The alignment of the building was at variance with that of all preceding features at J, being a few degrees off east-west. This alignment is consistent with the alignments of the ditches at Trench I and with the enclosure system (likely to be for properties) seen in Figure 2.7, and particularly clear to the south of Trench J where ditches are aligned west-north-west to east-south-east. The walls are now described in turn starting with the western walling, prior to focusing on internal details.

The western wall of Building 2

The western wall was well-preserved as it lay under the bank at the edge of the field and the soil build-up had protected it. It was possible to expose the width of this wall but no further extension westward beyond its frontage was possible as this would have necessitated the removal of the modern field boundary (a well-established hawthorn hedge); hence excavations were taken up to the hawthorn hedge as far as possible to plant stems.

At the south-west corner the wall was particularly well-preserved. From the corner to around 1.9m north its preservation showed it to be of careful design and regular form, with its structure surviving to a height of c. 0.35m. Ironstone (or perhaps the similar ferruginous Roach) blocks had been used to front the exterior of the wall and five such stones sat in level alignment along this section of the frontage. Coursed chalk blocks cut from bedrock had been used for the interior

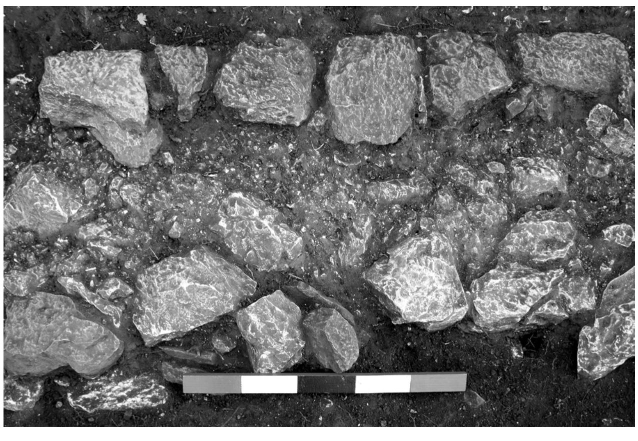


Figure 3.84 Trench J. Detail of the western wall of Building 2 near its north-west corner.

face (e.g. 0.25 x 0.16m). Level coursing was evident and the infill was composed of smaller stone fragments set in a clay/chalk grit mortar described in Section 5.2 by Dr Graham Morgan (Figs 3.89, 3.93 and 3.94). The wall measured c. 0.55m in breath at this point and its front face was straight. The quality of the masonry and stone selection reflected that apparent from the better preserved sections of the southern wall. At the northern end of the frontage, at the north-west corner, the northern most 2.2m section of wall was of similar (mortared) form with a straight frontage following the same alignment of the southern section, but generally

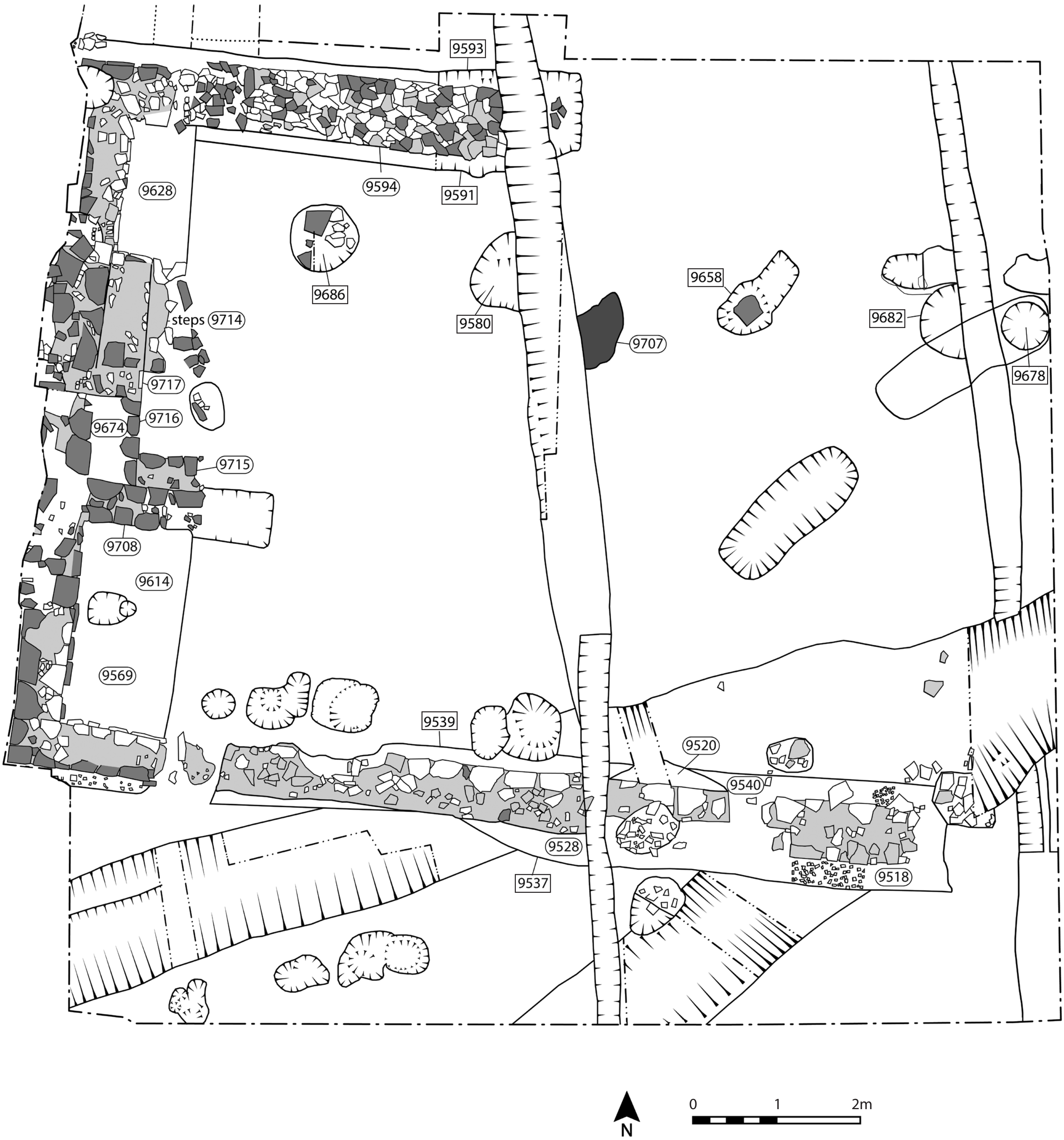


Figure 3.85 Trench J, Phase 4: Building 2 with its associated features.

Figure 3.86 Trench J. Detail of post hole [9653] of the Late Roman building (Building 3) cutting the top of the western stone wall of Building 2; packing stones are evident.

here the blocks were smaller, though this is explained by the fact that this is a lower course. There was also disturbance here as the wall had been cut by post holes for Building 3, specifically [9631] and [9653] discussed below (Figs 3.84, 3.87 and 3.88). Ironstone blocks had been selected for the front face of the wall here and chalk for the interior; the wall was c. 0.5m across. This part was probably below ground level on the exterior originally, with the missing upper course likely to have been somewhat wider and similar in character to that at the south-west corner at that height, as can be seen immediately to the south. Here, as to the south, the wall coursing overlay a plinth, formed at this location of thin ironstone slabs (on the exterior) and chalk (on the interior) that was slightly broader than the coursing.

The central area of this frontage varied from the lengths either side (that is the 1.9m to the south and 2.2m to the north). Superficially this might seem like replacement/refashioning or a different phase, but closer study shows continuities (in measurements, arrangement, mortar, etc.) and the variation is explicable in the terms of the structural requirements of the building. The main difference is that this central

Figure 3.87 Trench J. The western wall of Building 2 at the north-west corner, showing the post holes [9630] and[9653] of Building 3.

Figure 3.88 Trench J. View looking south showing the western wall of Building 2 at the north-west corner; post holes [9630] and [9653] are in view.

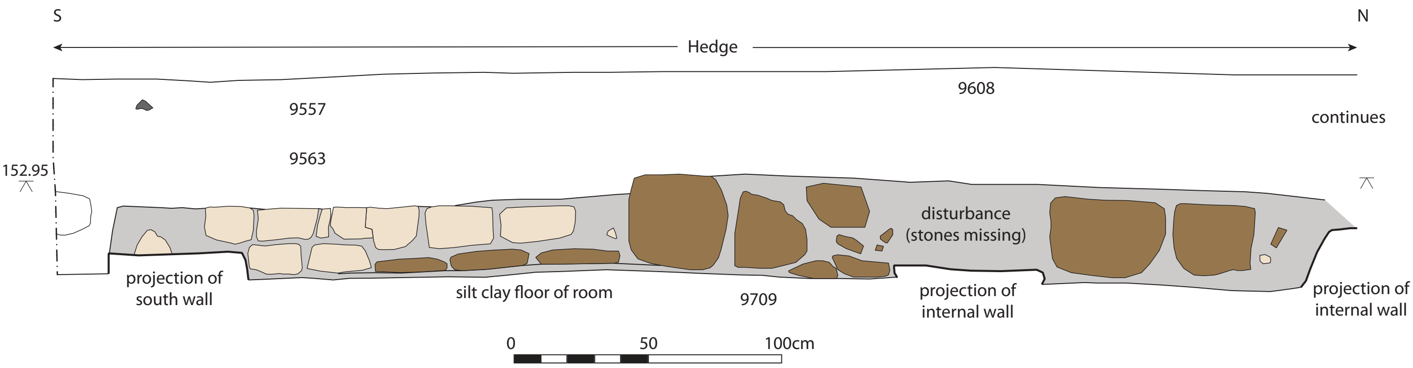


Figure 3.89 Trench J. Elevation of the western wall of Building 2 at southern end.

Figure 3.90 Trench J. Stone plinth for steps by middle section of the western wall of Building 2.

Figure 3.91 Trench J. A view of the central area of the western wall of Building 2 showing the location of (9674) in the centre, with other internal elements of the building, including (9708) on the left.

length, of c. 4.35m, had massive ironstone blocks (e.g. c. 0.45 x 0.40 x.0.28m) as a continuous 'first course' on the interior and these were particularly prominent on the south side where they are not abutted by internal walling (Fig. 3.85). These blocks were laid to a level height (see elevation drawing Fig. 3.89) consistent with the height of the extant, level, south-west section of the wall indicating the difference was one of change in stone type but not of dimensions. The outer face of the wall here and the core was not so clearly defined as with those sections to the north and south. In part examination was encumbered by the presence of the modern hedge but more to the point the wall here was disturbed by further post hole cuts (of Building 3) which had scooped out the stone walling; these had subsequently been backfilled with disturbed stones (post packing) and soil; some other stones were missing. Overall though the walling here was not overly disturbed and mortaring was readily apparent as in the sections towards the corners (cf. above) and of the same type. Moreover the general alignment of the wall face on the interior was maintained through this middle section. The consistent alignment of the ironstone on this interior face is readily apparent (Figs 3.85 and 3.90).

Mortar samples were collected from various locations for comparison to assess whether they varied in composition which might imply different phases of building. Macroscopic observation of the mortar *in situ* suggested a general uniformity throughout and this is confirmed by the analysis (Section 5.2).

The occurrence of the massive stone blocks through the central section of the building may be explained

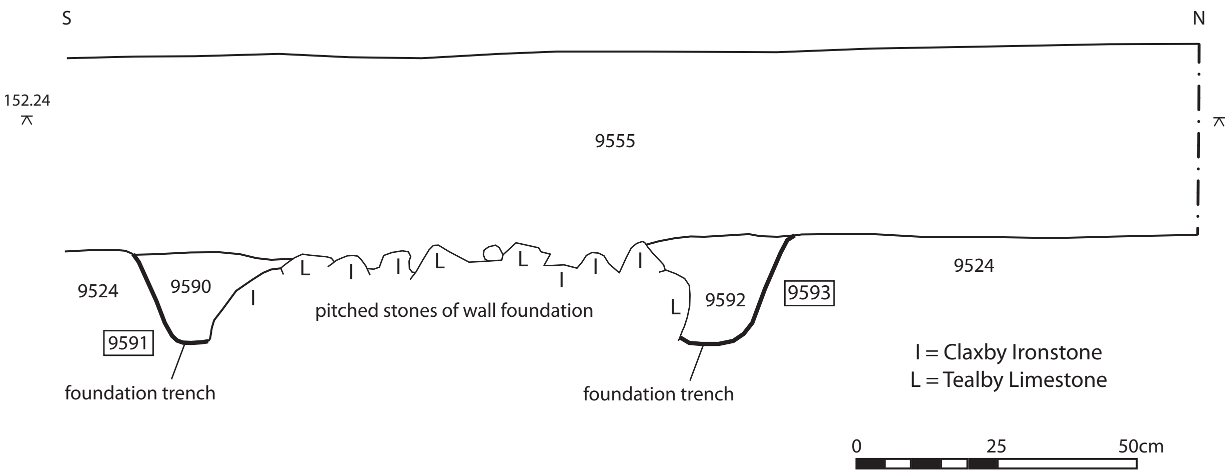


Figure 3.92 Trench J. Section through the stone foundation (9594) of the northern wall of Building 2 showing the construction cut [9591]/[9593].

by the fact that they were needed to support structural timbers and bear the weight load of the superstructure and roof at the apex of the gable end of the building where greater strength would be needed – more so than toward the ends of this western wall where the smaller weaker chalk was employed. The large stone blocks would be at a premium having been brought to the site, cut from layers exposed perhaps in Nettleton Bottom.

The level coursing encountered along this western face was tested with a spirit level which emphasized how consistently level it was, despite the passage of time. This would have been a suitable platform for the laying of a timber sleeper beam for the timber superstructure. That said it may be that a further upper course (or more) has been lost by some means and in fact this is implied by the concentration of stone fragments over the extant wall and in particular found as tumble/detritus filling the interior of the western part of the building under the bank.

Figure 3.93 Trench J. The wall of Building 2 at the south-west corner.

Figure 3.94 Trench J. The south-west corner of Building 2.

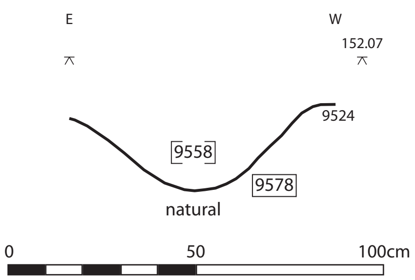


Figure 3.95 Trench J. Profile of the modern agricultural 'subsoiler' channel [9578].

The North Wall

The north wall was partly extant, being traceable east from the west wall for a distance of c. 5.3m, either as disturbed coursing stones (for the first 1.4m east) or as a pitched stone foundation. The alignment mirrors that of the southern wall; the distance between the walls being c. 7.25m. The pitched foundation was a tight matrix of stones, mainly ironstone, set within a construction trench and pitched to assist drainage. The construction cut [9591]/[9593] was wider than the foundation and was backfilled with soils (9590)/(9592) (Fig. 3.92). The foundation was cut by a modern agricultural channel [9578] c. 4.3m east of the western frontage wall and the foundation only survived as disturbed stones and a shallowing construction cut for a short distance (0.4m) further east from this channel. Beyond this point it had been lost to years of plough action, exacerbated, no doubt, by the fact that the contour of the field slopes gently down to the east. The coursing of the wall at the western end, towards the north-west corner of the building, had been disturbed by ploughing up to the point where the field boundary began; beyond that, to the west, it was in a better state of preservation.

The South Wall

The south wall (9509) was recorded for a distance of c. 10.25m east from the west wall. It was well-preserved at its western most end where it joined the west wall for here it had been covered and protected by the hedge bank. It survived as coursed mortared walling for c. 1.3m to the east of the west wall. Beyond that point to the east it had been cut away to lower foundation level. The arrangement of ironstone on the exterior side and chalk blocks on the interior seen in the west wall continued at the turn and the only difference was that the ironstone blocks were smaller on the extant section of the southern wall, but this may be because the wall here survived to one course lower than the west wall (Fig. 3.94).

At the opposite end, beyond c. 10.25m east from the west wall, the south wall was cut by a modern agricultural plough channel that was not excavated and it is possible part of the lower wall foundation and construction cut [9537] /[9539] existed below this modern cut. East of the plough damage there was a continuation of wall material but this was a disturbed cluster (9530). Spreading somewhat to the north and not continuing eastwards, this cluster gave the impression that the wall may have turned to the north to make the return to the north wall, especially as there was no trace of wall material eastward beyond that point (c. 11.8m east from the frontage of the west wall). Below the wall at this point were the ditches discussed above ([9700] and [9670]). The cluster (9530) was not excavated in 2002 when it was exposed in plan, but was part sectioned in 2011 when a 1m wide section was opened across [9700] and [9670] (Fig. 3.80). In plan (9530) contained much stone (mainly chalk) together with some mortar fragments, giving the impression of disturbed wall foundation but its lack of structure (confirmed by the section Fig. 3.80) and the general position of the cluster indicate that this is very likely to be the fill of a post setting [9701], post-dating the wall (see below). Opening of the area to the north of (9530)/[9701] in 2011 revealed no indication that the wall turned to the north at this point. Had it done so this would have been a unusually short building.

Generally (9509) was sufficiently well-preserved to show that it had been carefully constructed. Small scale investigative excavation either side of the wall revealed details of its construction. Initially a construction slot for the wall foundation, c. 1.15m wide, had been cut to a depth of at least 0.18m (Fig. 3.77). A layer of ironstone clips/brash (9538)/(9541) had then been deposited and rammed flat to create a broad shallow base. On to this had been laid the wall foundation. This was 0.7m wide and positioned along the middle of the brash base which extended either side. The wall foundation here comprised Tealby Limestone and chalk blocks (some up to 0.4m in longest dimension) forming a course set within a mortary chalk marl matrix (9513). The blocks on the interior side of the foundation were exclusively of chalk all with a worked facet creating a straight edge to the foundation while on the exterior side the blocks were (where extant) mainly of Tealby Limestone (judging from the eastern end of the wall), again laid faceted to create a straight edge. The more enduring Tealby Limestone had, even at this level, which was probably below ground level when the building was standing, been selected for use on the exterior side of the building as it is less susceptible to frost and weathering than chalk. The core of the foundation comprised smaller stone fragments of these rocks and some ironstone. Only one course of these blocks

Figure 3.96 Trench J. Tony Bibby with metal detector scanning the ash rich layer on the floor of Room 1, Building 2, where he located a mid-second century sestertius.

Figure 3.97 Trench J. The sestertius of Faustina I deified, from Building 2 construction trench context (9518).

survived through most of the extant southern walling, to a maximum elevation of c. 0.4m. Exterior stones were absent along several metres of the wall and it is possible that if they too were Tealby Limestone they had been robbed and the chalk left, although there is no direct evidence that it was robbing that removed them. Some sherds of Roman pottery were present within the matrix (9513). As was observed with the north wall, either side of the southern wall foundation the construction trench had been backfilled with soil where the foundation did not fill the cut, including (9518) on the exterior side which yielded a sestertius of Faustina I of c. AD 141-5.

The extant remains of the wall towards the eastern end of its surviving length were lower foundation, truncated and shallow, disturbed by plough channels at regular points. The foundations had only survived this far to the east, in contrast to the north wall, as they had sunk a little into the top of the fills of the underlying ditches which the wall crossed at this point. The nature of the foundation was different along this section compared to the pitching seen with the north wall. It comprised stone blocks laid flat. Variation in the nature of foundations is apparent with contemporary stone buildings at Dragonby (May 1996), and in this case may be related to the fact that the wall was passing over the ditch fills rather than the more sturdy silty clay that the north wall was built over where there was pitching. Had the traces of the building continued to the east the trench might have been extended to reveal more of its plan.

Internal Stone Features

Some elements of interior walling and floor features had survived by the western end of the building. The functions and chronology of these elements of walling is not straightforward, as they are only partially represented and cluster together. The possibilities around their purpose are considered.

Wall (9708)

At around 2.4m north from the north face of the southern wall was an internal wall, (9708).

It had been at least 2.2m long, running in an east-west direction. Again it survived well where it underlay the bank (for 1m) but the section within the cultivated field was heavily damaged and the latter 0.9m of its course on its eastern side was detectable only as a shallowing though clear construction cut [9710]. The wall was well-made, c. 0.5m in width and constructed from faced ironstone blocks set in mortar. This internal wall will have functioned to divide off the south-west corner of the building to create a room (Room 1). This may be an original feature but whether that was so is not certain. It abuts the western wall, has characteristically similar mortar and was notably constructed exclusively of ironstone. None of these features are inconsistent with it being contemporary with the original build, and the quality of the work is in tune with that of the exterior walls of Building 2. However, two of aspects might be mentioned. Firstly, the ironstones are not coursed clearly in the manner of the exterior walls (see Fig. 3.91). Secondly, there is some possibility that there was a post hole belonging to Building 3 cut through the western wall immediately opposite the junction with (9708) and if this was a post hole it raises the possibility that (9708) might be a late wall contemporary with these post-settings; this though seems improbable and the likelihood favours (9708) being an original element of Building 2.

Steps Structure

A broad area of robust laid stone (9714), placed up against the western wall, occurred towards the north side of the central western wall, c. 1.6m south of the north wall (see Fig. 3.90). This feature measured 1.35m across (c. north-south) and c. 1.35m east-west into the interior of Building 2 around which point it had been disturbed by ploughing. This structure abuts the western wall of Building 2 at a right angle and was solidly constructed. Its edges to north and south were defined in ironstone and chalk and the interior area filled with stone fragments set in mortar. The area next to the western wall (to a width of 0.55m) was at a higher level than the area to the east, where, after a defined edge the structure was consistently lower by c. 12cm. The sturdiness of the structure is conveyed in the photograph Figure 3.90 more so than in plan. Given the location and morphology of this feature it seems likely to represent the base of a threshold and steps, for access to the presumed front of the building onto the Roman road immediately to the west. The ground level to the west of Building 2 is now considerably higher than the extant remains of the walling (as can be seen in the various photographs) and indeed the ground continues to rise somewhat to the modern B1225; since the land to the east slopes gently but consistently to the east some degree of terracing of the western side of Building 2 is readily conceivable and this would account for steps being necessary at this point. No evidence of a door at this location was detected but it is likely that the door was housed in a wooden frame that was a part of the timber superstructure. This stone base to the steps may have been covered with wooden planking but there is no evidence for that nor any post holes suggesting uprights for handrails; these putative steps may alternatively have been capped with flagged stones given the general quality of the build, but now lost (or, less likely earth). The broad dimensions of the steps would provide surety of foot.

Ancillary Stone Walling

Adjacent to the centre of the western wall, between the internal wall (9708) and the steps (9714) were three short lengths of walling (Fig. 3.85). Next to (9708) was a short length of wall (9715) 0.8m east-west and 0.4m wide laid against (9708). Again this was mortared and included moderately sized blocks of ironstone and chalk, faced to the north. (9715) was truncated to the east parallel with the truncation of (9708) and so it presumably continued eastward. To the west it did not adjoin the western wall but instead stopped against an alignment of ironstone blocks (9716) which themselves ran parallel with the western wall c. 0.55m into the interior of Building 2. (9716) ran between (9708) and (9717) for c. 1m and was unmortared (see Fig. 3.91). It was evidently either earlier than (9715) or contemporary. Its ironstone blocks were of similar size and character to those of adjacent (9708) and the two features could be contemporary. The area between (9716) and the western wall was filled with loamy soil (9617)/(9674) 10YR 3/3 which produced a small group of animal bones as well as Dales ware (see Leary, Section 6.1.10.1j) and a sestertius of c. AD 161-92. A further short length of wall occurred on the north side of (9716) and this feature (9717) lay against the steps structure. (9717) measured 0.56m east-west and was c. 0.35m across; once more it was mortared and included chalk and ironstone. It ended flush with the facing on (9716). What these short lengths of wall represent is not immediately evident but they occur in the central area of the western wall and this may provide some clue as to their functions. The short lengths of mortared wall (9715) and (9717) may have been added to provide additional strength to walling at positions where this may have been needed. (9717) may have served as an internal buttress as Building 2 was evidently terraced at this point and so weight of soil may have been pushing against the western wall; or it may have related to the steps feature immediately to the north. The interpretation of the (9716) structure with soil ?floor behind is uncertain but perhaps there was a door-side cupboard here or it was a position where a vertical/near vertical ladder was located for accessing an upper story at the gable apex.

Post settings, Layers and Features within Building 2

It is suggested here that the only post settings recorded within the footprint of Building 2 that are potentially related to it are the five such features immediately south of the north wall. This is not a straightforward matter. Ideally we would wish to see paired symmetrical posts relating to the integral structure of the building. However, only the alignment of settings on the northern side are in a position relative to the outer wall such as to indicate that they are part of Building 2 (compare building IV at Hibaldstow: Smith 1987; see also Millett 2006, Section 15.4). There are no post settings on the south side in an equivalent position relative to the south wall: those that are there are too close. Further, with the post settings on the north side these might even relate to Building 3 rather than 2. The working solution here is to assume those on the north side relate to Building 2, and these are accordingly detailed here. Those on the south side are hypothesized to be a separate structure (Alignment 1) their function is not clear but they are late in the site sequence. They may relate to Building 3 on the basis that substantive stone filled post pits (of Building 3) cut the stone wall and these post pits within the area of Building 2 on the south side resemble these features. Further, pottery finds suggest they belong to a different (later) phase, contemporary with Building 3.

Five pits lay in a row within the area of the stone building towards its north wall. Moving from west to east these were [9686], [9580], [9658], [9682] and [9678]. These features all appear to be post pits, and all bar [9682] contained ironstone and

Figure 3.98 Trench J. Excavations underway in 2003.

chalk blocks which were likely packing stones, or possible padstones (though the later may be tipped over packing stones); [9682] was shallow and had been truncated by modern ploughing from above and to the side (via [9656]) so an absence of stone may be explicable. Indeed all the latter four cuts had been heavily truncated by ploughing as their section drawings and profiles show. In plan the pits appear to diminish in scale progressively eastward reflecting the generally increasing degrees of truncation. By contrast the most westerly post pit [9686] was comparatively well-preserved. All five may be contemporary though that is questionable in the case of [9682])] and [9678] though their proximity may have several explanations. They follow the orientation of the stone building lying adjacent to and parallel with its northern wall and their distance from it is suitable for a load bearing aisle structure of this width (cf. Smith 1963). Hence they are presumably the positions of aisle posts of Building 2. The possibility that they are associated with the apparent later timber building cannot be fully ruled out especially as the post hole [9653] of Building 3 cuts the stone wall more or less in alignment with this row, so possibly the post settings could alternatively be of Building 3 or reused for building 3. Of these pits only two contained pottery. [9682]/(9681) contained a greyware jar type with a third to earlier fourth century

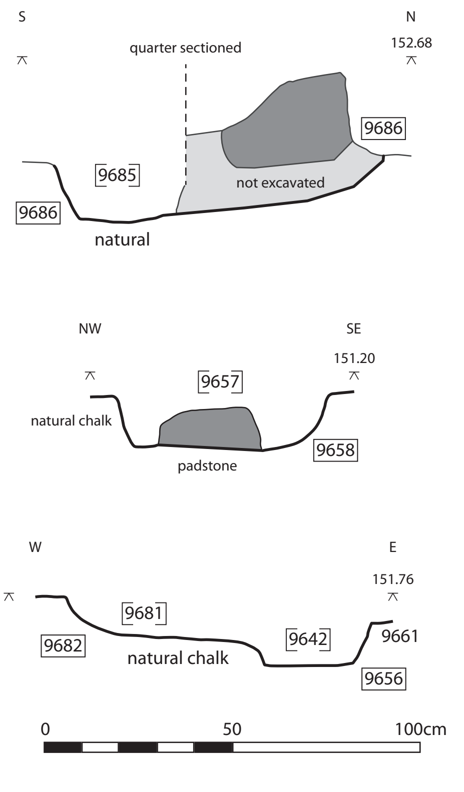


Figure 3.99 Trench J. Profiles through Building 2 post pits [9686], [9658] and [9682].

date range and [9580]/(9579) yielded several sherds, but these were not closely dateable.

Soils layers within the building were investigated. These survived for maximum of 0.65-1.3m east from the inner wall face of the west wall of the building. They were thin and only survived where they lay west of past ploughing. An ashy layer (9569)/(9614) spread across the south-west area of the interior within the area defined by (9708) which we might term Room 1. This represented perhaps build-up of material when the room was in use with perhaps elements relating to the decay or abandonment of the structure as it passed out of use. Below this ashy layer was a compact silt clay which may be the original natural soil, deemed adequate for a floor, although it is possible the floor was boarded with traces now lost. The (9569) layer was sampled for environmental remains. The sample was found to contain coal, almost certainly in this context brought to the site as fuel, and amongst the evidence for diet, chicken eggshell, hazelnut shell and fish bone (see Rackham *et al*. Chapter 7). Another coin was recovered too from this floor, a sestertius of c. AD 138-80. A small group of pottery sherds was recovered and this included significant types for dating the use of Building 2 (see Discussion below). Several iron nails were also present in this layer (Table 5.3) and their concentration tallies with the find context, consistent with construction with wood. Above (9569)/(9614) was a thick layer of stone fragments and grit in a greyish brown loamy soil matrix (9598) to the height of or slightly above the level of the western wall, the stone presumably material that came from Building 2 walls, and indicates that the surviving height on the western side may be a remnant of a higher wall since truncated. This may well represent a ‘hardcore’ platform for the subsequent Building 3.

Thin soils (c. 15mm) in the interior of the north-west room (Room 2) again lay over a silt clay base, likely to be natural or redeposited natural. These deposits, (9628)/(9629), were equivalent to the ashy layer in Room 1 and they too include a charcoal and soot fraction. Finds from this layer likewise included iron nails (Table 5.3). A thick loamy accumulation over the floor (9620) contained much pottery and seems to relate to the last use Building 2 or infilling as it passed out of use and at the point when Building 3 was established. From (9620) came part of a late Roman (fourth century) glass vessel (Cool, Section 6.5.4**,** No. 17) while a pottery group of 85 sherds plus a near complete bowl was recovered of equivalent (for this site late) date (Leary, Section 6.1.10.1j). A pocket of material on the interior of the south wall, above the fill of ditch [9525]/[9698] comprised a charcoal rich spread of likely occupation soil (9520) some 0.1m thick preserved due to sinkage of the earlier ditch fill. This was a qualitatively similar deposit it those in Rooms 1 and 2.

Within the area of the building a patch of scorching occurs (9707) where the natural silty clay had been exposed to high temperatures. This spread, just to the north of the centre of the trench, measured 1m by 0.5m (cut away by [9578] on its western side) and was perhaps the location of a hearth or oven the structure of which is now lost.

Soil horizon contemporary with Building 2

South of the south wall of Building 2 there were no features or layers present that were associated with the building. The chalk surface (9673)/ (9683) and the top fill of ditch [9698] were overlain by loamy soils. The lowest layer of these was (9597)/(9635) and it may be that this layer was contemporary with the use of Building 2 and/or its timber successor, Building 3. It yielded a small group of 33 animal bones, Dales ware type pottery and a coin (a denarius of Caracalla, c. AD 199-201), but this was not a firmly secure deposit and the coin was probably residual. Overlying (9635) was a further loam (9623) that was probably a post-Roman accumulation.

Discussion of Building 2

A number of interpretative aspects have been covered in the text above as it was logical to raise these under the specific headings and descriptions for ease of the narrative. The date of the building can be understood by a number of indicators. There are three coins from contexts directly associated with Building 2. The construction trench fill (9518) yielded a mid-second century coin and the interior soil (9674) produced another of later second century date (details given above). Both these and indeed the coin from the floor level (9569) which was also mid-second century are all coins that might have been either lost prior to the construction of Building 2 and so may be residual but are also types that might well be circulating in the early to mid-third century and indeed they display wear to various degrees; hence a date of deposition for all of them early in the third century seems reasonable (pers. comm. David Holman). The coin from (9635) from the area of the building fits chronologically with the other three coins more securely associated with Building 2. That said no later coins are directly associated with the building, despite their strong representation in the coin list from Street Furlongs generally.

Pottery, in this case, provides a closer indication of date, and the pottery from the final filling of ditch [9698] which underlay the building is relevant (cf. above). Pottery from the construction trenches was consistent with the indications from that ditch fill as to the time when the Building was erected for it included the rim of a Nene Valley beaker from (9518) and Dales ware from (9632), whilst sherds in the same fabric came from (9540) and (9590). Dales ware of this type was also recovered from the floor layer (9569)/(9614) as well as (9674). Leary concludes that this shows a date in the third century, probably the mid- to late third, for the construction and use of the building, with the oxidised Dales ware comparable to vessels from Burringham Road, Scunthorpe, of mid- to late third century (Darling 2009, 41-2). A Nene Valley reeded rim mortarium of late third to fourth century type from the floor layer (9569) conforms firmly with this dating (Leary, Section 6.1.10.1j).

It is presumed that the frontage of the building lies at the western side and this short axis fronted onto the Roman road as is standard with aisled buildings at roadside settlements in Britain (Smith 1987). The steps to a doorway relate to this interpretation. Though the side rooms at the frontage are features sometimes seen at the front of these buildings, they can equally occur at the rear so are not an indicator of orientation, and equally ancillary internal walls and stone features abutting main structural walls are not atypical, as is apparent at nearby Hibaldstow (Smith 1987). These may represent minor alterations in the biography of the building. This Mount Pleasant building seems very likely to have been terraced into the slope at this point and so the extant frontage wall exposed by these excavations may have been just below ground level, even at its highest present extant level.

Pitching of foundation stones is a fairly common practice not unique to the Roman era but is associated with stone founded buildings of Roman date in the region, as at Dragonby (May 1996, e.g. fig. 5.30) and Hibaldstow. Chalk is generally too susceptible to frost shattering but some chalks are hard and so are occasionally seen used in building frontages in Lincolnshire while the Roman naval forts at Dover dating to the earlier Roman period extensively employed local chalk in building walling (Philp 1981) and this was a hard variety chosen for purpose (pers. comm. Brian Philp). At Sparsholt villa, Hampshire, whilst the outer walls were constructed of dressed flints the internal walls of the house were formed of chalk blocks (Dicks 2011, 162). At that villa these walls were coated with painted plaster; painted plaster is known from Roman rural buildings in northern Lincolnshire as, for example, at Hibaldstow (Smith 1987, 190) and at the aisled building of some status at Wrawby (pers. comm. Sue Beasley). No evidence for plaster was encountered at Trench J or elsewhere but given that the *in situ* mortar was heavily weathered where exposed (Morgan, Section 5.2) it is possible, that if it had existed it had been fully leeched away, though this is speculative.

The walling manifest in Building 2 is almost certainly a lower section of a 'half-timber' structure on which a timber plate and frame would be constructed; a building choice offering more permanence than a fully timber structure. Similar buildings are well-precedented in the East Midlands dating from the mid- to late Roman era, as at Navenby (Palmer-Brown and Rylatt 2011). The nail assemblage from Trench J confirms carpentry. The building will have been of aisled type, but as noted not all the post pits expected within the footprint of Building 2 are present. Seemingly some aisle posts of Building 2 have been lost. The uprights may have sat on padstones, since removed, with no cutting of subsoil. The aisled building at Ingleby Barwick (Willis and Carne 2013) had largely extant walls but the aisle post positions for this substantial structure were not all represented by clear post pits.

The width of Building 2 is very close to that of the comparable aisled building at Hibaldstow: building IV (Smith 1987); that building was though very long, at over 25m. The original length of Building 2 is not known as this had not survived. Comparatively well-persevered aisled buildings at Hibaldstow from 1976 have ratios of 1:2 and 1:3 (Smith 1987, fig. 13b) while examples from elsewhere in the county, at Dragonby, Old Sleaford and Sapperton illustrated by Herbert are 1:2 (Herbert 2010, fig 8; cf. Simmons 1976; 1995). Assuming Building 2 was approximately at 1:2, given its short axis is c. 8.45m a third of the building at its eastern end has been fully lost.

The function of this building is not apparent from the recovered data. It may have functioned as a commercial and domestic property, perhaps with links with agriculture and crop processing. It did not have an open front and so does not appear to have been a shop. Two types of Roman wine amphorae came from Trench J (from Gaul and Naples (see Leary this volume)) with the Dressel 20 olive oil amphora also represented and these finds are consistent with the suggestion of wealth implicit in the character of the stone building.

Corn-Dryer [9688]/(9687)

A shallow linear feature containing heavily burnt matter c. 2m in length by 0.4 to 0.54m wide, [9688]/(9687) and (9712), was located near to the eastern baulk (Fig. 3.100). It lay immediately north of pits [9682] and [9678], and had been cut through by the modern furrow [9656]. It was manifest, though vestigial, west of [9656] as a shallow channel-like cut filled with charcoal, ash and burnt silty clay with a scorched margin (9687). This feature was possibly cut by [9682]. To the east of [9656] lay further burning and a thin burnt spread (9712) extending to the eastern baulk, seemingly part of the same feature. On site this feature (overall) was thought to perhaps represent the location of a hearth or burnt wood. An iron nail was recovered from (9687). A soil sample taken from (9687) for environmental analysis proved to be exceptionally rich in charred plant remains. This assemblage had a high density of 243 items per litre, and consisting almost entirely of grains, mostly of spelt wheat (Rackham *et al*. Chapter 7). A large proportion of the grains had sprouted and John Giorgi suggests this may be the result of accidental burning during malting (e.g. Section 7.1.4.3). Considering the morphology and burning this feature can be identified as the truncated remnants of the base of a corn-dryer flue, largely removed at this point within the field by year on year ploughing. The possible nail might have been embedded in wood used as fuel. The feature and sample provide strong evidence of crop processing on site. There is little direct evidence for the date of this activity but it seems likely to be of late Roman date and may have taken place whilst Building 2 was still standing. There is some indication the feature was cut by the post pit [9682] and if so that would mean it predates Building 2. It is hoped to ascertain a C14 date for this feature in time for reporting the corn-dryers excavated at Hatcliffe Top as part of the present Project. Corn-dryers are known from later Roman horizons in northern Lincolnshire (cf. Section 1.4), and can occur within standing buildings as at Hibaldstow (cf. Smith 1987, 64).

Phase 5

Building 3

The stone wall of Building 2 had been cut into at three locations, at least, on its western frontage to create a series of post-settings (see Figs 3.86-3.88 and 3.100). Evidently, the stone aisled building was superseded by a substantial timber structure. This timber building was perhaps of similar plan to its predecessor. The three post-settings lay in a north-south row, comprising the following features (moving from north to south). Post-setting [9630] was cut into the north-west corner of the wall of the stone building and partly extended into the western baulk. It was c.

0.45m across and extant to a depth of c. 0.28m with an approximately bowl shaped form. Post-setting [9653], some 1.25m to the south, likewise was cut into the top of the wall and was of similar form; it too partially extended into the western baulk. As with [9630] its fill (9652) included packing stones, but in this case a substantial Dales ware type rim sherd had been included amongst the packing material, being a useful dating index. The third post-setting [9690] lay a further 1.25m south of [9653] and it too

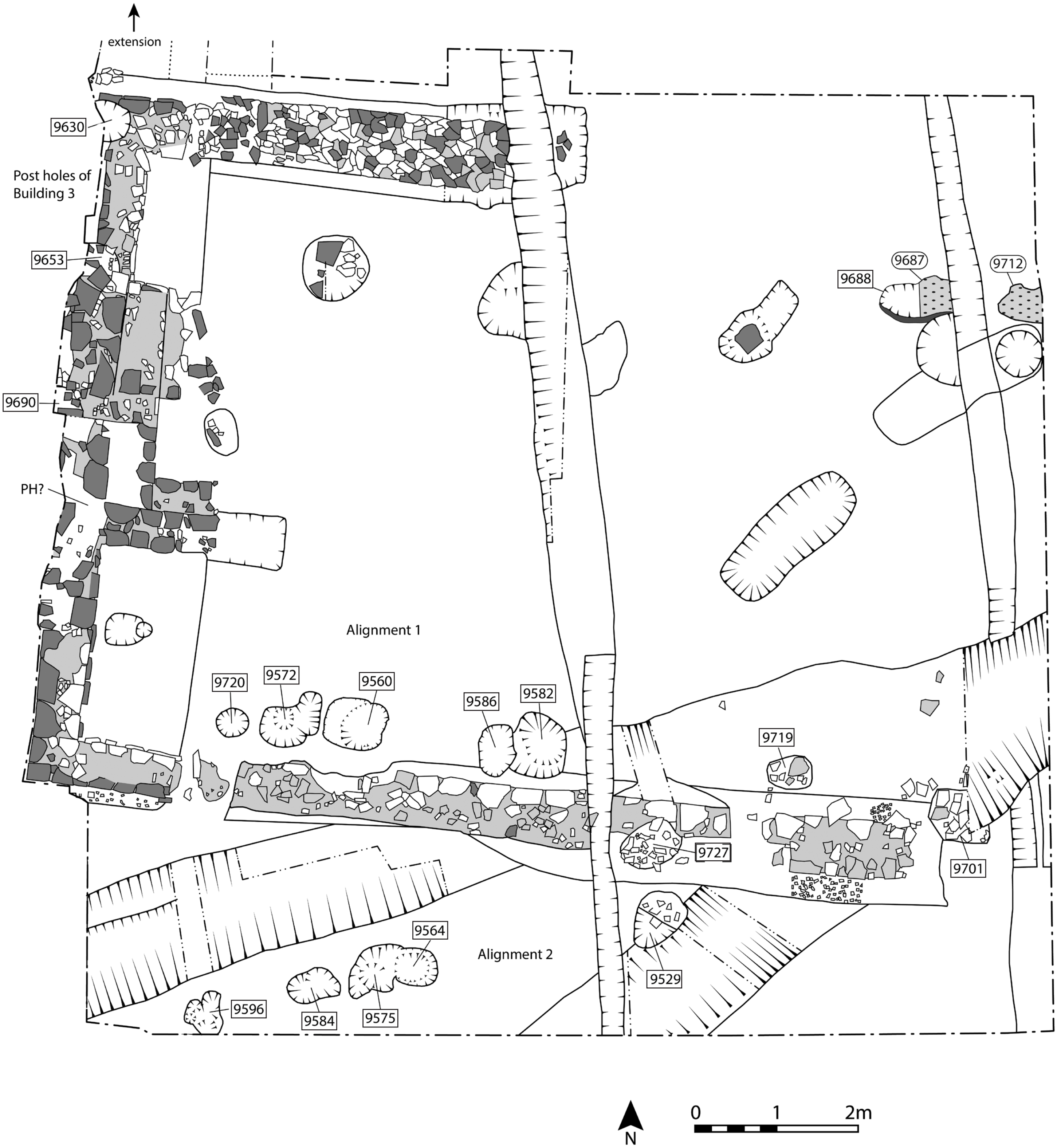


Figure 3.100 Trench J, Phase 5: the post holes of Building 3 and the post structures on the south side of the trench, together with the corn-dryer flue [9688]/(9687)/(9712), though the latter may be of late Phase 4.

extended partly into the western baulk. The fill of this setting, (9689), was not fully excavated but was lowered and defined. Again packing material included substantial pottery sherds, in this case from a large Roman greyware vessel, and set at an acute angle. All three post-settings had dark grey silty loam fills with packing material. Much of this packing material was found to have been pitched, and dipped towards the centre of the feature, much of it evidently reused from the walling of Building 2 which these features cut. A further, fourth, post hole may have lain a further c. 1.25m to the south of [9690], opposite the location of the interior wall (9708). There are though no traceable post holes to the east, within the area of Building 2, but this is not surprising since the base of the cuts for the post holes set within the west wall of Building 2 are relatively high and any cut to a similar depth to the east will not have penetrated to sufficient depth to have survived as archaeological features: they will have been lost to truncation. An issue of Constans dating to c. AD 347-8 from the fill of the modern plough channel [9578] could represent an item that was associated with this Building as it was recovered from a position likely to have been within Building 3, and it is one of the latest coins from the assemblage.

An alternative possibility is that these post holes represent a replacement of the frontage of Building 2, or at least the northern half of the frontage, whilst the building continued in use, since the posts occur at significant points (a corner and either side of the suggested position of the door by the steps), although this would mean that the timber plate method used in the original build was not followed for the replacement.

Late Roman Post Structure(s)

Two alignments of posts in the southern part of the trench are of late Roman date, post-dating Building 2. More than one phase appears to be represented, with the proximity of post holes implying replacement, or possibly pairing.

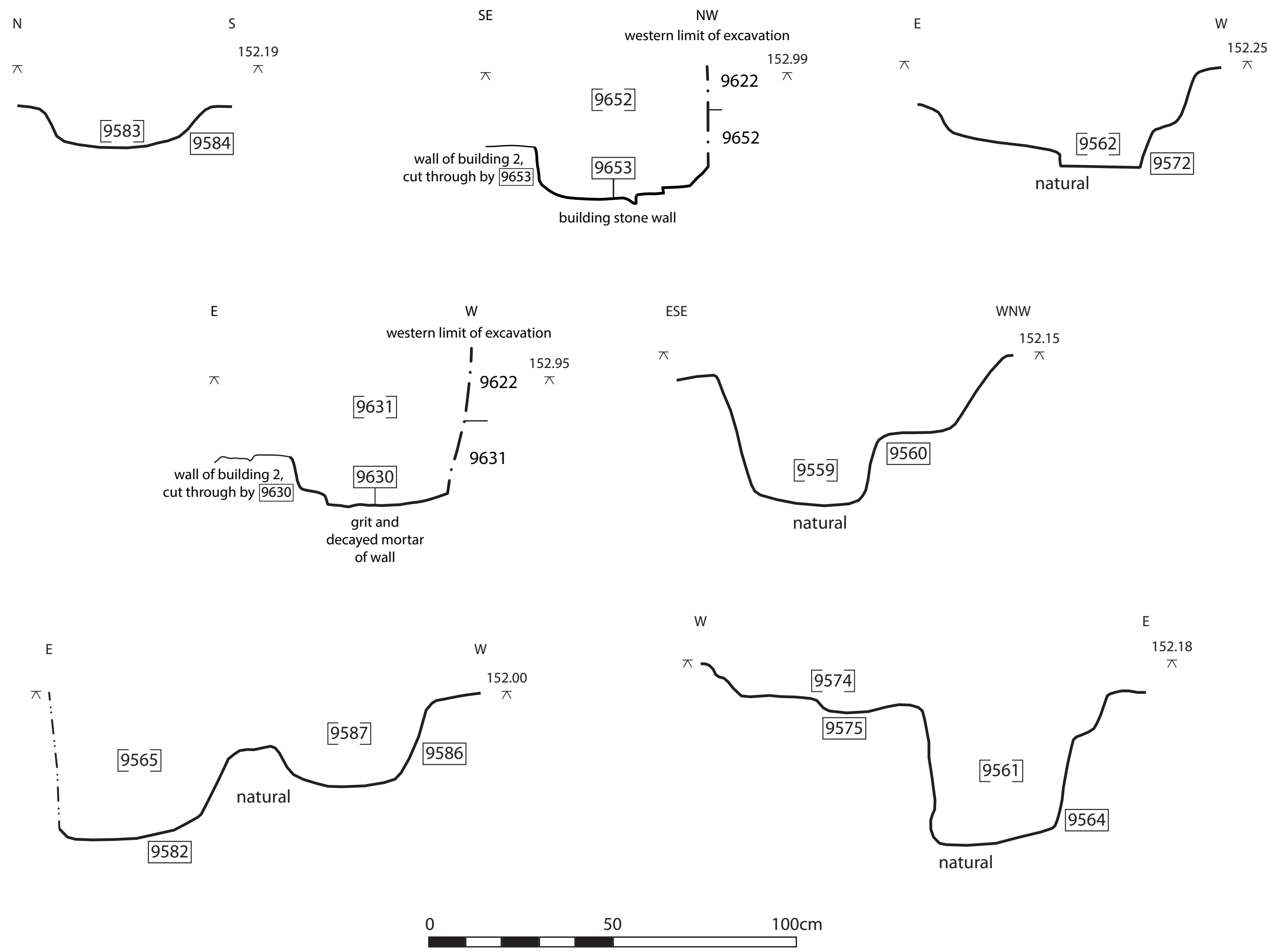


Figure 3.101 Trench J. Profiles of Phase 5 post holes.

One line of eight moderate sized post pits, Alignment 1, were discernible by the south wall of Building 2 and are taken to be contemporary with Building 3 and to post-date Building 2. As discussed above this is in part due to their very close proximity to the southern wall of Building 2. More than one phase of post holes was evident. At the eastern end was [9701]/(9530), which is discussed above with regard to Building 2; it contained fragments of mortar of the type associated with Building 2 and had in part cut through its southern wall. Moving west [9719]/(9718)/(9526) was filled with mortar and stone fragments including Tealby Limestone, yielding a nail. The fills of adjacent cuts [9582]/(9565) and [9586]/(9585) contained respectively ironstone, wall mortar and a sherd from a Swanpool/Cantley reeded hammerhead mortarium of fourth century date, and ironstone. [9560]/(9559)/(9566) held limestone and ironstone, with a residual Central Gaulish Drag. 37 base fragment also present and serving as packing. [9572]/(9562) had wall mortar, chalk blocks, ironstone, oxidised Dales ware jar and a late-third to fourth century flanged hemispherical bowl. [9720]/(9601) and [9605]/[9607] were less substantive features near the western end of the structure. From (9568), the layer above (9569), came further late Dales ware of the type occurring in the back fill (9620) over Room 2 (see above). In sum these post settings have material from the stone wall of Building 2 arranged as packing and the mortar fragments are diagnostic of their post Building 2 date; this dating is borne out by the incidence of several late Roman types in their fills, later than the pottery associated with Building 2.

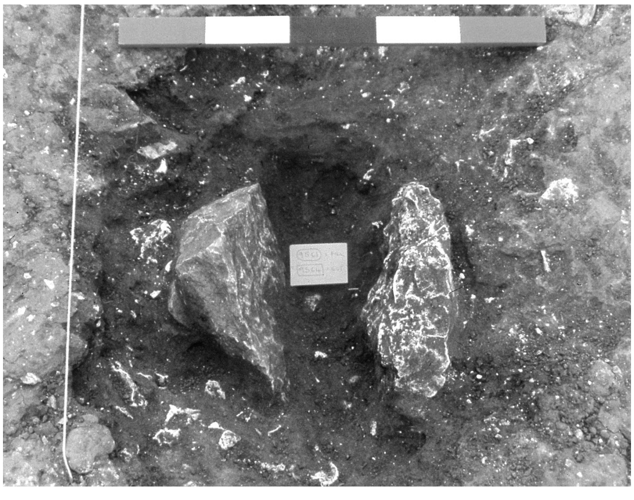


Figure 3.102 Trench J. Post hole [9564] during excavation, showing packing stones on edge: chalk on the right and Tealby Limestone on the left.

Further south, to the south of [9698] and [9699] a line of four post holes occurred with a fifth, possibly associated further to the east [9529], Alignment 2. These features appear to be contemporary and of the same late Roman phase as the alignment previously detailed, but they are of smaller scale and do not form a coherent pattern with Alignment 1. Moving from east to west: [9529]/(9515) contained a high proportion of chalk fragments but nothing firmly dateable; [9564] had two fills (9561) and (9570) and contained substantial packing slabs of Tealby Limestone and chalk, with oyster shell present. [9575]/(9574) was more scoop like with a uniform black loam fill lacking substantive inclusions; [9584]/(9583) included ironstone fragments; and the scoop fill at the western end of the alignment, [9596]/(9595) may be a natural disturbance.

Chapter 4

The Prehistoric Artefacts

Barry Bishop, Stuart Needham and Steven Willis

4.1 The Lithics

Barry Bishop

This report covers the lithics recovered during the fieldwork between 1998-2013, and also publishes two axes found in 2000 and made available to the Project for study by Gwen Bain of Nettleton. Flint artefacts found by metal detector users in East Field before 1998 are catalogued in Section 4.1.6.

4.1.1 Two Stone Axes from Street Furlongs

Two large fragments representing the substantial remains of two ground stone axes were recovered. They were both found in the topsoil but close to each other and at the same time, which presents at least the possibility that they may have shared a common depositional history.

Stone Axe 1

Description: Blade end fragment weighing 113g of a fine grained greyish green stone axe with slight brown surface discolouration. It has an asymmetrical convex cutting edge, which exhibits minor chipping, and damage that appears to have occurred both pre- and post-discard. One of the lateral edges is rounded and possibly 'original'; the other has been extensively reworked showing sinuous scars from alternate flaking that has only been cursorily re-ground. Asymmetric faceting is present on both faces and its irregular cross section testifies to at least one episode of significant remodelling, involving a substantial reduction in size. It has several deep scratches, quite possibly from post-depositional damage. (Fig. 4.1; Fig. 4.3.1)

Stone Axe 2

Description: Butt end fragment weighing 289g of fine grained greyish green stone axe with a reddish brown surface discolouration. It has been lightly burnt causing some fire-crazing of the surface and it is likely that the

Figure 4.1 Stone Axe 1 (scale 2:3).

Figure 4.2 Stone Axe 2 (scale 2:3).

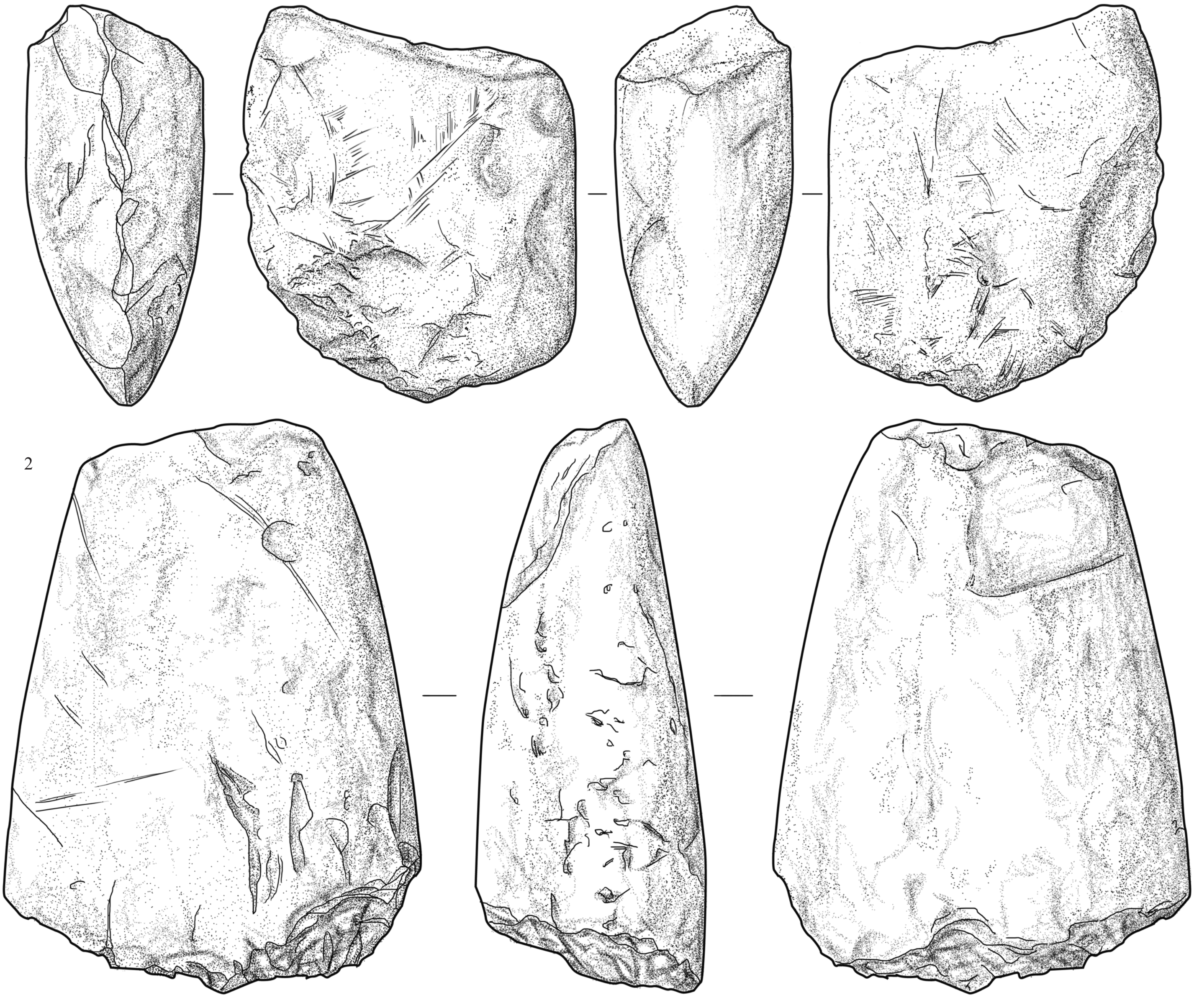
axe was broken after the burning, as the fracture scars are hackled rather than conchoidal. Its main surfaces retain occasion traces of conchoidal flake scars that have not been fully removed by grinding. The lateral edges are rounded and very slightly facetted. They taper towards the butt which is broad and fairly thick, although its original shape is masked by partial reworking and later damage. The reworking includes the removal of a number of large invasive flake scars, which have been partially re-ground, although the cross section of the axe is symmetrical and shows no evidence of extensive remodelling. The butt also shows extensive battering, not all of which necessarily occurred after deposition and some may have been occasioned through use. (Fig. 4.2; Fig. 4.3.2)

4.1.2 Struck Flint

A small collection of struck flint totalling 32 pieces was recovered during the investigations. Thirteen came from excavations in East Field and Street Furlongs, the remainder were found on the surface of all three fields, either during fieldwalking or as casual finds (Table 4.1; further details of each piece including its find-spot, raw material, condition and dating is provided as Table 4.2). The latter certainly can be considered residual and it is likely that even those from excavated contexts have been redeposited. Accordingly, most pieces show some degree of post-depositional damage, although this is rarely severe.

1

2



0 2cm

Figure 4.3 The stone axes.

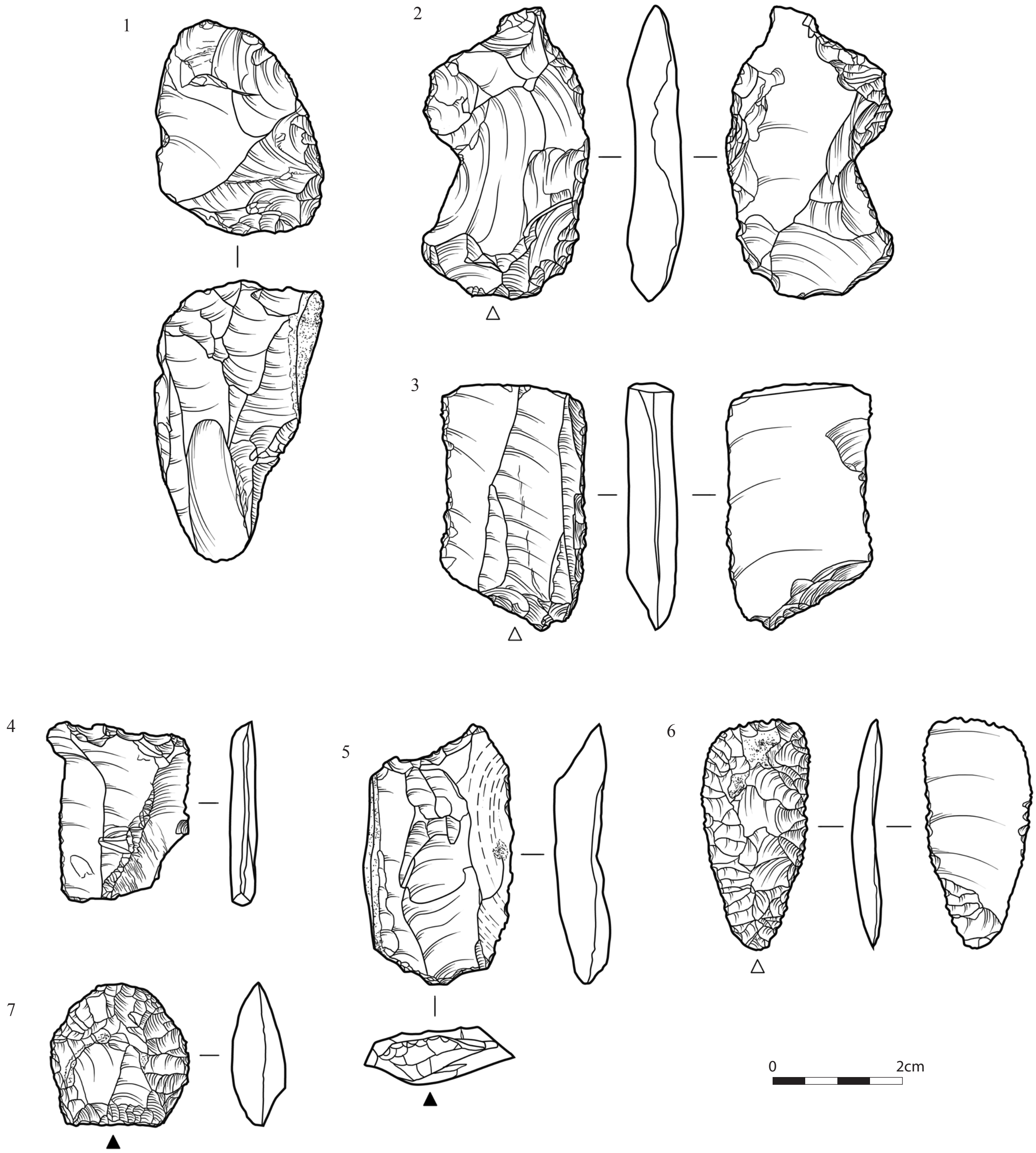


Figure 4.4 Struck flint.

Table 4.1 Quantification of Struck Flint from Mount Pleasant, Nettleton/Rothwell 1998-2013.

Field	Flake	Unclassifiable flake fragment	Blade	Core	Arrowhead	Edge trimmed blade	Plano-convex knife	Short end-scraper	Long end-scraper	Thumbnail Scraper	Truncated Piece
East Field	3	3	1						1	1	2
North Field	2				1						
Street Furlongs	4	1	6	1		2	1	1	1		1
Totals	**9**	**4**	**7**	**1**	**1**	**2**	**1**	**1**	**2**	**1**	**3**

4.1.3 Raw Materials

The struck assemblage was all manufactured from a translucent 'glassy' flint with abraded cortex that can be found in the glacial tills of the region. Colours vary with the majority of pieces being manufactured from a light semi-translucent grey or translucent yellowish grey flint, typical of the pre-Ipswichian tills that can be found a few kilometres to the west of the site (Henson 1985). Also present were a number of pieces made from translucent black or dark brown flint, typically found in the Devensian tills present along the Humberside and North Sea coast (ibid.). A palaeochannel containing colluvial 'Head' deposits does traverse the site, although it is unlikely that this would contain raw materials suitable for the worked flint industry (BGS 1990). The raw materials were evidently small, as demonstrated by the size of the flakes and blades; the largest piece is a blade that measures 68mm long but most of the other pieces are less than 30mm in maximum dimension.

Somewhat surprisingly, no struck pieces appear to have been made from the local 'Lincolnshire Wolds' Chalk flint, despite the site being located on the flint bearing Welton Chalk formation and numerous unworked pieces being recovered from the fields during the investigations. This dense and brittle opaque grey 'stony' flint, although not ideal for knapping, was used alongside the better quality till flint throughout the Holocene in the Lincolnshire Wolds and can be seen in assemblages from the region. At Dragonby, for example, it accounted for over a quarter of the lithic industries and at the long barrow excavations at Swinhope and amongst the lithics scatters at Salmonby it was the predominant type used (Guirr *et al.* 1989; Phillips *et al.* 1989; Phillips *et al.* 1990). However, its use does seem to be very variable. Closer to the site it represented only 12% of the struck flint recovered during a major fieldwalking project conducted across the chalk ridge to the south of Mount Pleasant (Phillips 1989) and a similar lack of interest in Wolds flint was noted at the excavations at Nettleton Top, where it accounted for less than 10% of the assemblage (Healy 1993). Its absence here may just be a factor of the small size of the assemblage. The choices of which types of flint to use will also depend on the social values ascribed to different raw materials, the ease with which they can be accessed, and perceived and real differences in their mechanical attributes. These are likely to vary through time and with the types of things being made, making it difficult to compare raw material use with industries that are mixed both in date and typological composition. Wolds flint appears to have been preferentially used for the large blade industries of the Early Mesolithic and for Later Neolithic heavy flint implements. By contrast, the finer-flaking till flints appear more commonly used for making small blades during the Later Mesolithic and, later on, for delicate pieces, such as arrowheads and other invasively flaked implements (Guirr *et al.* 1989; Myers 2006).

4.1.4 Typology, Technology and the Chronology of Flint Use at the Site

The earliest pieces of struck flint are characterized by a reduction strategy involving the repeated removal of standardized blades from prepared cores and contribute around half of the assemblage. They can be dated to the Mesolithic or Early Neolithic period. Whilst there are no truly diagnostic pieces to further refine this date range, the careful and systematic approach to making many of the blades suggests that the majority probably date to the former period. The blades, most of which are prismatic, contribute over a fifth of the struck assemblage. Several flakes also retain dorsal blade scars, indicating that they too were made as part of a blade-based reduction strategy. The only core recovered at the site can also be placed into this phase. It consists of a single platform 'front' type blade core (Evans 2004) and has an extensively facetted striking platform (Fig 4.4.1). It was made from a small nodule of translucent grey flint with a thin but rough cortex and has experienced minor disintegration along thermal faults. Retouched pieces form a notably high proportion of this material (c. 25%) and include two edge retouched blades that have probably been used as cutting implements, one of which has a serrated edge. Two further blades have fine but steep convex retouch around their distal ends, comparable to that seen on long end-scrapers, although they are remarkably small examples.

Mesolithic or Early Neolithic implements

Bulbar end of prismatic blade with very fine shallow retouch along left lateral margin, possibly to strengthen a cutting edge. Right margin is naturally blunt. Measures >25mm x 13mm x 5mm. Not illustrated.
Medial section of a prismatic blade with very fine slightly serrated retouch along left lateral margin. Measures >22mm x 18mm x 4mm. Not illustrated.
Small blade with fine steep slightly 'nosed' convex scalar retouch around distal end. Striking platform is either facetted or has additional retouch; cf. a long end-scraper but very small. Measures 32mm x 14mm x 4mm. Not illustrated.

Small prismatic blade with bulbar end missing. Has fine steep convex scalar retouch around most of distal end, parts of which retain cortex; cf. a long end-scraper but very small. Measures >29mm x 10mm x 5mm. Not illustrated.

A bifacially worked flake most likely represents an unfinished Early Neolithic leaf-shaped arrowhead. This appears to have failed due to the formation of deeper scars that would have prevented the piece from being further shaped or thinned (Fig 4.4.2).

Unfinished Arrowhead

Description: Flake with bifacial invasive retouch around all margins removing both bulbar and distal ends and leaving only a small part of the ventral face. The retouch is mostly shallow but there are some deeper hinge fracture scars. Measures 44mm x 27mm x 8mm.

Much of the remainder of the struck flint assemblage can only be dated more broadly to the Neolithic or Bronze Age. This includes three relatively robust non-prismatic narrow flakes or blades that have been obliquely truncated, resulting in them being trapezoidal in shape (Figs. 4.4.3 – 4.4.7). Two have fine retouch or edge damage along one or both or their lateral margins, with the third having a serrated edge. They appear to have been intended as cutting tools, perhaps as elements in composite implements, such as sickles or knives (cf. Bell 1977, fig. 35).

Neolithic truncated flakes

Bulbar end of a robust blade or blade-like flake with fine retouch along right lateral margin, bifacial battering along left lateral margin and inverse retouch obliquely truncating bulbar end, possibly to aid handling/hafting. Measures >37mm x 23mm x 7mm. (Fig. 4.4.3)
Neolithic truncated flake. Burnt distal end of a large blade or blade-like flake with fine serrations along part of left lateral margin and steep retouch transversely truncating distal end, possibly to aid handling/hafting. Measures >27mm x 22mm x 4mm. (Fig. 4.4.4)
Neolithic truncated flake Narrow flake with facetted striking platform and a short stretch of fine retouch along the right lateral margin and steep scalar retouch obliquely truncating the distal end, possibly to aid handling/hafting. Left lateral margin is naturally blunt. Measures 41mm x 23mm x 8mm. (Fig. 4.4.5).

A few flakes have traits such as faceted striking platforms, which are most commonly encountered within Later Neolithic assemblages, including a broken scraper.

Later Neolithic Scraper

Small flake with facetted striking platform and moderate steep convex scalar retouch around distal. Broken longitudinally. Measures 23mm x >14mm x 6mm. Not illustrated.

Flint use at the site continued into the Early Bronze Age as demonstrated by two very finely worked implements, a knife and a small invasively flaked circular scraper. The knife is small and very finely worked with a serrated edge, and corresponds to Clark's classic plano-convex types (Clarke 1932) (Fig. 4.4.6).

Plano-Convex Knife

Very finely made, tear-drop shaped with bilateral invasive pressure thinning covering almost all of dorsal surface but leaving a small patch of abraded but rough cortex. Edges are serrated and it is curved along its longitudinal axis. Striking platform and bulb of percussion removed using inverse invasive flaking at bulbar end but its distal termination remains largely intact. Measures 36mm x 16mm x 3mm. (Fig. 4.4.6)

The small area of pressure flaking on its ventral surface that removes the bulb of percussion is unusual. Although bifacial flaking is unusual for plano-convex knives, the extensive flaking on its dorsal surface compared to the limited flaking on its ventral, combined with the characteristic curvature along its longitudinal axis, would strongly suggest it is not a different category of implement, such as an arrowhead. Very similar inverse retouch can also be seen on a comparable plano-convex knife recovered during the 1980s fieldwalking survey (Phillips 1989, fig 2.8, 4), which is suggested may have originated from a ploughed-out round barrow (Phillips 1989, 32). In his defining survey of these implements, Clark (1932) identified plano-convex knives as being often found in funerary contexts, most typically those associated with collared urns and food vessels. Although subsequently there have been many attempts to extend the currency of this implement type into the Neolithic, Saville (1985) has convincingly argued such attributions frequently lack secure contextual associations or they involve mis-identified implements. As is suggested by his discussion of the five examples from the Salmonby round barrow (Saville 1985), where contextual associations are available, examples displaying all- or near all-over pressure flaking do appear confined to the Early Bronze Age and were frequently used as grave goods/offerings.

Table 4.2 The Lithic Assemblage from the Archaeological Work 1998-2013.

Field	Trench / Context	Type	Colour	Cortex	Condition	Suggested Dating	Comments
East Field	W of Trench C u/s	Thumbnail scraper	Translucent yellow/grey	None	Slightly chipped	EBA	Fig 4.4.7 Thumbnail scraper: See text
East Field	Trench C 3003	Flake	Translucent dark brown	Thin, rough	Chipped	Neo/BA	Small
East Field	Trench D 4002	Blade	Translucent dark brown	None	Chipped	Meso/E Neo	Severe post-depositional damage
East Field	Trench F 6001	Flake	Translucent yellow/grey	Thick, rough	Slightly chipped	Meso/E Neo	Narrow flake with blade-like dorsal scars
East Field	Trench F 6001	Flake fragment	Translucent yellow/grey	None	Chipped	Meso/E Neo	Small fragment with blade-like dorsal scars
East Field	Surface u/s	Small long end-scraper	Semi-translucent grey	None	Chipped	Meso/E Neo	Long end-scraper: See text
East Field	Trench D 4005	Truncated flake	Translucent yellow/grey	None	Burnt	Neo	Fig 4.4.4 Truncated flake: See text
East Field	Surface u/s	Truncated flake	Mottled brown	None	Slightly chipped	Neo	Fig 4.4.3 Truncated flake: See text
East Field	Trench D 4001	Flake	Translucent dark brown	Smooth/ thermal	Chipped	Neo - BA	Thick hard hammer flake. Possible edge retouch along distal
East Field	Trench D 4001	Flake fragment	Translucent black	Smooth/ thermal	Chipped	Neo - BA	Has possible edge retouch but could be post-depositional
East Field	Trench D u/s	Flake fragment	Semi-translucent grey	None	Chipped	Neo - BA	Laterally split
N Field	Surface A50	Bifacially worked flake	Recorticated blue	None	Slightly chipped	E Neo	Fig 4.4.2 Unfinished leaf-shaped arrowhead: See text
N Field	Surface A22	Flake	Semi-translucent grey	None	Chipped	L Neo/EBA	Facetted striking platform
N Field	Surface A25	Flake	Translucent yellow/grey	None	Chipped	Neo - BA	Thick hard hammer flake
St Furlongs	Trench J 9555	Plano-convex knife	Translucent yellow/grey	Thin, rough	Slightly chipped	EBA	Fig 4.4.6 Plano-convex knife: See text
St Furlongs	Trench J 9568	End scraper	Semi-translucent grey	None	Chipped	L Neo/EBA	End scraper: See text
St Furlongs	Square E4	Flake	Semi-translucent grey	Thin, rough	Slightly chipped	Neo/BA	Has narrow dorsal flake scars and a wide unmodified striking platform
St Furlongs	Trench J 9550	Blade	Translucent yellow/grey	Thin, rough	Slightly chipped	Meso/E Neo	Bulbar fragment
St Furlongs	Survey 46	Blade	Translucent dark brown	None	Slightly chipped	Meso/E Neo	Bulbar end missing
St Furlongs	Square I5	Blade	Translucent black	Thin, rough	Slightly chipped	Meso/E Neo	Bulbar end missing
St Furlongs	Square K1	Blade	Translucent dark brown	None	Slightly chipped	Meso/E Neo	Bulbar fragment of a micro-blade c. 7mm wide
St Furlongs	Trench J 9661	Blade	Translucent yellow/grey	Thin, rough	Slightly chipped	Meso/E Neo	Complete. Measures 28 x 11 x 4mm
St Furlongs	Trench J 9579	Blade	Translucent black	Smooth/ thermal	Chipped	Meso/E Neo	Partially crested
St Furlongs	Square N1	Blade core	Translucent yellow/grey	Thin, rough	Chipped	Meso/E Neo	Fig 4.4.1 Blade core: See text

Table 4.2 The Lithic Assemblage from the Archaeological Work 1998-2013 (continued).

Field	Trench / Context	Type	Colour	Cortex	Condition	Suggested Dating	Comments
St Furlongs	Trench J 9621	Edge retouched blade	Translucent black	None	Slightly chipped	Meso/E Neo	Edge retouched blade: See text
St Furlongs	Square Q1	Edge retouched blade	Translucent black	None	Slightly chipped	Meso/E Neo	Serrated blade: See text
St Furlongs	Survey 280	Flake	Translucent dark brown	Thin, rough	Chipped	Meso/E Neo	Narrow flake with blade-like dorsal scars. Possibly edge retouched but could be post-depositional damage
St Furlongs	Survey 35	Flake	Translucent yellow brown	Thin, rough	Slightly chipped	Meso/E Neo	Small flake with blade-like dorsal scars
St Furlongs	Surface u/s	Small long end-scraper	Translucent yellow/grey	Thin, rough	Slightly chipped	Meso/E Neo	Long end-scraper: See text
St Furlongs	Surface u/s	Axe	Greenstone	N/A	Chipped	Neo	Fig 4.1; Fig. 4.3.1 Ground stone axe: See text
St Furlongs	Surface u/s	Axe	?Greenstone	N/A	Chipped	Neo	Fig 4.2; Fig. 4.3.2 Ground stone axe: See text
St Furlongs	Surface C3	Truncated flake	Translucent yellow/grey	Smooth/ thermal	Slightly chipped	Neo	Fig 4.4.5 Truncated flake: See text
St Furlongs	Survey D3	Flake	Semi-translucent grey	None	Chipped	Neo - BA	Narrow flake with wide cortical striking platform
St Furlongs	Surface F4	Flake fragment	Translucent yellow/grey	Smooth/ thermal	Chipped	Neo - BA	Has possible edge retouch but could be post-depositional

The small circular scraper is also finely worked and exhibits similar invasive and very shallow flaking as seen on the plano-convex knife (Fig. 4.4.7).

Thumbnail Scraper

Short thick flake with wide obtuse striking platform and pronounced bulb of percussion. It has invasive radial retouch around distal end and both lateral margins, possibly also extending across the front of the striking platform. The retouch is shallow and covers most of the dorsal surface, creating a dome. Measures 19mm x 21mm x 8mm. (Fig. 4.4.7)

The term 'thumbnail' scraper is often over-used and applied to a variety of small scrapers, but this implement is a classic 'thumbnail' type, as indicated by its diminutive size and extensive radial retouch which covers most of the dorsal surface. Such implements can be dated to the Early Bronze Age and are particularly associated with Beaker contexts, where they often form very high proportions of the lithic implements present (e.g. Wainwright 1972, 66). The actual use of this particular type remains enigmatic although they appear to represent a departure from the typical and ubiquitous 'scrapers' that are found in most Holocene assemblages. Their diminutive size would suggest their use was restricted to a limited range of tasks and they have been associated with particular individuals and possibly with personal grooming (Edmonds 1995, 140-1). Although as a broad type they are found in many contexts, including profusely on settlement sites, very finely worked examples such as this are more restricted and, as with plano-convex knives, often appear as grave goods (Edmonds 1995, 141).

4.1.5 Discussion of the Lithic Assemblage

The lithic material recovered from the site is small in quantity and lacks secure contextual associations. Nevertheless, it is interesting in composition and can give a brief, albeit tantalizing and rather speculative, impression of the role of flintwork at the site in later prehistory. Its general character is broadly comparable to other lithic assemblages recovered from this part of the Wolds and which demonstrate a continuous presence from the Mesolithic onwards (e.g. Phillips 1989; Healy 1993). Differences in the composition, or the 'technological signatures', of the assemblages do suggest subtle changes in the way this area was perceived and used however, and these are discussed in greater detail below.

The earliest activity indicated at the site, probably contributing the majority of the flintwork, can be dated to the Mesolithic or Early Neolithic. The material comprises a handful of small but carefully made flint blades and a high proportion of these have been retouched. A single core belongs to this period of flintworking, but there are no decortication flakes or other pieces indicative of flint production and it appears this material was geared towards tool use rather than production. The Wolds flint that outcrops at the site was rejected in favour of the better knapping quality flint which was brought to the site from a distance of at least a few kilometres and possibly much further. The assemblage is very small and, although slightly higher densities of struck flit were recovered during the 1992/1993 fieldwalking (Fig. 4.5), it appears unlikely that any great concentrations of struck flint are present at the site. The size of the assemblages is indicative only of low level or sporadic activity and the picture it presents is one of transient communities occasionally visiting

Figure 4.5 The distribution of worked flint across East Field as recorded by the British Gas archaeological team survey 1992-3.

the site and using it for a range of activities, bringing their flintwork in ready-made form and probably not staying for any great length of time. The general location of the site, on the chalk escarpment and along a major watershed, may have made it important in terms of mobility, linking the eastern and western Wold valley systems and perhaps representing significant foci for the meetings of different communities. In this sense the site can be seen as a part of a much wider landscape of inhabitation. It is likely that the places which saw more prolific or intense use of flint, including the preparing of raw materials and manufacture of tools, are to be found in sheltered valleys and lower lying areas, perhaps where vital resources such as water would be more easily available.

Much of the struck flint has a distinctly Mesolithic 'feel', being very skilfully made but following narrowly-defined reduction strategies. There is no reason, however, to suppose that at least sporadic visiting of the area did not continue into the Early Neolithic as is indicated by the abandoned leaf-shaped arrowhead; a further two leaf-shaped arrowheads are recorded as being found by metal detectorists at the site prior to these archaeological works (Section 4.1.6). Again, the lithic material does not suggest intensive settlement-type activities at the site, despite evidence from the geophysical survey and excavations indicating the development of monumental architecture at the site during the Early Neolithic, a development apparently echoed all along the chalk escarpment in Lincolnshire (e.g. Jones 1998a).

Of particular interest are the two ground stone axes found at the site, which can be dated to the Neolithic period. Axes are not commonly found within routine or everyday settlement contexts and their importance is further emphasised by the earlier recovery by metal detectorists of a polished flint axe at the site (Section 4.1.6). One of the stone axes (Fig. 4.1) is macroscopically comparable to the epidotized tuff (Group VI) which has its principal source in the central fells of the Cumbrian Lake District. The other (Fig. 4.2) appears to be of similar material, although identification is hampered by the burning that has altered the rock's colour and texture. Such macroscopic attributions must remain tentative, however, as Group VI stone can be misidentified with other fine grained igneous rock, including some of the tuffs from the Welsh axe production sites. The Group VI axes, however, are by far the most common types that have been petrologically sourced in Lincolnshire and they are notably concentrated in north Lincolnshire and the Wolds (Cummins and Moore 1973; Clough and Cummins 1988). It would therefore be of no surprise if these two were indeed from Cumbria, but wherever their precise source, the axes are made from non-local stone that must have its origins in the far west of Britain and they have clearly travelled a considerable distance to get to Mount Pleasant.

Due to their recovery from the topsoil, few definitive statements can be made concerning their roles at the site or the contexts of their deposition. Although unstratified, there are a number of geophysical anomalies in the vicinity of the axes' find-spots that are suggestive of Neolithic or Early Bronze Age monumental structures and it is tempting to think that the axes may relate to these. There is certainly a correlation between exotic stone axes and Neolithic monuments in Britain, a relationship which appears to begin in the late 4th and continue through into the 3rd Millennium BC and involved the circulation of stone axes, particularly those from Cumbria (Group VI), Wales (Group VII) and Cornwall (Group I) (Bradley and Edmonds 1993; Edmonds 1998).

As well as having evidently travelled for a considerable distance from their sources, the axes also display considerable other evidence of their life histories. This includes wear and attrition from use, attempts at remodelling and eventually breaking; the second axe became broken after having been burnt. Whilst this damage might just represent the 'wear and tear' of much-used tools, it is also possible that the axes were purposefully put out of use prior to deposition. It is often thought that some axes may have embodied a variety of properties, powers and associations sometimes relating to, but far from being constrained by, their functional abilities. This may stem from their associations with distant places and through long curation and movement around the country, the axes acquiring added layers of association from their relationship with other peoples and places, embedding memories of meetings, exchanges and obligations (Helms 1988; Bradley and Edmonds 1993; Edmonds 1993; 2004; Whittle 1995; Bradley 2000). The significances attached to axes also may have governed the methods and conventions surrounding their disposal. In other contexts it has been noted that axes have been 'decommissioned' by burning, flaking down or fragmenting; a process of "ritually killing' or otherwise limiting the potency of the axe (e.g. Edmonds 1998; Larsson 2000; 2011; Cooper and Hunt 2005; Williams *et al.* 2011; Bishop forthcoming a). Given the nature of Neolithic monuments, these may have provided appropriate locations not only for the exchange of axes but also for their ultimate transformation and abandonment.

One further aspect of stone axes is perhaps worth mentioning. A small number of prehistoric axes have been found in Later Iron Age or Roman contexts where they appear to have been intentionally placed. With these it would seem that once found, the axes were recognised as ancient, exotic or even supernatural objects, regarded as special and collected (e.g. Castle 1974; Greenwood 1982; Rodwell 1988; Cotton 1996; Perkins 1999; Turner 1999; Bishop 2001; Howell 2005; Bishop forthcoming b). Again, we do not know what the depositional circumstances of the axes here were, or what kind of context they may have come from before entering into the plough-zone. It is interesting, however, that an Early Bronze Age axe was found in what appears to be a recut of an earlier monumental ditch where it might have been placed as a votive offering. There are a restricted number of pieces that can be assigned to the Later Neolithic and Early Bronze Age but they are particularly interesting in composition. Alongside one or two flakes are two invasively retouched implements that can only be described as elaborate, the plano-convex knife and the thumbnail scraper. They are at least broadly contemporary with the bronze axe found during the excavations and, interestingly, have all been identified as representing 'personal' items, things closely associated either with specific individuals or the roles and relationships those persons might have embodied. It is perhaps for this reason that both types of flint implements are often found as grave goods, although this is not true of bronze axes, which are more usually found as items purposefully deposited at specific points in the landscape. The flint implements are unstratified and such contextual associations cannot be made here. It is interesting to note, however, the dense number of round barrows recorded through aerial photographs in this area, including possible examples revealed by geophysical survey at the site itself. The struck flint gives few indications that the site saw dense or prolonged settlement and it may have continued as a ceremonial landscape, one perhaps increasingly focussed on funerary activity.

4.1.6 Flint Artefacts recovered from East Field by Metal Detectorists pre 1998

Jeffrey May†

The following catalogue was prepared by Jeffrey May for the report on the findings of the British Gas archaeological team survey of 1992-3 (Catherall *et al.* 1998).

Catalogue

1. Blade in pale brown translucent unpatinated flint, tapering to a blunted point. 37mm by 13mm near butt end. Retouch along both sides towards the point.
2. Fragment of the blade end of a polished flint axe-head with much pressure flaking still visible. 45mm by 37mm, the latter across the damaged blade. Pale grey flint.
3. Leaf arrowhead/javelin head, 40mm by 31mm. Dark grey-brown unpatinated flint.
4. Leaf arrowhead/javelin head, similar to No.3, 45mm by 35mm.
5. End scraper, 45mm by 31mm; flint as No.3.
6. End scraper, 41mm by 30mm; flint as No.3 but paler.
7. End scraper, 39mm by 32mm (width slightly reduced by damaged to side); flint as No.3. Made from rough outer flake with some cortex.
8. Scraper, 44mm by 35mm; grey/cream unpatinated flint.
9. End scraper, 39mm by 28mm; pale brown/grey unpatinated flint.
10. Small end scraper, 34mm by 19mm; flint as No.3. Made from rough outer flake with some cortex.
11. Thumbnail scraper, 32mm by 24mm; flint as No.3.
12. 'Fabricator', 71mm; flint as No.3.
13-15. Rough outer flakes; flint as No.3 - grey-black or brown, all with cortex.

4.2 Low-flanged Early Bronze Age Axe

Stuart Needham

4.2.1 Condition and Form

Condition

The immediate context of the axe-head (henceforth 'axe') is described above (3.3.1) and its post-excavation treatment is described below (4.2.4). The axe is generally in good condition with some corrosion pocking and minor ancient damage (Fig. 4.7). Much of the extant surface carries a rich dark green shiny patina. A lesser proportion is marred by corrosion warts comprising either extrusions or pitting; on face 1 (lower view on Fig. 4.7 and the face shown in Fig. 4.9) these are scattered except for a concentration along the cutting edge; on face 2 (upper view on Fig. 4.7) there are concentrated patches adjacent to the butt, towards one side of the blade and, again, alongside the cutting edge; the sides have suffered less, there being only limited areas of scarring.

There is limited outline loss in three zones: a) a small double-notch into one butt corner appears to be due to corrosion pocking; b) the less protuberant blade tip is rather rounded and not particularly regularly shaped – although there is corrosion on the faces alongside, the blunt end itself appears to show squashed lips of metal, probably due to reworking after fracture or miscasting of the tip; various notches into the cutting edge are all associated with corrosion pits and there is no evidence for an origin in ancient damage except at the missing corner.

Dimensions

Length 178mm; length of haft end 74 and 76mm; width of butt <29.5mm (estimated originally 28.5mm); width at stop 45mm; width of cutting edge >99.5mm (estimated originally 104mm assuming symmetry); thickness of butt 3.2mm; thickness at stop 12.2mm; breadth of sides 13.2 and 14.1mm; maximum height of flanges 0.7, 1.2, 1.4 & 1.7mm; thickness of edge bevel 9.0mm; depth of edge bevel 21mm; weight 679g.

Morphology

Most of the body (above the blade expansion) displays a fairly steady flare; however, the sides are not quite straight lines, but are very gently bowed in the middle. This is a subtle feature seen on some other axes of this class and some succeeding flanged axes. The butt is well formed as a gentle arch and its intact corner is angular; it is unusually thick and diffusely double-faceted along the top. The sides begin to expand subtly at around the base of the decoration, and then curve outwards dramatically to form projecting blade tips; the intact blade tip curves very slightly upwards before

Figure 4.6 Trench A. The Early Bronze Age axe *in situ* (the blade end is to the west).

Figure 4.7 The axe excavated at Trench A.

coming to a short flat end which gives the appearance of a break, but may have been anciently shaped thus (potentially after damage or miscasting).

Surprisingly for the style of axe, there is no definitive stop-bevel (but see use wear below); instead, the top of the panel of decoration coincides with the thickest part of the body to determine where haft-end gives way to blade. There is thus no obvious rhombic form to the long profile of the body. In raising the flanges, however, a rhombic shape has been created because these are raised to their greatest extent around the middle of the axe. Nevertheless, the flanges are low and become negligible towards butt and blade tips; they are not especially regular and have gently inclined and somewhat undulating inner faces.

The sides themselves are neatly finished and mainly convex in section; one side has a double-faceted section low down as it runs to the tip; there is diffuse hammer-rippling which may, on the basis of more obvious treatment seen on parallels, have been intended as a surface effect. The blade terminates in a marked edge bevel, above which is an undecorated zone which is subtly hollowed and on a different plane from the decorated zone above. Where this juxtaposition occurs on contemporary axes there is more usually a defined bevel at the junction between.

Decoration

The obvious decoration is a relatively simple, but well executed and densely filled panel on the upper blade faces. Although there is no delineation of the panels, they stop abruptly in transverse and slightly curved lines at both top and bottom. The design is simple 'rain-pattern' one of the most recurring found on the Early Bronze Age axe series. The pattern is formed of many interlocking lozenge shaped punch-marks all aligned close to the longitudinal axis. The lengths of individual punch-marks can be difficult to determine because of frequent impingement or diffuse edges, but they seem to range from as little as 4mm up to at least 11mm.

Traces of working

Preparation of the cutting edge has resulted in a deep and near-flat bevelled face, although this curves in for the last millimetre or two before the edge itself. The patinated surfaces on the edge bevel and the blade furrow preserve many fine scratches from ancient grinding; these are predominantly aligned parallel to the curve of the cutting edge, but there are others more randomly orientated. In contrast, grinding-marks observed amongst the decoration are longitudinally aligned – following this alignment during later episodes of polishing would probably have minimised reduction of punch-mark definition. The haft-end faces are different again for no grinding-marks are apparent. They are virtually absent from the sides as well, however, one side is disfigured by a 23mm-row of diagonal punch-marks more or less along the medial line and close to the tip. These are ancient, but are not neatly formed indentations and thus are rather unlikely to be the beginnings of a formal decorative scheme.

4.2.2. Discussion

Form and classification

This is a 'developed flat axe' or, more strictly speaking, a low-flanged axe. Although low flanges are not always present on axes of the Mile Cross/Colleonard assemblage, by the Willerby/Low Glenstockdale stage they are almost invariably present. The blade tips of the axe discussed here are strongly expanded giving a characteristic 'crescentic' cutting edge. While blade-tip expansion inevitably occurs with progressive re-sharpening by hammering, it is clear that the pronounced out-turn was deliberately sought for axes during the later part of the Early Bronze Age; this would have been partly created in the blank, then accentuated during post-cast working. The axe blank from Cookstown, Co. Kilkenny (O'Kelly and Shell 1979, 133, fig. 6), which is broadly of the appropriate type, shows the partial expansion prior to post-cast working.

Despite its expanded edge, the width of the mid-blade relative to body length is low; this is a ratio that in general decreases with time among Early Bronze Age axes (Needham 2004, 220, fig. 19.3). The combination of narrow blade, strong edge expansion, low flanges and the particular decorative scheme place this axe within the author's sub-class 4E (Needham 1983). The best parallels in northern Britain are defined as type Scrabo Hill (Schmidt and Burgess 1981, 63-5) named after a multiple find from Co. Down. Harbison's classification scheme for Irish axes (Harbison 1969) lumps too many variant forms together to be useful, but there are many comparable axes in Ireland.

Class 4 axes in general are defined on the presence of a stop bevel, a feature not actually discernible on this Nettleton axe. This is anomalous, but probably not significant for classification: a 'stop' line is effectively created by the beginning of decoration at the thickest part of the body, while there is a tendency towards a lozengic side profile. Given that another expected bevel, at the foot of the decorative panel, is also not discernible, it is possible that both have been rounded off by repeated polishing (see also use wear below). The combination of other features on this axe certainly would not be happily accommodated in any other class.

Parallels and date

Exhaustive parallels are unnecessary, but a few key finds may be mentioned to establish the chronology of the type. All of the relevant hoard finds contain only axes and so do not provide any cross-correlation with other material. Fortunately, however, class 4E axes occur in a few grave groups, two of which have been radiocarbon dated whilst two others have other significant objects of bronze, gold, stone and other materials. The radiocarbon dated graves are from West

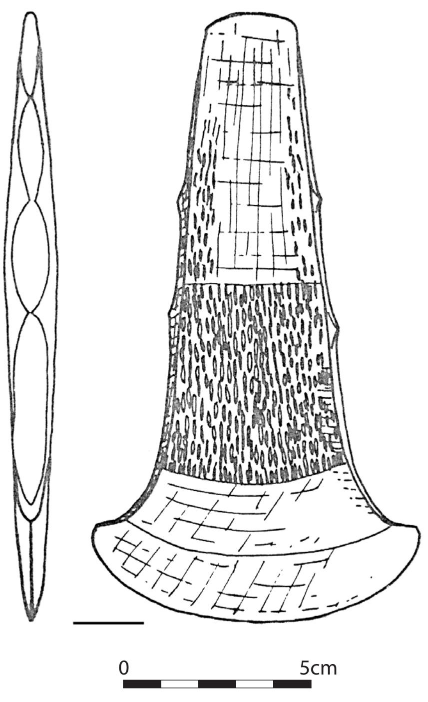


Figure 4.8 An axe-head from Roundhills Farm, Digby, Lincolnshire, similar to the Mount Pleasant find, showing a band of rain decoration (Wilson 1972, 6, Fig. 1 No. 4; original drawing by Paul Everson and reproduced with permission courtesy of Paul Everson and the Society for Lincolnshire History and Archaeology). The same axe-head is shown in Davey's corpus (Davey 1973, item no. 5) and although there is difference between the drawings they are believed to be the same axe-head (pers. comm. Mark Bennet); the drawing reproduced here shows greater detail. The axe-head measures 162mm in length.

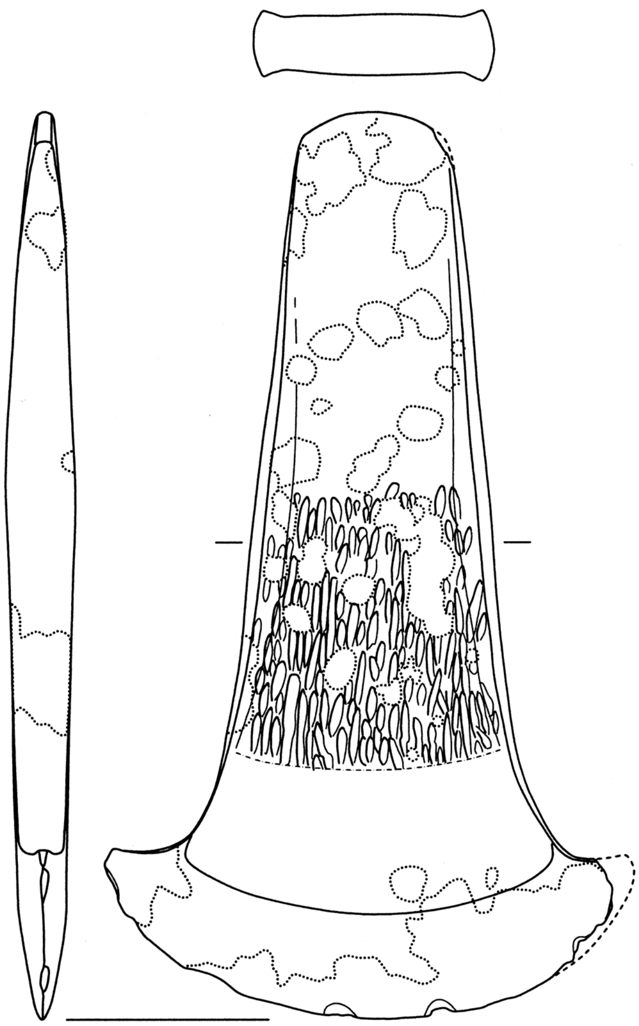


Figure 4.9 The axe excavated at Trench A (scale 2:3). The dotted lines demarcate corroded areas.

Overton, Wiltshire, and Breach Farm, Llanbleddian, Glamorgan. Calibrated ranges at 95% probability are 2020 - 1770 and 2020 – 1690 cal BC respectively (Needham *et al.* 2010a). Amongst the other graves, two contain Armorico-British type daggers – those at Weymouth G8, Dorset and Wilsford G5 (Bush Barrow), Wiltshire (Needham *et al.* 2010b). Both groups also contain well known sheet-gold artefacts, a pommel cover at the former, two lozenge plaque covers and a belt-hook cover at the latter. They are seen as important if rather atypical grave groups of Period 3, currently dated c. 1950 – 1750/1700 BC.

The more recurrent hoard contexts for axes have allowed the definition of metalwork assemblages, possibly reflecting changing traditions. The relevant assemblages have been named after the hoards from Willerby, Wold Farm, East Yorkshire, to cover southern British material, and Low Glenstockdale, Dumfries and Galloway, to cover northern British material (e.g. Needham 1979, 285; 2004, 220 fig. 19.3). These are thought to broadly span Period 3, although there might well be some development over the course of two or more centuries.

There are reasonable numbers of class 4E axes in the east Midlands and East Anglia (Needham 1988a, 80, fig. 5.3) and that from Round Hill Farm, Digby, Lincolnshire (Fig. 4.8; Davey 1973, 58 no. 5, 59, fig. 2.5), provides a particularly good match for both form and decoration of the Nettleton example. It does however bear additional decoration – linear zones of rain-pattern on the haft-end and string-of-lozenges faceting of the sides.

Decoration

The only explicit decoration is a straightforward 'rain-pattern' design and, although un-delineated, this occurs in a tightly confined 'panel' covering the upper half of the blade faces. However, the undecorated zone below can also be considered to be part of the embellishment. The particular arrangement seen here, with a panel of punched decoration underlined by a broad shallow furrow or facet probably designed to reflect a crescentic band of light, is a recurring one at this particular stage in the evolution of decorative design on axes.

Manufacture

The flanges on such axes could theoretically have been cast, but in many well preserved cases, as indeed in the case of the Nettleton axe, there are indications that the flanges were hammered up on a flat blank. Since the flanges are highest near the middle and lessen towards top and bottom, this would imply that the blank had slightly more bowed sides than is apparent in the finished form, for some of that bowing would be reduced in preferential hammering of the middle parts of the sides.

The pronounced out-swing of the blade tips is intimately connected to the strongly defined edge bevel implying that at least some of the blade tip expansion was due to the edge sharpening process. Similarly, the more subtle deviation in the sides just above can be linked to the creation of the furrow zone across the lower blade; this suggests some hammering before grinding.

Elements of the punched decoration continue onto the inner faces of the flanges. Two strokes on the right-hand side of face 1 are crisper than the rest, but it cannot be determined whether this was due to the flanges being formed subsequently or to later polishing of the blade face not having reached this spot.

Use

This is an unusually heavy example for its size, undoubtedly caused by being a percentage thicker than normal, certainly at the butt and probably for a good part of the body. This would certainly add to the effectiveness of the implement when mounted for use. Actual evidence of use is not directly attested because of the extent of corrosion along the cutting edge, but may be implied at the damaged corner. Here it would appear that the blade tip has been reworked a little after either miscasting or fracture; the latter is more likely because the adjacent stretch of cutting edge is both more indented and thicker than elsewhere (see reconstruction line in Fig. 4.9) suggesting it too had suffered damage. The best conclusion, then, is that the axe had been put into service, suffered some damage around one blade tip and was then reworked for further use.

The mass of grinding striations, some on different alignments, is less definitive evidence but could also be due to repeated sharpening over time rather than a single finishing episode. The total absence of grinding marks of a similar grade on the haft end could also have implications. Either the grinding took place after the axe was hafted and relates to ongoing use rather than initial finishing, or the grinding marks on the haft end were subjected to continuous rubbing against the haft and thus were erased over time. Finally, it is possible that extensive surface rubbing might also help account for the unusual absence of two bevels, that serving as the stop and that more usually found at the base of the decorative panel (see above). Although the punch-marks are clear, they are not particularly crisp and thus might have been reduced by regular polishing. However, it should be noted that any later reduction of an original stop-bevel would imply polishing whilst the axe-head was out of its haft.

4.2.3 Context of Deposition

The main importance of the Nettleton axe is undoubtedly its context of deposition even though the limited extent of the excavation precludes any real understanding of the site it was placed within. Setting aside the small number of Early Bronze Age axes from graves, very few have been recovered during archaeological excavations. Best known is probably the low-flanged axe from the ditch fill of the Mount Pleasant henge, Dorset (Britton 1979); this also bears rain-pattern decoration (all-over) and is of a slightly earlier type attributable to the Mile Cross assemblage. This is a near pristine axe buried low in the ditch fill of the great henge enclosure; no feature to contain the axe was recognised during its excavation. However, the large scale of the ditch means the object could have been buried or placed some considerable time after it was dug.

A small, narrow flat axe (more strictly termed an 'axe-chisel'), 97mm long, was excavated along with Beaker pottery from a complex of pits at Worlingham, Suffolk, in 2001 (Pendleton and Gibson forthcoming). It came from pit 0332 along with a number of sherds – both comb-decorated and rusticated – hazelnut shells and charcoal; the latter combined yielded a radiocarbon date of 2460 – 2030 cal BC (3775 ± 60 BP, AA-444404 (GU-9491)) while similar material from a second pit nearby gave 2290 – 1890 cal BC (3695 ± 75 BP, AA-44403 (GU-9490)). Although the Worlingham object has not been analysed, the few good parallels suggest it is most likely of the earliest bronze tradition (Brithdir/Migdale), rather than of copper, and the dates are not inconsistent with this conclusion.

An intriguing context is presented by the low-flanged axe found on the periphery of the massive Passage Tomb at Newgrange, Co Meath (O'Kelly and Shell 1979). It is probably significant that stone equipment suitable for metalworking occurred at the same stratigraphic horizon and, furthermore, that the axe itself was not quite finished. Excavations at other burial mounds have occasionally yielded axes, notably the hoard of four low-flanged axes recovered by Greenwell at Wold Farm, Willerby, East Yorkshire (Kinnes and Longworth 1985, 111). From less well documented barrow excavations are the hoard of four flanged axes on Combe Hill, East Sussex (Curwen 1940) and that of 8 or 9 flat axes from the Hill of Fortrie of Balnoon, Banffshire (Coles 1968-9, 104). These finds broach a wider phenomenon of occasional axe deposition on or beside mounds or other ritual sites, most finds having been made accidentally during earth moving or other activities (Needham 1988b; Needham forthcoming).

The context of the Nettleton axe may be much more reminiscent of Mount Pleasant than the various associations with funerary sites, but there are problems with understanding it. The object comes from the fill of a large, steep-sided and flat-bottomed ditch, cut to 2.15m below the modern ground surface. The width of the ditch is unknown but at least 3.7m (including 'weathering cone') was exposed in the excavation trench; the slope of layers on the east side suggests that it was perhaps around 4.5m in total. The axe lay parallel to the incline of the layer containing it (context (1025); Figs 3.9 and 3.12 and 4.6), which was relatively high in the ditch fill but not within the uppermost fills which contain Late Iron Age to Roman period pottery

(1023, 1010, 1005, 1003). There were no other finds below these contexts to help unravel the chronology of the fill sequence.

The excavator considered the theoretical possibility that the ditch is as late as Iron Age, the bronze axe being an ancient object re-deposited at that time (Willis with Dungworth 1999, 13). Although he is of the view that the ditch is likely to be of Neolithic date and subsequently recut, without definitive evidence to the contrary, this is certainly worth considering since the re-deposition of Bronze Age metal objects on Iron Age and Roman ritual sites is becoming an increasingly well-attested phenomenon (e.g. Stead 1998a; Hingley 2009). It is, however, equally feasible that the axe was placed in a contemporary feature, or potentially an originally earlier feature still being used in the Bronze Age. If the feature and axe are contemporary, the ditch would be exceptionally substantial for an Early Bronze Age barrow and would certainly bring more to mind certain enclosures such as henges. The full plan of the ditch containing the axe cannot be ascertained from the existing geophysical survey, although a curving segment is interpreted at the appropriate point. If this is correctly interpreted, it appears that the excavated spoil was banked on the inside of the ditch; this would be highly exceptional for the enclosures generally known as henges, but there are other forms of Neolithic enclosure that are internally banked. The broader context of the axe could only be established with more refined geophysics and/or further excavation.

It is rather unlikely that the axe was a casual loss and the other obvious options are some kind of ritual placement or a burial intended for later recovery. There is rarely evidence to choose between these options for any individual find (as opposed to patterning in aggregate data). The fact that the axe had seen use prior to its deposition does not affect the argument either way, since it could be that its employment in a particular construction episode made it especially suitable for ritual deposition to mark that event. A similar connection has been suggested for the Mount Pleasant, Dorset, axe on the strength of the comparison between the typological date for the axe and radiocarbon dates for material from the internal palisade trench in cutting III (Needham 1988b, 243; see also Needham 2012, appendix 2); current dating would best place this event at about 2000 - 1900 BC. Alternatively, if placed as a ritual deposit in the Iron Age or Roman period, the Nettleton axe was effectively an antique curio imbued with period-specific connotations that were unlikely to have been affected by the fact of its use.

One unusual piece of information can be gleaned from well recorded contexts for a metal object such as this – whether or not it was in its haft at the point of deposition. Although the dry, chalk-rich environment of burial would have readily allowed decay of the wooden haft, there are many instances of wooden objects and structure leaving clear stains in comparable environments. This is especially the case with well protected contexts, and haft stains were noted by early excavators for some of the burial associated axes. At Nettleton, however, despite being fairly deeply buried, there was no indication of a haft extending from the butt end of the axe-head (Fig. 4.6) and this probably means it was buried unhafted. Evidence relating to individual axe deposits is currently far too rare to know whether this might have been normal practice; however, there are certain hoard finds where it is clear that the axe-heads had been removed from their hafts prior to deposition, while attention has also been drawn to the fact that the handful of sites with carvings of early metal age axe-heads always show them as unhafted (Needham 1988b). There is certainly a case for a role for these often ornate axe-heads having commonly circulated in an unhafted state and this may relate to both their pivotal role in the distribution of metal and the particular symbolic resonance of the type (Needham forthcoming).

4.2.4 A Note on Discovery, Treatment and Conservation of the Axe

Steven Willis

Discovery

The axe-head was discovered mid-way through the excavation works at Trench A in August 1998. It was first located by means of routine metal detector scanning over archaeological deposits in the course of the excavations. The detectorist, Tony Bibby, alerted the excavator and S.W. to the fact that there was a strong non-ferrous reading at some depth in this section of Trench A. Careful excavation of soil by trowel eventually revealed a large object with some patches of verdigris corrosion. The strength of the signal on the detector and then the evident size of the emergent object indicated that this was an unusual find. Soil on and around the item was not removed and it was lifted as an amorphous lump and boxed, still with much soil adhering. At the time there was a strong suggestion this could be a Bronze Age axe but this was not completely clear given the degree on soil still around the artefact. It was thought best to pass the item to a conservation specialist as soon as possible.

Conservation

The axe-head (or 'substantial copper-alloy object' as it was described in paperwork at the time) was taken to the then City and County Museum Conservation Laboratory, Lincoln, within a few days of discovery, prior to the end of the excavation season. Robert White undertook the initial x-radiography, removal of adhering soil matrix, drying, remedial treatment and preparation for photography (Willis with Dungworth 1999, Illus. 9). His work established this was indeed an axe-head in good preservation and broadly in a stable state. No further work was conducted at Lincoln, bearing in mind costs, as the destiny of the find remained uncertain. In October 2002 the item was collected and passed to the Conservation Laboratory at Durham University where it was agreed the axe-head would be conserved along with other items from the site, at no cost to the Project. A range of metalwork items from the site were cleaned and conserved by students taking the Department's MA in Conservation under the direction of Clare Hucklesby (Departmental Conservation Teaching Assistant). The axe-head, however, was cleaned and conserved as Lab No. 1094 by Clare Hucklesby. The following details are extracted from Clare's Conservation Record.

Clare Hucklesby writes: A residual soil covering was extant over much of the surface of the axe-head; in places this was substantial. Corrosion warts were sporadic and other areas of metal oxidation were patchy. Soil and corrosion obscured any details of the surface and so the soil was cleaned away with cotton wool swabs dipped in 80:20 IMS and water. Areas of copper alloy corrosion were removed manually by use of a scalpel and dental pick and then tenacious corrosion was subject to air abrasion using aluminium oxide powder dispensed by compressed air through abrasive pen. Pitting in areas of warty corrosion was filled with silver oxide powder consolidated with 7% Paraloid B-72 in acetone. Two coats of 25% Incralac lacquer (acrylic resin in toluene) with the addition of a Gasil matting agent (fumed silica) were applied over the entire surface of the artefact.

X-Radiography and EDXRF

The X-radiograph (taken at Durham) revealed very little detail; as a dense solid item the axe-head was not surprisingly quite radio opaque. Surfaces of the blade and centres of each of the four faces were targeted for elemental analysis by EDXRF. The results revealed that the alloy is primarily copper and tin, and accordingly can be referred to as bronze.

4.3 The Pottery from the Middle Iron Age Pits in Trench J

Steven Willis

The pottery from the phase 1 pits at Trench J comprised handmade Middle Iron Age types. The sherds were recovered from the fills of adjacent pits [9645] and [9704]. There were 18 sherds from the excavation of (9644) in [9645] and one sherd each from fills (9646) and (9661) filling [9704]. An exception is one GRB4b fragment from (9644) which is a small item (2.6g) of Roman date but is probably intrusive. Context (9644) also yielded 6 small sherds amongst the c. 24 litre soil sample collected for environmental analysis. Samples from the two pits were Radiocarbon dated to the Middle Iron Age (Fig. 3.74).

Leaving the Roman sherd to one side the seventeen sherds from the excavation of (9644) all come from straight forward handmade vessels. With the necessary caution that comes from dealing with handmade variably fired and imprecise forms it appears that there are eight vessels present, all bar one represented by only one or two sherds. Two rims are present (from Vessels 1 and 2) and these are illustrated (Fig. 4.10). The single sherds from (9646) and (9661) are seemingly also from Vessel 1 as they are of closely corresponding appearance; and if they are not of the same vessel then they will be from another of qualitatively identical nature – something that is uncommon given the methods of production of pots in the Middle Iron Age. This occurrence of sherds of Vessel 1 within these pits demonstrates that the two pits were filled at around the same time, consistent with other characteristics in common. There was a further sherd evidently of vessel 1 from a later context close by [9645]: a body sherd from the upper profile (Fig. 4.10, P141). There are

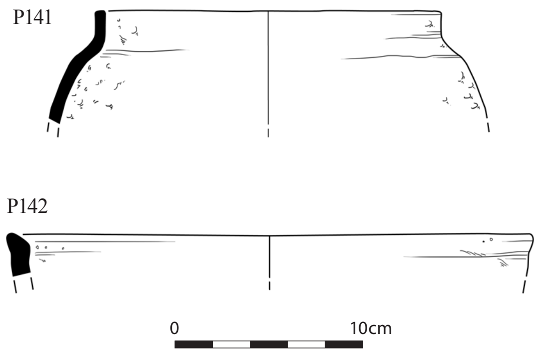


Figure 4.10 Trench J. Pottery vessels from the Middle Iron Age pits [9645] and [9704]: P141 and P142.

no conjoining sherds amongst the overall total of 26 sherds. Typological and other details are presented in Table 4.3.

One of the sherds from Vessel 5 has a slight but consistent trace of carbonized residue on its interior surface suggesting its use in cooking. The fragment with chaff tempering (Vessel 8) has a flat surface on one side and a hint that an adjacent edge is part of the circumference of a base, but the firing suggests that it could be from an item that is not a pot, a disc or lid perhaps, and so its attribution is uncertain. Vessels 1 and 7 have rock inclusions within, which could be igneous rock. Igneous rock tempering is widely known amongst British later prehistoric ceramics and examples are known in the case of typologically Iron Age ceramics from the Hull-Holderness area, and from North-East Lincolnshire where glacial boulders and cobbles may be the source (Willis 1993, 80-7; for instance amongst the pottery from Salthouse High School, Sutton-on-Hull, now Wilberforce Sixth Form Centre (cf. Challis and Harding 1975; Loughlin and Miller 1979, 64; Willis 1993, 930, for the site). These items from Mount Pleasant would benefit from thin sectioning to enhance identification of these inclusions, and this can be undertaken when sherds of later prehistoric pottery from other sites examined in this wider Project are fully analysed. Five of the vessels have prominent calcite tempering, in line with later prehistoric trends in the pottery of the region.

David Knight examined the sherds from these two features. He noted that the majority are body sherds from plain handmade vessels of uncertain form and given the lack of typological characteristics in those cases confirmed that they cannot on such grounds be closely dated. He points out that the rim sherds present comprise simple direct forms with slightly rounded/flattened lips that are typical of MIA/LIA handmade assemblages from the East Midlands region (Knight 2002). Pointing out that the sherds from (9646) and (9661) compare particularly closely on fabric grounds he advised that he would assign Vessel 1 to the MIA/LIA period, but noting its handmade technology. He comments that Vessel 1 shows: "a short upright neck and a direct rim with a flattened lip, but incomplete profile".

Table 4.3 Summary of the Pottery from the Middle Iron Age Pits [9645] and [9704].

Context **From (9644)**	**No. of sherds**	**Weight (gms)**	**Fabric** **Colour and Temper**	**Rim, wall or base**	**Form and Body Thickness**
Vessel 1	1	23.5	Dark grey. Quartz grain, mica and rock fragments.	Rim P141	Shouldered jar. Wiped surfaces. 8.5mm.
Vessel 2	7	175.1	Light grey to light reddish brown. Calcite, quartz and ? grog.	1 Rim P142; 6 wall sherds	Large jar. Wiped surfaces. 11mm.
Vessel 3	2	25.6	Dark grey. Calcite.	Wall sherds	Tall form? Wiped surfaces. 6mm.
Vessel 4	1	1.3	Light red. Calcite.	Wall sherd	Form uncertain. Wiped surfaces. 5mm.
Vessel 5	2	20.4	Dark grey to light brown. Calcite.	Wall sherds	? Bowl. Wiped surfaces. 10mm.
Vessel 6	2	15.2	Light brown to light red. Calcite.	Wall sherds	Form uncertain. Wiped surfaces. 10mm.
Vessel 7	1	63.2	Mid grey to mid red. Grains of crushed rock, including granite.	Wall sherd	Probably from a large jar. 13mm.
Vessel 8	1	13.6	Vesicles indicate fine chaff was present; grog.	Flat on one side: from the floor of a base	? base. 11mm.
From Environmental sample (not scanned for finds on site)	6	15.1	All have calcite temper; one has angular quartz.	Wall sherds	
From (9646)					
Vessel 1	1	3.4	As above.	Rim P141	As above.
From (9661)					
Vessel 1	1	3.6	As above.	Wall sherd	As above.

Chapter 5

Roman Building Materials

Steven Willis, Graham Morgan and Ruth Leary

5.1. Building Stone

Steven Willis

During the course of the fieldwork a considerable number of blocks of stone were observed contained within the ploughsoil of the three fields (though little from North Field), and unstratified at the base of the hedgerows to where they had presumably been removed over the years by farm workers clearing the ploughsoil of obstructions. A large proportion of these are examples of Claxby Ironstone, many being large (weighing 10s of kgs) and irregular (?broken) fragments but others, occasionally, with tooling were observed. At Trench J such stones were, typically contained within ploughsoil and in unstratified contexts on or within the bank on the western margin of the field. A group of these stones from the area of Trench J, likely to derive from Building 2, were photographed on site in 2011 (Fig. 5.1). The use of Claxby Ironstone is apparent amongst pieces from ploughsoil, topsoil and from the field bank in this vicinity of Street Furlongs. This local stone was used extensively for buildings in the surrounding villages in more recent times, being named after the village of Claxby, to the south of Nettleton (Section 1.13). Fragments of Spilsby Sandstone occur too in the ploughsoil of East Field and Street Furlongs and below the hedgerows and whilst some fragments are certain to be from shattered querns (see Section 6.11) some proportion may have been used as building stones or for foundations although there was no evidence of this stone being employed in the structures of Buildings 1 and 2 (see Section 1.9 and Chapter 9). Parts of chalk blocks also occur but this stone is more vulnerable to fragmentation and is less prominent in ploughsoils and is not so conspicuous as the ironstone and limestone as it is the natural stone underlying the site. Chalk blocks were used in the foundations of Building 1 and for lining the inner face of the walls at the south-west and north-west corners of Building 2 where they are facetted blocks creating a straight edge (cf. Chapter 3, Section 3.3.10).

Figure 5.1 From Trench J, a sample of building stone likely to have come from Building 2 recovered unstratified from topsoil and post-Roman field-bank deposits above Building 2.

Figure 5.2 Trench J. The wall of Building 2 at the south-west corner.

Whilst Claxby Ironstone forms the floor foundation of Building 1 and is a part of the stone assemblage associated with Building 2, some of the structural stone from the area of Building 2 appeared somewhat distinctive and is identified as Roach (see below). An unstratified sample of this stone type from Trench J and presumed to have come from Building 2 was collected for specialist examination. The latter was undertaken by Dr Shaffrey, while and petrological identification was organized by Helen Gamble of the Lincolnshire Wolds Countryside Service. This stone is illustrated as Figure 5.3.

Ruth Shaffrey writes: An example of a roughly dressed stone found unstratified but in association with Building 2 at Trench J (i.e. it was thought by the excavator to have come from Building 2) was collected for further examination and recording. This block has a ferruginous content and its geology is confirmed below. The block is fairly regular in form and measures 20 x 17 x 13cm (Fig. 5.3) and retains some evidence of tool marks on its faces, although insufficient to determine what tools made them. This block weighs 7.776kg.

Helen Gamble writes: I have conferred with two experts in the geology of the Wolds and we concur that this is an example of Roach. The Roach formation comprises of ferruginous, sandy limestone (fizzes with acid) and ferruginous, ooidal mudstones. I did initially think this was Claxby Ironstone but detailed consideration concludes this is Roach.

Roach can superficially resemble Claxby Ironstone, or at least some varieties can. As noted above (Section 1.9.1) Roach was identified by Rahtz as employed in the Roman walling at Caistor but seemingly as a minor component. It occurs below the earliest Chalk and above the Tealby Limestone in the local

Figure 5.3 Trench J. A sample of the roughly dressed stone associated with Building 2 identified as Roach.

sequence (Crooks 2007, fig. 1; Robinson 2009b, 3) and will outcrop in the sides of Nettleton Bottom (personal observation) and elsewhere in places where the Wolds valleys are incised. This is not a homogeneous formation and upper and lower beds are recognized as virtually an ironstone with middle beds more sandy (Robinson 2009b, 3). A ferruginous component is apparent in the illustrated sample (Fig. 5.3). Variations within local stone types and the alterations that can occur due to natural weathering and chemical processes when they have been extracted and exposed at the site for nearly two millennia (leading to breakdown and colour changes) complicate identification especially when examples in the field are coated with soil, lack fresh breaks and where close scrutiny is not always logistically feasible. Given these variations it is appropriate to recognize that ideally identification should be undertaken by experts in petrology. (I am grateful to David Schofield for examining stone samples from the first three seasons when he was Keeper of the University of Durham's Geological Sample Reference Collection and to Helen Gamble more latterly with her local experience). Whilst it is instructive to have precise and reliable identifications the question arises as to the degree of significance attached to particular stone types by the original extractors and consumers of the stone, and the significance for archaeological understanding and deductions when the differences in rock types were not wide: Roach, Roachstone, Claxby Ironstone and Tealby Limestone have broadly similar properties, appear not greatly dissimilar superficially and moreover occur locally in horizontally close strata exposed in the same slope and valley locations (cf. Swinnerton and Kent 1976). Whilst there may have been choice made in selection of stone types hereabouts in the Roman era, which may have been informed or determined by culturally related aspects, practical considerations will doubtless have played a role, such as ease of extraction, product cost, durability and ability to achieve a desired appearance for the completed structure (related to dressing and colour). Further study of stone use, selection and sources should form part of future work on Roman sites in the Wolds area.

A part of a very large architectural stone from the site is in the collection of Les Brown of Caistor where it now residues as the top corner stone of an ornamental wall (Fig. 5.4). Some years ago Les noticed two stones, (being originally a single stone but broken in two) lying at the bottom of the hedgerow on the west side of Street Furlongs, by the roadside, at a point near to the position of Trench J. He retrieved one half but later, endeavoring to collect

Figure 5.4 From the hedge bottom on the western side of Street Furlongs, a massive dressed stone block, now broken, in the Collection of Les Brown.

the other half, found that it had been removed. The recovered stone measures 620mm in length and is 210mm in height; it measures 270mm across to the point where it is broken; it is estimated to weigh c. 46kg with an original weight when complete of c. 92kg. It is slightly weathered. The stone type is yet to be identified with certainty but may be a sandy limestone. Photographs were forwarded to several people with expertise in Roman stonework.

Paul Bidwell writes: The front of the block has what seems to be a *cyma recta* moulding. The narrower area below is the fillet which would sit flush on the wall with the moulding projecting above. The only problem is the deeper upper part above the moulding which ought to be vertical but which from the photographs viewed seems to be cut back at an angle. One wonders if this might be secondary working. The tooling certainly seems to be rougher than on the moulding. As to its purpose, it must come from quite a large structure. It appears to be not much smaller than the parapet blocks from the bridges at Chesters and Corbridge which have similar mouldings. While one might expect a stone bridge on Ermine Street, it would be surprising to find one on a less important road, and there are other possibilities, for instance a mausoleum or perhaps, a temple, but if so one of Classical form.

Christopher Sparey-Green writes: The fact that the simple and heavy moulding is on the end of a substantially long block suggests that this was something supporting much weight and had been well-bedded into a structure. It might be an impost or the springing for an arch and can be paralleled in gateways on Hadrian's Wall, as at *Cilurnum*, the fort at Chesters (Wilmott 2009, 24, fig. 60).

In sum the stone appears to be from a cornice block from a large structure. No similar stone is known from the site. (I am grateful to Paul Bidwell, Luke Lavan, Christopher Sparey-Green, Tony Wilmott and Pete Wilson for their expert views on this stone).

5.2 Analysis of the Mortar from Building 2

Graham C. Morgan

5.2.1 The Samples

Five samples of mortar were collected from the Roman stone building revealed in Trench J (Building 2). The sample locations are shown in Figure 5.5 and a view of the mortar *in situ* is included as Figure 5.6. As submitted the samples were mostly mixtures of soil with chalk and mortar traces. Broadly the mortar samples are all very similar and to a greater or lesser extent weathered, the latter probably due to the sampling of exposed surfaces rather than being taken from the interior of the walls. The samples were all washed and most of the soil removed. The residues of all five samples were examined microscopically. The observations are as follows:

Sample 1: White chalk gravel with traces of buff sandy mortar.

Sample 2: White chalk gravel with traces of red ochre or burnt clay and some brown sandstone fragments. Sample 2, from near the base of the western wall, at its southern end, differs in some degree to the other samples but it too could well have been a mortar as there are traces of the same pale brown lime and sand mix in with the chalk. Serious leaching has occurred, as seen to some level with the other samples.

Sample 3: Buff sandy mortar with chalk gravel.

Sample 4: A solid piece of buff sandy mortar with chalk gravel; Figure 5.7 shows an example under magnification. Some of the coarser sand grains can be seen as brown, round to sub-angular brown quartz with some brown ferruginous sandstone fragments. The cut sections (as in Fig. 5.7) show the chalk clearly and the brown sandstone fragments are just visible.

Sample 5: Chalk gravel with light buff mortar traces.

5.2.2 Discussion

This collection of samples shows a consistent character and composition. The mortar was made using the local chalk as the aggregate, with smaller amounts of brown sand and, presumably, the chalk as the source of the lime as well. Most of the lime has been weathered away, leaving just the chalk gravel remaining. Although quite coarse, this would have made a quite strong mortar for the wall. Chalk mortar is not distinctly Roman and is indeed more like medieval mortars, where all sorts of materials were used on occasion. That said the use of chalk as aggregate in the matrix is not surprising in this case as it reflects the local geology (rather than being a function of other variables, such as chronology and cultural choices); if there was not a suitable sand and gravel deposit nearby then whatever else that was available would have been used. Chalk gravel was used in the mortar for some areas of Fishbourne Roman Palace, but there was also mortar made with

Figure 5.5 Trench J. The location points of the five collected mortar samples from Building 2.

quartz sand and gravel which had obviously been brought in from elsewhere (Morgan 1992). The presence of crushed brick or tile is firmly indicative evidence for Roman technology and none was seen in this collection of samples; its absence from the mortar of Building 2, as implied above, does not preclude a Roman date.

Figure 5.6 Trench J. Mortar *in situ* in the western wall of Building 2.

Figure 5.7 Trench J. Mortar from Building 2. Cut section faces through material of Mortar Sample 4, at magnification. The scale is at 1cm intervals: (i.e. the scale here shows 2cm).

5.3 Ceramic Building Material

5.3.1 Ceramic Building Material from East Field collected during the British Gas Archaeological Team's Survey 1992-3

Ruth Leary

Some 266 fragments of brick and tile were recovered during the fieldwalking and were plotted two-dimensionally (Fig. 5.8). Of the total 48 were undiagnostic fragments of brick or tile, 74 were brick, 132 tile, 13 being *imbrices*, 5 *tegula* and 5 box flue tiles. Since the collection was largely made up of undiagnostic items, detailed fabric analysis was not undertaken. No fragments were diagnostically later than Romano-British and, since medieval or later ceramics were uncommon and the diagnostic pottery fragments are of Romano-British type, it is suggested that most of these fragments are of Roman date. Examination of the plotted distribution shows that the brick and tile items were thinly scattered over the site with an increase in density east of F16. Of the five fragments of box flue three occur in the general vicinity of Enclosures F38 and F39 which may be slight evidence for a concentration. East of F16 no convincing relationship can be suggested between the geophysical anomalies and the brick and tile debris. There is, however, some similarity of this pattern with the dispersed distribution pattern of the second and early third century wares GTA8 and 10 to the west of F16. The extensive study of the ploughsoil artefact record conducted at Maddle Farm showed that the disposal pattern of brick and tile is likely to differ markedly from that of pottery; at Maddle Farm the building debris was found to predominate in the topsoil and contrast with the pottery distribution and it was suggested that the former might form superficial deposits as the structure collapsed, while pottery would occur in refuse areas or under the collapsed building material (Gaffney and Tingle 1989, 98-100 and 153-6). In the case of East Field the dispersal of brick and tile in a thin scatter over the enclosed and unenclosed area west of F16 may, nevertheless, be due to the same processes, perhaps related to second and third century manuring patterns.

The pattern to the east of F16, while agreeing with the general concentration of second to fourth century pottery in this area, contrasts with specific pottery clusters within that overall distribution, as within F22 and F20 (see Leary below, Section 6.1.6). The brick

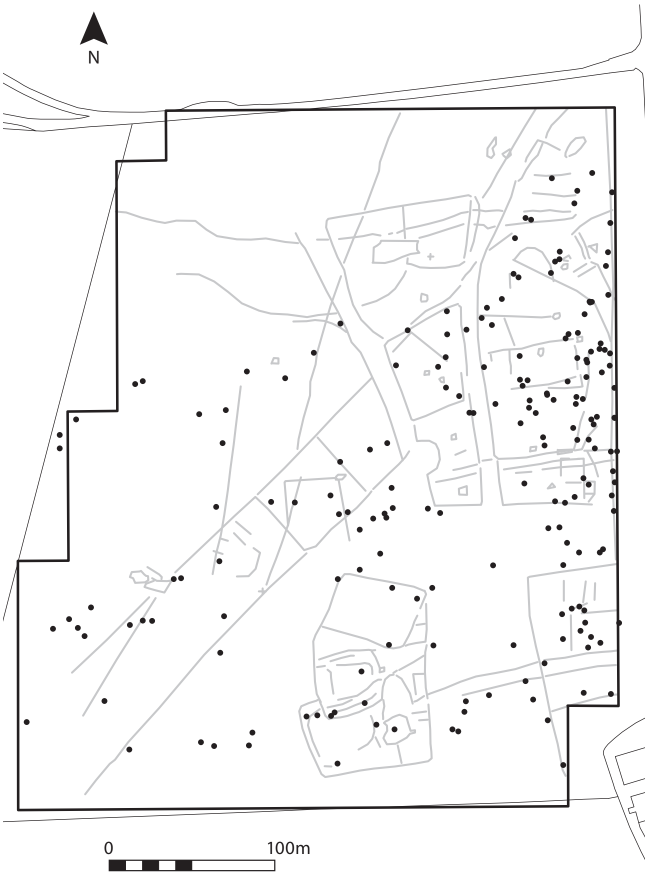


Figure 5.8 The distribution of CBM across East Field as recorded by the British Gas archaeological team survey 1992-3.

and tile distribution is found around or to the west of these features and pottery clusters. Although the brick and tile concentrations are, for the most part, of low density and so of less significance than the pottery clusters, this analysis suggests that the distribution may relate inversely to geophysical anomalies associated with second and third century pottery clusters (cluster 9, and enclosure 14 within F22). The dispersed cluster around and within F13, on the other hand, reflects the distribution of the second to third century wares GTA8 and 10 and, to a lesser extent, the scatter of fourth century pottery types in that area. In all cases the quantity of brick and tile is small.

5.3.2 Ceramic Building Material from the Archaeological Fieldwork 1998-2013

Steven Willis

A comparatively modest aggregate to CBM was recovered by the British Gas Archaeological team with a fairly widespread and low level distribution with some degree of correlation with geophysical anomalies and pottery incidence. A very similar picture emerges from the incidence of CBM collected from Street Furlongs during the systematic fieldwalking. This is examined in detail as part of volume 2, considering the fieldwalking evidence from the various sites investigated by survey as part of the wider Project (Willis forthcoming); some findings can suitably be mentioned here. Box flue, imbrices and tegulae occur across surveyed area of Street Furlongs. It is striking though that the ratio of tile to pottery from either side of the High Street presents such a similar picture with around one fragment of tile occurring for every thirty or so pottery sherds collected (Table 5.2). The density of surface occurrence of tile in Street Furlongs is less than one fragment per 100m². The clear inference is that very few or even no buildings at the site were roofed with tile, or if they were they were very thoroughly stripped of tile. Even if the latter were the case one would expect more tile from accidental breakage and loss during construction, use-life and post usage removal if such a scenario were to be entertained. Mills has emphasized how tile was used in a variety of ways in the Roman period not just for roofing (Mills in press) and that would seem the likely explanation in this case, where tiles are represented but insufficient to demonstrate building roofs. The suggestion that a villa or similar building had been located underneath the barns in the south-east corner of East Field might be recalled (cf. 2.1); if such a building had existed it seems unlikely that it was ever elaborated with tiles. Tiling is an expensive undertaking (Mills in press) and bound up with cultural choices. Local clays from the western foot of the Wolds would have been accessible and suitable so signal potential availability. Whilst site inhabitants chose to have stone founded buildings by the middle Roman period their purse and/or preference did not extend to a Classical style roof.

The rarity of tile from East Field is emphasized by how little was encountered in the eight excavated trenches in that field (Table 5.1). That might be explained by their small scale and indeed by the fact that Trenches A, C, D, G, and H mainly revealed archaeological remains of prehistoric, Late Iron Age and/or early Roman date. Yet tile was virtually absent from the other three trenches, even E and B within the main locus of Roman period activity. When the finds contexts of the tile from Trench J are considered it is evident that the tile was recovered from topsoil and ploughsoil deposits bar the exception of the top fill in ditch [9694] beside Building 2, which was not a sealed deposit and so the fragment might well

Table 5.1 CBM from the excavated trenches 1998-2011 (= also one modern field drain fragment; ** = this is the only fragment from the excavated trenches that is made from an iron free clay and fired white: Munsell 7.5YR 8/1, with core 7.5YR 8/3, one other tile of this type occurs amongst the collection from the systematic fieldwalking in Street Furlongs, from Square M2, some 20m south from Trench J).*

Context	Context type	No. of Fragments	(Combined) weight (grams)	Types Represented where diagnostic
Trench A				
1002 Lower	Ploughsoil–Arch. interface	1	3	
Trench B				
2001. Sq 31	Middle Ploughsoil	1	41	Tegula
2003	Ploughsoil–Arch. interface	2	64	1 x 23mm thick
Trench I				
9000	Upper Ploughsoil	5	96	
9001	Middle Ploughsoil	13	219	1 x c. 32mm thick
9002	Lower Ploughsoil	29	119	
9003	Silt layer: hillwash	12	113	1 x part signature 1 Tegula
9004	Silt layer: hillwash	1	956	60mm thick
9006	Fill of 'subsoiler'	4	29	
9008	Ditch fill	1	421	43mm thick
9010	Ditch fill	1	1	
9011	Mixed layer, late Roman	8	596	1 x 39mm thick 1 x c.27mm thick 2 x Box Flue
9024	Layer (area of track)	1	72	25mm thick**
9026	Ditch fill	1	3	
9649	Ploughsoil within 3m of I	1	74	24mm thick
Trench J				
9501	Middle Ploughsoil	6*	202	1 x 39mm thick 1 x Box Flue
9550	Ploughsoil	1	92	28mm thick
9552	Ploughsoil by Trench J	1	95	Tegula
9555	Ploughsoil above Building 2	1	118	Box Flue
9558	'Subsoiler' channel	3	19	
9563	Lower hedge bank soil	1	22	May be modern
9612	Above W. wall of Bldg 2, N. end	1	219	39mm thick
9620	Layer within Building 2	4 2 8	27 21 684	4 x Box Flue (same tile) Box F. ? same as above 2 x signatures
9621	Topsoil 2011	18	1446	1 x 22mm thick 1 x 24mm thick 1 x 27mm thick 1 x 37mm thick 1 x 39mm thick 1 x 40mm thick 2 Imbrice 1 Tegula 5 x Box Flue
9624	Above W. wall of Bldg. 2, N. end	2	277	1 Tegula 25mm thick
9650	Top fill of ditch 9704	1	12	

Table 5.2 CBM recovered from the main fieldwalking exercises compared to quantities of pottery (includes re-walking of Square I5).*

Field	Fieldwalking: Pottery sherds collected	Fieldwalking: Tile fragments collected	Ratio of Tile to Pot
East Field	9403	266	1:35
Street Furlongs*	5254	181	1:29

represent an inclusion of late Roman date. The only other relatively securely stratified tile was from (9620) within the north-west room of Building 2 where it is associated with late Roman glass and pottery types. Hence at Trench J tile would seem to be present in the late Roman period in moderate amounts but not necessarily much beforehand. The picture at Trench I is hardly different for although there is tile in each of the three ditches this amounts to one fragment per ditch, and two of these fragments are tiny and only one large, and so the evidence is not at all strong either for the presence of tile at this trench before the later Roman period (Table 5.1).

Examples of box flue tile were collected in the course of the 1998-2013 fieldwork. Two examples with combing, which both show exposure to heat, were viewed by Dr Phil Mills, these coming from Trench I (9011), a mixed layer of later Roman date, and Trench J (9555) ploughsoil above Building 2. These both show wide combed keying which Dr Mills suggests (pers. comm.) may indicate a late second century or later date. Les Brown has a fragment from a box flue tile with combing collected from the surface of East Field. This has also been confirmed by Dr Mills as box flue tile, showing wide tooth combing which may also be late second century or later. Dr Mills (pers. comm.) suspects that tiles with such combing are likely to be later than late second century but stronger seriation of his database is not yet complete (Mills in press). Several fragments from a further flue tile came from Trench J (9620) from soil within the north-west room of Building 2 and late in the site sequence whilst a fragment from the topsoil (9621) may be from the same tile, or from the same source as the combing appears closely similar, though this fragment is not burnt. Four other fragments of flue tile were recovered from (9621), two of which show burning, and one of these looks to have been scored by the same comb as that from the nearby context (9555). The fragments of flue tile from (9620) are 'gritty' and grey with straight and oblique combing at an angle; exposure to high temperature has resulted in flaking. Another fragment of a different box flue tile came from (9501) and is of similar style and date; it too shows burning. The exposure to heat seen in several examples from Street Furlongs (above) could be a consequence of their original firing but the example from (9620) is severely burnt and in this case and with the other two this may not necessarily derive from use in a heating system, but from other conceivable uses, such as adapted for use in forming hearths and ovens for which they have suitable properties. All items, bar the one specified case, showing combing display contrasting styles of combing with different combs and occur in a variety of fabrics; the fabrics for the tiles from (9011), (9501) and (9620) are somewhat similar and could be from the same source.

Phil Mills writes: The taphonomy of flue tile is different from other CBM. Later hypocaust structures seem often to be infilled with tile left *in situ*. Other flue tile does get recycled as hardcore in the same way as tegulae and imbrices, however, there is evidence of reuse of early flue tiles (half box flue tile and roller relief tile) in later hypocaust structures. There are scatters of flue tile that suggest the existence of hypocaust structures without evidence of attendant (larger) tiled structures [or necessarily stone structures], perhaps indicating something like a sweat lodge, as an indigenous adaption of Roman materiality.

5.4 Iron Nails

Steven Willis

Iron nails were moderately frequent finds at several of the excavated trenches and from ploughsoils. A certain number are listed above under the sections on the ploughsoil survey and trench records (Chapter 3), while below the corpus of 49 nails from Trench J is listed (Table 5.3). The nails typically display hammered square-sectioned shafts (shanks) and can be fragmentary; some items are less recognizable that others especially where partial and or heavily masked by corrosion products. Three examples are illustrated in Figure 5.9. Overall the nails conform to Manning (1985) Type 1. They were doubtless useful for a variety of tasks but there is a marked association with Building 1 and Building 2 and perhaps 3 demonstrating they were employed in timber construction, and indeed several come from the construction trench of Building 2 for instance (9518) and (9528) whilst RF 9578 was found driven into the foundation on the north side of Building 2. Several nails came from floor level within the building such as those from (9569) where they might relate to construction, use or even decay of Building 2. Nails occur in a few instances in contexts predating Building 2 but are comparatively rare, even in ditch [9698] which was otherwise prolific in cultural debris. Nails with square or sub-square heads and square shanks could be post-Roman if not in secure contexts but give the absence of later occupation at this site and of night-soiling in more recent times, etc. it is likely that few if any of the nails from topsoils etc. are other than Roman. A proportion of nails are bent (cf. Table 5.3), as a result one would think of extraction following use. At Trench J Building 3 is represented only by post holes and is late in the site sequence; whether nails were used in its construction is not known and it is possible that carpentry and timber nails were used in its build.

Ian Dawes has recorded the nails from the excavations and various surveys for the site archive and some of these data are anticipated to be used in the second volume on the Project. The nails survive sufficiently well for metric analysis to be conducted as seen for such material from other rural sites such as Rookery Hill, Bishopstone (Bell 1977, 185, fig. 85) and the Ingleby Barwick villa, Stockton-on-Tees (McLaren 2013). Overall the frequency of nails is comparable with that from Rookery Hill and Shiptonthorpe (cf. Millett 2006) when the scale of excavations and Roman stratification is calibrated.

Figure 5.9 A sample selection of three nails from the fieldwork at Mount Pleasant (from left to right: Trench J (9518) a fill of Building 2 construction trench, RF 9519 with partial removal of corrosion products, Trench J (9528) a fill of Building 2 construction trench, RF 9524, and Trench E (5004) layer, RF 5000).

*Table 5.3 Details for the 49 iron nails from Trench J (S = Square; C = Circular; St = straight; C. masked = corrosion masks condition; weight will include any adhering corrosion; length is extant length and a 'b' after the length indicates the shank is broken or cannot be fully measured and a 'c' records where it appears complete; * indicates a group of four nails; ** = probably from a particularly large nail). The spatial location of the items was recorded but this is not shown here. Prepared by Ian Dawes and Steven Willis.*

Context	Recorded Find No.	Head Present	Head Form	Shank	Shank Form	Wt (g)	Length (mm)	Condition	Angle RE 90°
9500	9501	N	-	Y	S	2g	30	Medium	St
9500	9500	Y	S	Y	S	10g	47	Medium	St
9501	9503	Y	S	Y	S	7g	41	Medium	< 90°
9501	9502	Y	S	Y	S	5g	53	Poor	< 90°
9500/9501 /9502	9526	N	-	Y	S	2g	24	Medium	St
9500/9501/9502	9506	N	-	Y	C	1g	22	Poor	St
9512	9512	Y	S	Y	S	8g	34c	Good	St
9518	9516	N	-	Y	C	5g	23	Medium	< 90°
9518	9519	Y	S	Y	S	9g	35b	Conserved	St
9519	9520	N	-	Y	S	2g	20	Good	St
9526	9525	Y	?	Y	S	13g	39b	C. Masked	St
9528	9573	N	-	Y	S	8g	59	Poor	St
9528	9524	Y	C	Y	S	9g	60c	Conserved	St
9550	9542	N	-	Y	S	4g	29	Medium	St
9550	9534	Y	S	Y	S	5g	42	Good	St
9550	9535	Y	C	Y	C	6g	30	Good	St
9551	9533	N	-	Y	S	4g	41	Poor	St
9557	9539	Y	S	Y	S	3g	34	Medium	St
9558	9545	Y	S	Y	S	4g	38	Poor	St
9558	9546	N	-	Y	S	2g	32	Poor	St
9558	9574	N	-	Y	S	1g	28	Medium	St
9558	9547	Y	S	N	-	1g	9	Good	St
9558	9549	Y	S	Y	S	7g	40	Poor	< 90°
9566	9538	N	-	Y	S	4g	34	Poor	St
9569	9556	N	-	Y	S	5g	35	Medium	St
9569	9575	N	-	Y	S	53g	80	Poor	St
9569	9551	Y	S	Y	S	15g	68	Medium	St
9569	9553	N	-	Y	S	6g	44	Medium	< 90°
9569	9562*	Y	?	Y	S	101g	50b	Medium	St
9571	9543	Y	S	Y	S	3g	14	Good	St
9576	9576	Y	C	Y	C	1g	11	Good	St
9577	9577	N	-	Y	S	9g	53	Good	< 90°
9587	9568	Y	?	Y	S	33g	92	Good	St
9594	9578	N	-	Y	S	22g	70b	Medium	St
9597	9550	Y	C	Y	S	34g	118	Good	St
9601	9555	Y	S	Y	C	8g	9	Good	St
9621	9564	Y	?S	Y	S	4g	34b	Medium	At 90°
9621	9565	Y	S	Y	S	8g	55b	Good	< 90°
9621	9566	Y	S	Y	S	8g	36b	Good	St
9621	9567	N	-	Y	S	6g	40c?	Medium	> 90°
9628	9569	N	-	Y	S	6g	44b	Medium	< 90°
9628	9570	Y	S	Y	S	9g	33b	Good	St
9637/9669	9572	N	-	Y	S	11g	64b	Medium	> 90°
9649	9522	Y	S	Y	S	13g	55b	Conserved	< 90°
9650	9571	Y	?	Y	S	10g	25b	C. Masked	St
9687	9561	N	-	Y	S	18g	78b	C. Masked	< 90°

Chapter 6

The Late Iron Age and Roman Finds

Ruth Leary, David Knight, Kay Hartley, Brenda Dickinson, Steven Willis, Hilary Cool, David Holman, Nick Cooper, Ian Marshman, Roger Tomlin, Sue Stallibrass, James Rackham, Ruth Shaffrey and David Dungworth

6.1 The Late Iron Age and Romano-British Pottery

Ruth Leary

(with short contributions from K.F. Hartley, David Knight and Steven Willis; samian identifications are by Brenda Dickinson and Steven Willis)

6.1.1 Introduction

There are four assemblages of pottery from the site which are reported here. They comprise one assemblage relating to the ten excavated trenches 1998-2011 and three from fieldwalking exercises. A total of 9403 sherds of pottery was recovered during fieldwalking in East Field by the British Gas team in the 1990s. The subsequent fieldwalking in Street Furlongs collected 5178 sherds (45.9kg. and 34.96 EVES). A small assemblage including 38 sherds of Iron Age and Romano-British pottery was collected by fieldwalking in North Field in 1998 and is likewise recorded. The excavations produced 3094 sherds (37.8kg and 23.73 EVES) from stratified layers and features, with further groups of sherds recovered from the Ploughsoil Survey at Trenches A-I and from less secure layers (such as hedge banking and colluvial accumulation). The latter were scanned for any extra information they might yield and the ploughsoil material was also the subject of a separate analysis and these sherds were not catalogued in detail as part of the present report due to time constraints.

The four assemblages were recovered in different ways and at different times as the archaeological characterization of the site developed from initial recognition and accordingly the assemblages have different potential. As part of the British Gas survey, which aimed at the initial characterization of the site in East Field, the position of each sherd was recorded two-dimensionally to an accuracy of 1mm. Interest in the pottery analyses lay principally in the distribution patterns. The accurate recording facilitated analyses of the overall pottery distribution; of the distribution of individual ceramic types and differences between them; of groups of pottery spatially related to geophysical anomalies and of clusters within the overall distribution, spatially related or unrelated to geophysical anomalies. During the survey of Street Furlongs pottery was recorded by 10m squares with total surface coverage. It aimed to identify the extent of the site and provide a broader context for the excavation trenches within the field, while allowing differences in the overall distribution and density of the pottery and pottery types to be examined, across an area of the site where no aerial photographic evidence was to hand and where geophysical survey had not been possible (though was conducted at a later stage in the development of the project). The excavated pottery is recorded by feature and context and can be used to date features which may or may not be visible on the geophysical surveys as well as assess the interpretations suggested by the fieldwalked pottery distributions.

The pottery scatters, geophysical survey results and excavated sequences represent a palimpsest of data spanning the Neolithic to the mid-fourth century AD. The archaeological assemblages include a small quantity of Middle Iron Age pottery, but the great bulk is late pre-Roman Iron Age (LPRIA) to Late Roman. Detailed spatial analysis of the pottery 'unravelled' this palimpsest by relating the contrasting distribution patterns of key datable types to the underlying geophysical survey results. The evidence from the excavated trenches confirmed the results of this analysis to an encouraging degree. In summary the pottery evidence indicates settlement from the later prehistoric period, with foci of activity visible in the late PRIA-mid-first century AD. The ceramic deposition pattern becomes widespread in the later first and second century AD but again contracted in the mid-third century with very sparse evidence visible by the mid-fourth century. Overall the settlement appears to have a rural character but this may be misleading. It is possible that during the third century the settlement became a small town or roadside settlement but chronological assemblages cannot be readily divided out from the fieldwalked assemblages and larger stratified groups would be needed to investigate this possibility.

6.1.2 Methodology

The pottery was examined by eye, using a x10 hand lens and a x30 microscope where necessary, and divided into fabric groups on the basis of colour, hardness, feel, fracture, and the type, quantity, sorting, shape and size of any inclusions. The vessel form, if known, and any decoration were recorded. The archive comprises fabric descriptions, pottery catalogue, list of codes used in the pottery catalogue, quantification of forms and fabrics represented on the site, using sherd count values in the case of the British Gas (BG) assemblage and sherd count, weight and estimated vessel equivalents (EVES) in the case of the later fieldwalked and excavated assemblages. In the BG project each sherd was recorded individually on site and in the pottery catalogue. Since interest lay primarily in the distribution of individual sherd types and, at the inception of the project, the computer-based, analytical tools could not illustrate differences in weights or total estimated vessel equivalents present in areas of the site, quantification was by sherd count alone (cf. in the Fenland survey, Hayes and Lane 1992, 237). However, it must be said in retrospect that the recording of sherd weight and estimated vessel equivalents would have been desirable had the more powerful computer tools been available and would be a preferred method of quantification. The cataloguing and study of the assemblage recovered by the BG team was completed by the present writer in 1992.

The pottery recovered during fieldwalking and excavation by S. Willis was recorded in an archive catalogue in 2013 by the present writer according to the standard laid down by the Study Group for Romano-British Pottery (Darling 1994). Pottery was recorded detailing specific fabrics and forms, decorative treatment, condition, cross-joins/same vessel and was quantified by sherd count, weight and rim percentage values, the latter giving estimated vessel equivalents (EVES). All the field walked and stratified pottery from the site was catalogued in the archive and the unstratified pottery was scanned for new types (i.e. types not present in the catalogued assemblages) and vessels of intrinsic interest. Pottery types are illustrated to give the range of types found. National Fabric Collection codes (Tomber and Dore 1998) and reference to the Lincolnshire (CLAU) and North Lincolnshire (Rowlandson in prep.) fabric series, referred to as CLAU and NLM, with code, are included where possible.

Initially during the analysis of the BG assemblage, distribution plots of every fabric and form were produced using Easy Cad, together with some fabric/form combinations, sherd conditions such as burnt, distorted, and levels of abrasion. These distributions were then added to a digitised, interpretative plan of the geophysical survey. Some 140 different plots were produced and those considered representative of the apparently significant plots are reproduced here (Figs. 6.11–6.21), the remainder being available in the archive. Later using MapInfo the BG distribution was analysed, with increasing sophistication examining the nature of sherds from within enclosures visible on the geophysical survey, from an area within a set distance of linear features and also from clusters visible in the overall distribution pattern. The later fieldwalked assemblage from Street Furlongs was examined in a similar way using ArcMap.

6.1.3 The Chronology of Pottery Supply

The range of fabrics and forms recovered from all the different interventions are described and discussed here in chronological order. Broad references are made to the dating evidence for individual types and their sources are outlined here but more specific parallels are cited in the detailed description of fabrics and forms. To avoid loading the text narrative with indigestible detail, extensive dating evidence for forms and fabrics is cited under individual fabric codes; the dating evidence for the types upon which the suggested site chronology depends is outlined here. References to illustrations are indicated as P and the illustration number.

Late pre-Roman Iron Age to mid-first century AD

Key indicators for this period were the fabric types CTB6, CTB8, CTB7 and GTA14, TR3, Gallic white ware butt beaker sherds and vessel types such as the butt beakers (P3, P4, P105-108), bead-rim ovoid jar/beakers (P111), plain-rim platters (P2), cordoned and carinated bowls (P5), wide-necked jars (P109), one bead rim bowl (P110) and large storage jars (P16-17). As well as these diagnostic and narrowly dated types,

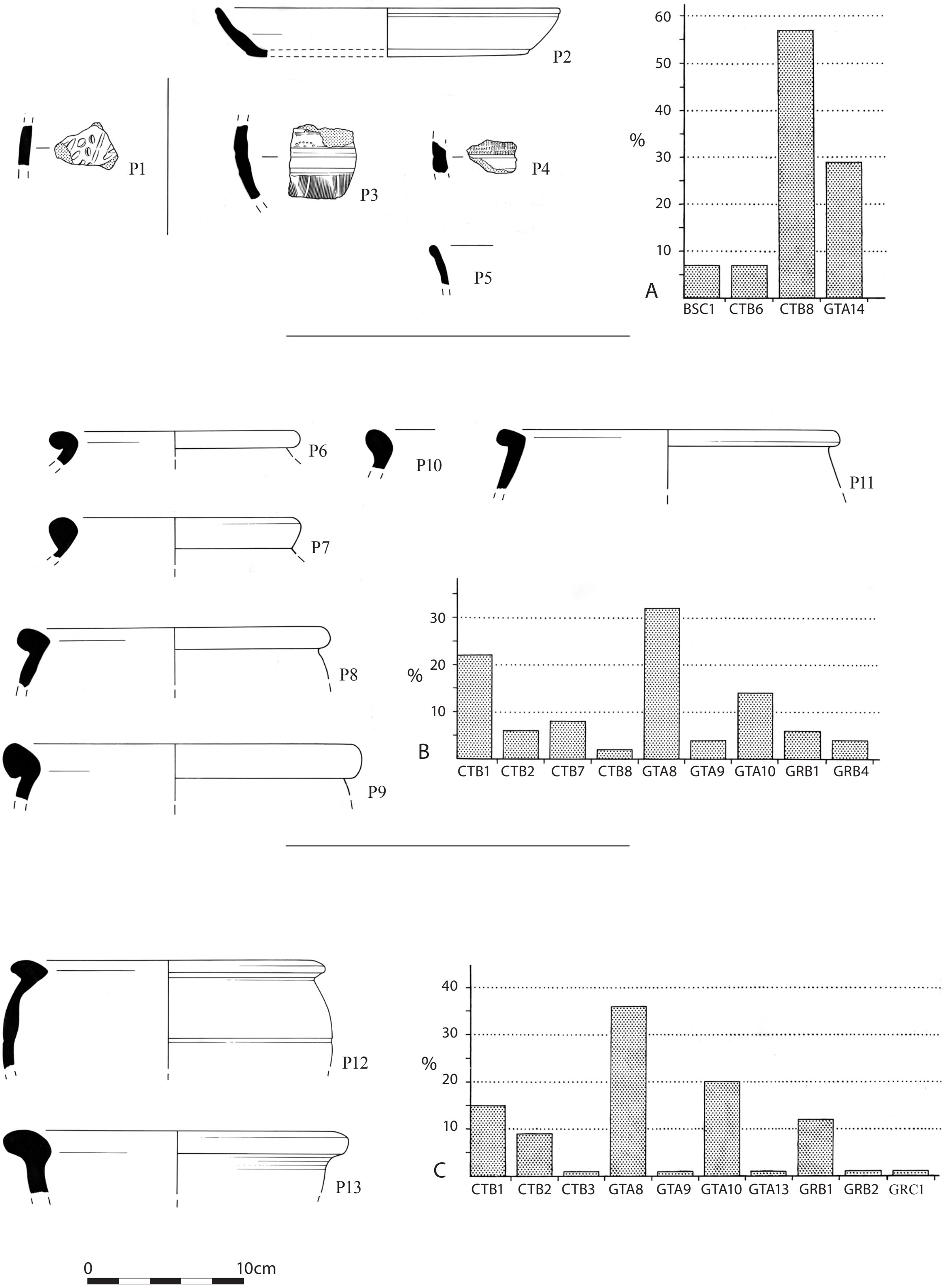


Figure 6.1 East Field 1992-3 fieldwalking. Late Iron Age and Romano British-pottery. The histograms show relative quantities of fabrics used for each form group, using sherd count values. A: fabrics used for first century types, as nos. 2–5; B: fabrics used for 'native' types. as nos. 6–9; C: fabrics used for club-rim jars and deep bowls, as nos. 12–13.

a range of CTB1, CTB2 and possibly GTA5 'native' jars with a variety of rims - everted, D-shaped, bead, inturned and upright (P8, P11, P112-115) - date from the late pre-Roman Iron Age to the mid-second century, it being mostly impossible to narrow the dating for individual examples. The butt beakers and platters appear at Dragonby in horizon 9, dated to the conquest period (Elsdon 1996). The platter sherds came from BG fieldwalking and comprised plain rimmed CTB6 platter and a curved wall CTB6 platter with grooved rim, groove on basal angle and smoothed internal offset halfway down wall, copying imported platters and dating to the mid-first century A.D (Rigby and Elsdon 1996, fig 21.1 nos 1510-12). The precise detail of the grooved rim and basal groove is difficult to parallel but unlike the examples quoted from Winterton, these platters are in fine shell-tempered ware and may be pre-conquest. The carinated and cordoned vessels have a much longer history at Dragonby and, although the examples identified here are very fragmentary, they seem to belong to groups 4 and 10 from ceramic stage 8, suggesting a date in the early to mid-first century AD. The plain bead-rim beakers compare with Elsdon's group 8 appearing in horizon 4 and continuing into the early Roman period but are more common in horizons 9-10/conquest period. A single example of a CTB8 carinated bowl with grooved rim (P110) compares with Elsdon's group 5 no 237 from horizon 9 dating to the conquest period. Similarly the butt beaker copies belong to ceramic stage 9-10 at Dragonby (Elsdon 1996, group 11) in the conquest to early Roman period. The Gallic butt beaker sherds date to the Tiberio-Claudian era and the *Terra Rubra* butt beaker to AD 25-50/55, dates which tie in with and narrows the less precise chronology suggested for the coarser ware vessels.

The coarse shell tempered ware CTB7 was used principally to make storage jars with rebated and bead rims and combed decoration. These are rare in post-conquest contexts and at Dragonby were current from horizon 3 to 7 or 8 giving a late Iron Age date range. Darling also suggested from her study of groups at Lincoln that the fine and coarse shell-tempered wares did not continue much beyond the conquest (Darling 1988, fabric 150 A and C).

The GTA5 and CTB1/2 jars (P6-7, P10, P12-13) are essentially the common "native" jar group, usually neckless with bead, bevelled bead, everted, and folded over, rather triangular shaped rims. Some of these are rather large storage jar or deep bowl type vessels (P15, P12) but most are medium-mouthed jars. It is often difficult to be sure whether they are handmade or wheel-thrown but this is noted in the archive catalogue. This common type appeared in the Late Iron Age and continued to around the middle of the second century AD (Darling 1984, 86-7 and 89) when BB1 jar copies

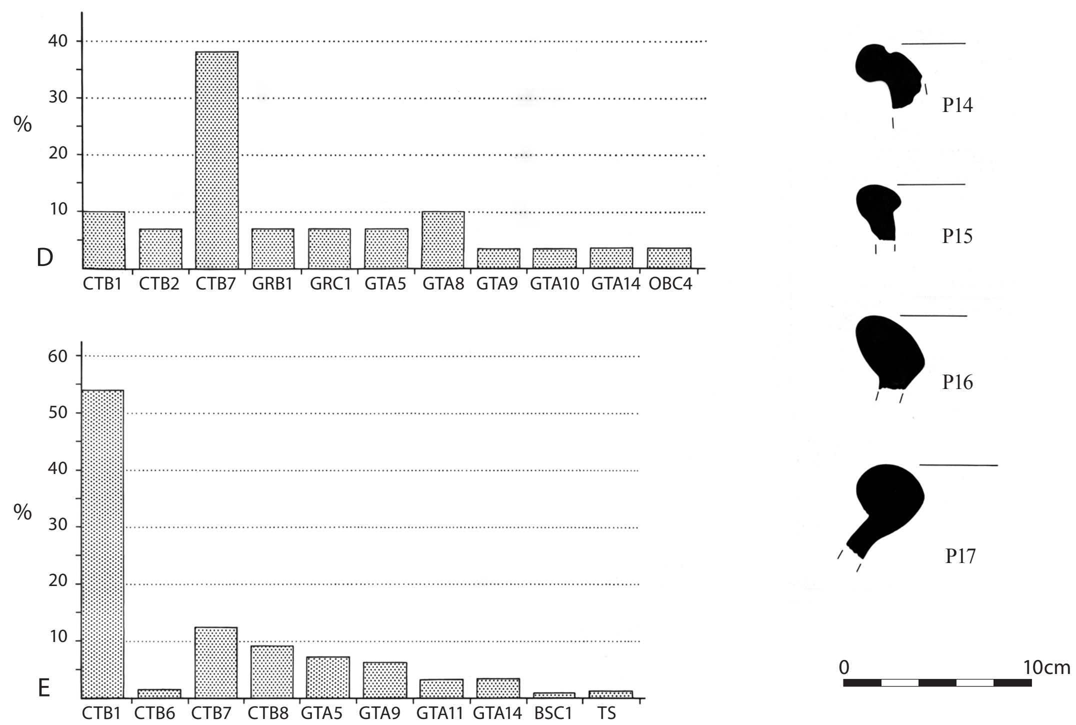


Figure 6.2 East Field 1992-3 fieldwalking. Romano-British pottery. The histograms show relative quantities of fabrics used for each form group, using sherd count values. D: fabrics used for storage jars, as nos. 14–17; E: Late Iron Age–early Romano-British fabric types.

and forms such as the lid-seated rim, everted-rim and rusticated jars as Roxby types A-C (P85, P82 and P89, Rigby and Stead 1976) emerged as the common jar form. Some types - the inbent rim, thickened internally and a form where the body has been folded over to form a rim with little further smoothing (P7) - look somewhat primitive and early but they could be contemporary with the better made types.

The relative small number of LPRIA/mid-first century sherds recovered from fieldwalking may seem somewhat surprising if one considers the early coinage present in the metal detectorist collection from the 1980s and '90s, with Iron Age coin types spanning some 150 years. It cannot be readily explained by a bias in the collection procedure since there is little difference in sherd visibility between the medium, shelly wares, CTB1 and 2, which are common and span the LPRIA to mid-second century, and the fine and coarse, shelly wares, which occur in small numbers nor between the fine, early GTA wares and the later medium, GTA ware, which, also contrast in frequency. It is most likely the consequence of the deep stratigraphy, as discovered in the excavated trenches, resulting in assemblages of this date being protected from disturbance by their position deep within earth cut features and the Iron Age coins having been recovered using a metal detector rather than field surface pick-up, noting too that by 1992 the field had already been very heavily detected. These earlier fabrics, being less well-fired and of more open fabric are more susceptible to weathering, frost action and break-down.

During this period the multiplicity of forms and small variations in fabric 'recipes' suggested small-scale production, perhaps locally, predominantly of coarse cooking pots, with some platters, bowls, and beakers based loosely on Gallo-Belgic prototypes. This situation is in keeping with that found on other Lincolnshire sites in terms of the tendency towards ill-defined fabrics and non-standardisation of forms, but contrasts with the relative abundance of fine wares together with some Gallo-Belgic imports at sites like Old Winteringham and Dragonby (Willis 1996). However the identification of Gallo-Belgic imports - both *Terra Rubra* and Cam 113 butt beaker types at this site - indicates trading contacts and echoes the richness of the other contemporary artefacts from the site.

Late first to mid-second century AD

The shell-tempered 'native' jars continued to be used in the early Roman period until around the middle of the second century. GTA8 ware group was being used to make forms also made in CTB1 and CTB2 and this ware group is present amongst the kiln group material from South Ferriby (North Lincolnshire fabric series sample fabric SFGROG). It is related to a large ware group covering many related fabrics, found in the Trent Valley, some of which were included in Todd's Trent Valley ware (1968a). GTA8 ware was used to make small numbers of "native" bead jars and storage jars and larger numbers of everted-rim jars, Roxby type A-C and club-rim jars (P6-7, P10, P2-13, P15, P82, P85, P131, and P133). GTA8 is clearly included in Darling's grog-tempered ware 103 and many of her 'native' jars are found in this fabric. The evidence from Lincoln suggests a post-conquest date for this fabric group (Darling and Jones 1988) and a mid-first century inception is in keeping with these forms. The fabric continued in use well in to the second century, as late as the Antonine period (Darling 1984, 89). Similarly the club-rim form (P12) is dated from the mid-first century to the Antonine period (Stead 1976, fig. 74 nos 7-12; fig. 76 nos 37-8, fig. 77 no. 58; fig. 78 no. 76; fig. 83 no. 87) and, although the examples at Old Winteringham and Winterton are for the most part recorded as shell-tempered, similar jars with everted rims in a shell and grog-tempered fabric have been identified by Rowlandson in the South Ferriby kiln group (North Lincolnshire fabric series). The greyware Roxby forms have been dated to the second to early third century. Darling has noted the rebated-rim form in fabric 103 at Lincoln and suggests the continuation of the "pimply version of fabric 103" into the Hadrianic-Antonine period. The forms give a first to second century date for this fabric and link it with GTA10 which has a similar range.

Alongside the CTB1 and GTA8 ware groups belong the late first to second century forms in greyware. Forms made in the GRB4B and C fabrics belong to this period and included rusticated jars, neckless, short everted rim jars, dishes with inturned rims (P116), carinated bowls (as P36), bifid rim lids (P136-7), everted rim jars similar to that from Dragonby kiln 3 (P133, dated Flavian-Trajanic, Rigby and Stead 1976, fig. 64 no. 4-5) and deep bowls with bead and club rims. These are all forms which have start dates in the Flavian period and continue into the second century as late as the Antonine period. The stratified assemblages suggest that the GRB4A and C group followed on from the LPRIA/mid-first century group, appearing alongside the GTA8 group, with GRB4C continuing later than GRB4B. The GRB4B and C fabrics do not compare closely to fabric samples from Dragonby or Roxby in the North Lincolnshire fabric series but do compare more closely with a fabric identified as North West Lincolnshire sandy ware, suggesting these fabrics may be from this area as indeed the CTB1 and GTA8 wares seem to be.

As well as GRB4B the same late first to second century forms were made in GRB7 fabrics particularly the carinated everted rim bowls and rusticated jars and smaller numbers of the dishes with inturned rims and everted-rim jars of early type (as P89, P116). This group clearly continued to be used later than GRB4B and C with later second and third century types found in these wares. The GRB7 fabrics compare better with the samples from the Market Rasen kilns and from kilns local to the site, including some over-fired greyware from New Farm, Nettleton, which lies at the base of the western scarp of the Wolds below Nettleton Top (HER, TF103 979). Unfortunately these medium, quartz-tempered greywares are very difficult to differentiate from each other and Alan Vince commented in his report on the Market Rasen fabrics (Vince 2002) that the petrological similarity of this fabric to that produced at various sites in the Trent valley, from Knaith down to Torksey, and in the Swanpool area south of Lincoln, mean that there is no simple petrological characteristic which could be used to identify Market Rasen greyware.

Another ware belonging in this phase was the GTA10 group used particularly for lid seated jars of Roxby type A form and deep bowls with club and bead rims (P66, P70, P76 and as P41). Deep bead-rim bowls were not made at Market Rasen (information from M. Darling) so these must be coming from elsewhere. Likely sources would be in North Lincolnshire or the Trent Valley where a fabric very similar to this has been identified previously by the author.

In addition to the large GRB4 and GRB7 groups, small numbers of vessels in similar form types were identified in other fabrics. Attempts were made for this report to identify the Roxby, Dragonby and South Ferriby fabrics isolated by Rowlandson in the North Lincolnshire Fabric Series but this proved very difficult presumably because sherds from these kilns were not common. Only very small numbers of sherds in comparable fabrics were identified: GRA10, GRB9, GRB10 and GRB11. Another fabric employed for making forms belonging to this phase is GRB2 but the source of this group is not known.

A group of ill-understood coarse greywares with coarse to very coarse rounded quartz and ironstone inclusions and flint - GRC6-8 - can be dated to this period. These were quite variable in fabric and would repay fabric analysis. The forms made, primarily lid-seated jars of Roxby type A form (as P14 and 85), suggest they belong to the end of this phase and the beginning of the following phase. These fabrics may relate to a similar ware with coarse rounded quartz identified as GRRO in the Lincolnshire fabric series. An example with this inclusion found at the Market Rasen kilns was analysed by Alan Vince (Vince 2002) who concluded that "the source of the rounded sand is probably a detrital sand derived from the Spilsby Sandstone and therefore is probably a sand from a stream or river draining the western side of the Wolds south of Market Rasen". He further suggested this group was perhaps not made at Market Rasen.

As well as these coarse wares, small numbers of traded fine wares were identified. Although few diagnostic sherds were recovered. The white wares FLA probably belong to this phase and comparison with Lincoln white wares suggest they came from kilns around Lincoln making white ware flagons. Very small numbers of other fine ware sherds which are likely to come from kilns at Lincoln were identified and include a GRA3 moulded-rim bowl (P120), a fine greyware Flavian-Trajanic jar with pillar-moulded type decoration and fine burnishing (from Trench E), some everted-rim sherds which compare well with early Legionary greyware at Lincoln, a single red-slipped ware sherd of a type made in Lincoln c. AD 60-77 (Darling 1981), a painted parchment ware, perhaps also part of the red-slip group, and a mica-gilt everted rim sherd from a beaker which may possibly have either been made at Lincoln or obtained through trade there. Fine wares from further away included a sherd identified as Lower Rhineland colour-coated ware probably obtained through trade in the late first to mid-second century. Other traded and imported wares comprised mortaria from the Verulamium kilns around St Albans and mortaria from Lincoln (see Hartley below). Amphorae included Dressel 20 and north Gallic amphorae originally containing olive oil and wine respectively, as well as a black sand amphora, from Italy. This last fabric is usually associated with the Dressel 2-4 wine amphora form (cf. Williams and Peacock, 2005). However, if found in a late context, it could be from the almond-rimmed amphora type, and this form dates from around the early third century AD to the late third/fourth centuries (Williams and Keay 2006). The almond-rimmed type is a comparatively rare find in Britain and it has often, but not exclusively, been associated with military sites. Both types are thought to have carried wine. The recovered fragment, from the neck of a vessel, was not diagnostic of form and came from ploughsoil at Trench J, specifically (9519) above the late-first to second century ditch fill (9669) from which it may have derived.

Steven Willis writes: Brenda Dickinson lists c. 17 items of samian in South Gaulish ware from the British Gas fieldwalking in East Field, none of which are necessarily earlier than c. AD 70. These included decorated bowls and platters. She catalogued four items of early second century samian from Les

Martres-de-Veyre dating to c. AD 100-120/130. She identifies a form 18/31 type as Hadrianic but otherwise the items in Lezoux ware recovered are potentially later in date. A similar picture emerges from listing the samian from East Field collected at the time of the excavations of 1998-2000, with examples of first century and early second century samian present but not numerous, though that said there is an amount of Les Martres-de-Veyre ware present in the collection including examples of Drag. 18/31 platters and Drag. 37 decorated bowls. A similar picture is evident from the samian collected from Street Furlongs: La Graufesenque samian is present in small amounts, with the number of items of samian (from Central Gaul) increasing into the second century with samian types from Lezoux, pre-dating c. AD 150, including Drag. 18/31, 18/31R, 27 and 37 forms.

Many of the coarse ware types present are typical of north Lincolnshire/south Humberside in range, but displayed some stylistic idiosyncrasies which suggested the kind of localised pottery supply zones identified at Dragonby, Winterton, and Roxby. The multiplicity of fabrics used in the manufacture of cooking jars through the late first to early third

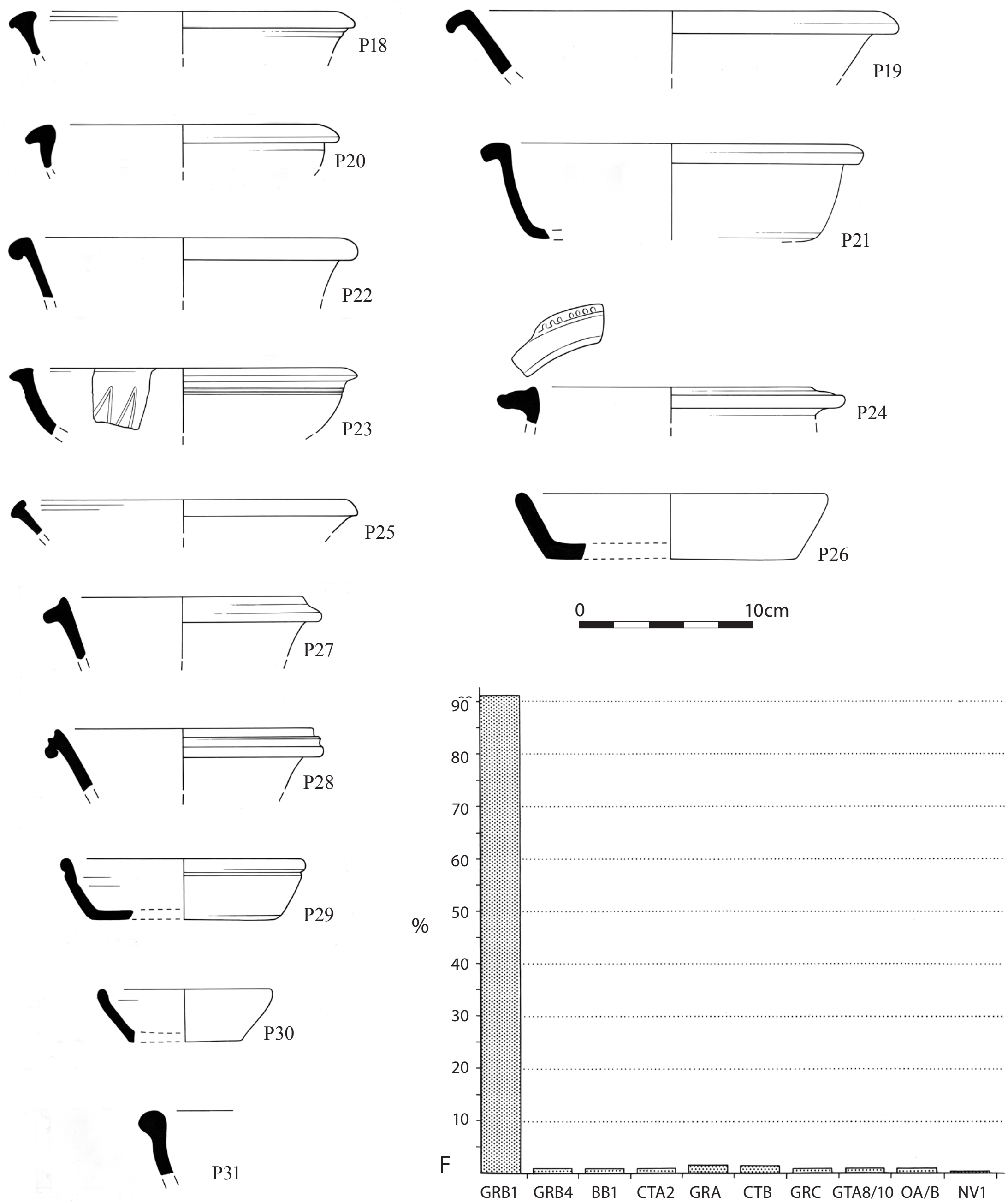


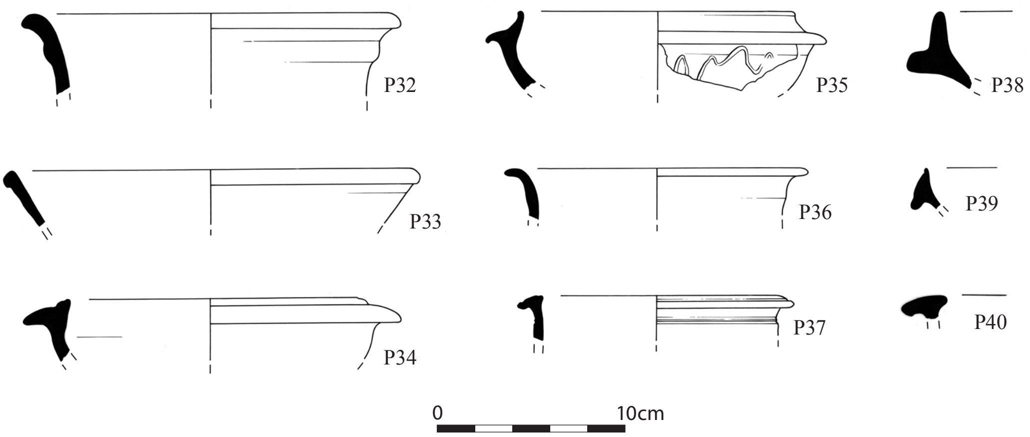
Figure 6.3 East Field 1992-3 fieldwalking. Romano-British pottery. The histograms show relative quantities of fabrics used for each form group, using sherd count values. F: fabrics used for dishes and bowls, as nos. 18–31.

century may indicate a continuation of the pattern of ceramic supply established in the mid-first century AD or earlier. Misfired and distorted sherds of fabrics CTB1, GTA8, GRB4, and GRB1 raise the possibility of local kiln production and the evidence for a large number of uninvestigated kilns on the moors below the site (Mostyn-Lewis 1966) provide an area for future enquiry. There does seem a genuine division between the Wold top settlements and the industrial complexes on the adjacent moors (Mostyn-Lewis 1966; Whitwell 1982, 134-5). Extensive cropmarks have been found on Otby Moor associated with surface remains of kilns and pottery with associated clay pit and also scatters of iron slag (Jones 1988, 26-7, fig. 20). The industrial 'zone' extends north to Claxby House and further evidence for such activity can now be put forward for South Moor, Nettleton. On South Moor scatters of Romano-British pottery and kiln debris have been known for some time (Mostyn-Lewis 1966, 47; Swan 1984, gazetteer in fiche: 3.460, now online via the Study Group for Roman Pottery Website) and to this can be added extensive cropmark enclosures together with roof tiles, building debris, samian and fourth century coins near New Farm (RCHME cropmark plot TF19NW and HER record PRN50131). The kiln at Navigation Lane, to the west of Caistor (Mostyn-Lewis 1966, 47) may be a continuation of this 'zone' at the base of the Wold scarp, as may further kiln debris on Walesby and Risby moors and kilns at Market Rasen and Linwood Warren (Samuels 1983, 683-731; Wilson and Wilson 2007).

The range of imported and traded wares, including amphorae and tables wares is wide for a rural site, but the quantities are relatively low suggesting, at this time, a settlement of modest means and status.

Mid-second to mid-third century AD

From around the middle of the second century there seems to be a profound change in the ceramic make-up of the assemblage with the CTB and GTA ware groups going out of use for the most part. Types dating from the mid-second to mid-third century such as the plain- and grooved-rim dishes (P26, P29-30), bowls with grooved flat rims, jars with near cavetto type rims, the



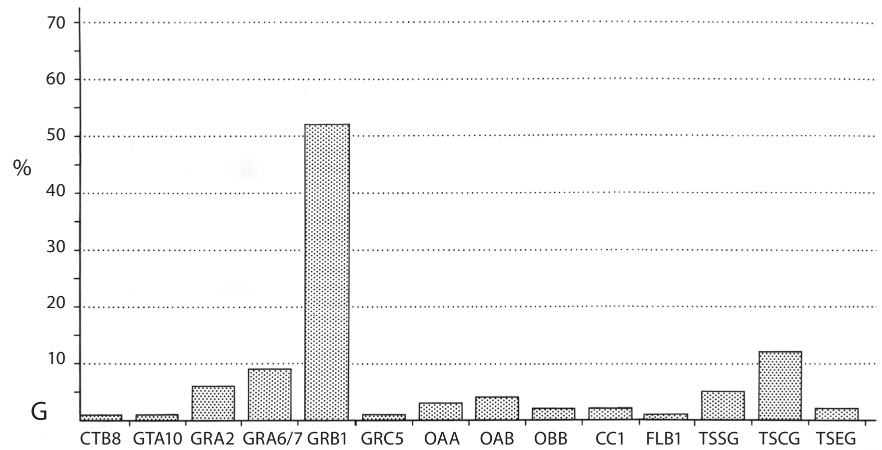
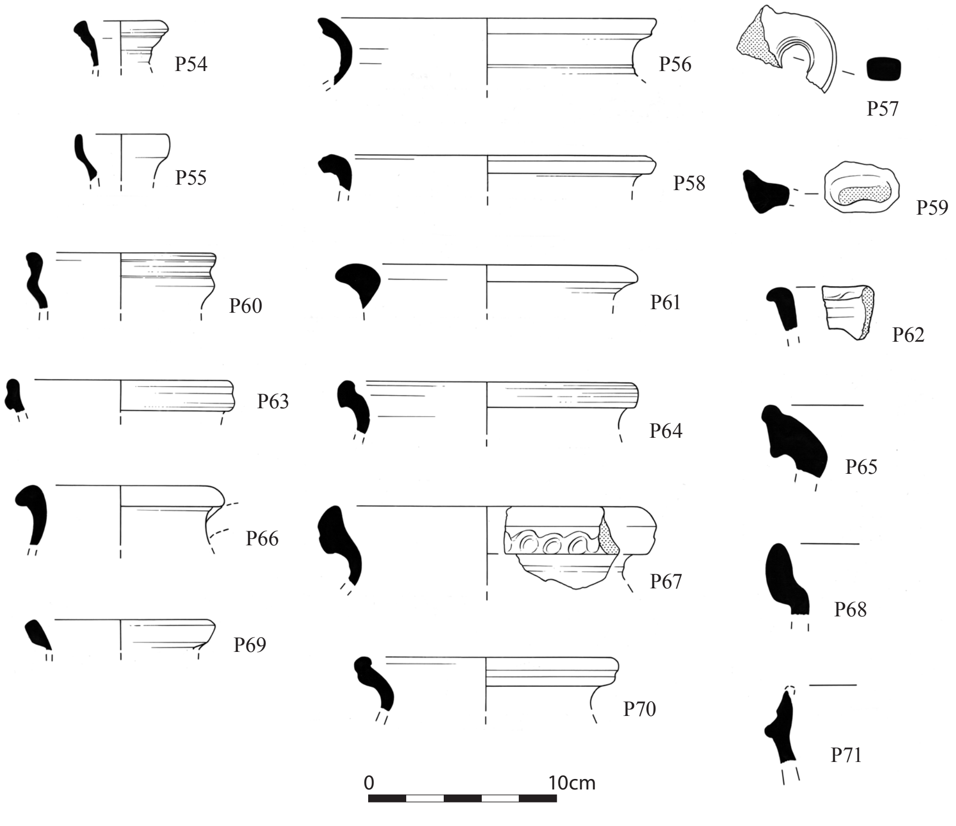


Figure 6.4 East Field 1992-3 fieldwalking. Romano-British pottery. The histograms show relative quantities of fabrics used for each form group, using sherd count values. G: fabrics used for bowls, as nos. 32–40.

earlier wide-mouthed jar types (P43), triangular and bead rim bowl/dishes (P22 and P23), lugged jars and heavier everted-rim narrow-necked jars (P61 and P66) were predominantly in the GRB7 group of fabrics, as were the carinated bowls, bifid or grooved flanged bowls (P117-8) and dishes with inturned rims (P116), which continued in use until the late second or early third century. It seems likely that two fabric groups - GRB6 and GRB12 - began to arrive during this period or late in the previous period from the Trent Valley or South Yorkshire kilns. These fabrics were used to make BB1 type jars, indented jars/beakers, wide-mouthed jars and the deep bead-rim bowl (P41), so common in these industries but absent from the Market Rasen range (pers. comm. Margaret Darling). GRB6 rusticated jars may be a forerunner of this ceramic exchange although rusticated jars continued later in the South Yorkshire industries than elsewhere.

During this period the Parisian wares GRA6 and 7 contributed fine tablewares in burnished black wares decorated with stamped decoration. The fabrics are comparable to Parisian ware from the Market Rasen kilns. Forms in these fabrics include Parisian type, cordoned and rouletted bowls, flasks and rouletted



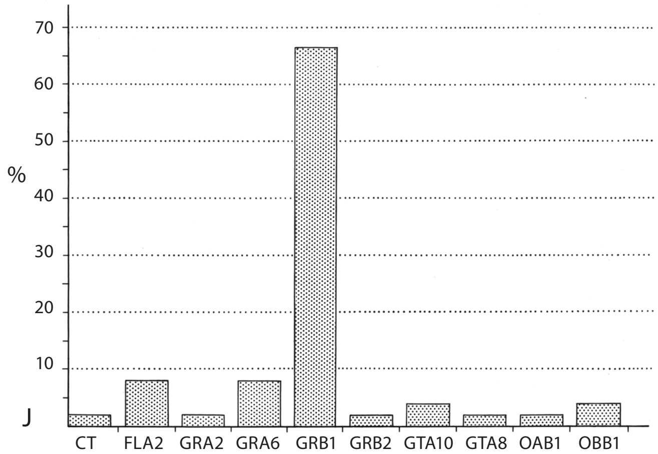


Figure 6.5 East Field 1992-3 fieldwalking. Romano-British pottery. The histograms show relative quantities of fabrics used for each form group, using sherd count values. J: fabrics used for narrow-necked jars, etc., as nos. 54–71.

beakers (P128, P126 and P138, Elsdon 1982a, types 2-4) as well as fine folded beakers, undecorated carinated bowls, narrow-necked beakers, and a sherd from a castor type box (P51, P53, P60 and P36). A fine oxidised vessel with traces of a handle scar may also belong to this group. The forms present, apart from the early stamped sherd, would fit with a date range in the second century with a slight extension into the early third century, suggested by the narrow-necked beakers and castor type box. The flask form has not been recorded at Market Rasen in this fabric but examples with wider mouths in a coarser ware have been identified (Samuels 1983, fig. 180, no. 90). Although it is not certain that all the sherds of GRA6 and 7 belong to a single group, they are closely comparable. The suggestion that GRA6 may be eroded examples

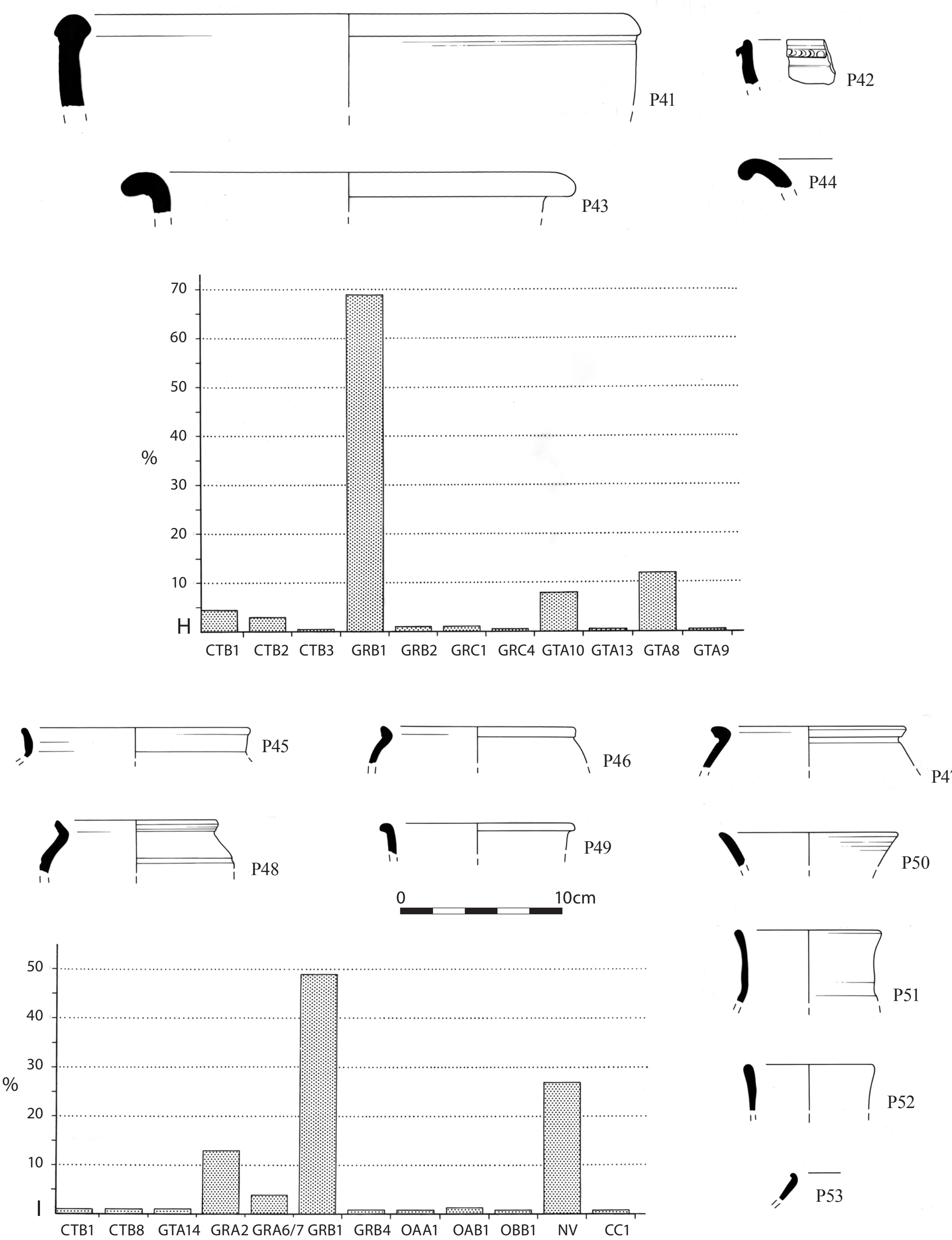


Figure 6.6 East Field 1992-3 fieldwalking. Romano-British pottery. The histograms show relative quantities of fabrics used for each form group, using sherd count values. H: fabrics used for wide-mouthed jars, as nos. 41–44; I: fabrics used for beakers, as nos. 45–53.

of GRA7 agrees with the findings of Elsdon at Market Rasen where she apparently found two fabrics, one with a black silky surface and one with a rough brown surface. She suggested that the latter had lost its original surface (Elsdon 1982a, 18). The collection, though fragmentary and abraded, suggests that Market Rasen may have produced other plain forms alongside the Parisian forms and also that the kiln repertoire included the fine flasks, hitherto thought to be made only at Rossington Bridge.

Some of the GRA2 vessels such as the tall everted-rim beaker and folded beakers date to this group and two of the vessels in fabric OAA1 were of Parisian type and Roxby type (see below). Imported and traded wares include the black slip ware from Trier and the Nene Valley colour-coated beakers.

Samuels noted that the second century greywares from Market Rasen are "fairly distinctive", and used these and Parisian ware to identify Market Rasen products as far as 50km from the kiln site; his mapped

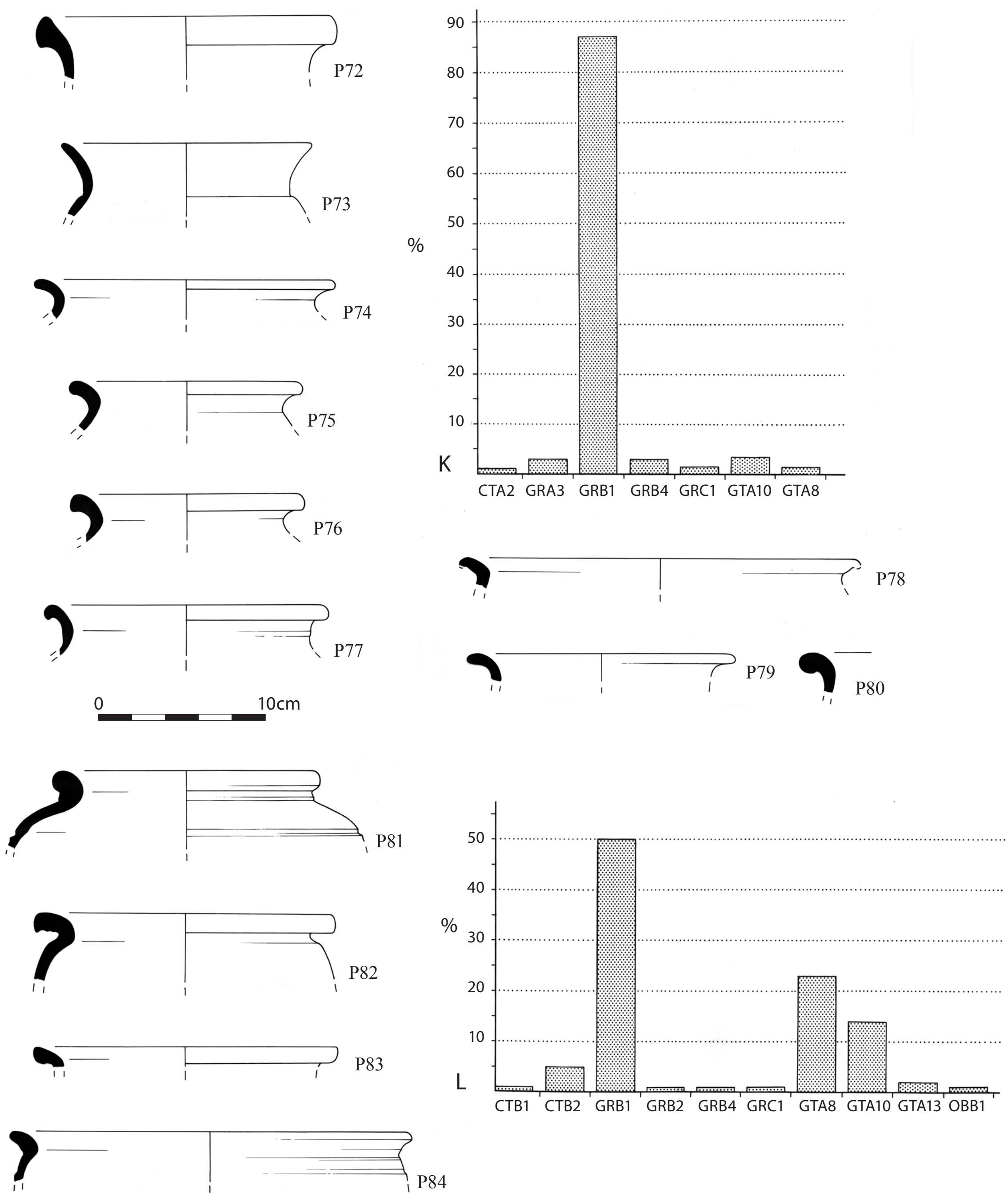


Figure 6.7 East Field 1992-3 fieldwalking. Romano-British pottery. The histograms show relative quantities of fabrics used for each form group, using sherd count values. K: fabrics used for everted-rim jars, as nos. 72–80; L: fabrics used for Roxby type B-C jars, as nos. 81–84.

distribution including Ulceby, Ludford, Halton, and Graisby, suggesting that this production centre may be more important than had been realised hitherto (Samuels 1983, 320). However, as in the case of Swanpool products, so with these earlier kilns, one cannot assume that this distribution is not a reflection of a style zone rather than a genuine distribution pattern (see below), and perhaps only Parisian ware can be reliably sourced. There are, as noted above, several kilns known on the Wold edge and on the moors around Caistor, Walesby, Normanby Moor and Otby Moor (Mostyn-Lewis 1966, 46-7; Samuels 1983, fig. 184). Some of these production sites, on the evidence of the surface collected pottery recovered from them, made similar forms to the Market Rasen kilns and so may be contemporary, at least in part.

Central Gaulish samian at the site dating to this period includes Drag. 18/31R and 31 platters, Drag.

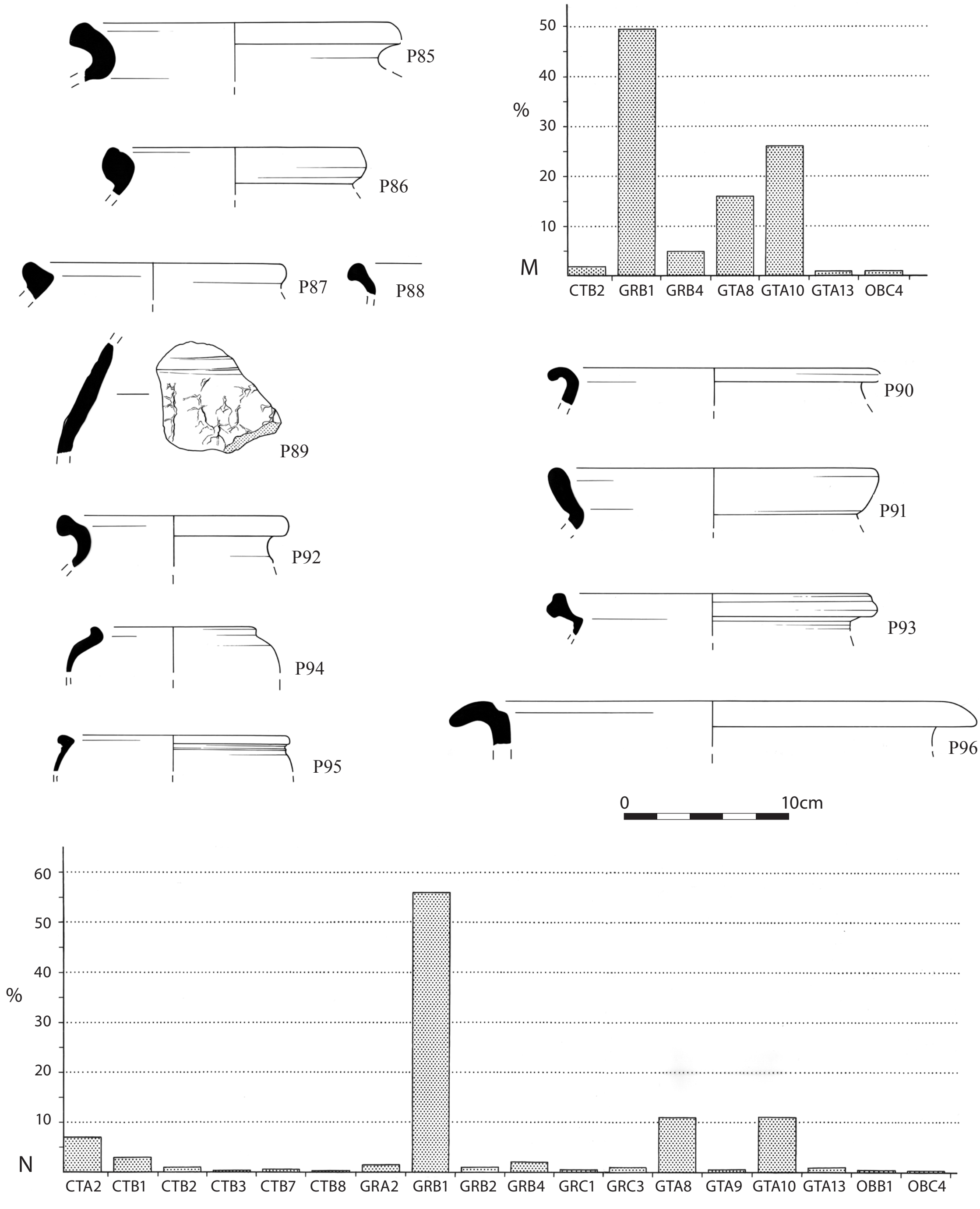


Figure 6.8 East Field 1992-3 fieldwalking. Romano-British pottery. The histograms show relative quantities of fabrics used for each form group, using sherd count values. M: fabrics used for Roxby type A jars, as nos. 85–88; N: fabrics used for jars of all types, nos. 6–13 and 72–96.

33, 36, 37, 38 or 44 and Walters 79 forms from East Field and Drag. 31, 31R, 33 and 37 forms from Street Furlongs. East Gaulish samian types of this period present in Street Furlongs include forms Drag. 31, 37 and beaker, together with an unusual occurrence of a Drag. 27 form. Eight examples of East Gaulish samian were recovered from East Field, none certainly decorated, during the British Gas fieldwalking. The East Gaulish samian from the site is mainly in Rheinzabern fabric and could have been arriving at the Mount Pleasant site up till the mid third century.

Mid-third to mid-fourth century AD

This period is characterised by Dales ware and, in greyware, Dales type jars, wide-mouthed jar types (P44), heavy narrow-necked jars, lugged jars, developed flanged bowls (P27), plain-rim dishes and long-necked globular beakers (P26 and P51-2). Two rim forms were identified for the wide-mouthed jars: a sharply everted rim and a hooked rim (P43-4). The sharply everted rim compares with Roxby type F, appearing in early Antonine deposits at Winterton but apparently being replaced by a larger version with a longer, thickened everted rim by the mid-third century (Stead 1976, fig. 79 no. 4; figs 81 nos 52-5 and 84 no.11 compared with fig. 87 no. 150). Similar bowls, which seem transitional in form (Samuels 1983, fig. 181 nos 97-100), were also found at Market Rasen. The wide-mouthed jar with everted, hooked-over, rim dates to the third to fourth century (cf. Stead 1976, fig. 87 no. 150) and compares with products of the fourth century kilns at Thealby and Messingham and a late third century kiln at Claxby (Stead 1976, figs 69 nos 1-4 and 71 nos 16-24; Bryant 1977, fig. 4 no. 1).

Traded wares include late Nene Valley beaker types, amongst which are long-necked globular forms and pentice moulded beakers, mortaria from the Nene Valley and Lincoln or other kilns producing Swanpool/Cantley type mortaria, and oxidised wares possibly from Swanpool or kilns such at Messingham and Claxby producing late samian copies in fairly coarse oxidised ware. During this period the majority of the pottery is likely to have been from local kilns and the greywares are in a more standardised fabric.

This period marks a change in the pottery supply networks in Lincolnshire with the predominance of Dales ware everywhere and the widespread adoption of some vessel forms, such as the wide-mouthed jar with everted and hooked rims, plain and flanged bowls, and the narrow-necked jar with various rim forms. Samuels suggested the Swanpool kilns may have a wide distribution with a trade link between the Swanpool kilns and the Car Dyke, but Darling has highlighted the difficulties of distinguishing individual kiln products because the kilns produced similar forms (Samuels 1983, 318; Darling 1977, 35); Vince's petrological work supported this view (see above, Vince 2002).

Late fourth century AD

Only a small number of vessel types date to the fourth century. The small number of double lid-seated jars (P92), Nene Valley or Swanpool bowls, dishes or flagons or fourth century reeded rim mortaria with slag trituration grits suggests that significant ceramic disposal had ceased after the mid-fourth century. Forms found in late kiln groups such as Swanpool - the inturned flanged bowls (P24 and P42) wide-mouthed jars with heavy bead rims (P125), developed flanged bowls with tall rims, Swanpool colour-coated wares and oxidised coarse wares, such as hemispherical bowls with bead rim copying Drag. forms 31 or 37, and flanged bowls copying Drag. 38 in orange ware (P38), or orange ware with traces of brown-orange colour-coat (cf. Darling 1977, 24 nos 21, 124-6 dated late fourth century, probably from Swanpool) and late Nene Valley colour-coated coarse wares, were all very uncommon. The small number of late fine wares may be a north Lincolnshire pattern but the lack of double lid-seated jars may be a more reliable indicator of the likely end date of the occupation. However, since coarse ware forms are usually dated by their association with well-dated fine ware types, the low numbers of the latter in the area must affect the dating of the former. At Dragonby, the lack of fourth century pottery is commented upon (May 1996, 637) and contrasts with coin analysis, which suggests that occupation "had all but ceased by the end of the third quarter of the fourth century" (Laing 1996, 223); in other words there was an absence of fourth century pottery but the coin list continued up to the end of the third quarter of the century. At Mount Pleasant, however, the coins list suggests an end date in the mid-fourth century.

Analysis of a late fourth century group at Lincoln has suggested most of the grey and fine wares were supplied by the local Swanpool kiln and supplemented with some Nene Valley colour-coated wares. The source of the calcite and grit-tempered jars is not known. Similar coarse wares predominate in horizons IV and V at Dragonby, and May considers the greyware fabrics comparable to those found at Winterton (May 1996, 517-8). The published late groups from Winterton have similar forms predominating, but the greywares compare with the Messingham kilns (Stead 1976, figs 87-9).

The late greywares from Mount Pleasant compare in many ways to those at Swanpool but could just as easily, and more likely, have come from the late kiln at nearby Claxby (Bryant 1977). The evidence of misfired and distorted sherds of greyware from the site in forms including plain-rim dishes, flanged bowls, and hooked-rim, wide-mouthed jars, along with the ample evidence for kilns on the moors, at Caistor, and at the excavated kiln sites of Market Rasen and Claxby, may indicate that production was still predominantly local. The Dales ware industry seems to be a dispersed industry with kilns making one form in similar fabrics (Darling 1977, 31). The manufacture of Dales ware type jars in a hard, grey, shell-tempered ware at Barnetby Top in the late third to fourth century and in greyware at Market Rasen demonstrates that local potters could make the form in other fabrics (Samuels 1979). There is therefore some indication that, although stylistic commonality was spread over a larger area, greyware and Dales ware production was probably still very local.

No Anglo-Saxon period pottery was present amongst the assemblages.

6.1.4 The Fieldwalked Pottery: the Assemblages

As noted above there were three fieldwalking exercises undertaken at the site, each covering a different field. The pottery was recovered using two distinct methodologies for fieldwalking. In the BG programme investigating East Field in the spring of 1993, and for the walking in North Field in 1998, individual potsherds observed at the ploughsoil surface during close interval line-walking were 2-dimensionally plotted to an accuracy of 1mm, while in the later collection in Street Furlongs finds were recovered via 'total surface collection' within a grid comprising ten metre squares. In the earlier analysis of the BG results the artefact distributions were examined in two contrasting ways: by examining clusters observable within the distribution pattern of different pottery types, and by examining groups of artefacts found within a geographical zone related to a feature or group of features identified by the geophysical survey. These plots of individual

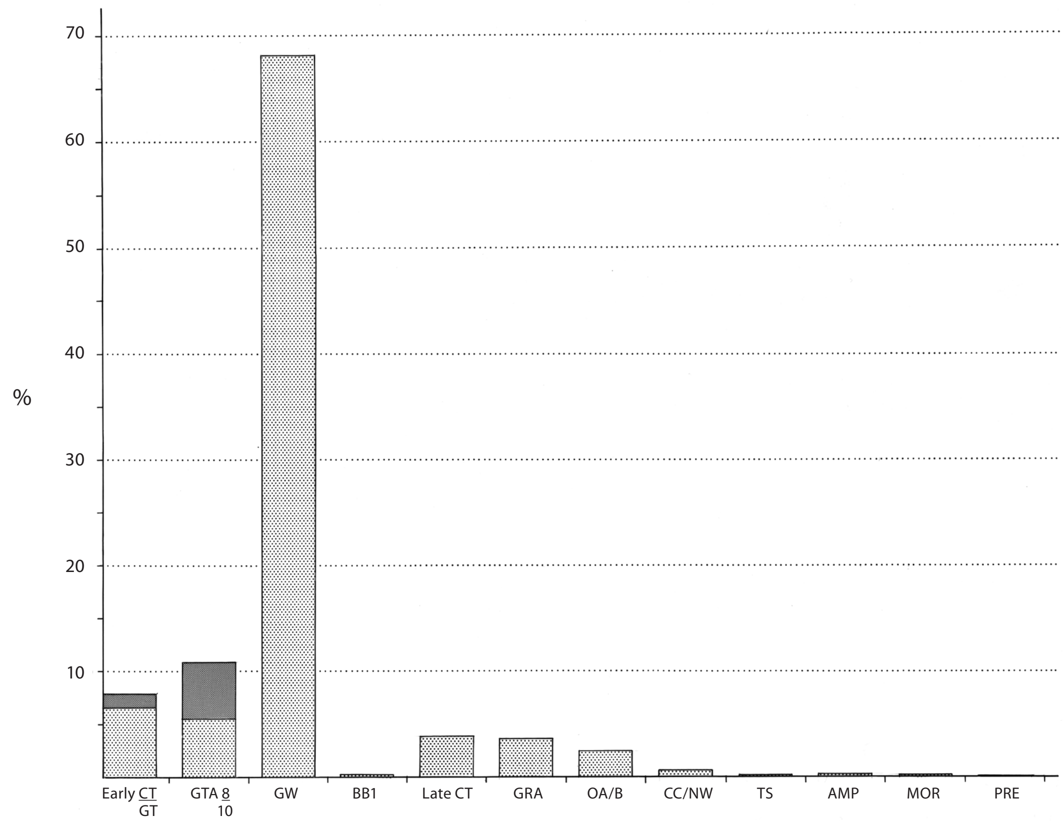


Figure 6.9 Relative proportions of pottery fabric groups amongst the assemblage from the 1992-3 Fieldwalking.

sherds from the BG assemblage were augmented by the later fieldwalking programme in Street Furlongs by indicating the density of these pottery types in each ten metre square using dot density; (hence in the case of Street Furlongs each dot indicates one sherd but their placement within the home square is produced randomly).

6.1.5 Fieldwalked Pottery from East Field: Methodology

With an assemblage of nearly 10,000 precisely located sherds recovered from East Field there was much potential for analysis to consider spatial aspects of the distribution. The interpretative plan of the geophysical survey offered a clear frame of reference for examining the distribution and to assist this process the Feature elements identified in Phil Catherall's interpretative plot were allocated numbers (F1-F50; see Fig. 2.4) whilst the evident enclosures were also allocated an identifying number sequence.

The overall distribution of pottery in East Field shows a dense concentration of sherds in the north-east quadrant of the field and down the eastern edge. Clusters in the plotting of the data could be seen by eye, particularly where the overall distribution was relatively sparse. The extreme density in the eastern part of the site made it very difficult to pick out convincing clusters from within the absolute mass. The pottery distribution results reflect over 500 years of human activity on the site, related, in part, to the pattern of sub-surface features seen on the geophysical survey, with some features even earlier such as F1 and F2. Changes in the settlement palimpsest visible in the latter can only be related to pottery distributions and, so to real time, if those changes coincided with changes in the pottery types. This is apparently true, for example, of the beginning and end of the foci centred on enclosures F7-F9 and reflected in the distributions of a GTA ware of the first to second century and Dales ware, dated third to fourth century. Much of the original detail of the chronological layers represented in this amalgam of data revealed in the surface collected pottery has not been unravelled. This would be expecting too much, as, for instance, some of the unexpected distributions and clusters may be due to the conflation of several chronologically distinct patterns. It was felt that by using a variety of approaches the chances of unravelling this palimpsest and isolating archaeological incidents would be greatly enhanced.

Accordingly, four principal methods of analysis were used (Methods One to Four). The first method (Method One) examines clusters within the distribution of individual pottery types and compares the pattern with that of other types. The distribution of some 140 ceramic types, including types of fabric, form, condition, abrasion, and functional groups, was studied for clusters and blank areas.

The second and third approaches examine the make-up of clusters within the overall distribution pattern (Fig. 6.24) and of groups of pottery related spatially to features identified on the geophysical survey (Figs. 6.22–23). Clusters were observable in the overall distribution by eye and the relative quantities of the fabrics and forms in each cluster was analysed using the GIS package (Figs 6.24–25) and below).

Pottery found within the enclosures, as identified on the geophysical survey, was analysed in an attempt to assess the date of the activity areas thus revealed, this was Method Two.

Pottery found within 4m of the central spine of linear and curvilinear features on the geophysical plot was examined, this being Method Three. The linear features were found to measure, on average, 2m across and it was felt that a 3m "buffer" zone around their edges was generous and would include most of the material possibly associated with them without intersecting with other buffer zones. Reynolds examined sherd movement caused by the ancient ard and found that 85% of the sherds moved less than 3m (Reynolds 1986, table 2; cf. Taylor 1999). The buffer zone, therefore, covered a total of 8m across including c. 2m of the feature and a further 3m either side to allow for sherd movement. Buffer zones with a 3m radius were also examined. These produced rather smaller groups of similar type. The details are available in the digital archive. It is recognised that these 'assemblages' are likely to be extremely mixed and include material earlier than the features, such as sherds coming from underneath a bank and relating to earlier activity, and from later unrelated activity. Nonetheless, it was felt that the overall pattern forthcoming from this methodology had potential for revealing chronological and functional trends across the site and might isolate (i.e. capture) the pottery potentially from the fill of the feature in a way that none of the other methods did, albeit imperfectly.

The fourth approach examines clustering in terms of discrete spatial clusters and by function, via plots for specific functional classes, such as fine wares, and in terms of use traces.

6.1.6 Analysis of the Distribution of the East Field fieldwalked pottery

6.1.6.1 The detailed plots of typological traits: Method One

During the BG analysis, distribution plots of every fabric and form were produced using Easy Cad, together with some fabric/form combinations, sherd conditions such as burnt, distorted, and levels of abrasion.
These distributions were then added to a digitised, interpretative plan of the geophysical survey. Some 140 different plots were produced and those considered representative of the apparently significant plots are reproduced here (Figs. 6.10–6.21), the remainder being available in the archive. The earliest use of the site from the ceramic evidence is represented by a Late Neolithic or Early Bronze Age sherd, apparently not related to any geophysical feature (Fig. 6.11). A few sherds of flint-gritted and quartz-tempered sherds of Iron Age type (Fig. 4.10) were also identified and three of these were found alongside F4. It is difficult to assess the significance of this relationship (Fig. 6.11) with such a small number of sherds but no other pottery distribution could be convincingly related to this feature.

Figure 6.10 All fieldwalked pottery (by 2-D plot distribution at East Field and North Field and dot density at Street Furlongs).

Figure 6.11 Pre-Roman Iron Age pottery (by 2-D plot distribution at East Field and dot density at Street Furlongs).

Figure 6.12 First century fine and very coarse Wares CTB6, CTB7, CTB8, BSA and GTA14 (by 2-D plot distribution at East Field and dot density at Street Furlongs).

Figure 6.13 First century medium-coarse wares CTB1, CTB2 GTA5, 9 and 11 (by 2-D plot distribution at East Field and dot density at Street Furlongs).

Figure 6.14 Wares GTA8 and GTA10 (by 2-D plot distribution at East Field and dot density at Street Furlongs).

Figure 6.15 Second century everted-rim and Roxby type jars (by 2-D plot distribution at East Field and dot density at Street Furlongs).

Figure 6.16 Rusticated jars (by 2-D plot distribution at East Field and dot density at Street Furlongs).

Figure 6.17 Dales ware (by 2-D plot distribution at East Field and dot density at Street Furlongs).

Figure 6.18 Nene Valley ware (by 2-D plot distribution at East Field and dot density at Street Furlongs).

Figure 6.19 Grooved, flanged and developed flanged bowls (by 2-D plot distribution at East Field and dot density at Street Furlongs).

Figure 6.20 Wide-mouthed jars (by 2-D plot distribution at East Field and dot density at Street Furlongs).

Figure 6.21 Fourth century types (by 2-D plot distribution at East Field and dot density at Street Furlongs).

Much of the LPRIA to early Romano-British material had a long date range, continuing well into the second century AD. Those for which a shorter date range, from the mid-first century BC to the mid-first century AD, could be suggested were found in a dispersed cluster in the north-east corner of the site with small numbers of sherds also found around F23 and within F12 (Fig. 6.12). The earliest forms identified comprised butt beakers, cordoned bowls, platters, and a small, everted-rim jar, all belonging to the first century BC to mid-first century AD (see above) and these were found to occur in a thin scatter over the north-east corner of the site and a scatter within F7-9. (Similar stratified items were in turn recovered from Trenches A and C in the subsequent excavations). There were insufficient numbers of these forms to analyse their distribution patterns individually. One of the "native" jar types, with a characteristically thickened upright rim, and most of the storage jars, mostly grog- or shell-tempered, were also restricted to the north-east corner and may belong to this phase. Analysis of the distribution pattern of early forms suggests that ceramic debris was accumulating in small clusters in the north-east corner, perhaps associated with F1 and F17, and near F23.

Evidence from other sites in the East Midlands has suggested that fine and coarse shell-tempered wares (CTB6-8) may have a date range restricted to the LPRIA to conquest period, and the forms made suggest that fabric GTA14 may also date to the first century AD. The distribution of the coarse shelly ware CTB7 was very similar to that of the early forms except for three sherds found south of F12. The fine shell- and GTA fabrics, CTB8 and GTA14 (Fig. 6.12), were found only within the area bounded by F16, whereas the fine shelly ware CTB6 was found concentrated around F23 with only three sherds scattered over the northern half of the site. The small cluster of sherds of CTB6 and 7 around F23 suggests some Iron Age or very early Roman activity there. This contrast in distributions is puzzling and may reflect a chronological sequence within the shell- and GTA wares not hitherto detected. Equally it may indicate some functional difference in fabrics and areas of the site.

The detailed significance of these distribution patterns and their relationship with the geophysical features are harder to determine because of the scattered nature of the distributions and the concentration of features in the north-east quadrant. Two patterns are clear: there is a small cluster of early pottery within F7-9 concentrating around F23, possibly related to it, and the bulk of the rest of the pottery dated to the mid-first century BC to mid-first century AD falls east of F16. The sherds within F7-9 were small in number but lay close to linear features in that area, around the edge of F23. The north-eastern group clustered around several features: F17, F18, F19 and the eastern ends of F1 and F21. This distribution may be related to the use of the enclosure bounded by F17, perhaps in association with a series of east-west trackways represented by the multiplicity of east-west linear features at the eastern ends of F1 and F21. The significance of the spread around F18 and F19 is uncertain but may relate to the use of a structure represented by F18 (see below under function). An early date for F17 was supported by the analysis of pottery types from curvilinear anomalies in that area and from the area enclosed (see below).

These fabrics were not the only wares current at this time, but were the only ones restricted to this early period. The medium shell-tempered fabric CTB1 was a common fabric from the Iron Age through to the second century AD and, predictably, displays a different distribution pattern (Fig. 6.13). A concentration in the north-east quadrant can still be detected but additional scatters can be seen to the west and south of F16 and down the eastern edge of the site. This pottery spread over what appeared to be trackways, although the crossroads of the trackways was notably free of sherds. In many ways the pattern is transitional between that of the mid-first century wares and that of the later GTA fabrics GTA8 and GTA10 used principally for second to early third century forms (nos 81-88, Fig. 6.13–14) which display distinct clusters around F3, F5, F8-9, F22 and a scatter across all the site except the crossroads area. The distribution of the sandier, shell-tempered ware CTB2 was similar to CTB1, but in this case the sherds clustered around F5 and F13. This fabric is given a date range overlapping with CTB1 but with a later end date (see above). Thus a spread to the west and south is indicated with the possible foci around F5 and F7-9, probably towards the end of the first century AD when some of the earlier fabrics had gone out of use.

The GTA wares GTA10 and GTA8 were dated from the late first century to early third century on the basis of the forms made and comparison with similar fabrics found elsewhere in the East Midlands. Both fabrics cluster around F7-9, F5, F13, and F22 with a scatter over the entire site increasing in quantity towards the eastern edge. An additional small group of GTA8 sherds was observed around F3. This pattern could also be detected to some extent in other fabrics and forms dated to the second to early third century. Fabric GRB4 had a rather dispersed distribution over the north-eastern quadrant but did cluster around F8-9. This fabric closely resembles

BB1 but is slightly finer and was used to make second century types. Indeed, the few examples of BB1 on the site occurred around F7-9 with a thin scatter over the north-east quadrant. The identifiable BB1 forms were of second and third century date (Gillam 1976, nos 4, 8, 9 and 30) and their distribution, together with that of GRB4, was closely comparable to that of GTA8 and 10. Medium-necked jars with a variety of everted rim types (Fig. 6.7, nos. 72–80 and Fig. 6.15) may have co-existed with jar forms of Roxby types A-D (nos 81-88) in the late second and early third century when Dales ware forms do not yet predominate. The distributions of all these types are similar to that of fabrics GTA8/10 with a widespread distribution over the site and clusters around F5, F7-9, F13 and F22 (Fig. 6.14). The rusticated ware (Fig. 6.15) clustered around F7-9 and in the eastern half of the site. Rusticated ware was dated from the late first century to well into the Antonine period at Winterton, but Darling suggested it may be residual at Lincoln after c. AD 130-40 (Winterton: Stead 1976, 147; Lincoln: Darling 1984, 83). Its distribution pattern is similar to GTA8 and 10 in its clusters but lacks the widespread scatter, perhaps reflecting the earlier terminal date.

This trend towards a dispersed blanket distribution pattern suggests a change in the use of the site. The patterns identified in the distribution plots of CTB1 and 2 suggest this may have begun in the late first or, more probably, the early second century, along with foci of activity around F5, F7-8, and F13. Pottery deposition seems to have become even more dispersed during the second century with additional foci appearing around F3 and F22. Although it is difficult to relate the detailed distribution pattern to the mass of features revealed by the geophysical survey, the widespread scatter of sherds together with the planning apparent in the enclosures and trackways represented by F12, F14-16 and F20 may be interpreted as a shift from activity with a strong pastoral base to one with a mixed economy. This would agree with the funnel entrance of F17, attributed to an earlier phase in the Late Iron Age-early Romano-British period, and with the scattered nature of many of the second to early third century sherds which may be the result of manuring. It may be argued, on the basis of the earlier sherds present, that the enclosure complex represented by F7-9 pre-dated the planned enclosure and trackway complex and relates to an earlier trackway layout, traces of which survive in F10, and perhaps also F1 and F21. The focus near F5 may also date to the second century. F22 and F13 appear to respect the alignment of the enclosure system and may be contemporary with it.

A distinct change in distribution pattern can be seen in that of the third to fourth century, shell-tempered ware CTA2, used principally for Dales ware lid-seated jars (Fig. 6.17). This ware was mostly found east of F16 with only a few to the west and around F7-9. The sherds spill over the east-west trackway, north of F12, and occur within the area bounded by F12. A concentration within the scatter can be detected around F22, possibly associated with that feature. Fabrics CTB3 and GRB2, both greywares with varying amounts of shell temper, displayed a similar eastern bias (in archive) suggesting they may be closely related to the late shelly wares, although the forms identified included earlier types such as rusticated ware and Roxby types A-C. Nene Valley colour-coated ware and the fine greywares used for Parisian ware forms (Fig. 6.18) displayed a similar distribution, as did the everted-rim, wide-mouthed jars typical of the third century at Winterton, possibly with a second century start. The fourth century form with everted, hooked-over rim (Fig. 6.20) was scattered even further east, suggesting an eastern shift throughout the third and fourth centuries. The medium-necked jar with rolled-over rim had a similar distribution pattern to the wide-mouthed jars and may in fact be a small variant of them. Other third and fourth century forms such as the incipient flanged and flanged bowls were similarly disposed in the eastern section of the site (Fig. 6.19). The flanged bowls clustered halfway down the eastern side similar to the late shell-tempered ware. Third- to fourth century, long-necked beakers were also restricted to the area east of F16 and clustered at the same point around F22. A second cluster could be detected around F17-19 in the distribution pattern of the wide-mouthed jars and fourth century types (Fig. 6.21).

The distribution of some of the longer lived forms (in archive) was initially harder to interpret. Plain- and grooved-rim dishes and flat-rim bowls and dishes were found in small quantities only, around F7-9 and in concentrations along the eastern edge. The plain-rim dishes were scattered either side of F16, with a small concentration around F22, and the grooved-rim dishes also occurred in small numbers within F7-9 and were otherwise found scattered thinly over the site with a slight cluster around F22. The flat-rim dishes and bowls were scattered thinly over the site with more along the eastern edge and a cluster near F22. These patterns are broadly in keeping with the longevity of the forms in the second to fourth centuries, suggesting that plain- and grooved-rim dishes and bowls were most popular in the third and fourth centuries when the settlement focus shifted to the east. The distribution of the flat-rim bowls was unexpected in that more examples were anticipated around F7-9, where contemporary rebated- and everted-rim jars were common. Thus there were no clusters in F7-9 found in the distributions of individual dish/bowl types, despite the settlement foci suggested by jar types thought to be contemporary. When the dish types within F7-9 were further investigated, it was found that there were, in fact, a reasonable number but made up of several types, namely plain-, grooved-, bead-, flat-rim and Roxby type H and four flanged bowls (nos 26, 29, 19, 21, 23 and 27). Thus the shift in settlement to and from these enclosures can be seen to coincide with a change in jar style but not the dish types. It appears that several dish types began to be made around the time these enclosures came into use and they continued to be employed at least until the focus around F22 was in use. Other dish types, such as the flanged bowl, do reflect the eastern shift in the third century because their date range coincides with the change in site use reflected in the Dales ware distribution pattern.

Everted or bead rims from long-necked beakers, bulbous or indented, clustered in the north-east corner, with additional clusters around F22 and within F12 (in archive). These rims may belong to third or fourth century beakers and, since none of the later circular or slit-indented body sherds were found, they may all be of third century date. However, it is instructive to compare this distribution with other forms firmly dated to the fourth century such as the double lid-seated jar (in archive) and the fourth century lid-seated or flanged necked, narrow-necked jars (in archive) which were found to the east of F16 and clustering to the north around F17-19. The colour-coated fabric CC1 was scarce but was found to concentrate east of F16. Likewise, the few Drag. 38 bowl copies dating to the late fourth century were all on or east of F16. One other supposedly late fourth century fabric, GRC3, did not have this distribution pattern. GRC3 was thought to be equivalent to Darling's grit-tempered ware (Darling 1977, 31) and was used to make Dales ware and double lid-seated jars. However, it was scattered over the site with an eastern bias but no north-eastern cluster. This, in fact, agreed with evidence from the British Gas salvage excavations on the barrow site in the adjacent field (Elsdon and Leary 1994) where the pottery showed that this fabric was used to make earlier, rebated- and everted-rim jars. Although GRC3 was used for later fourth century jars it may have an earlier start.

The distribution of the third and fourth century types (Fig. 6.21) does indicate an eastern bias with foci associated with F22 and F12, already detected in the distribution plots of second century types. The eastern bias may indicate the area west of F16 was no longer manured but the area to the east continued to be so (cf. Crowther 1983, 39-40 for a similar suggestion at Maxey). The latest material is too rare to make much of but does suggest the possibility of a focus around F17-19 similar to that observed in plots of first century pottery Such a focus may have existed throughout the Romano-British period but may have been masked by the dispersed distribution pattern of second to early third century wares and by the more obvious clusters identified around F7-9, F5 and F22.

Thus detailed consideration of the distribution plots based on typological traits has successfully identified significant changes in the nature of the pottery deposition patterns through time. It has also provided some dating evidence for the use of apparent foci of pottery deposition. It has been possible to suggest links between the geophysical anomalies and these changes in pottery deposition.

6.1.6.2 Pottery groups from within enclosures: Method Two

The groups of sherds found within major and well-defined enclosures were analysed for variations in absolute quantities and in the relative percentage of each fabric group. A catalogue of the all the formal attributes of each sherd was also printed for each group but, due to the rich variety of types, present in small numbers, this cannot be conveyed adequately using graphic illustrations and so that body of evidence is alluded to in the text where relevant and exists in archive.

A comparison of the size of the groups (Fig. 6.22) highlighted some significant differences. The trend towards larger groups as one moves east is seen clearly and reflects the pattern already detected in the overall distribution plot. Enclosure 6, for example, has a similar sized assemblage to Enclosure 18, an enclosure with a much smaller area. Enclosure 15 has a remarkably small group. Enclosure 13 may also be rather small but the groups from Enclosures 1 and 2 were approximately comparable, if the size of the enclosure is taken into account.

The typological trait distributions of Analytical Method One revealed four distinctive patterns which appear to reflect changes in the use of the site. These, taken with the overall distribution pattern, suggest that the area east of linear feature F16 received some 400 years of ceramic debris through the early first millennium AD, while west of F16 deposition may have been limited to the first and second century, with only casual losses in the third and fourth centuries.

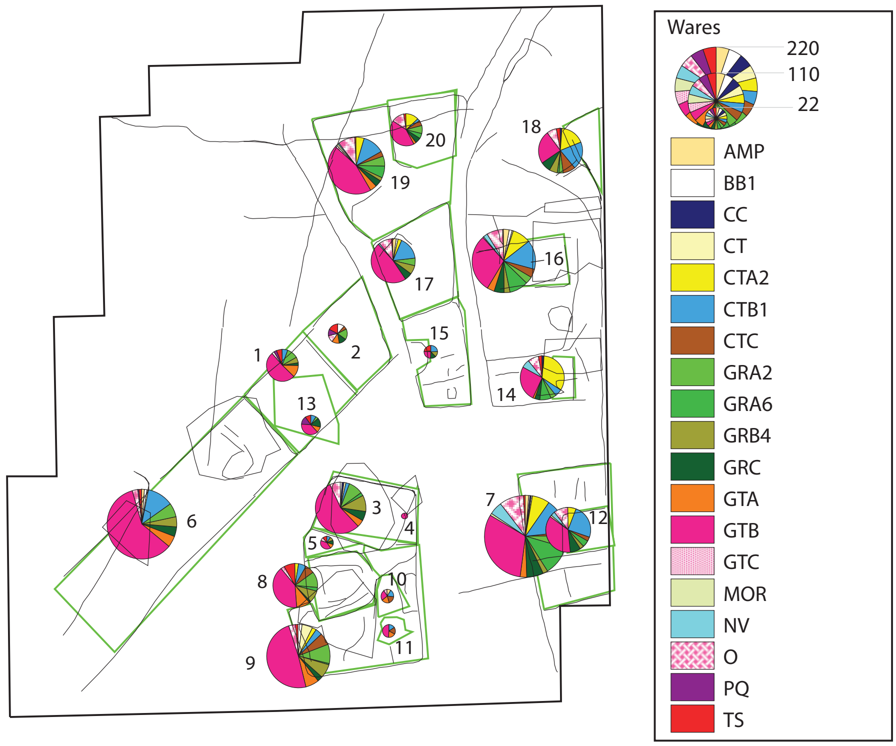


Figure 6.22 Pie charts showing fabrics, excluding greywares, from enclosures identified on East Field geophysical plot, delimited in green. The size of the pie charts indicate the size of the assemblage using the square root value.

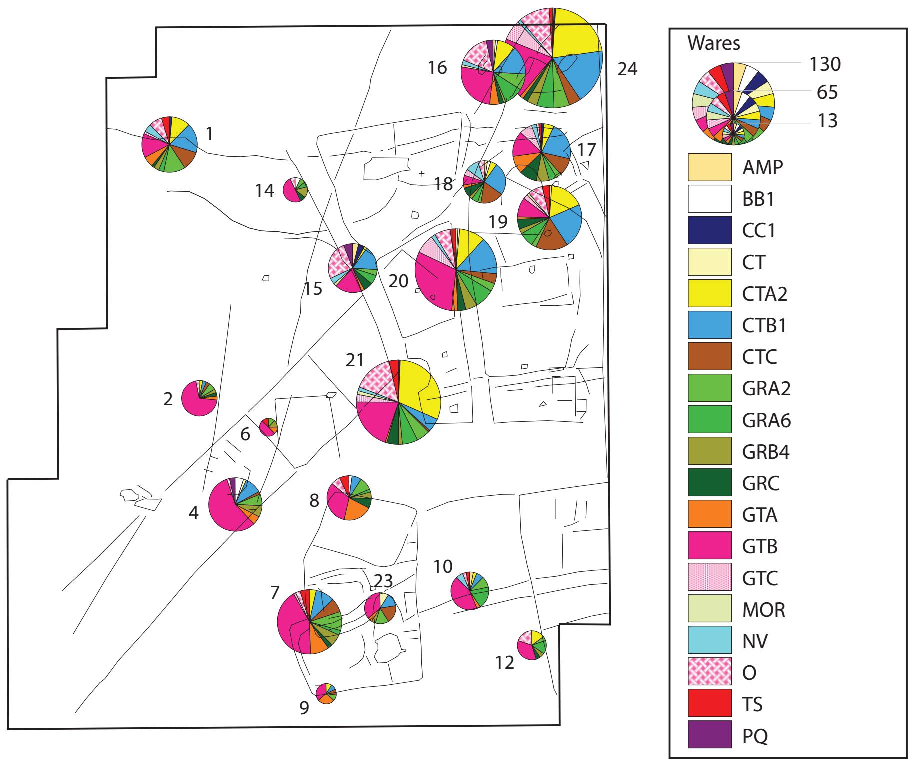


Figure 6.23 Pie charts showing fabrics, excluding greywares, from 4 metre buffer zones around the linear feature complexes (feature numbers given). The size of the pie charts indicate the size of the assemblage using the square root value.

This, of course, affects the relative make-up of groups in the east, where small but significant quantities of one fabric group may be virtually swamped by the overall mass of pottery present, while in the west equally small quantities of the same fabric group may acquire unwarranted importance in the absence of such multi-phase deposition. Contrasts, therefore, between an enclosure assemblage and the overall distribution pattern could be particularly significant and may reflect the past activities of man rather than biases in the dataset.

Greyware dominates all the assemblages and it was necessary to exclude it from the pie charts for the sake of clarity. A comparison of the relative quantities of pottery, including greyware, revealed that the majority of the assemblages comprised c. 60-80% greyware, except Enclosures 4 and 11 which yielded rather less than that (in archive).

Given these limitations in the data, the restricted distribution of Iron Age fabrics (PQ, Fig. 6.11) in Enclosures 1, 2, and 13 suggested some early activity in that vicinity although sherd numbers were negligible. Some evidence for first century AD activity was identified in Enclosures 18 and 21 where more of fabric group CTC than elsewhere was noted. This would explain the greater quantity of CTB1, a fabric which overlaps in use with the first century wares. The fact that this cluster of early wares shows up despite the intense pattern of pottery deposition here and also contrasts with areas to the south, such as Enclosures 14, 16 and 7, suggests that an explanation for the patterning may be justifiably sought in activities on the site in the ancient past. This fabric group also seems important in Enclosures 8, 9 and 10 and, to some extent, in Enclosure 11 but since the length of ceramic deposition through time was shorter here than in the east, its significance may be less, apart from Enclosure 10. The relatively high quantity in Enclosure 10 contrasts with all the other enclosure groups and suggests significant first century AD activity here. Enclosure 9 covers the southern section of complex A and the fabric totals include sherds from Enclosures 10 and 11 but not 8. If these are subtracted the CTC component is substantially reduced, suggesting, initially, Enclosure 10 may have been unenclosed and the other elements were added later in the first century or early second century. The adjacent Enclosures 3-5 also lacked fabric group CTC. Enclosure 3 did yield a significant amount of early GTA fabrics but a close study of the sherds involved suggested their dating was a little uncertain (GTA5, 9 and 11). These fabrics may continue into the second century, which would explain the absence of calcite-gritted wares thought to be contemporary. These differences raise the possibility of the inception of pottery deposition in Enclosures 8-11 pre-dating that in Enclosures 3-5.

The second century group, GTB, was scattered over much of the site, which contrasts with the overall distributional trend in the pottery. However, this very fact may result in an artificially diminished relative quantity of GTB in the east, where it is swamped by other fabrics, and an inflated quantity in the west, where it has little competition from any other group. Thus the single type distribution of GTB may be a better indicator of its ancient deposition pattern than a consideration of its relative quantity in each enclosure. The relatively large number of GTB sherds in Enclosures 7 and 12 contrasts with those to the north at Enclosures 18 and 21. This may be the result of a diminution in relative numbers due to the presence of first century AD occupation (groups GTA, CTC and CTB) in the northern enclosures. Thus the deposition of GTB within enclosures across the site seems to be remarkably standard.

A consideration of other fabric groups within these enclosures, however, suggests a short period of deposition in the second to early third century in the western half of the site with earlier activity from the mid-first century BC to mid-first century AD in Enclosures 8, 10 and 11 as already argued above. The fine greywares, GRA6, of Parisian type, fabric groups CTB, GRB4, BB1 and the samian all date to the same timespan as group GTB and account for around a quarter of the non-greywares found to the west of F16. The significant groups in the east include fabric groups with contrasting date such as the first century wares and later groups such as Dales ware, Nene Valley colour-coated ware and oxidised wares.

Study of the combined distribution of fabrics in GTB8 and 10 together with these enclosure pie charts suggests that pottery from Enclosures 3-5/8-11 and a group around F5 within Enclosure 6 belong to the second to early third century. These concentrations of pottery may be activity foci, involving pottery discard, within the contemporary scatter of sherds over most of the site in the second to early third century. The significance of the pottery of this date found east of F16 is reduced by the presence of a wider range of material in that area but the larger relative quantities, such as those from Enclosure 7, suggests some later foci may have begun in the second or early third century (but see above). The distributions suggest most of the pottery west of F16 belongs to this phase except for the first century sherds from Enclosures 8-11 and the small number of pre-late Iron Age material, PQ, from Enclosures 1 and 6. If the bulk of the pottery in this area relates to the use of the system formed by F12-16, then the significance of these few Iron Age sherds may be much greater than their number merits and they may be the only dating evidence for the enclosure system 1, 2 and 6.

The greatest relative quantity of Dales ware came from Enclosure 14, within a rectilinear complex, F22. This complex was first identified because of the concentration of Dales ware which was recovered there. A closer study of the geophysical plot disclosed some rectilinear features. Other fabrics with slighter concentration in the area, such as GTB and fine greywares, GRA2 and 6, suggest a date range beginning in the late second to third century. The forms present, comprising everted-rim jars (as nos 72-84), grooved-rim jars (as no. 85), rusticated ware, Dales ware jars, indented beakers, a wide-mouthed jars (as nos 12 and 43), bowls and dishes with plain, flat, flanged and grooved rims (as nos 21, 22, 27 and 29), a sherd of an Antonine samian plain bowl (Drag. 38 or 44), and a sherd from an East Gaulish plain bowl of Drag. 31R form, dating to the late second to early third century, support this date. Dales ware was also more common in Enclosure 20 than in any other enclosures west of F16, suggesting that this part of the western system received more pottery in the third or fourth centuries than adjacent enclosures.

The group from Enclosure 15 is remarkably small and of interesting composition. The predominance of the second to early third century fabric groups GTB, GRB4, and GRA6, with two fragments of Central Gaulish samian, leaves no doubt as to the likely date of pottery deposition within this feature and the forms confirm this date range (as nos 26, 38, 75, 82, 75 and 89). This lack of finds and the curious shape (reminiscent of a winged villa) and contrasting with the other enclosures, points to a unique function within the surveyed area. This may be linked with the 'cross-road' area to the south which was remarkably clear of finds.

6.1.6.3 Pottery from around geophysical features

6.1.6.3a Pottery groups from around linear features: Method Three

The number of linear features precludes publication of all the groups, although pie charts of pottery from individual segments of linear features and of small, indeterminate features are included in the archive. Rather, it seemed best to select those features or groups of features which seemed to represent distinct incidents in the development of the site. As explained above the pottery groups are made up of sherds found within a range of 4m from the central spine of each feature group (Figs 6.22 and 6.23). The detailed pie charts supported the conclusions outlined below. The detailed pie charts also highlighted features with larger amounts of pottery near them in a way that the published charts for feature groups sometimes masked. In particular, strong correlations between pottery concentrations and geophysical anomalies were noted around F5, F7, F13, F19, F22 and F23, perhaps indicating foci of human activity. These are visible in the published charts but are rather diminished by the size of the groups from the feature complexes such as F8, F9, F10, F12, F16, F21 and F24. On the other hand, the detailed pie charts diminish the importance of the sherd group near F17 because of the number of component parts into which that anomaly can be divided.

A comparison of the quantity in these pottery groups reflects the overall concentration in the north-east quadrant (Fig. 6.23). The linear feature visible on the eastern edge of the survey, F24, corresponds with a large quantity of every period in similar proportions to that of the total site assemblage. This may lead one to surmise that this feature formed a boundary to the site throughout its use. However, some evidence suggests that it may post-date all Romano-British activity (the feature is considered in the reporting of Trench B in this volume, and elsewhere) and merely contain redeposited material representative of the multi-phase activity already identified in this part of the site. The line of this feature does not relate in an obvious way to the two north-south trackways running through the site and it crosses F17, which seems to be part of an enclosure with funnel entrance facing south-west. It can also be seen running across the trackway formed by the east-west arm of F12 and F16. Equally, if the feature pre-dated the bulk of the occupation, the pottery may derive from the multi-phase surface scatter over all of this eastern sector and be completely unrelated to this anomaly. In the case of this feature, the surface material could not be definitely related to the underlying anomaly (as it was not sampled by the subsequent excavations) and its horizontal relationship with other features is more compelling evidence of sequence.

The overall pattern, already determined by the above analyses, was reflected in the linear feature pie charts and supports the suggestion that the enclosure system formed by F14, F15 and F16 may belong to the second to early third century, with F14 and F15 receiving substantially less material by the later third to fourth century. This is reflected in the relative abundance of fabric groups GTB, GRA2 and 6, and CTB1 and the scarcity of later wares CTA2 and NV apart from near F16.

Some features were rather long and traversed the site east to west, such as F1, F10, and F21. These groups seem to reflect a cross-section of the pottery composition typical of the areas through which they pass rather than the pottery from within them. This is to be expected of such a settlement palimpsest and rather reduced the significance of the results of these data. It is the departures from this overall pattern that are most revealing. The Iron Age to early Romano-British component of F17 and F18, CTC, GTA, and CTB1, is relatively large and the third to fourth century CTA2 component is small. Such a pattern contrasts with the general emphasis on mid- to late Romano-British wares in this area and so acquires greater significance. The larger amount of Nene Valley colour-coated ware from F18 is puzzling but may relate to late occupation in the area, as suggested by the individual type distribution patterns of fourth century date (see above, Fig. 6.21). The CTC and CTB1 sherds from F19 also suggest the possibility of an early phase of activity represented here.

The pie charts of material from F7-8 and F23 compare favourably with those for material from within these enclosures apart from the slightly greater number of CTC, CTB and samian associated with F8 than within enclosure 3. This is not merely a result of the inclusion of the linear feature joining F8 to F9 in this chart since individual sectors of F8 showed the same make-up. It may indicate that F8 was constructed before these fabrics ceased to be used in the mid- to late first century but that the area it bounded was receiving most of its ceramic debris at a time when these fabrics were no longer common. However, the number of sherds involved is so small that interpretation must remain tentative. Although the zone around F9 included early fabric groups CTC and GTA, the detailed analyses showed these fabrics were restricted to the areas adjacent to F7 and F23 (cf. Fig. 6.12) and may be derived from those features. Thus F9 may not have been added until the late first or second century.

6.1.6.3b Pottery groups from around curvilinear anomalies: Method Three continued

A number of small, dark areas were noted in the geophysical plot. These were isolated within 4m radius zones, in the same way as the linear features, and their pottery were studied (locations shown on Fig. 2.4). All the groups were small and so their usefulness was severely curtailed. Two areas, F35 and F30-1, were thought by Phil Catherall to be chalk quarries and so are not commented on further. (*Steven Willis writes*: F30-1 appear as a single pit feature on maps from the 1880s through to the mid- 20th century and indeed these seems certain to be a small chalk quarry). The largest group came from F33, a marked curvilinear feature within the area surrounded by F9. This feature seemed to be annular and the sherds appeared to concentrate around the dark areas, leaving the central part clear. The group comprised some 58 sherds of second century fabrics and forms with a small number of first century wares. This feature seems to be contemporary with F9 on this evidence. A second feature, F34, to the north of F33, which may result from an intersection of linear features and not be a feature in its own right, was associated with greyware of similar date (as nos 33 and 36).

Two small features, F36 and F37, were noted within Enclosure 15, and these contained two sherds of greyware, including a rusticated sherd, and one everted rim sherd in GTA10 respectively. The small number of sherds and the uncertain nature of these features preclude firm dating or interpretation but a date in the second century is supported by these associations and by the rest of the pottery recovered from the area of this enclosure. Two further features, F38 and F39, within Enclosure 17, had similar material associated with them.

At the north end of the eastern north-south trackway three curvilinear features were identified. The two smaller examples to the west of the trackway, F41 and F42, had little diagnostic material within the zones around them but material around F41 included a flanged bowl of the third or fourth century. The larger group around F43 included rather long-lived forms, such as the everted-rim jar and plain- and grooved-rim dishes, with a second to early third century bias.

Several rather larger groups were found around features to the east of the trackway. Three features were identified near Enclosures 18 and 21, one within Enclosure 18, F50, and two outside, F44 and F45. The pottery associated with these features was remarkable in that the group around F50 was predominantly first to second century in type, including carinated and cordoned bowls, butt beaker sherds, and a Neronian to early Flavian South Gaulish samian sherd, of form 15/17, while the pottery near F44-5 was predominantly late second to third or fourth century, including flanged bowls, greyware and Nene Valley, colour-coated, long-necked beakers, and Dales ware. This contrasting date is reflected in the fabric pie charts in the greater quantities of grey, Dales, and Nene Valley colour-coated wares from F44-5 and of early shell- and GTA fabrics from F50. This contrast is all the more convincing in this area of the site where an abundance of pottery from every period has already been demonstrated, and relates to the first century date suggested for F17 by material from the vicinity of the linear feature and from within the area thus demarcated (Enclosure 18).

Two further features, F48 and F49, near F20 were associated with moderate amounts of pottery with chronological biases to the second to early third century and the first to second century respectively. The two features to the south, F46 and F47, were associated with only a few sherds, including some dating to the second and third to fourth century but with no discrete clustering detectable in their dating.

For the most part, therefore, pottery around these features has shed little light on their date and nature. Material from around F33 has agreed with the dating of the surrounding features and the overall pot scatter in the area. Sherds from F50, F44 and F45 added significantly to evidence for the dating of Enclosure 18 to the first to second century.

6.1.6.4 Pottery Clusters: Method Four

6.1.6.4a Spatial Clustering

There were three clusters clearly visible in the plot of all pottery (Fig. 6.24): within F7-9 (Clusters 3 and 5); around F5 (Cluster 2); and near the intersection of F3 and 4 (Cluster 1). The cluster within F7-9 seemed to subdivide into two clusters, 3 and 5, to north and south of the centre of the complex and these were analysed separately. A fourth, slight, cluster was seen at the north-east corner of F8 (Cluster 4). These clusters were in areas of low sherd density where such clusters were easily detected. In the heavily populated, eastern part of the site, equivalent clusters would be lost to view. To overcome this bias, the eastern part of the site was scanned at greater magnitude and searched for clusters. This was done on screen using Mapinfo and was done at increasing magnitude until it was felt the numbers of sherds visible was too small

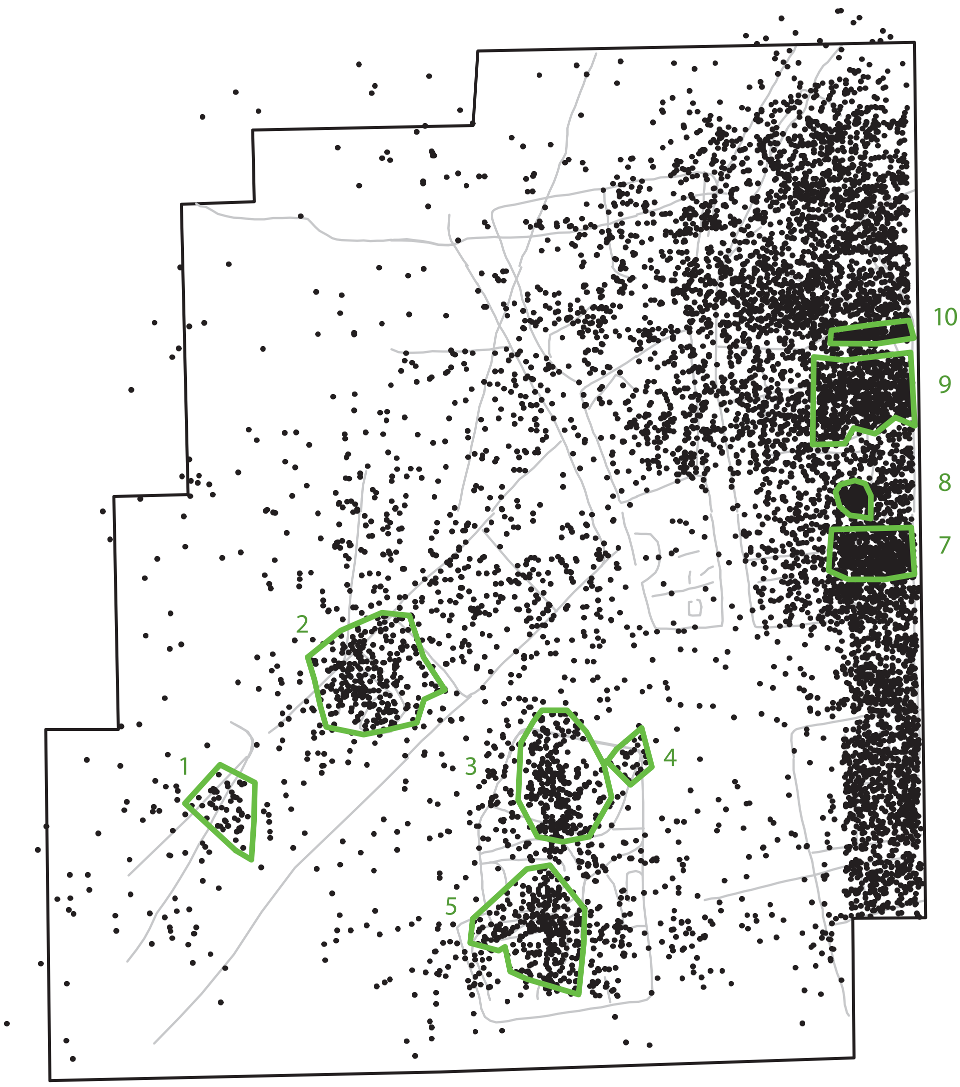


Figure 6.24 East Field 1992-3: clusters in overall pottery distribution delimited in green.

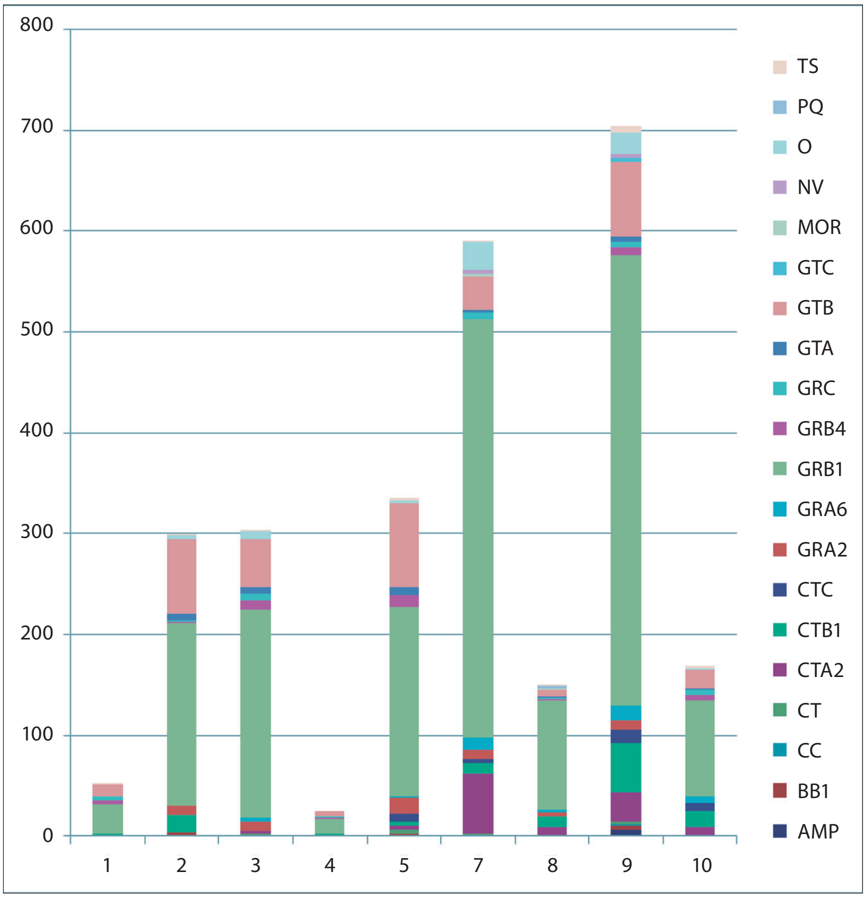


Figure 6.25 East Field 1992-3: fabric quantification for each sherd cluster (by sherd count).

to detect significant clusters. Four further groups were identified. It is important to bear in mind that many significant clusters may be lost to view in the palimpsest here represented by this mass of pottery. Some of these have been retrieved by the careful study of individual attribute distributions. In addition some large clusters may be the result of many incidents in the same place, leaving very small numbers of sherds to accumulate over hundreds of years. These should be detectable by analysing the fabrics and forms represented but the same phenomenon spread over a shorter period of time within which no typological changes are known could be interpreted as a single more significant incident or activity process.

Those clusters which could be linked to features showing in the geophysical survey thereby accrue greater potential significance. The fabric charts of Clusters 3 and 5 disclose a similar pattern to that seen in the enclosure (Enclosures 3-11) and linear feature (F7-9 and 23) pottery above, with Cluster 5 containing more first century wares. The small cluster, 4, was similar in composition to Cluster 3 (Fig. 6.25) and suggested a second to third century date. Cluster 2, around F5, was also made up of second to early third century fabrics and forms, and the smaller cluster, Cluster 1, comprised comparable material. Thus these well-defined clusters support the dating suggested by the other analyses.

The clusters along the eastern edge of the site were harder to define. Cluster 7 seemed to be a linear cluster, aligned east-west, along the route of F21. The cluster did not cover the length of F21, however, so may rather be related to faint traces of a rectilinear feature, F22, situated at the eastern end of F21. The pottery included a higher proportion of greyware than the clusters to the west and the largest proportion of Dales ware and oxidised wares of all the clusters. The forms included several Dales ware jars, greyware flanged bowls, wide-mouthed jars and indented beakers, a Nene Valley colour-coated and painted beaker (cf. Howe *et al.* 1980, 8, third century) and some very late double lid-seated jars, as well as some earlier second century Roxby type jars in fabrics GTA8 and 10 in smaller numbers. This, coupled with the cluster in this area already identified in the individual attribute distribution of Dales ware, perhaps Nene Valley colour-coated ware, OAB1, folded beakers and late wide-mouthed jars (Figs. 6.17, 6.18 and 6.20), together with weak clusters of GTA8 and GTA10 (Fig. 6.14), suggests a nucleus of ceramic debris in this area in the third and possibly the fourth century, perhaps beginning in the late second or early third century as fabrics GTA8/10 were going out of use.

Cluster 8 lay to the north of Cluster 7, at the end of an arm of F16. This group had not hitherto been analysed since it did not lie within an enclosure, although part of it is included in the buffer zone of F16. Once it had been detected in this analysis, signs of it could be seen in the individual attribute distribution plot of CTA2 and CTB1 but it would not otherwise have been easily spotted (Figs. 6.13 and 6.17). The fabric chart suggested a third century date on the grounds of the large proportion of greyware, the presence of Dales ware, and the small amount of first and second century fabrics. The forms included some late types such as flanged bowls, indented beakers, Dales ware jars, a double lid-seated jar, and wide-mouthed jars but also a moderate amount of second to early third century vessels such as Roxby type jars, a carinated beaker and a South Gaulish samian sherd from a decorated bowl, Drag. 30 or 37, dating to the Hadrianic or early Antonine era. This suggested some activity in the second century, peaking in the third to fourth centuries.

Cluster 9 was a large area where sherds were more common rather than a distinct, tight-knit cluster. It lay over the eastern part of F20 and a section of F24. It was the largest cluster group and comprised fabrics from every period. The forms too ranged in date from the first to fourth centuries, with rather more of the second and third than the first and fourth centuries but no clear bias in the date ranges. The character of the group suggests that the area was receiving sherds over a long period of time, intermittently or continuously. A pale reflection of the cluster can be detected in the plot of GTA8/10, CTB1, rusticated sherds, and everted-rim jars (Figs. 6.13-6.14), but not in any other fabric or form plots. It may be that greater activity in the second century resulted in this apparent cluster.

A study of the level of abrasion in the area of Cluster 9 disclosed a small concentration of unabraded sherds around the line of F20 (principally of second century type), a concentration of abraded sherds in the eastern half of the cluster (principally first and second century), and a spread of moderately abraded sherds across the cluster (of first to fourth century date with, perhaps, less of a second century bias apparent). This suggests the cluster may comprise unclustered sherd disposal during the first, third and fourth centuries together with a cluster of unabraded sherds in the second century and this latter patterning is detected.

Cluster 10 lay to the north of Cluster 9 and comprised a dense concentration of sherds running east-west with no obvious relationship to geophysical features. The pottery ranged from the first to third century with a focus on late first to second century.

Other smaller clusters undoubtedly existed but only the obvious ones are dealt with here.

6.1.6.4b Functional Clustering and Use

The East Field assemblage was examined in terms of functional clustering, via functional classes and in terms of sooting or burning.

(i) Functional Classes

A study of the distribution of the early shell and GTA fabrics disclosed a contrast between a cluster of fine shell-tempered wares within the area bounded by F18 and the absence of sherds of the contemporary coarse ware fabric CTB7 which were found to the north of the feature and to the south-east (in archive). The medium shelly fabric CTB1 was found within F18 but, nonetheless, the absence of the very coarse shell-tempered fabric CTB7, used primarily for storage jars, may be significant. This spatial patterning may also indicate the true date of F18 which was difficult to establish because of the multi-phase character of settlement in this area.

Samian ware was found in three rather diffuse clusters: around the northern part of F7, where is broadly dates to the first to early second century, with a small amount of Hadrianic to Antonine sherds; around F17 and F19, dated Hadrianic to Antonine with a little first to early second century material; and around F21 and F22, dated Hadrianic to Antonine with some late second to third century types. The samian cluster around F7 contrasts with the distribution of the other first and second century wares, concentrating east of F7, around F23, north and south of F7 within F8, and around the south of F7 (in archive). The sherds around F17 and F19, on the other hand, relate to the diffuse distribution of second century types in this area. The sherds around F21 and F22 mirror a concentration of late second to third century pottery, apparent in both the coarse and fine wares, around these features rather than a functional bias.

The distribution of the Nene Valley colour-coated wares disclosed small clusters just inside the area bounded by F18, just north of F22, and north of F13 where there were traces of three short, linear features running north-south (Fig. 6.18). Fabrics GRA6/7, Parisian ware, also clustered north of and within F22 and north of F13, as did fabric OAB1. However, these patterns would seem to be chronological rather than functional since the coarse cooking pot fabric, Dales ware, also clusters in these areas.

The coarse wares were grouped into broad formal types: jars, straight-sided bowls, hemispherical or carinated bowls, beakers, wide-mouthed jars, medium-necked jars, storage jars, narrow-necked ovoid jars, mortaria, and amphorae. None of these groups clustered in an obvious way but other studies have shown that the same vessel type in different fabrics may be used in different ways (Darling 1977, 23: in the case of Drag. 38 bowls) so it must always be borne in mind that our formal grouping may be masking the functional preferences of our predecessors.

(ii) Burning and Residues

Other attributes logged included burning and carbonised deposits. The numbers of sherds with carbonised deposits proved too small to be significant. The burnt sherd distribution displayed no patterning.

Other attributes logged were burning and carbonised deposits, as well as sherd distortion, and abrasion. The numbers of both distorted sherds and sherds with carbonised deposits were too small to be significant. The burnt sherd distribution displayed no patterning.

6.1.7 Sherd Abrasion

Study of the distribution patterns of sherd abrasion levels disclosed patterning, particularly in the unabraded sherds. All the sherds reflected the overall pattern of clustering to some extent. The unabraded sherds clustered around the southern part of F7 and within F8, on the line of F17 and just to the north, on the line of F20 and within F13. They did not cluster around F22 or F5, suggesting a somewhat different deposition and post-deposition history for sherds in those clusters. Moderately abraded sherds had a more diffuse distribution but clustered in the same way as the unabraded sherds with the addition of clusters around F3, F5 and F19, and north of F22. The abraded sherds displayed an even more scattered distribution with some diffuse clustering in the same areas as the moderately abraded sherds, while the highly abraded sherds were scattered with small concentrations on the line of F21 and in the area of Cluster 9. These patterns can be interpreted in various ways. It may be that the distribution of unabraded sherds reflects new material being incorporated into the ploughsoil or areas of primary refuse disposal, while that of abraded and highly abraded sherds reflects the effects of long-term plough destruction of the site or of Romano-British manuring patterns.

6.1.8 Fieldwalked Pottery from North Field

Fieldwalking was undertaken in North Field in November 1998 following the first season of excavations. The aim was to establish whether traces of occupation in terms of surface artefacts continued in this field, north of the known concentration in East Field. Pottery finds had been forthcoming from an emergency excavation of the barrow monument in the centre of this field when the cutting of the pipe slot easement by British Gas contractors was found to have been miscalculated and the monument area exposed by the mechanical excavator (cf. Sections 1.6, 2.3.2 and 9.5; Bonner and Griffiths 1994, 36); the pottery was reported but not published (Elsdon and Leary 1994).

The incidence of surface pottery and its distribution in North Field confirmed the impression emerging on the north side of East Field, that the density of pottery deposition tailed off to the north. Whilst this was the case in North Field, that proved not to be so in Street Furlongs. The fall off is very marked in this field, and only 38 sherds of Iron Age and Roman pottery were recovered. Since the walking was conducted by a team of four experienced field archaeologists, under good conditions, and traversed at 5m intervals the results are likely to be reliable, (although the spacing of the traverses was not as close as that employed in the BG survey of East Field).

The sherds from this field lacked LPRIA-mid-first century types and no certain examples of greyware were recovered. The proportion of shell-tempered and GTA wares would fit with activity in the late first or second century and the forms - a GTA8 jar with everted, almost flat rim - would fit a late first to early second century date. A GRC rebated-rim of Roxby type A also supports a date in the late first to second century and these fabrics and forms are the types which have the most widespread distribution on East Field. Later types included a greyware rim from an everted rim wide-mouthed jar, perhaps of late second or third century date, a bead rim bowl and a plain-rim dish of similar date range and a developed flanged bowl of the late third to fourth century. A sherd of Dressel 20 amphora was present at the southern side of the field. The lack of later types such as Dales ware and Nene Valley colour-coated ware and the single sherd which has to be dated later than the mid-third century suggests activity in the area of this field was limited to the period when the settlement spread over a wide area in the late first to second century or perhaps into the early third century.

6.1.9 Fieldwalked Pottery from Street Furlongs

The aims, methodology and organization of the fieldwalking survey in Street Furlongs and for the project generally are outlined in Chapter 8. Appendix A.2 shows the grid used in Street Furlongs with the codes of the squares specified.

6.1.9.1 Analysis of pottery density plots (Figs. 6.6–6.21 and 6.26–6.29)

The pottery recovered from Street Furlongs compares well with the pattern in East Field between squares K to T but to the north the distribution of sherds seems less dense, concentrating on the east side of the area walked rather than adjacent to the High Street (Fig. 6.10). Likewise to the south the overall distribution seems less dense. The density tails off in the extension to the east and this was noted in surface observation of sherd occurrence in the areas to the north and south of the extension. This suggests domestic activity bordered the road, an impression confirmed in excavation, and in turn is implied by the geophysical survey.

When the Street Furlongs distribution was 'unravelled' middle Iron Age and earlier pottery was very sparse indeed and the LPRIA fabrics were also sparse (Figs. 6.11–6.12). However, they did occur in 'opposite concentrations' relative to the occurrence of these fabrics in East Field. The CTB1 and 2 wares and related fabrics concentrate around rows B to J whereas the rusticated wares seemed to cluster to the north and south of that area (Fig. 6.13). The slightly later GTA8/10 wares proliferated all over the walked area with clusters in rows P-S and B-H (Fig. 6.14). These fabrics showed a similar widespread distribution on East Field confirming the impression that ceramic debris was being deposited over a very wide area at some point in the mid-first to mid-second century, perhaps directly reflecting the enclosure system identified in this area of the field in the geophysical survey. The everted-rim and rebated-rim jars also had a widespread distribution in Street Furlongs (Fig. 6.15) and the second to early third century Parisian ware is fairly dispersed but the distribution pattern began to contract with Nene Valley colour-coated wares, developed flanged and grooved flat-rim bowls and Dales ware with the area of distribution restricted to rows C to Q (Figs. 6.17–6.19). The distribution of the wide-mouthed jars is more like that of the Parisian ware (Fig. 6.20). This is probably because some of the simple everted-rim wide-mouthed jars date to the earlier third century, perhaps extending back into the second century. The distribution of the late wares, including long necked globular Nene Valley beakers (Fig. 6.21), double lid-seated jars and late bowls with flanged inturned rims, are very restricted indeed and very sparse, confirming the contraction of the settlement in the fourth century.

6.1.9.2 Analysis of pottery clusters

It was not possible to attempt the detailed analysis of the distribution of sherds around and within features seen on the underlying features shown in the geophysical survey because of the different methodology used to record the position of the pottery. Analysis of what lay within enclosures and what lay within a pre-determined distance of a linear feature is only really possible with two-dimensionally recorded pottery sherds. However it was possible to look in more detail at the make-up of assemblages from squares which lay within areas of high sherd density. Looking at the overall density of sherds across the St Furlongs grid, a very dense area of pottery was noted around rows K to T with less dense concentrations around BB to FF and B to J. The dispersed scatter around rows B to J is visible in the density plot for the CTB1/CTB2 wares dating from the LPRIA to mid-second century and in the GTA8/10 plots but not in the CTB7/8 and GTA14 wares of the LPRIA to mid-first century. In addition the CTB1/2 ware did not cluster around rows K to T although the GTA8/10 wares were visibly denser in these rows. This suggests that the activity in rows B to J began in the late first to second century but the area of dense sherd recovery in rows K to T began rather later, probably in the second rather than the first century. The dispersed concentration noted in rows BB to FF is also more obvious in the GTA8/10 plot rather than the CTB1/2 plot suggesting it also had a later start date (Figs 6.13-4). The plot density for second century forms such as the everted-rim and lid-seated rims jars compare well with that for the GTA8/10 fabrics. As regards the later types such as Dales ware and Nene Valley colour-coated wares, these occurred in very small numbers except in the high density cluster in rows K to T.

The dispersed scatter to the north from rows BB to II was also made up largely of the GTA8/10 wares with only a small number of CTB1/2 types suggesting a similar widespread ceramic deposition in the second century as found in the rows to the south and on East Field. Again the second century jar types were present but Dales and Nene Valley colour-coated wares were

Figure 6.26 Street Furlongs fieldwalking: dot density of beakers.

Figure 6.27 Street Furlongs fieldwalking: dot density of bowls and dishes.

Figure 6.28 Street Furlongs fieldwalking: dot density of jars.

Figure 6.29 Street Furlongs fieldwalking: dot density of burnt and overfired sherds.

scarce, as were late types such as grooved flat-rim and developed flanged bowls, the later wide-mouthed jars and fourth century types.

It is noticeable that the later pottery thins out short of the clear northern trackway on the geophysical survey and none of the key types seem to respect this feature in their distribution patterns suggesting this may be a post-Roman feature. Instead the third century types thin out around row A/B where an earlier east-west trackway may have existed. The concentrations of sherds in rows H-R and C-G overlie very "busy" areas of the geophysical survey perhaps the result of multi-period activity similar to the long sequence found in Trench J whereas the less dense scatter of the relatively clear "plots" visible on the geophysical survey in rows Y to AA may indicate these were occupied for a shorter period with less alterations and complex changes. In the southern area, rows L-O, Dales ware is very sparse indeed. The key types which did occur over these southern plots are the GTA8/10 group and the rebated- and everted-rim group suggesting activity in the second to early third century.

6.1.9.3 Functional classes and use

The distribution of bowls/dishes to jars was examined and was very similar although in the southern and northern rows jars seemed to have a wider distribution than bowls and dishes (Fig. 6.27–6.28). Beaker sherds were sparse; they were limited to the area of the K-T concentration with a small scatter to the north in rows DD to EE (Fig. 6.26). Functional types such as colanders, cheesepresses and mortaria were very sparse as were sherd conditions such as limescaling. Burnt, cracked and distorted sherds showed a slight tendency to occur outside the main concentration of sherd distribution (Fig. 6.29).

6.1.9.4 Summary

Although not as extensive as the East Field survey, it has been possible to add depth to our understanding of the site history in Street Furlongs and the surface scatter mirrors the complex chronology of the features excavated in Trench J in a way that encourages the detailed study of field walked pottery scatters and geophysical survey results.

6.1.10 The Excavated assemblages

The stratified pottery is described in the following sections; the pottery from post-Roman layers (colluvial, hedge bank and ploughsoils) is summarised. Tables 6.1 and 6.2 show absolute quantities of the stratified assemblages from the trenches and the nature of the composition by functional types.

6.1.10.1 Chronology

Trench A

The stratified assemblage from this trench, 120 sherds (1.2kg, 0.74 EVES) was made up largely of LPRIA and early Roman shell-tempered wares with smaller amounts of early Roman greywares and two earlier, prehistoric grog-tempered ware sherds. No pottery was recovered from the lower fills of ditch [1007]/[1026]. One grog-tempered sherd came from the ditch fill layer (1008) and was examined by David Knight when he reviewed all items in the excavated assemblages that were thought to be potentially earlier that LPRIA.

David Knight writes: The plain body sherd from (1008) has a distinctive fabric that appears to incorporate grog. Grog is a common feature of Early and Middle Bronze Age pottery in Lincolnshire which raises the possibility of such a date in this case, I would hesitate to conclude so early a date without additional supporting evidence. Is there any other evidence that the feature from which this derived could relate to BA activity?

Steven Willis writes: The context of this find lies just above (physically and stratigraphically) ditch layer (1025) which contained the Early Bronze Age flat axe, which adds weight to the possibility that this sherd is of similar date.

David Knight also examined a sherd from (1003).

David Knight writes: A small body sherd from (1003) occurs in a soft, rather soapy vesicular fabric and preserves what appears to be part of a geometric combed pattern. The form is uncertain, unfortunately, but suggestive of a Late Iron Age date.

Three small sherds from fill (1023) were all shell-tempered (CTB1 and CTB8 body sherds) and could be of LPRIA or conquest period date; the excavator felt these may be intrusive from (1005) which overlies (1023) and which contains sherds of this type. The two sherds from (1010) comprised a sherd from a CTB8 everted-rim jar of LPRIA/mid-first century AD type and a GRB4B carinated bowl of a type (as P36) found in the mid-first to early second century type. As these all come from the upper fills, this ditch is likely to belong to the pre-Roman Iron Age or even earlier. Pottery from (1005) comprised more LPRIA/mid-first century types such as sherds from a CTB7 storage jar (as P17), a CTB8 butt beaker and wide-mouthed jar (P105 and as P109) CTB1 jars (P112-3) as well as slightly later types including a GTA10 sherds, a late first to second century GRB4B carinated bowl and a GRB7A lipped-rim dish of Hadrianic-Antonine date. Similarly in layer (1003) more LPRIA/mid-first century sherds from CTB8 carinated bowls and butt beakers, CTB1 jars, and CTB7 jars were identified alongside a later GTA8 everted-rim jar of the mid-first to mid-second century (P113), a GRB4B cordoned vessel and a GRB10 jar with stabbed decoration. The cordoned vessel is likely to date to the late first to early second century and the stab decorated vessel may relate to Roxby type A and B jars of the late first to early second century (Rigby and Stead 1976, fig. 65 nos 1-2 and 7 and 10). The dominance of shell-tempered wares, particularly the fine and coarse shell-tempered group, reflects the early element in this ensemble while the small proportion of greywares together with their early forms indicate ceramic deposition in this feature may have ceased here in the late first to early second century.

Two small greyware sherds from fill (1017) of feature [1016], one with a burnished wavy line decoration, belong to the late first or second century but cannot be precisely dated and the very tiny scrap of GRB4B pottery from (1038) is Roman in date. Two sherds from (1019) comprise a GRA1 everted rim from a bowl or wide-mouthed jar of late first to second century type, and sherd from a CTB7 jar, which is probably combed. The late deposit, (1002) included some diagnostically later greywares, including two GRB4B bifid rim lids, a GRB10 rebated-rim jar, a GRB10 splayed-rim ring-necked flagon, a flanged bowl and a GRB6 jar with sharply everted rim, as well as an earlier butt beaker sherd. These greyware types can be paralleled in late first to early second century groups at Winterton and Dragonby and the flagon also belongs typologically to the Hadrianic-Antonine period

The excavated assemblage is consistent with concentration of CTB7 and 8 sherds in the BG fieldwalking distribution in this area, as well as the GTA8 wares, and indicates LPRIA activity followed by some ceramic deposition in the later first to second century, perhaps adjacent to the excavated trench.

Trench B

Most of the excavated pottery from this trench came from the upper levels and the rubble layers over the early gully features and foundations of Building 1. One sherd came from (2012) and this appeared to belong to the Roman ware group GTA10 being a quartz and grog tempered greyish buff ware from a necked or shouldered jar; a date in the second century would be likely for this item. A fragment of GRB7A came from (2011) and is not closely datable. The pottery from (2005) comprised greyware sherds including a rim from a GRA10 carinated bowl, a GRB4B rouletted sherd and a GRB7a everted rim jar with only small fragments of shell-tempered ware. The forms and lack of larger CT sherds suggests a date range in the late first or second century is likely. Sherds from a GRB2 plain-rim dish of the mid-second to fourth century, a second century GRB7a rebated-rim jar, a late first to early second century rusticated jar, a late third to fourth century GRB7B bead-rim wide-mouthed jar, a late third to fourth century mortarium with slag trituration grits and a Nene Valley colour-coated sherd from a late second to third century indented beaker came from layers (2003)/(2004) overlying the chalk surface. Sherds from a long necked Nene Valley beaker, a Dales ware jar, a Swanpool/Cantley type reeded rim mortarium and a developed flanged bowl were amongst the pottery from the ploughsoil. These latter ceramic types indicate an accumulation of ceramic debris continuing until at least the late third century. A sherd from a greyware colander was also present.

This trench was near Cluster 8 in the pottery recovered from this area during the East Field fieldwalking. This was a cluster of sherds not related to any geophysical feature, with a third century emphasis indicated by the forms and fabrics such as Dales ware, indented beakers and wide-mouthed jars. Overall the assemblage suggested a second century start with a peak in ceramic deposition in the third to fourth century. This evidence fits well with the dating suggested above for the excavated layers.

Trench C

This trench contained good ceramic evidence for activity from the middle PRIA to the late first century with continuing ceramic deposition as late as the mid-second century. The pottery from early fill (3011) of ditch [3008] was made up of some 81 CTB1 jar sherds and a further 18 small fragments. These came from a handmade jar with vertical scoring; David Knight examined these sherds.

David Knight writes: [These sherds have a shelly fabric with] scored/brushed surfaces typical of Iron Age Scored Ware. Many typical Middle Iron Age ceramic forms and styles of surface treatment such as Scored Ware, can continue into the Late Iron Age, as demonstrated particularly well in the Fenland region (e.g. Rollo 1988; Willis 1998; 2002), so for the present I would suggest a rather cautious 'Middle to Late Iron Age' label, correlating these terms (i.e. MIA and LIA) with La Tène I-II and La Tène III metalwork traditions respectively, employing the convention of my 2002 synthesis (Knight 2002).

Deposit (3005) is cut by ditch [3008] and a Roman greyware sherd (GRB7A), came from this layer. Given the amount of PRIA pottery sherds from ditch [3008], it is likely that this sherd is a late addition to what is an unsealed layer. Certainly the pottery from later ditch fill (3003) included a range of material spanning the LRPIA/mid-first century types such as CTB8 bead-rim beakers, an everted rim possibly from a necked bowl, a knobbed lid, CTB1 native jars and GTA14 butt beakers, late first to mid-second century GTA8 jars, GRB4B rusticated jars and a plain-rim platter, all of which could date within the late first century and one rim sherd from a GRB7B everted-rim jar of second century type at the earliest. This assemblage dates initial use of the ditch to the Middle Iron Age (or earlier) with final closure perhaps in the late first century AD with only late fill additions in the second century. A very small sherd of CTB1 from fill (3004) in palisade [3018] could date from the LPRIA to as late as the mid-second century, while two greyware fragments from (3010) of gully [3012] give a Roman date range in that case.

The excavated pottery supports the suggestion made during the study of the East Field BG assemblage that this major ditch [3008]/(F16) went out of use before the mid-third century. The Middle Iron Age to late first century types were not, however, represented in the field walked assemblage and this may be due to the depth of the ditch which perhaps resulted in these early wares not being brought up to the surface of the field.

Trench D

No securely stratified pottery was recovered from the earliest phase in this trench. Features in the later phases belong to the LPRIA/mid-first century AD with some features filling up in the late first to early second century.

Three small sherds of CTB7 OX and one GRB4B fragment came from cleaning over palisade [4028] fill (4018) and date to the PRIA to mid-second and the mid-first to second respectively. A further Roman sherd came from fill (4098), a GTA fragment which may be of LPRIA to mid-first century date. The pottery from unphased post holes, that is [4024], [4049], [4056] and [4060], comprised small quantities of small sherds in fabrics CTB8, GRB7B, GRA and GRB7A respectively. Only the CTB8 sherd from [4024] was diagnostic, the rim of a LPRIA to mid-first century wide-mouthed jar or bowl.

In the later features, a large group of sherds from fill (4005) of gully [4006] was made up principally of LPRIA to mid-first century types such as GTA14 butt beaker sherds, a CTB8 carinated bowl, a CTB8 everted rim from a bowl or wide-necked jar and CTB7 oxidised body sherds. Much of a CTB8 cordoned and carinated bowl (Elsdon 1996, Group 10, horizons 7-10, LPRIA to conquest period) came from layer (4042) from across the top of this feature, as well as the base and lower body of a well-made CTB1 OX jar. The latest sherds associated with this feature come from a GRB7a rusticated jar of the mid-first to early second century. This group demonstrates LPRIA/mid-first century usage of the feature with a small amount of accumulation in the early Roman period.

The pottery from ditch/gully [4072] fill (4071) also included LPRIA/mid-first century types such as a CTB8 OX carinated bowl, a fragment from a TR3 beaker dated c. AD 20-25/55, and small fragments of GTA14, but this group extended into the early Roman period. This was indicated by the sherds from late first to early second century GRA and GRB10 rusticated jars and of fabric GRB6. Ditch/gully [4065] fill (4064) contained pottery similar to the later types from [4072], predominantly undiagnostic greyware sherds but including samian dated to c. AD 120-50 and a small sherd of Parisian ware with a concentric stamp. Fill (4008) (part of [4072]/[4065]) contained a rather abraded group of early Roman pottery sherds which included part of the rim of a GRB10 rebated-rim jar of late first to second century type, a scrap of a Cologne colour-coated beaker, a GRA2 flanged bowl with bifid flange tip, a GRB4B rim from a necked wide-mouthed jar of early Roman type and body sherds of CTB1 and GTA8 jars. The small abraded nature of the sherds make dating difficult but a date range in the late first to mid-second century would fit the identifiable types. The pottery indicates the filling sequence of the three ditches, with [4006] being the earliest group, then that from [4072], possibly overlapping with [4006], then ditch [4065]. [*Steven Willis writes*: this is consistent with the stratigraphic sequence (see report on the excavation of Trench D above].

The pottery from pit [4070], fill (4044), was contemporary with the early group from (4005), comprising a sherd from a GTA14 butt beaker and undiagnostic CTB1 sherds. A GRA2 everted rim, probably from a beaker, from fill (4026) of scoop [4027] is Roman but cannot be precisely dated. In fill (4025) of [4040] fragments of pottery included GTA14 sherds including the rim of a beaker and a GRB7a body sherd.

Pottery from the ploughsoil in this trench included several LPRIA/mid-first century CTB8 vessels: the profile of a necked wide-mouthed jar (P109) and a bead rim beaker form (Fig. 3.4 P144). These belong to the LPRIA group discussed above. They can be paralleled in the Dragonby groups (Elsdon 1996, type Groups 8 and 4; Gregory and Elsdon 1996, fig. 91.51 no. 588 and fig. 19.37 no. 315 respectively). Group 4 burnished beakers first appear in Horizon 4 at Dragonby and the Group continued into the early Roman period but is more common in Horizons 9-10, the conquest period. That they appear in Elsdon's Horizon 9, suggests a date in the early to mid-first century. The wide-necked jar belongs to Elsdon's Group 4 and appears in Horizons 2 to 11 at Dragonby. Elsdon noted that the later types tended to have straighter necks with a sharper division between neck and body and no cordons and our examples seem to belong to this later type. Like Trench A this trench was in an area identified as a focus of early settlement during the analysis of the East Field fieldwalking pottery (see above Cluster 5, Enclosure 8 and F7).

Trench E

No pottery was found in the earliest features in this trench and the majority of the sherds came from layers (5003) and (5004). A single CTB1 sherd from layer (5009) suggests a date in the LPRIA to mid-second century. A CTB1 jar base from (5010) gives a similar date range.

The remainder of the pottery from this trench came from layers (5004) and (5003) and the ploughsoil. The assemblage from (5003) and (5004) included a wide range of types dating from the LPRIA/mid-first century to the late third or fourth century. Pottery from (5004 Lower) included items in CTB1, amongst which were the groove rimmed vessel P110 and a handle from a lugged jar, both precedented at Dragonby (Gregory and Elsdon 1996, type 5 no. 237; type 7 no. 193; the latter are rare at Dragonby and ascribed a Late Iron Age to late first century AD date in that sequence). In (5004) LPRIA types included CTB8 carinated bowls, bead-rim beakers, butt beakers, a *Terra Rubra* butt beaker fragment, a GTA14 cordoned vessel, a CTB1 OX combed storage jar and CTB1 native jars. Activity in the late first to mid-second century is indicated by CTB1 and GTA8 bead and D-shaped rim jars, GRB7B and GRB4C neckless everted-rim jars (belonging to the broad class of Gillam 1970 type 101-2), a GRA everted rim bowl of legionary type (Webster 1949, fig.11 no 21 in legionary group, and Darling 1981, fig. 23.2 nos 20-21 in red slip ware, c. AD 60-77), fine white ware sherds of the type used for flagons at the first and second century Lincoln kilns, a samian dish dated c. AD 120-60 and GTA8 jars. The latest material from this deposit included a Nene Valley beaker sherd possibly as early as late second century and an everted-rim wide-mouthed jar of the type most common in the later second and third century. Rather less pottery came from (5003) but this contained material of the same date and type: CTB1 jars, CTB8 sherds from a carinated vessel, a FLA2 sherd and GRB4B sherds. A necked bead-rim wide-mouthed jar came from spoil from this trench and is of late third to fourth century type similar to those from the Swanpool industry (Webster and Booth 1947).

The assemblage from this trench certainly indicates activity in and near Trench E in the LPRIA/mid-first century and through the late first to second century. The small number of later sherds and the complete absence of Dales ware or other later types suggests either rather less activity here in the third century and nothing of note in the fourth century, although layers of later Roman date may well have been truncated. This trench lay outside the area fieldwalked by the British Gas team.

Trench F

The small assemblage from Trench F was of Roman date with only three abraded shell-tempered ware sherds. Diagnostic sherds included a GRB7B everted-rim jar sherd from (6015) which could date to the second or third century, undiagnostic greyware sherds from (6013) and a GRB7B rusticated sherd from (6009) of late first to mid- second century type. Only a GRB6 everted rim from (6004) gives a later date than these, being from a wide-mouthed jar probably of second or third century type.

Six sherds came from (6008) filling the large hollow [6017]. A very abraded GTA8 body sherd, is not closely datable but has a date range of mid-first to mid-second century on the basis of the forms made in this ware group. Four moderately abraded GRB7 sherds come from an everted-rim jar of a similar type as those made in the second century kilns at Roxby although the vessel is not necessarily from there, and a further very abraded GRB7A sherd came from the rim of a flanged vessel, probably a bowl, for which a second century date would be likely. Together these few sherds would all fit into a date range in the second century and a mid-second century position would neatly accommodate all the types. Alternatively they might represent accumulation from the mid-first century to the late second century.

Overall, the small number of sherds present in the stratified contexts and their often abraded nature is evidence of sparse ceramic deposition of the late first or second century and the third century. The CTB1 sherds need not extend the dating back into the PRIA.

This trench lay inside F15 in the East Field fieldwalked pottery analysis, an area with a very small group of pottery of second and early third century date. The excavated pottery is consistent with this picture. Indeed, the 2m wide excavated section through the substantial Ditch [6014] in this trench yielded no sherds from the lower fills and only the few sherds from the middle and upper fills, (6015) and (6013) respectively, mentioned above. The rusticated sherd from (6009) gives this fill a terminus post quem in the late first to early or mid-second century.

Trench G

The stratified deposits from this trench yielded no pottery which is consistent with their likely earlier prehistoric dates. A small amount of Romano-British pottery was recovered from the ploughsoil levels and these included undiagnostic greyware body sherds, a samian sherd from Lezoux, probably from a dish and dating to c. AD 120-200, and a greyware indented sherd from a beaker or jar of late second to third century date.

This trench lay in the area of East Field F2. This was one of two broadly parallel features around which no clear clustering of pottery was observed in the field walked assemblage. This lack of clustering might suggest a non-Roman date range and certainly Catherall considered this feature to be one of the earliest of the features seen on the geophysical survey

Trench H

Dating evidence as far as pottery goes was limited in this trench, principally as the trench contained a series of evidently prehistoric features together with two Roman linear features, being cuts [8008] and [8010]. None of the LPRIA/mid-first century wares were present although 8 CTB1 fragments only were found in contexts (8007) and one CTB1 body sherd came from (8006) in feature [8010]. These date from the LPRIA to the mid-second century, the sherd from (8006) having a line of impressed semi-circles and probably dating to the early Roman period. None of the later wares such as the GTA8 and greyware sherds present in ditch [8008] are present suggesting this may be an earlier feature. The rim of a GRB7B bead-rim bowl came from (8021), the fill of the scoop or post hole [8024] and dates from the late second to third century. A greyware rim of this type was also present in fill (8005) of feature [8017] giving a similar date range though the excavator considered that this is likely to be intrusive. In ditch [8008], fill (8004), the pottery dated to the late first to mid-second century including types found at the Antonine Roxby kilns: rusticated jars, lid-seated rim jars, carinated bowls, all in greywares, and GTA8 everted-rim jars.

Trench H was placed so as to sample the north-western side of F4 and Enclosure 1. A few flint-gritted and quartz tempered sherds of prehistoric date had been found near F4 and within Enclosure 1 and late first to second century fabrics such as the GT8 and 10 wares were present with smaller numbers of CTB1, GRA6 and samian suggesting activity in the late first to second century and a cluster of second century jars. The early palisade may be the source of the prehistoric pottery while the date of the ditches ties in well with that suggested from the fieldwalked pottery distribution patterns.

Trench I

The stratification in this trench permitted detailed phasing of this assemblage from the second century to the fourth century

Phase 1

There was no pottery from this phase.

Phase 2, second century

A small group of pottery sherds was recovered from (9012) and (9021). These lacked the shell-tempered wares and had only one small fragment of GTA8 suggesting a date range in the second century or later. A fairly large sherd from a GRB4C dish with inturned rim from (9021) provides a date range in the late first to second century and perhaps into the early third century (Darling 1984, 85-6, nos 43-4; Stead 1976, 143; cf. Gillam 1970, no. 337, dated c. AD 70-130). The coarse wares from (9012) were undiagnostic body sherds. Samian present in (9012) and (9021) gave the following dates: (9012) included a burnt sherd from a Drag. 30 or 37 bowl from Lezoux, probably dating to c. AD 120-150 while the sherd from (9021) was also from a decorated bowl of Drag. 30 or 37 form, though a different vessel, again from Lezoux, but only attributable to a c. AD 120-200 date range. A single white ware sherd from (9031) is from a Romano-British flagon, probably from Lincoln and dates to the later first or second century. A sherd of this ware was also present in (9021).

Phase 3, late first to second century with third century late fills

A large group of sherds from fill (9010) of ditch

[9013] comprised predominantly late first to early second century and second century types such as greyware dishes with triangular rims, rouletted jars, rusticated jars, everted-rim jars (as Roxby type B?), a GTA10 deep bowl with bead rim, a cordoned carinated bowl, dishes with inturned rims as that from (9021), a sherd from a Pélichet 47 amphora and a sherd from a fine quality decorated Drag. 30 samian bowl dated to c. AD 120-140, from Lezoux displaying a leaping lion (O.1497 variant) in a panel. In addition to these a single sherd from a CTA2 Dales ware jar was present giving a third century closure date for this fill. The pottery from linear cut [9032], fill (9018), was of a similar date range and also included a greyware wide-mouthed jar perhaps contemporary with the Dales ware jar. The large group from fill (9008) of ditch [9009] contained similarly dated types, including four sherds of samian all of which are examples of Lezoux ware, but none are more closely datable than a c. AD 120-200 bracket, and also included a late second or third century indented jar/beaker. The lower fill (9026) was dated to the late first or early second century by greyware rusticated sherds, white Lincoln flagon sherds and GTA8 jars sherds. Ditch [9020] had somewhat later pottery having a grooved flat-rim bowl sherd with slightly raised bead rim in the lower fill (9028) dating to the early-mid third century and Nene Valley colour-coated ware in the main fill (9022). Fill (9014) (also of this feature) contained two sherds from a late first-early second century neckless everted rim jar in GRB7b and a rusticated sherd.

The coarse pebble surface (9033) contained sherds of CTB8, GTA8, GRB7C and GRB4B dating to the LPRIA/mid-first century and the earlier Roman period. Layer (9024) included late first to second century pottery sherds such as rusticated ware, a greyware dish with inturned rim, Gallic amphora sherds (from Pélichet 47) and sherds from GTA8 and GTA10 jars. Also present in this layer was an incomplete rim sherd from a greyware Dales type jar dating to the third century.

Phase 4

The sherds from layers (9004) and (9006) were abraded residual sherds of the type found in the underlying layers.

Phase 5, late third to fourth century

The large group of pottery from (9003) included late third to fourth century types not found in the earlier phases of later date such as Dales ware jars, greyware developed flanged bowls, a cupped-rim narrow necked jar of Swanpool type and a wide-mouthed bowl with long flat rim, as well as lid-seated jars, one with a bifid rim, probably of second century date. Similarly in the three ploughsoil horizon layers (9002), (9001) and (9000) more examples of the late third to fourth century developed flanged bowls, samian form 38 copies and wide-mouthed jars were present.

Trench J

The stratification in this trench allowed the features to be divided into six phases and the pottery assemblages could be assessed using stratigraphic divisions.

Phase 1, Middle Iron Age

The pottery from features of this Phase is reported above under Section 4.3.

Phase 2, LPRIA/mid-first to mid-second century

The earliest feature of this phase stratigraphically was ditch [9514]/[9700]. Pottery found in the top fill (9505) of this ditch comprised LPRIA/mid-first century CTB8 types such as a bead-rim beaker, rouletted sherds probably from a butt beaker type and a carinated bowl, a fine pinkish white ware flagon handle of mid- to late first century date, late first to early second century rusticated ware and late first to second century types such as the greyware carinated bowl, CTB1 storage jars, rebated-rim jars and GTA8 jar sherds. The latest sherd was from a triangular-rim, fine greyware dish probably of at least second century date. The assemblage indicates occupation and use of the feature in the LPRIA or mid-first century and filling up in the late first or early second century probably being silted up by the mid-second century. From ploughsoil (9501) in the near vicinity of this feature a rouletted body sherd from a Cam. 113 butt beaker was recovered which would be contemporary with the mid first century items from this ditch. David Knight examined sherds from context (9505).

David Knight writes: The pottery from (9505) is particularly mixed. In addition to Romano-British fine and coarse wares, the group includes three Scored Ware body sherds in a coarse shelly fabric and a collection of plain body sherds in a similar fabric that would fit happily in Iron Age assemblages from the region, including occasional plain body sherds that suggest vessels with profiles of ovoid or related form that are typical of MIA/LIA assemblages.

Phase 3, mid- to late first to mid-second century with third century late fills

Ditch [9699] is stratigraphically early in this phase and its fills (9577) and (9676) contained pottery dating to the mid- to late first century including an elaborately decorated OAB2 carinated bowl, mid-first to mid-second century GTA8 everted-rim jars, sherds of FLA2 and FLB2, rusticated jars and a neckless everted-rim jar and the rim of a Drag. 27 samian cup in La Graufesenque fabric dating to c. AD 70-100. The lack of CTB8 and LPRIA types suggests this ditch was later than the phase 2 ditch [9700] and belonged to the mid to late first century.

Pottery from the layer (9675) which overlay ditch [9699] but was cut by [9698] contained undiagnostic shell-tempered and greyware body sherds only broadly datable to the LPRIA-mid first century and the Roman period.

Ditch [9670]/[9698] cut phase 2 ditch [9514]/[9700] and phase 3 ditch [9699] and pottery from the fill (9651) contained sherds from the OAB2 bowl also present in ditch [9699], much of a Parisian ware GRA7 beaker with elaborate stamped decoration, late first to early second century greyware carinated and cordoned bowls, one with acute lattice grooved decoration, a GRB4B sherd with rouletted zone defined by cordons similar to a butt beaker, rusticated jars, carinated bowls, a painted parchment sherd, a plain-rim dish of mid-second to mid-third century date and a mid- to late second century Mancetter-Hartshill flanged mortarium: M2. Fill (9571) contained more of the OAB2 carinated bowl from ditch [9699] along with a CTB8 wide-mouthed jar of LPRIA/mid- first century date. The rest of the pottery from this context overlapped with that from fill (9651), with second century vessels of Roxby Type E present (both a larger version with near complete profile and a smaller version, again with most of the profile present, conforming to Type E no. 29 (Rigby and Stead 1976)), but included later types such as sherds from a third century Dales ware jar, greyware wide-mouthed jars with everted rims and a lipped-rim bowl of later second to third century form. Fill (9647) contained a small number of sherds dating from the mid-first to mid-second century. Fill (9521) contained mostly undiagnostic body sherds but the datable types comprised a neckless everted rim jar of late first to early second century type, part of the Parisian vessel from fill (9651), second century greyware jar sherds with acute lattice burnish, a samian sherd from Lezoux dating to c. AD 150-200 and a (presumably redeposited) handmade vessel of LIA (Aylesford-Swarling affinity) with a pronounced wall angle at its girth. Pottery from the fill from the most easterly sectioning of this feature, fill (9669), dates to the late first to early second century, including types such as CTB1 everted, bead and rebated-rim jars, greyware neckless everted-rim jars, carinated bowls, rusticated jars, GTA8, an early second century Lincoln mortarium (report by K.F. Hartley below), and the latest types from this ditch context included second century jars with acute lattice and burnish in fabrics GRB6, GRB7B and GRC8 (Fig. 3.79 P147), a GRB4B indented jar or beaker of the mid/late second or third century, and a hooked rim wide-mouthed jar probably of the third century. The base of the reconstructed vessel P147, from this deposit, had a central perforation made *post cocturam* (Fig. 3.79).

The stratigraphic sequence and the pottery types suggest the latest ditch represented by [9670] and [9698] was cut very late in the first or more probably in the early second century. The pottery suggests it was filled up with a little redeposited mid- to late first century pottery derived from the earlier ditches but that it was filled up predominantly through the second century with pottery perhaps contemporary with its use, and finally silted up with sherds dating to the third century.

Ditch [9694] to the north of these ditches also predated the stone building and was thought to belong stratigraphically to this phase. The pottery from this ditch came from fills (9665), (9666) and (9693), with pottery from (9650) representing the latest silting. The ditch was a particularly deep feature and whilst the base of the cut was reached its lower fills could not be adequately sampled due to the decision to leave the north wall of Building 2, which partially overlay the feature, *in situ*, thus restricting the ability to access the lower fills of the ditch. A single sherd came from the second deepest layer (9693), from a CTB1 jar with slightly inturned rim, thickened internally. This may be wheel-turned and dates to around the mid- to late first century although it should be recognised that this might not be representative as so little of that fill was excavated. Pottery from (9666) was somewhat later and included a over-fired or burnt GRB10 sherds from a carinated bowl, the rim of a GRB4B dish with inturned rim of the late first to second century, rusticated jar sherds of late first to early second century date, a CTB1 'native' jar of the mid-first to mid-second century and two small samian sherds from the same Drag. 37 decorated bowl dating to c. AD 120-200 (probably c. AD 120-160). Fill (9665) contained only a GTA8G body sherd and a samian footring sherd dated c. AD 120-160. This ditch may be LPRIA or even middle Iron Age in original date but was still filling up in the late first to mid-second century.

Phase 4, mid-third to late third/early fourth century

The building is stratigraphically later than the phase 2 and phase 3 ditches and should, therefore date to the third century at the earliest given the presence of Dales ware in the fill (9571) of ditch [9698]. If this were considered a late deposit at the top of the ditch then the dating could be put back to the mid-second century at the earliest. Pottery was recovered from the construction trenches of the stone walls of the building at a few locations. This amounted to a small number of sherds, mostly undiagnostic or residual, derived from earlier phases, as one might expect, but included the rim of a Nene Valley beaker from (9518) and significantly a Dales ware oxidised rim sherd came from (9632) and body sherds in the same fabric came from (9540) and (9590). Dales ware of this type was also recovered from the ash floor layer (9569)/(9614) and soil layer (9674) associated with the Building. This indicates a date in the third century, probably the mid- to late third, for the construction and use of the building and the oxidised character of the Dales ware compares with similar vessels found at Burringham Road, Scunthorpe, in the mid- to late third century (Darling 2009, 41-2). A flange from a Nene Valley reeded rim mortarium of late third to fourth century type in layer (9569) adds weight to this chronology.

Phase 5, late third to early fourth century

The posthole settings also contained sherds from oxidised Dales ware jars, from fills (9562) and possibly (9631), although the body sherds from (9631) are rather thick for a Dales ware jar. This type also occurred in layer (9568) and (9620). A near complete developed flanged bowl of late third to fourth century date was present in (9620). A late-third to fourth century flanged hemispherical bowl was present in post hole fill (9562) and a sherd from Swanpool/Cantley type reeded hammerhead mortarium was present in posthole fill (9565) and dates to the fourth century. The base and lower body of a greyware jar of uncertain form and date came from (9689) and undiagnostic greyware sherds were also present in (9631), (9652) and (9689). A sherd from a greyware everted-rim wide-mouthed jar came from (9681) and may belong in ceramic terms to this phase or phase 4 being of third to earlier fourth century form.

Phase 6, late third to early fourth century

Notable sherds from the post-Roman and unstratified deposits (i.e. ploughsoil and hedge bank deposits over the western end of the trench) included sherds from a Cam. 113 beaker, part of the neck of a black sand amphora (discussed above), several mortarium sherds with slag trituration grits belonging to the late third to fourth century Cantley/Swanpool group, a small sherd from a Trier black slip beaker of the early to mid-third century, developed flanged bowl sherds, Nene Valley colour-coated sherds from a fourth century pentice moulded beaker, a third to fourth century Castor box, a mid- to late third century funnel-mouthed beaker, a scroll beaker and a white painted beaker and a pinch mouthed flagon and an oxidised flanged hemispherical bowl probably from the Swanpool industry. The assemblage lacks very late types such as the flanged bowl with inturned rim, the double lid-seated jar series and the late colour-coated types, all suggesting activity in the area of Trench J ceased in the first half of the fourth century.

6.1.11 Two Stamped Mortaria

6.1.11.1 The Stamped Mortarium from Trench J

K.F. Hartley

A stamped fragment of a mortarium was recovered from the ditch fill (9669), weighing 322gms and having a diameter of 250mms, with 27% of the rim circumference represented (Fig. 6.30; Fig. 6.35 P139).

Fabric: hard, drab cream fabric with thick pink core which merges into the surface colour; traces of a cream slip survive;

Inclusions: ill-sorted, random and fairly frequent to frequent, pinkish-quartz, rare transparent and white quartz and rare red-brown (?sandstone) in a matrix with fairly frequent tiny to small (again ill-sorted) pinkish-quartz, rare red-brown and black material;

Trituration grit: the few grits which are visible, comprising white quartz and red-brown (?sandstone), are either the remains of heavily worn trituration grit or inclusions showing in the worn surface.

Wear: the mortarium has been subjected to extremely heavy wear. This has also resulted in the underside of the base being worn smooth.

Abrasion after discard: considerable abrasion after discard, especially on the flange, bead and stamp.

The left-facing stamp is damaged, but the letters RIC are reasonably clear, preceded by what appear to be a vertical stroke and the end of the letter panel at the outside of the flange. No more is clear, giving a reading of ICRIC[..], initial I uncertain, within upper and lower plain borders beyond the letter panel. There is only one known potter whom this could fit, a potter whose stamps are accepted as reading Crico though the first letter does appear as I in at least one die-type. Crico is known to have worked at South Carlton, Lincoln (Webster 1944, 129-43). Other mortaria of his have been noted in England from: Birdoswald; Brough-on-Humber (Darling *et al.* 2000); Claxby (TF 111 943); Corbridge (4); Lincoln (2, Darling 1984, 70, no. 6); Thorpe Hall, Eastrington, East Yorkshire; Vindolanda; and the Yorkshire Museum (provenance unknown); and in Scotland from Balmuildy; Bothwellhaugh; Cadder; Newstead (2); and Rough Castle. The number of mortaria on Antonine sites in Scotland show that he was active within the period AD 140-165 when Scotland was occupied.

All other mortaria stamped by Crico are in a certain South Carlton fabric, but this Mount Pleasant mortarium is in a different fabric, a fabric similar to that produced by the potter Vitalis at an earlier Lincoln workshop at the Technical College site (Baker 1936; Tomber and Dore 1998, 160), which was active in the late first and early second centuries. The rim-profile of this Mount Pleasant mortarium is also unusual for Crico and is undoubtedly earlier than his

Figure 6.30 The stamped mortarium of Crico from Lincoln P139 from Trench J context (9669).

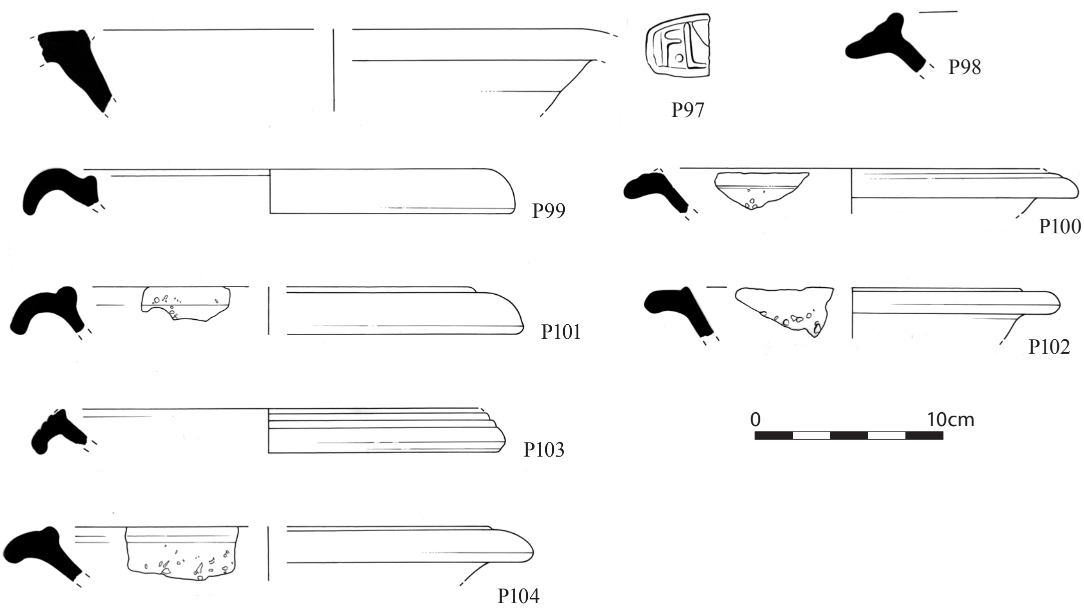


Figure 6.31 Romano-British pottery: mortaria from East Field.

other mortaria. It seems certain that this mortarium was made very early in Crico's activity perhaps c. AD 130. Analysis and/or the discovery of further similar examples are needed to ascertain whether it represents a third fabric produced at South Carlton or whether Crico began his activity at the Technical College workshop before moving to the South Carlton production site.

6.1.11.2 The Stamped Mortarium from the British Gas Fieldwalking of 1992-3

K.F. Hartley (2013)

British Gas 1992-3 survey: item 4919. This is a sherd with incomplete rim-section from a mortarium in Verulamium fabric (Fig. 6.31 P97) (Tomber and Dore 1998, 154 (VER WH)). The letters F·LV[..] survive from a stamp which reads F.LVGVDV when complete. The F stands for fecit and the stamp means 'made at Lugudunum'. It is a counterstamp used by Albinus, the most prolific potter who ever stamped mortaria present in Britain, with up to 450 mortaria recorded. There is considerable evidence to date his activity to the period AD 60-90. None of his kilns have been found, but his fabric and distribution leave no doubt that he worked in what is termed the 'Verulamium region', an extensive pottery-making area situated along Watling Street, south of Verulamium and including sites at Brockley Hill, Bricket Wood and Radlett and perhaps other unlocated sites. The precise location of the 'Lugudunum' referred to, is unknown. Examples of similar stamps can be seen in *Verulamium Excavations I* (Frere 1972, fig. 145, nos 6 and 8; for further discussion of his work see Hartley 1972, 171-2 and Hartley 2005, 167-8).

6.1.12 Status and function

Site status can be viewed via analysis of the functional composition of a Roman pottery assemblage (Evans 1993) which can show consumption patterns and tastes of site inhabitants. Accordingly these data are brought together for the stratified material from the excavated Trenches at Mount Pleasant in Table 6.2 and Fig. 6.32. The EVES values for Trenches B and F were rather small for consideration but the figures for Trenches I and J were particularly strong. The ratio of jars to bowl/dishes was high in Trenches A, C, E and I. In Trenches D and H bowls and dishes were more common and in Trenches I and J they were reasonably common. In Trenches A, C, D, E and J beakers and cups were reasonably common. In Trenches A, C, D and E the beakers were predominantly LPRIA/ mid-first century types as were the bowls, suggesting the occupants at this date used a wide range of vessel types and were, perhaps, of a higher status than rural settlements which used only jars Little work has been done on the types of vessels found on different site types at this date on and around the Wolds. In Trench J the beakers included these LPRIA types but also had a reasonable number of grey and fine ware beakers of later Roman date which accords with the evidence for a building, perhaps of higher status, in this Trench in phases 4-5; the Campanian amphora also was represented in this Trench. The lack of beakers and tableware from Trench I may suggest a different functional emphasis in this area.

6.1.13 Conclusions

The pottery assemblages from the different types of archaeological interventions demonstrate how surface scatters and small scale excavations can be used to unravel the sort of archaeological palimpsests made visible from investigations by geophysical survey or aerial photography. The correlation between results from the analysis of pottery distribution from fieldwalked assemblages with excavated assemblages recovered some years later is remarkable and suggests that the careful plotting of fieldwalked finds and their subsequent detailed analysis can repay the effort, although the key factor in this project was the quality and clarity of the results of the geophysical survey.

It was possible to accurately predict where areas of prehistoric settlement may have been on the landscape

Table 6.1 Quantities of stratified pottery from excavated trenches.

Trench	Number of Stratified Sherds	Sum of Weight	EVES
A	120	1136.3	0.74
B	125	325.3	0.20
C	210	1190.3	0.72
D	207	944.7	1.08
E	289	2977.2	1.60
F	34	235.3	0.18
G	0	0	0
H	123	553.2	0.77
I	757	11350.7	6.33
J	1229	19037.3	12.11
Totals	**3094**	**37750.3**	**23.73**

Table 6.2 The relative frequency of vessel types from the excavated Trenches (quantification by EVES).

	Trenches									
Vessel Type	**A**	**B**	**C**	**D**	**E**	**F**	**H**	**I**	**J**	**All**
Indeterminate	2.5							4.4	1.6	2.03
Bowl	8.7			32.7	13.8		27.3	13.7	20.7	17.65
Bowl/dish							14.3	0.6	0.6	0.86
Beaker	7.6	45.0	13.9	25.2	7.7				4.3	5.45
Cup								0.5	0.8	0.51
Dish	2.5	10.0	2.8					6.2	3.8	3.66
Flagon	10.2								8.2	4.67
Jar	54.6	35.0	81.9	7.5	54.7	94.4	58.4	54.0	42.7	46.94
Lid	3.6				14.4				1.9	2.18
Mortarium								1.1	6.2	3.19
Narrow-necked jar								10.9	0.8	3.08
Small jar									0.4	0.19
Storage jar	6.1								1.6	1.21
Wide-mouthed deep bowl									3.9	1.87
Wide-mouthed jar	4.1	10.0	1.4	34.6	9.4	5.6		8.5	2.4	6.51
Total EVES	**1.96**	**0.20**	**0.72**	**1.59**	**1.81**	**0.18**	**0.77**	**6.33**	**12.11**	**25.67**

on the basis of a sparse scatter of PRIA sherds and/or features which lacked clusters of Roman pottery. The LPRIA-mid-first century foci were also predicted well although where these sherds had been deposited in deep ditches this could mask the evidence reaching the surface. Prolific widespread activity was found in both East Field and Street Furlongs during the later first to second century and perhaps into the early third century, with a scale of contraction evident from the mid-third century. The fourth century was poorly represented ceramically in both the excavated and fieldwalked material although targeted excavation might yet uncover dispersed remains.

The character of the overall assemblage (Table 6.2) is in keeping with a rural settlement and contrasts with the roadside settlements and small towns in quantities of samian and Nene Valley colour-coated wares particularly (Fig. 6.33). Although Nene Valley colour-coated wares may be less common as far north as Mount Pleasant, 5.8% of the assemblage at Brough-on-Humber extra mural settlement were of this type suggesting it was reaching this region in adequate quantities and even at the roadside settlement at Shiptonthorpe Nene Valley levels fluctuated between 1% and 3% through the phases (Evans 2006, 130) suggesting, if Mount Pleasant was of similar standing, one might expect rather more fine ware.

The character of a site is also often indicated by the vessel types present and again the pattern at Mount Pleasant accords with that suggested for a rural settlement in the north (Evans 1993, fig. 9). Compared with the extra-mural settlement at Brough-on-Humber the Street Furlongs figures have rather more jars at 63% compared to 43% (by sherd nos and weight) but levels of the dishes and bowls are similar. The beakers seem to be markedly less common at Mount Pleasant, 4% compared to 14% by count at Brough-on-Humber.

It should be borne in mind that the comparisons are using whole site assemblages and there was some suggestion that it might be possible to detect clusters of fine wares, such as samian and Nene Valley wares (see above), in some areas across the fields. In addition there were some suggestions that the settlement might have changed in character over time with evidence for a higher status in the LPRIA to mid-first century and again in the third century, perhaps. Given the small number of stratified features it is not possible to unravel these changes with any certainty.

Vessels which might have special significance include a tazze from East Field, some very fine beakers and flasks in Parisian ware and colour-coated ware which may relate to the ritual activity on the site. Beakers and flagons were not particularly common in contrast to some temple sites, for example at Manchester (Leary 2007, 107-8). However if the ritual activity took the form of a shrine within an otherwise domestic settlement, as has been suggested at Dragonby and possibly Long Bennington (May 1996, 395 and 603; Leary 1994, 55-6), this might be expected.

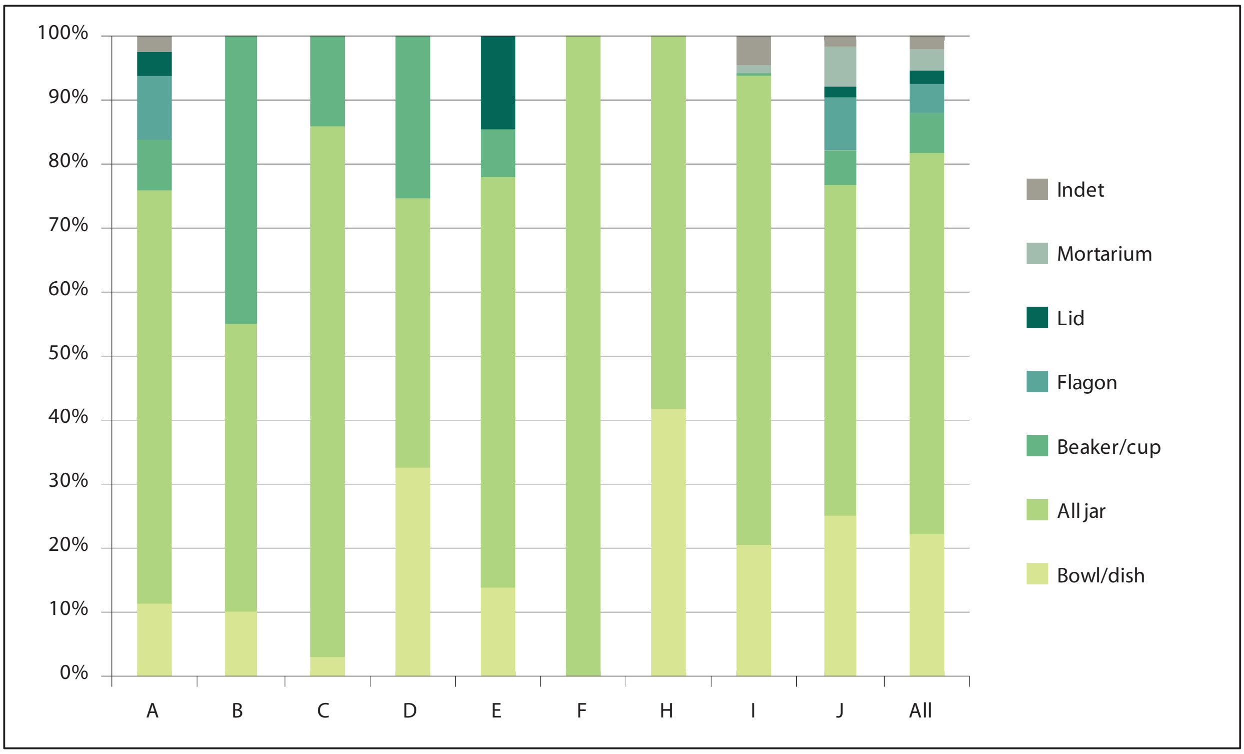


Figure 6.32 The relative frequency of vessel types from the excavated trenches (by EVES).

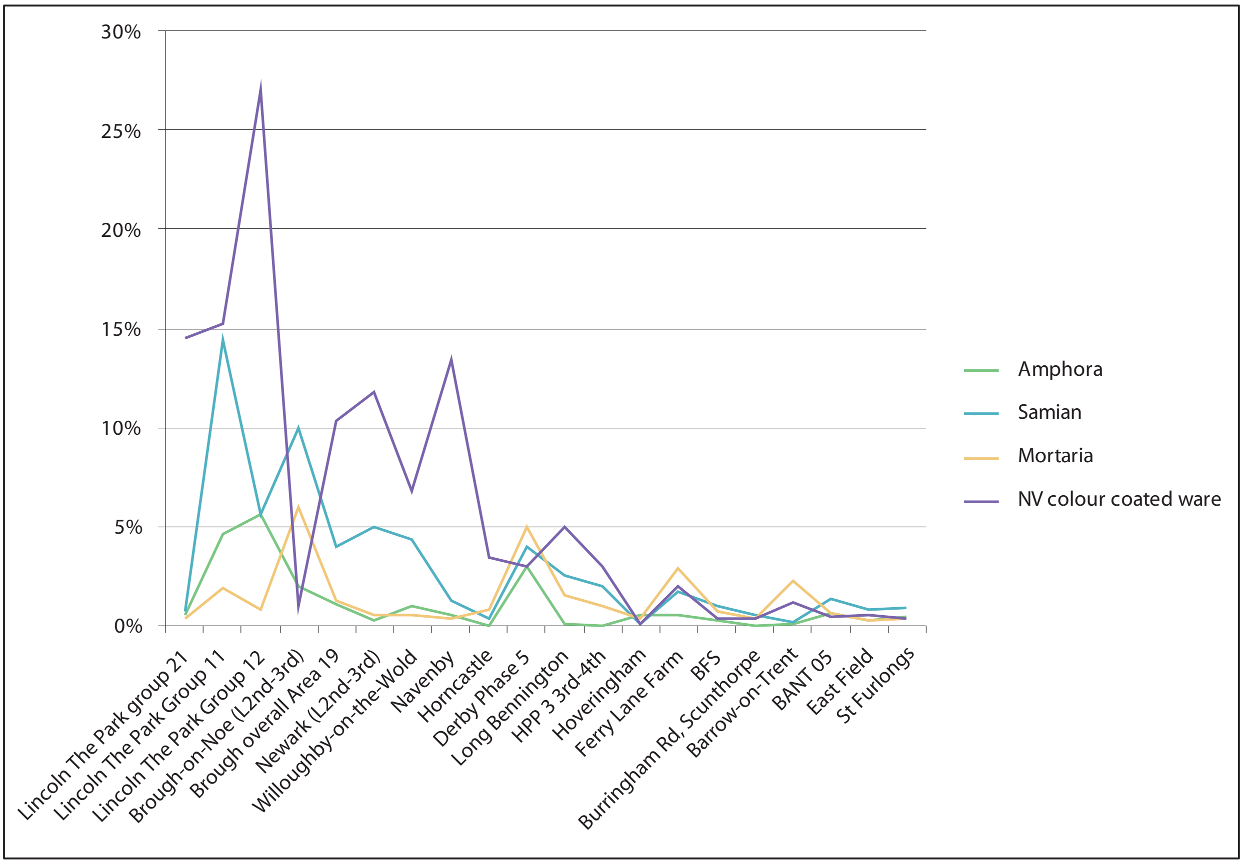


Figure 6.33 Comparison of the relative proportions of fine ware and imported ceramics present at sites in the East Midlands region by sherd count. HPP= Holme Pierrepont unpublished, BFS= Nottinghamshire brickwork plan field system, BANT05= Bantycock unpublished.

Settlement life clearly included vessels relating to food preparation and consumption. Preparation seemed to have included cheese making since fragments of both cheesepresses and colanders were identified. Other types of food preparation include the grinding and mashing of foodstuffs in mortaria.

Over-fired and distorted pottery sherds were noted in the assemblages from both the main fieldwalking programmes and some evidence for local manufacture of pottery is known (see above). There is a great deal of largely unpublished evidence for pottery production in the region particularly along the base of the Wolds escarpment between Caistor and Market Rasen/Linwood Warren (e.g. Mostyn-Lewis 1966; Wilson and Wilson 2007). Unfortunately most of this evidence has not been studied or published and the present project contributes in some measure to our understanding of the ceramics of the area. To further clarify the ceramics of the area it is desirable to undertake petrological and chemical analysis of the more distinctive fabrics to determine their source, and this should be an aim as the assemblages from the other sites examined by fieldwalking and excavation by S. Willis and his team as part of this Project are brought to publication (Willis forthcoming). The present study has gone some way in suggesting key chronological indicators and identifying the products of known kilns which make these types. This study suggests that in the LPRIA/mid-first century small amounts of traded wares, including Gallo-Belgic imports were obtained and the coarse wares were of late La Tène type. The source of the latter is not known but is likely to be local. Close parallels to the forms and fabrics can be found in the kiln groups and assemblages at Dragonby, South Ferriby and Old Winteringham and this pottery certainly belongs to the same stylistic group. In the early Roman period, 'native' jars continued to be used and were further supplemented by manufacture of the same and similar forms in the GTA8/10 wares. This latter group can be paralleled at South Ferriby in form and fabric and belongs to a type of pottery common all down the Trent Valley. It should be imagined that these were made at several kiln sites and certainly the variability of the fabrics support this deduction. The potters making these 'native' style jars added forms made in greyware to their repertoire. The greywares appearing in the period were 'transitional' in character and Roman in form (cf. Willis 1996). New types, including Continental forms appear and these presumably come from kilns supplying the military such as that identified as such by Swan at Dragonby (Swan 1996a; 1996b). Whether kilns local to Mount Pleasant engaged in this sort of pottery production is not known at present but the inhabitants certainly liked to use it. One of the forms made at these Roman kilns, the rebated-rim jar, Roxby type A, was also made in a very coarse fabric with coarse rounded quartz within it and this seems to be local to the site. Other types, such as the bead-rim deep bowls and the gritty grey fabrics with sub-rounded quartz compare closely to types made in the Trent Valley kilns around Little London and are likely to represent trade with that area. In addition to these new forms and fabrics, the settlement also traded to obtain fine wares made at Lincoln such as the red-slipped wares, the white ware flagons and the fine greywares. They also were able to get very fine vessels such as the Parisian ware stamped beaker from Trench J, from the kilns at Market Rasen (vessel P126). Other fine vessels in this ware probably also came from this industry. Mortaria were also obtained from further afield and included vessels from Verulamium, Lincoln and Mancetter-Hartshill. Imported goods comprised oil amphora from southern Spain, wine from both north Gaul and Italy (presuming the original contents were still within when these vessels arrived at the site) and very small numbers of beakers from Cologne and Trier. During this period and later a greater proportion of the greywares may have been coming from kilns near to the site and at Market Rasen, although the nature of the fabric composition means differentiating fabrics is far from straightforward making source attribution difficult. Nene Valley colour-coated vessels were obtained in small numbers and this was supplemented with oxidised bowls and dishes. In the third century, the greyware production seems to have continued but was added to in the form of Dales ware jars and Swanpool type mortaria, some of which probably came from Lincoln but others may have been made locally in the same way, perhaps by potters moving from Lincoln. Apart from this trade very little traded ware belongs to the third or fourth century.

The study of the landscape at Mount Pleasant through the ceramic spread found on the surface and in the excavated assemblages has demonstrated the potential of such intensively collected fieldwalked groups to unravel the palimpsest seen in the geophysical survey to form a coherent 'story'. It is anticipated that further study and publication of other sites in the region, including those examined as part of this Project (Willis forthcoming) will enhance the somewhat limited data set presently available and inform our understanding of settlement in the region through Iron Age and Roman eras.

Table 6.3 Pottery wares from excavation trenches.

Trench	A			B			C			D			E		
Ware	Nos	G	RE	Nos	G	RE	Nos	G	RE	Nos	G	RE	Nos	G	RE
AMP															
BB2T															
BSA															
BSB1															
CT															
CT OX															
CTA2															
CTA2 OX															
CTB				1	1.8										
CTB1	34	285.1	32	2	15.1		126	555.6	37	36	224.1	5	139	1793	64
CTB1 OX							3	41.5		33	286.5	10	5	149.7	
CTB2															
CTB5				1	1		2	11.3					1	18.2	
CTB7	24	402.2	5							3	9.4		1	22.9	
CTB8	30	204.2	19	2	1.1		10	82.1	7	23	122.8	56	36	179.1	24
FC/PQ							4	24.2							
FLA										1	0.8				
FLA1															
FLA2							1	3.3					11	240.2	
FLB1							5	13.3							
FLB2															
FLB3													1	4.7	
GR															
GRA				2	3.7					1	1.6				
GRA1	1	9	6							3	12.1				
GRA10				1	5.6	9							2	3.5	
GRA11															
GRA2	1	4.5								5	16.2	1	1	1.9	
GRA3													2	14.1	18
GRA6										2	2.3	2			
GRA7	1	2.6								1	0.6				
GRB				1	5.7		2	3.7		7	22.8	8	1	1.1	
GRB10	1	28.2		1	3.3					4	16.6	6			
GRB11															
GRB12													4	27.3	
GRB13															
GRB2				2	16.9	2				11	2.7		2	8.1	
GRB2?				5	19.2										
GRB4				2	6.4					2	1.1				
GRB4A										3	17.4	3			
GRB4B	17	96.6		1	1.6		11	65.8	2	30	46.2	3	37	134.1	15
GRB4C							2	37.1	10				8	47.4	2
GRB6				1	3.8		1	7.1		2	12.1		3	14	

Table 6.3 Pottery wares from excavation trenches (continued).

Trench	F			H			I			J			Total	Total	Total
Ware	Nos	G	RE	Nos	G	RE	Nos	G	RE	Nos	G	RE	Nos	G	RE
AMP							13	161.9					13	161.9	
BB2T										1	8.6		1	8.6	
BSA							2	1.5					2	1.5	
BSB1										1	30.6		1	30.6	
CT	1	1.1					43	169.3	15	16	117.8		60	288.2	15
CT OX										5	43.4		5	43.4	
CTA2							2	13.1	8	17	250	73	19	263.1	81
CTA2 OX										36	903.7	115	36	903.7	115
CTB							1	7.7	8	1	0.9		3	10.4	8
CTB1	3	5.7		13	30.7		8	75.1	15	183	2359	83	544	5343.4	236
CTB1 OX										9	179.3		50	657	10
CTB2							1	9.3		11	125.9	9	12	135.2	9
CTB5							8	289.1		2	62.4		14	382	
CTB7										2	32.5		30	467	5
CTB8							1	3		30	104.4	15	132	696.7	121
FC/PQ													4	24.2	
FLA													1	0.8	
FLA1							2	33.4		9	51.2		11	84.6	
FLA2							18	133.7		6	43.3		36	420.5	
FLB1													5	13.3	
FLB2										1	5		1	5	
FLB3													1	4.7	
GR										7	7.8		7	7.8	
GRA							1	2		4	3		8	10.3	
GRA1							3	5.1		6	58.1		13	84.3	6
GRA10							10	124	34	6	59.6	6	19	192.7	49
GRA11							1	115		1	16.6		2	131.6	
GRA2				19	43.7	21	8	94.1	10	20	139.4	142	54	299.8	174
GRA3										1	22.1		3	36.2	18
GRA6													2	2.3	2
GRA7							1	8.8	17	24	213.2	26	27	225.2	43
GRB	2	0.5					8	13		80	368.9		101	415.7	8
GRB10										3	15.8	4	9	63.9	10
GRB11										6	24.8		6	24.8	
GRB12				2	4.2		2	13.2		3	331.4	10	11	376.1	10
GRB13										6	176.5	5	6	176.5	5
GRB2				3	86.2	23	1	80	15	16	176.8	17	35	370.7	57
GRB2?													5	19.2	
GRB4										13	55		17	62.5	
GRB4A							2	32.3	4	5	93.4	5	10	143.1	12
GRB4B	7	35.6		13	35.4		99	600.1	76	122	644.2	50	337	1659.6	146
GRB4C							40	384.1	72	80	848.7	22	130	1317.3	106
GRB6	1	18.6	1				82	1004.2	71	28	526.2	37	118	1586	109

Table 6.3 Pottery wares from excavation trenches (continued).

Trench		A			B			C			D			E	
Ware	Nos	G	RE	Nos	G	RE	Nos	G	RE	Nos	G	RE	Nos	G	RE
GRB7										3	17.2		4	37.3	5
GRB7A	3	12	1	4	13.6	5	3	8.4		5	25.2		1	2.6	
GRB7B	1	4.3		24	122.8	2	9	61.2	1	9	43.3		15	146.3	25
GRB7C				1	1.8										
GRB7D													1	16.1	5
GRB9	1	3.3													
GRC										1	1.9				
GRC1															
GRC6										1	8.6		1	5.1	2
GRC7															
GRC8	1	4.8													
GRC9															
GT										2	4.1		1	4.4	
GTA10	2	16.1		3	19.4										
GTA14							13	57.2		6	17.7	9	3	8.1	
GTA5				61	50.4										
GTA8	1	46	11	3	20.5	2	18	218.5	15	4	21.4		5	90.5	
H2															
KOLN										1	0.8				
M4															
M5				1	1										
MG1															
mlinc															
MOR															
NV				3	5.3								1	4.1	
OAA															
OAA1															
OAA4															
OAA5															
OAB										3	3.1	5	1	1.9	
OAB1				2	3										
OAB2															
OBB										1	4.4				
OBB1															
PCT															
PGROG	2	17.4													
PGT															
PMT															
PQT?															
TR?													1	0.5	
TS				1	2.3					4	1.7		1	1	
Totals	**120**	**1136.3**	**74**	**125**	**325.3**	**20**	**210**	**1190.3**	**72**	**207**	**944.7**	**108**	**289**	**2977.2**	**160**

Table 6.3 Pottery wares from excavation trenches (continued).

Trench		**F**			**H**			**I**			**J**		**Total**	**Total**	**Total**
Ware	Nos	G	RE	Nos	G	RE	Nos	G	RE	Nos	G	RE	Nos	G	RE
GRB7				1	6.3	10				26	519.4	115	34	580.2	130
GRB7A	3	23.3		16	44.8		24	412.8	31	13	155.1	19	72	697.8	56
GRB7B	15	136.6	17	22	134.1	11	200	5900.9	164	134	2093.2	153	429	8642.7	373
GRB7C							9	51.6		11	305.6	32	21	359	32
GRB7D													1	16.1	5
GRB9							1	1.6		1	2.6		3	7.5	
GRC													1	1.9	
GRC1							4	197.7		1	5.2		5	202.9	
GRC6				1	6.7					4	191.6	25	7	212	27
GRC7							5	98.3	5				5	98.3	5
GRC8				5	33		1	4.5					7	42.3	
GRC9										8	275.5		8	275.5	
GT										1	1.4		4	9.9	
GTA10							10	302	20	4	386	28	19	723.5	48
GTA14							2	9.6	10				24	92.6	19
GTA5							2	9		1	16.5		64	75.9	
GTA8	1	10.3		24	124.8	12	101	823.4	39	164	2379.9	62	321	3735.3	141
H2										3	30.5	7	3	30.5	7
KOLN										1	0.7		2	1.5	
M4							1	20	7	3	101.4	12	4	121.4	19
M5										1	13	1	2	14	1
MG1										1	3	10	1	3	10
mlinc										4	3648.9	56	4	3648.9	56
MOR										1	32.2	6	1	32.2	6
NV							1	3.3		6	11.9	9	11	24.6	9
OAA				1	1.8								1	1.8	
OAA1							1	1.8		1	0.5		2	2.3	
OAA4							1	4.6					1	4.6	
OAA5										1	17.9		1	17.9	
OAB				3	1.5					7	47.9	1	14	54.4	6
OAB1							20	72.1	6	12	33.9	4	34	109	10
OAB2										23	153.4	31	23	153.4	31
OBB	1	3.6					2	19.3		3	15.1		7	42.4	
OBB1							1	4.2	3	6	60.3		7	64.5	3
PCT										16	328	3	16	328	3
PGROG													2	17.4	
PGT										2	6.3		2	6.3	
PMT										1	36		1	36	
PQT?										1	7	5	1	7	5
TR?													1	0.5	
TS							14	41	3	7	57.9	13	27	103.9	16
Totals	**34**	**235.3**	**18**	**123**	**553.2**	**77**	**757**	**11350.7**	**633**	**1229**	**19037.3**	**1211**	**3094**	**37750.3**	**2373**

6.2 Detailed Fabric Descriptions and Incidence of Forms Present

Ruth Leary

Fabric Descriptions

The sherds were examined rapidly by eye with selective use of a x30 binocular microscope and x10 hand lens. The sherds were divided into fabric groups, such as greyware or oxidised ware, with distinctive, known fabrics such as Nene Valley ware and grog-tempered ware fabrics or identifiable greyware fabrics being given their own fabric codes. Fabrics in the National Fabric collection are not described in detail. NLM stands for The North Lincolnshire Roman Pottery Fabric Series (Rowlandson in prep.), which was kindly made available for reference by the North Lincolnshire Museum and Ian Rowlandson. CLAU denotes the City of Lincoln Archaeological Unit fabric reference series code.

Characterization is as follows:

Colour: narrative description only.
Hardness (after Peacock 1977)
  soft - can be scratched by a finger nail
  hard - can be scratched with a penknife blade
  very hard - cannot be scratched with a penknife blade
Feel: tactile qualities.
  smooth - no irregularities felt
  rough - irregularities felt
  sandy - grains can be felt across the surface
  leathery - smoothed surface like polished leather
  soapy - smooth feel like soap
Fracture: the visual texture of a fresh break (after Orton 1980)
  smooth - flat or slightly curved with no visible irregularities
  irregular - medium, widely spaced irregularities
  laminar - 'stepped' appearance
  hackly - large and generally angular irregularities
Inclusions:
type (after Peacock 1977) identified at x30
frequency - indicated on a 4-point scale - abundant, moderate, sparse, and rare; where abundant indicates the break is packed with an inclusion and rare indicates the break has only one or two of an inclusion.
sorting - indicates the homogeneity of size of inclusion.
shape (after Orton 1980) angular - convex shape, sharp corners; sub-angular - convex shape, rounded corners; rounded - convex shape, no corners; platey - flat
Size - fine - 0.1-0.25mm; medium - 0.25-0.5mm; coarse - 0.5-1mm; very coarse - 1mm or greater

Categories:

AMP Amphorae

DR20: Dressel 20. Body sherds and handle fragments. Tomber and Dore 1998 BAT AM. NLM Dr20.
GAL AMP: Gallic amphora. Body sherds only. Tomber and Dore 1998 GAL AM. NLM GAU4.
CAM AM: Black sand Campanian amphora. Neck fragment. Tomber and Dore 1998 CAM AM.

BB1 Black burnished wares

BB1: Black burnished ware category 1. Williams 1977; Tomber and Dore 1998 DOR BB1.
Gillam 1976, nos 4, 8, 9 and 30; plain, grooved and flat-rim dishes. The forms suggest small trickle of supply in the second and third centuries.
BB2: Black burnished ware category 2 or a copy. Tomber and Dore 1998 BB2.
An everted jar rim, bead-rim bowl or dish and rolled rim bowl or dish. Late second to mid-third century types.

BS Black early Roman wares with quartz inclusions

BSA2: Dark grey. Hard with fairly smooth feel and fracture. Sparse, medium sub-angular and sub-rounded quartz and sparse medium rounded soft brown inclusions, micaceous. Rather like EAG BSA1 and like GRA1 but has perhaps grog within.
Undiagnostic small sherds only.
BSB1: Dark grey/black with brown margins. Often leathery or slightly gritty feel. Hackly fracture, hard with moderate, medium, rounded and sub-rounded quartz, micaceous, rare shell and grog. Cf. NLM SHGR or SFGROG.
Perhaps a variant of GTA8. Everted-rim neckless jars only of the type made in fabrics CTB2, CTB2 and GTA8. Mid-first to mid-second century.
BSC1: Black. Hard with gritty feel and irregular fracture. Moderate, well-sorted, fine, sub-angular quartz; sparse, coarse, sub-angular, buff inclusions, grog or argillaceous rock fragments or clay pellets. Possibly related to NLM IASFSA.
Footring base and rim sherd of cordoned bowl (as Hawkes and Hull 1947, no. 220). This fabric would fit into a fabric group identified in small numbers by the author elsewhere in the East Midlands used for cordoned cup and

butt beaker forms and a date range in the first century BC to first century AD is suggested (Leary 1994, 34, BSB and BB3; Dool *et al*. 1985, 30 no. 21; possibly May 1996, 419 fabric G; cordoned cups and butt beakers appear at Dragonby in ceramic groups 7-10 and 9-10 respectively, dated LPRIA to early Roman) (Fig. 6.1A).

CC Colour-coated wares

CC1: Orange with self-slip or colour-coat. Hard with smooth feel and hackly fracture. Moderate, well-sorted, medium-sized, sub-rounded quartz; sparse, ill-sorted, fine to very coarse, reddish brown iron oxides. Swanpool. NLM SPOX or MESOX.

This is similar to Swanpool products. This group may include true colour-coated wares and orange wares with traces of a burnished self-slip. The degree of abrasion on the site made it difficult to distinguish these two groups but both resembled Swanpool products (Webster and Booth 1947, E7, Darling 1977, 24-5). Forms: plain-rim dish; bead-rim, straight-sided dish (cf. Darling 1977, no.126); Drag. 38 copy with traces of white paint on the flange; folded beaker decorated with white, painted wavy lines and long-necked, plain-rim, probably from a beaker. The dish and Drag. 38 copy can be favourably compared with Swanpool material (Fig. 6.4 G and 6.6 I) but the beakers are unusual and are grouped here on the basis of the fabric similarity. Further study of the Swanpool industry may support this identification. These parallels suggest a date range in the third and fourth centuries.

KOLN Cologne colour-coated ware. Tomber and Dore 1998 KOLN CC.

NV1: Nene Valley colour-coated ware with a fine sand-tempered white fabric and a black colour-coat. Tomber and Dore 1998 LNV CC, NLM NVC.

Forms (Howe *et al*. 1980) 29-30, 36-9, 40-3, 79. Principally late second to third century beakers.

NV2: As NV1 with brownish fabric and reddish brown colour-coat. Forms (Howe *et al*. 1980) 27, 38-9, 40-3 and a strap handle fragment. Similar date range of forms as NV1. Tomber and Dore 1998 LNV CC, NLM NVC

MG1: Hard fine buff ware with gold mica slip. Sparse, medium, rounded quartz and rare medium rounded brown ferrous inclusions. CLAU MG

MOS BS: Black slipped ware, from Trier. Tomber and Dore 1998 MOS BS, NLM MOSL.

RS: Lincoln red-slipped ware. NLM RSDL

TR: *Terra Rubra*. Tomber and Dore 1998 GAB TR.

CT Shell- or calcite-gritted wares (CT codes with OX indicates oxidised firing)

CT: Code used for shell-tempered wares not assignable to a particular fabric group.

Body sherds, except one tall everted-rim from a jar.

CTA2: Brown, grey-brown. Soft with rough feel and laminar fracture. Abundant, ill-sorted, fine to coarse shell; rare, fine, rounded, reddish brown iron oxides. Dales ware. Tomber and Dore 1998 DAL SH, NLM DWSH.

The principal form made was the flat-top, Dales ware jar, dating to the third to mid- fourth century, primarily after the middle of the third century, with small numbers of bead-rim or lipped rim dishes (P31), double lid-seated jars (Swan 1992, 8-9; Darling 1977, 30-1 respectively), dated to the fourth century and most common in the second half of that period. A group of oxidised Dales ware jars were found in phase 4 and 5 contexts in Trench J associated with the stone footings and post-holes there. These might be compared with similar vessels identified by Darling at Burringham Rd, Scunthorpe, for which a local source perhaps at or near the site, operating in the mid-third century was posited (Darling 2009, 43-4).

One everted-rim jar was identified and this may have come from the South Lincolnshire/Rutland kilns at Bourne and Greetham. Evidence from Empingham, Rutland and Morton, Lincs. demonstrates that these jars were present in the mid- to late second century contexts (Cooper 2000, 76 and 80; Precious 2001, 138-9) while Clarke recorded third century examples at Leicester (Clarke 1999, 127-8, in phase 3 fig. 69 no. 151 and phase 4 fig. 69 no. 163, phase 5c fig. 71 no. 193). A few flat-rim, bead-rim and flanged bowls and dishes were also identified; these can be compared with material from Bourne and Greetham (Samuels 1983, fig. 214 no. 61) dated to the mid- to late second century (Cooper 2000, 75-6 and Precious 2001, 138-9) but such forms were also present at the Park at Lincoln in a late fourth century deposit (Darling 1977, nos 90-7). Burnishing was noted on one rim sherd of a Dales ware jar.

EYCT: East Yorkshire calcite-gritted ware. Tomber and Dore 1998 HUN CG. NLM HUNT.

One calcite-gritted jar with Huntcliff-type rim was identified and the chunky nature of the calcite suggested it may be a true Huntcliff jar. This form is dated to the mid- to late fourth century and is rare in Lincolnshire. P96.

CTB1: Ranges through brown or buff. Hard with rough feel and laminar fracture. Abundant, ill-sorted, medium to coarse platey, white inclusions, shell; rare, well-sorted, medium-sized, sub-rounded quartz. Often difficult to distinguish from CTA2. NLM IASH. P8, 11, 17, 69, 87, 110, 112-5, 134-5.

This fabric group is equivalent to Darling's fabric 150B (Darling and Jones 1988, 12), used to make 'native' cooking pots and common throughout the East Midlands. One certain PRIA form was identified: a flat, pinched-out rim sherd. A biconical bowl with grooved rim is of LPRIA/ mid-first century type (P110, Gregory and Elsdon 1996, type 5 no. 237). Sherds from a wide-mouthed jar or bowl with everted rim, a carinated bowl and a bead-rim beaker in this fabric belong chronologically with similar vessels made in CTB8 and GTA14 in the LPRIA/mid-first century (see below).

The remainder comprised cooking jars with a variety of bead, rather triangular folded over rims and chunky everted rims (Fig. 6.1 P6-13, B and C) and some large storage jars, belonging to the first century BC/AD and the medium-mouthed jars continuing into the second century (cf. Darling 1984, 81 and 89 dated first to second century; Stead 1976, fig. 74 nos 4-12 dated Claudio-Neronian; May 1996, 514-5 dated first to second century); one everted rim jar similar to Roxby B and C, second to early third century (Stead 1976, fig. 84 nos 105-6) and a small number of jars with a rim similar to a near horizontal hammerhead (P12). The latter form characteristically has a very distinct angle between rim and internal wall and the rim often overhangs internally. Parallels at Old Winteringham and Winterton suggest a mid-first century inception. The form was identified in greyware in the Flavian-Trajanic period and into the Antonine period (Stead 1976, fig. 74 nos 7-12; fig. 76 nos 37-8; fig. 77 no. 58; fig. 78 no. 76; fig. 83 no. 87). A similar date range is suggested at Dragonby where this form was present in deposits dated to the first and second century but was replaced by the wide-necked jars with rolled-out rims by horizon III-IV in the early third at the latest (May 1996, 416, type 20 E; nos 792-3, dated early Roman, no. 809, dated Flavian - early second century, no. 838 - dated mid second century). This form is also present in GTA8 and GTA10 fabrics (see below and Fig. 6.1 C). One lug in CTB1 was identified indicating lugged jars like those at Dragonby (Gregory and Samuels 1996, fig. 20.3 no. 791 horizon 1 Claudian-early Flavian). One incomplete rim which seems to be a bifid everted rim with internal rebate may belong to a group found in the Trent Valley and South Yorkshire kilns dating to the mid-second to mid-third century in greyware by Buckland (Buckland *et al*. 1980, type Ec D135-225) and by Swan (Swan 2002, fig. 12 no 160 dated c. AD 135- late second century). The CTB1 version of this jar may pre-date this date range and the author has seen a great deal of variation in the precise form of the rim found on these jars on sites in the Trent Valley. A plain-rim lid was also identified. Decoration on CTB1 vessels is uncommon but includes incised semi-circles lying vertically above a horizontal groove, shoulder grooves, rilling, combing and a grooved wavy line.

CTB2: Brown, dark brown, sometimes with buff surface. Hard with smooth feel and irregular fracture. Moderate, well-sorted, medium-sized, sub-angular quartz; moderate, ill-sorted, medium to fine, platey white inclusions, shell. A sandier version of CTB1. NLM SFGR. P14.

This fabric group was used for the same range of forms as CTB1 suggesting a similar date (Fig. 6.1). Traditionally the harder, sandier fabric would be considered more Roman and later in date but the possibility of a contemporary but alternative kiln source with better temperature control allowing different temper, or using different clay sources, should not be discounted. Evidence from Lincoln suggests a later but overlapping date range in the mid- to late first century AD is likely (cf. Darling and Jones 1988, 12, fabric 150D, 33-4).

CTB3: Grey. Hard with smooth feel and laminar fracture. Moderate, ill-sorted, coarse to fine, platey white inclusions, shell; sparse, well-sorted, fine mica; rare, medium-sized flint; rare, fine, rounded, reddish brown iron oxides. Smooth surface unlike CTA2. Date not known. Forms: flat-rim dish, flanged dish, club-rim jar and rusticated sherd. The diagnostic sherds give a second to third century date range (see under GRB1 for dating evidence for forms, apart from club-rim jar, under CTB1, and also see histograms C, H and N) but the small numbers demand caution. As P21, 12 and 89.

CTB5: As CTB3. This code was used in the 2013 cataloguing but is equivalent to CTB3.

Forms included an everted-rim jar, a jar with almost horizontal everted rim as in the Flavian-Trajanic kiln 4 at Dragonby (P133, Rigby and Stead 1976, fig. 64 no. 4), a jar with slightly everted rounded and expanded rim and a triangular rim perhaps from a bowl or dish.

CTB6: Orange with grey core. Fairly soft with slightly soapy feel and laminar fracture. Moderate, ill-sorted, shell, mostly fine with sparse, coarse examples; sparse, well-sorted, medium-sized, sub-angular quartz; moderate, ill-sorted, fine to coarse, angular, buff grog. NLM IASHF. P2.

Only two forms identified: a plain rimmed platter and a curved wall platter with grooved rim, groove on basal angle and smoothed internal offset halfway down wall, copying imported platters and dating to the first century AD (May 1996, 588) (Fig. 6.1 P2, A). The precise detail of the grooved rim and basal groove is difficult to parallel. The fabric falls within Darling's 150C (Darling and Jones 1988) but the oxidised colour is not usual at Lincoln. At Dragonby oxidised, shelly wares are more common, but not in platter form. A date in the early to mid-first century AD is likely.

CTB7: Brown. Hard with laminar fracture and rough feel. Abundant, ill-sorted, fine to very coarse, shell; sparse, well-sorted, medium-sized, sub-angular quartz. P16.

A coarse fabric equivalent to Darling's fabric 150A (Darling and Jones 1988) and used to make storage jars with rebated and everted rims, including combed examples, and 'native' cooking pots (Figs. 6.1–6.2). Darling suggests a pre-Roman date for the fine and coarse shelly fabrics and at Dragonby a careful study of the published vessels suggests only the medium-shelly, medium-necked jars and the wide-mouthed, club-rim jars continued in use in the Romano-British period (cf. May 1996, 416, type 20; 514

horizon I, Claudian-early Flavian). A date in the LPRIA or conquest period is, therefore, suggested.
CTB8: Greyish brown. Hard with slightly sandy feel and irregular fracture. Moderate, ill-sorted, medium to fine shell; sparse, well-sorted, fairly fine, sub-angular quartz; rare, well-sorted, medium-sized, rounded and sub-rounded grey inclusions - probably clay pellets. Iron Age. NLM IASHF. P5, 105, 109 and 111.
A fairly fine fabric used to make carinated and cordoned bowls (Elsdon 1996, type group 10), butt beakers with rouletted and combed decoration between cordons (Elsdon 1996, type group 11), an everted-rim beaker or jar, a bead-rim jar with burnished body (Elsdon 1996, type group 8), a jar with simple, upright, triangular rim (Elsdon 1996, type groups 4, Fig. 6.1 P5 and as P3 and 7) also made in CTA1, a knobbed lid, footring base, perhaps from a bowl or wide-mouthed jar, everted rims from bowls or wide-mouthed jars (Elsdon 1996, type group 4) and possibly a storage jar. Darling suggests a pre-Roman date for fine shelly wares and the forms could all belong to the LPRIA (Darling and Jones 1988; Elsdon 1996).

FL White, cream or pinkish cream wares

FLA1: Cream. Hard with smooth feel and fracture. Sparse, well-sorted, fine, sub-angular quartz; rare, fine, rounded and long, thin, red iron oxides. Micaceous. CLAU CR. Footring base and four ribbed handle of flagon. The source of this group and also FLA2 is likely to be Lincoln where white wares were made from the legionary period through into the second century. The undiagnostic sherds do not facilitate narrow dating but the broad four ribbed handle would be appropriate for some of the early types of mid to late first century date.
FLA2: Pink, sometimes with grey core. Soft with powdery feel and very finely irregular fracture. Sparse, well-sorted, very fine, sub-angular quartz; sparse, ill-sorted, medium-sized to fine, rounded, brown and black iron oxides; rare, well-sorted, fine, rounded, calcareous inclusions; sparse, well-sorted, fine, flakes of mica. CLAU CR. P54.
Forms: tazza and ring-necked flagon, early to mid-second century (Fig. 6.5). Swan suggests tazzes are limited to sites with military connections in the north Midlands but may have been made at Dragonby in the Flavian-Trajanic kilns to supply military consumers (Swan 1996c, 575). The presence of a tazza at Mount Pleasant would be understandable in the context of a temple site since they are interpreted as incense cups. The white ware range is generally dated to the first and second centuries, becoming less common in the third century.
NOG WH: North Gaulish white ware. Tomber and Dore 1998 NOG WH3.
FLB1: Orange with grey core and white slip. Hard with smooth feel and irregular fracture. Sparse, well-sorted, fine, sub-angular quartz; rare, medium-fine, rounded, brown inclusions; sparse, well-sorted, fine mica. CLAU OXWS.
Only one form identified, a flanged bowl of Hadrianic-Antonine type (Dool *et al*. 1985, fig. 40 no. 36; Stead 1976, fig. 68 no. 70). The date range of the fabric is uncertain but the fabric is similar to CC1 and may, therefore, belong to the Swanpool kiln group.
FLB2: Orange with grey core and white slip. Hard with smooth feel and slightly hackly fracture. Moderate, well-sorted, medium-sized, sub-rounded quartz; sparse, medium, rounded, brown iron rich inclusions, perhaps ironstone; sparse, well-sorted, fine mica. CLAU OXWS.
FLB3: CTB8 OX fabric with traces of white slip.
A single body sherd. A fabric not known to the author but suggesting the copying of white-slipped wares by a potter used to making shell-tempered pottery, so presumably this dates no later than the second century.

GR Greywares

GRA1: Dark grey with brown margins or core. Hard, smooth with smooth fracture. Very fine subvisible quartz, rare, medium quartz and rounded brown, ferrous inclusions. Similar to GRB4B range but much finer and similar to Parisian wares.
Forms: predominantly beakers, including rouletted examples and everted rim beakers and also some rusticated sherds. One fragment seemed to be from a beaker with a pedestal base burnished outside.
GRA2: Grey. Soft with smooth feel and finely irregular fracture. Moderate, well-sorted fine, sub-angular quartz; rare, ill-sorted, medium-sized, white inclusions; rare, fine, rounded black or brown iron oxides. General group of fine greywares. CLAU GFIN. P45, 47, 50, 124, 128, 130.
Forms: predominantly beakers including a rouletted and a roughcast sherd, simple, everted-rim forms, tall everted-rim beakers (as Elsdon 1982a, type 3, second to early third century), long-necked beakers with plain or bead rims and folded beakers of late second to third century type (cf. Nene Valley types; Howe *et al*. 1980, nos 40-43 and 49-50); also a carinated bowl with burnished, wavy lines and rouletted decoration, a plain-rim and a grooved-rim dish, a bifid, flange rim bowl, some everted-rim jars, a lid-seated jar as Roxby type A, a rolled-over rim jar similar in form to the wide-mouthed jars with rolled-over rims of the third and fourth centuries, a flask, a lid, a small handle belonging to a small beaker or jar and rusticated sherds with linear and nodular rustication. Darling suggests rusticated ware may go out of use by AD 130/40 (Darling 1984, 83, nos 50 and 52). The date range indicated by the forms is weighted towards the late second to third century but includes small numbers of second and possibly fourth century types also such as the rusticated ware and the

rolled-rim jar respectively. Such a dating would agree with the accepted dating of second to third century for Parisian ware in Humberside and around Market Rasen (Elsdon 1982a, 23-4; Gregory and Samuels 1996, 519) to which group this fabric approximates and raises the possibility of that fabric group also being used to make plain forms. As a group Parisian ware is defined by its distinctive decoration, not by its fabric. Indeed, coarser sandy wares similar to Roxby and Dragonby kiln products were noted by Rigby and Stead (Stead 1976, 181). It seems likely, therefore, that the fabrics used to make Parisian ware may have also been used to make other plain, fine wares and may have continued in use beyond the date range suggested by stratified Parisian ware. A similar situation has been recognised elsewhere, with London ware for example (Marsh and Tyers 1978, 536). Group GRA2 is a range of fabrics rather than a specific fabric but the range of forms and similarity to Parisian ware does highlight the possibility of a range of grey finewares current alongside Parisian ware in the second and third centuries; a possibility which merit further study.

GRA3: Grey with white-grey core. Hard with smooth feel and slightly conchoidal fracture. Moderate, well-sorted, fine clear, rather angular quartz; rare, medium-sized, rounded brown iron oxides. CLAU LEG? P120.

Few forms were identified, only a beaker body sherd, simple everted rim, narrow-necked jar and a bowl with moulded rim. Compares well with vessel from Lincoln dated c. AD 60-90 (Webster 1949, fig.11 no, 21 in legionary group; Darling 1981, fig. 23.2 nos 20-21 in red slip ware).

GRA6: Grey with grey core and buff margins. Soft with smooth feel and fracture. Rare, fine, sub-angular quartz; sparse, well-sorted, fine mica. Tomber and Dore 1998 LMR FR, NLM PART. P55 and 60.

This group includes Parisian ware forms and is possibly Elsdon's fabric 2 (Elsdon 1982a). Some sherds included here, however, may originally have had darker surfaces and be GRA7. Forms: flat and bead-rim dishes, carinated bowl, flanged bowl, folded beaker, flared rim jar and flask (Elsdon 1982a, types 3 and 4) (as nos 36, 50 and 55). Sherds with simple comb stamped decoration.

GRA7: Grey with black exterior surface. Soft with sandy feel and finely irregular fracture. Rare, fine, sub-angular quartz; rare, well-sorted, fine mica. Parisian ware, originally with burnished black surfaces. Possibly Elsdon 1982a fabric 1. Tomber and Dore 1998 LMR FR, NLM PART. P51, 53, 126 and 138.

Forms: grooved-rim dish, bowl/dishes with triangular and bead rims, a bifid flange presumably from a bowl, a sherd with stamped zigzag design and triple cordons, rouletted beaker, Castor box copy, rouletted carinated bowl (Elsdon 1982a, form 2), long-necked beaker with plain and grooved/bead rim (nos 36, 51 and 53), flared rim jar with rouletted decoration (Elsdon 1982a, form 3), an Elsdon type 2 bowl with block and triangular stamped decoration and a sherd with block decoration similar to examples from Old Sleaford, Sapperton and Mablethorpe, belonging to Elsdon's earlier group, late first to early second century (Elsdon 1982a, fig. 6 A6). The forms belong principally to Elsdon's late group, dated second to early third century, with one stamped early sherd.

GRA8: Cream with grey exterior surface. Hard with smooth feel and finely irregular fracture. Rare, fine, rounded, quartz; moderate, well-sorted, fine, silver mica; rare, medium-sized, angular buff, grog or argillaceous rock fragment of similar composition with fine quartz and mica. CLAU GFIN.

No forms identified; one body sherd with single groove.

GRA9: Light grey with darker grey core. Soft with smooth feel and fracture. Moderate, fairly well-sorted, fine, platey shell; moderate, ill-sorted, medium to coarse, angular, grey grog; rare, well-sorted, fine, rounded quartz.

No forms identified; one burnished sherd.

GRA10: Pale grey smooth. Hard with smooth fracture and feel. Subvisible quartz and sparse, coarse to fine mica present. Unlike the main North Lincs fabrics but similar to NLM PARTNWL from Roxby. P129.

Forms: bowl with bifid flanged rim, jar with acute lattice burnish, rouletted body sherds, carinated bowls with everted rims, indented beakers, roughcast beakers, rusticated ware, a narrow-mouthed flask with cupped rim and decorated externally with a burnished wavy line, similar to those made in the Parisian ware industry at Doncaster, and sherds with impressed and stabbed decoration. The forms give a date range in the second century, probably in the Hadrianic to Antonine period.

GRA11: This is similar to East Yorkshire late fine greywares. Tomber and Dore 1998 HSM RE, NLM EYGR.

Forms: sherds from two wide-mouthed jars were identified and a sherd from the body of a flanged bowl probably copying a Drag 38 bowl and of late third to fourth century date. The forms support a third to fourth century date range.

GRB1: Greywares. A group of grey fabrics tempered with moderate quantities of medium-sized quartz not otherwise subdivided, due to the endless variations in the attributes and impossibility of either consistently identifying subgroups or identifying their sources. During the cataloguing of the assemblage from the British Gas fieldwalking programme, this code was used for all medium greywares not assigned to GRB2, 4 and 5. During the later project a greater attempt was made to classify this group and it may be concluded that most of the GRB1 group were equivalent to the large GRB7 group described below. NLM GREY. P3,18-30, 32, 34-5, 37,39-44, 48-9, 56, 58-9,61, 63-4, 67-8, 71-5, 77-81, 84, 86, 88-91, 93-5.

Forms: extensive range of forms and decoration. The straight-sided bowls and dishes were predominantly plain-rim forms with rather fewer examples of grooved-, flat-, bead-, triangular-, inturned rim, grooved flat rim and developed flanged. These types are fairly common in the local kilns such as at Market Rasen, dated c. AD 150-200 (Samuels 1983, 688), and Claxby, dated to the late third century, but contrast with the common types at the Antonine kilns at Roxby (Bryant 1977, fig. 4; Stead 1976, fig. 68 no. 68), where a shallow dish with thickened rim is made (as P25) and at Dragonby where this shallow dish and dishes with externally thickened rims (similar to P23) predominate in the second and early third centuries. At Dragonby the dog-dish form is not common until horizon III-IV, in the third century. It is rare in the Antonine and Severan deposits at Winterton but is well represented in the late third to fourth century kiln at Messingham (May 1996, 519, 549, 556; Stead 1976, fig. 80 no. 27 and fig. 85 no. 133; Stead 1976, fig.72 nos 47-50).

There were also two elaborately moulded flanged dishes. One has a groove near the tip with and the area between is decorated with small notches, P24. It compares with Swanpool D14-18 and Messingham type 3, both given a fourth century date, and was also found at Linwood Warren, for which a third or fourth century date is suggested (Webster and Booth 1947; Stead 1976, fig. 73; Samuels 1983, fig. 188 no. 46). The other was a flanged bowl with grooved flange giving stepped effect (P28). Its rim diameter was only 14cm so it could be a narrow-necked jar similar to Messingham form E and dating to the late-third to fourth century (Stead 1976, fig. 88 no. 183). One dog-dish was very small, perhaps a miniature (P30), and an additional plain base sherd from a miniature pot was identified.

Only a small number sherds came from bowl forms other than the straight-sided type, no more than ten of each type. These comprised carinated and cordoned bowls, developed from the late Iron Age types (P32). These date from the mid-first to the second century (May 1996, 415 group 10). In Lincolnshire this type loses its cordons in the Roman period and becomes the common carinated jar or beaker (P26). Darling suggests the proportion of the neck to body may be chronologically significant, the longer necked examples being dated later (May 1996, 520; Darling 1984, no. 94, dated Flavian to Antonine; Stead 1976, fig.76, nos 30-1; fig. 80, no. 25; fig. 85, no. 112; fig. 87, no. 152, in a mid-third century deposit; Darling 1984, 89).

Six examples of a carinated bowl with flat rim were identified. These are clearly related to reeded rim bowls but are rare in Lincolnshire (cf. Darling 1984, 83). Only one true reeded-rim bowl was identified of a type generally dated Flavian to Hadrianic (Gillam 1970, 217, dated AD 110-30) (P37). Several flanged bowls were found and these were in three forms: a hemispherical bowl with flange just below the rim, an imitation Drag. 38 and a small flanged bowl with a grooved rim (P34, 38 and 39-40). The first example is similar in form to Hadrianic-Antonine forms at Derby and can be compared to an example from Roxby (Dool *et al*. 1985, fig. 40 no. 36; Stead 1976, fig. 68 no. 70) also given an Antonine date range. The imitation Drag. 38s would generally be dated in the fourth century but are known in an earlier tradition at Market Rasen in Parisian ware (cf. Darling 1977, nos 35-6; Samuels 1983, fig. 178 no. 37). The small bowl with plain or grooved flange can also be paralleled at Market Rasen and at Lincoln (Samuels 1983, fig. 178 no. 34; cf. Darling 1984, fig. 15 no. 45 from Antonine clearance levels below the rampart, given a Flavian to Antonine date with reference to similar material from Brough-on-Humber, Winterton and Old Winteringham). Eight sherds of a shallow bowl form with flaring bifid rim were identified and compare with Roxby form S, dated Flavian to Antonine, but this form was also found at Market Rasen (Stead 1976; Samuels 1983, fig. 178 no. 40).

The dish and bowl repertoire was supplemented in the first and second century by small numbers of greyware deep bowls with bead or club rims (P 41) developed from the Iron Age and early Roman shell-tempered jars and bowls (see under CTB1 and GTA8/10). These appear to have been superceded by wide-mouthed jars with rolled-out rims by the third century. The wide-mouthed jars are part of a distinctive Midlands class of vessel ranging from the large, bucket-like jars from the Doncaster and Trentside kilns to the S-shaped profile of jars from Lincolnshire and the East Midlands burnished ware jars (Oswald 1937, nos 96-119; Buckland *et al*. 1980, 161, type Hc and d; Todd 1968b, nos 1-3). The large, hammerhead-rim jars are very similar to examples found in north Nottinghamshire and this class of wide-mouthed jar seems to follow a similar pattern of typological development in Lincolnshire, north Nottinghamshire and South Yorkshire until the third century when in Lincolnshire the bucket-shaped jars stop in preference to the S-shaped profile while in South Yorkshire and North Nottinghamshire both types are found throughout the fourth century (see Buckland *et al*. 1980, 161).

Study of the fragments of everted-rim, wide-mouthed jars distinguished two forms. The first had a sharply everted rim (P43) which can be compared with Roxby type F, appearing in early Antonine deposits at Winterton but apparently being replaced by a larger version with a longer, thickened everted rim by the mid-third century (Stead 1976, fig. 79 no. 4, figs. 81 nos 52-5 and 84 no. 11 compared with fig. 87 no. 150). The second, with an everted, hooked-over rim (no. 44), can be compared with those from Winterton and products of fourth century kilns at Thealby and Messingham (Winterton, Stead 1976, fig. 87 no. 150; Messingham, Stead 1976, figs 69 nos 1-4 and 71 nos 16-24). The bowls at Market Rasen seem transitional in form while those from the late third century kiln at Claxby compare better with the later forms (Market Rasen, Samuels 1983, fig. 181 nos 97-100; Claxby, Bryant

1977, fig. 4 no. 1). Examples from the kilns at Barnetby Top and Linwood Warren seem rather larger and heavier, as are those from the late fourth century group from Lincoln (Barnetby Top, Samuels 1979, fig. 5 nos 1-13; Linwood Warren, Samuels 1983, fig. 187 nos 34-9; Lincoln, Darling 1977, fig. 7 nos 133-4).

Only two other deep bowl forms were found: a bead-rim, deep, straight-sided bowl (P 41), similar to the hammerhead-rim form but closely comparable to the bucket-type bowls made at Torksey, Lincs. and Doncaster kilns from the second century until the fourth with little typological development (Oswald 1937, nos 96-119; Buckland *et al*. 1980, 161, type Hc and d); and an inturned bead with flange bowl, including one with a frilled flange (P 42), dated to the fourth century, present in kiln groups from Swanpool (Webster and Booth 1947, D13-23) and Messingham (Stead 1976, fig. 73 nos 3-9) and a late fourth century group from Lincoln (Darling 1977, nos 43-50)).

In total around 80 sherds of beaker form were identified (Fig. 6.6). The complete forms were difficult to reconstruct since some forms could be identified by body sherds but shared their rim form with other beaker types. Short, everted rims were common. Also two flared-rim beakers were identified, perhaps from a Parisian-type form, and several long-necked beakers with plain rim, small bead rim or short, everted rim.

Several types date to the second century, including the second to early third century 'Parisian' type and the simple, everted-rim globular beaker, a shape more common in the first and second century. Many folded beaker or jar body sherds were identified. Some of these may belong to an everted-rim jar form similar to the folded 'barrel' jars at Dragonby. Gregory suggests these belong to his horizon III (Gregory and Samuels 1996, 517 and 520), with a date range of early second to early third century. Folded jars or beakers with short, everted rims are known from kilns at Market Rasen, Roxby, Little London, Lea, and Newton on Trent (Market Rasen, Samuels 1983, fig. 179 nos 62-3 dated AD 150-200; Roxby, Stead 1976, type W, dated Antonine to Severan; Little London, Oswald 1937, nos 58-60, kiln dated to the third century but form given Antonine date; Lea and Newton-on-Trent, Field and Palmer-Brown 1991, fig. 16 nos 29-31 and fig. 17 nos 12 and 15 dated to the second century). Of these kiln products, examples from the second century kilns of Lea and Newton-on-Trent, the third century kiln at Little London, and some barrel jars at Dragonby, have thumb indentations, unlike the folded sherds from the Mount Pleasant site.

Therefore, although some of the greyware folded body sherds, like the colour-coated examples, may belong to the third century, only colour-coated folded body sherds are included in the distribution of late folded beakers along with long-necked beakers.

Some of the long-necked beaker rims may belong with the common folded beaker body sherds and some may be of the long-necked globular beaker group. These forms belong to the group of third to fourth century types with long necks and globular or folded bodies (cf. colour-coated versions, Howe *et al*. 1980, nos 40-43 and 49-50).

Four sherds were identified as deriving from flagons. Three had ring necks and belonged to the second century group of ring-necked flagons and one had a rebated rim similar to those of the late second and third century (P54). One possible flask was identified, with simple out-curving rim.

A wide range of jars was found but only a handful were very common and many were represented by small rim sherds only, making identification difficult. The common types comprised a group of fine everted-rim jars (P 72-80), jars similar to Roxby forms A-D (P 81-88), a medium-necked jar with rolled-over rim (P 90), and a large number of rusticated body sherds (P 89), many of which would have had everted rims.

The everted-rim jars had a variety of rim detail and were probably contemporary with Roxby type A-D in the late second and early third century, when Dales ware forms did not yet predominate. Similar forms were present at Market Rasen kilns dated to the late second century but also at Swanpool where a long date range is favoured, from the first to the fourth century (Market Rasen, Samuels 1983, fig. 178 nos 53-4; 179 nos 55-7; Swanpool, Webster and Booth 1947, C23-31). Some (P74, 75, 7-9) resemble second and third century BB1 forms and can be compared with examples from the upper defences at Lincoln in a third century context (Darling 1984, fig. 17 nos 115-6). However, none of these parallels are very precise, nor are they very numerous. A date range in the second century is favoured with some continuation into the third before being superseded by Dales ware. This group was considered rather heterogeneous and less useful than other jars with more distinct rim forms.

Roxby B-C are given a date range in the second to early third century while type A, the everted rim with internal groove (P85-8), was found in abundance in Antonine deposits at Winterton and Brough-on-Humber but was absent at Dragonby (Stead 1976, fig. 84 nos 105-6; 147). The form was also made at kilns at North Hykeham, Lincoln and Market Rasen, dated c. AD 70-120 and 150-200 respectively. The form is also found in a grog-tempered fabric and the examples so tempered elsewhere suggest a Hadrianic start (see GTA8).

The rolled-over rim jar (P90) may be a small variant of the common wide-mouthed bowl in the third and fourth century. It can be compared with vessels from the kilns at Barnetby Top, initially dated to the first half of the fourth century but re-dated to the late third century on account of the Dales ware type, smaller jars/beakers and absence of flanged bowls (Samuels 1979, fig. 5 no. 5, 770). A third or fourth century date for the form is suggested here. The last type, rusticated jars, has been fully dealt with by others (Darling 1984, 83; Stead 1976, 147) and dated to the late first to second century. The kilns at Market Rasen are a likely source.

Several jar types are present in small numbers: greyware versions of the 'native' jars, which were superseded by everted-rim types by the early second century (Darling 1984, 89, by BB1 jars; May 1996, fig. 20.1, by barrel jars; Stead 1976, 153-60, by Roxby type jars); a cupped rim jar (P 91) similar to Derbyshire ware jars rather than the lid-seated jars of Lincolnshire (cf. Todd 1968b, 202; these may be related to similar greyware jars made in the South Yorkshire kilns around Doncaster and a third to fourth century date is suggested at Doncaster (Buckland *et al*. 1980 158-9)); nine examples of the club-rim jars developed from the Iron Age forms and continuing until the end of the second century or early third century (see above); and a double, lid-seated jar (P 92) similar to Swanpool type H, dated to the late fourth century and made at Linwood Warren (Darling 1977, 31; Samuels 1983, fig. 187, nos 24-5).

A group of narrow-necked jars was also represented amongst the assemblage. These range from simple everted rim forms to the more elaborate forms with rebated, flanged, frilled, and collared rims (P56-71) found at Swanpool, some of which are also found in more local kilns at Market Rasen, Claxby and Messingham (Webster and Booth 1947, C40-8; Market Rasen, Samuels 1983, 180 no. 92 dated c. AD 150-200, but with some third century types; Claxby, Bryant 1977, nos 3 and 11 dated late third century; Messingham, Stead 1976, fig. 88 no. 183 dated fourth century). Likewise, in the stratified deposits, the elaborate forms are found principally in third to fourth century deposits (Stead 1976, nos 183 and 185 and May 1996, no. 1275). This elaborate group should be dated to the third and fourth centuries while the simple forms may be earlier in the second or even late first.

Only two storage jar forms (Fig. 6.2) were identified, implying this function was taken over by some other container in the Roman period. A relatively large quantity of lid sherds (65 sherds) was found, perhaps connected to the use of the lid-seated jars of Roxby type A in the second century and the continuing use of lid-seated jars in the third and fourth centuries in the form of Dales ware jars, albeit in a different fabric.

GRB2: Grey. Hard with slightly rough feel and finely irregular fracture. Moderate, well-sorted, medium-sized, sub-angular quartz; sparse, ill-sorted, coarse to fine, rounded, calcareous inclusions, perhaps chalk; sparse, fine, rounded brown inclusions. Perhaps a similar fabric from kilns at Linwood Warren, Lincs. (Samuels 1983, 724; Wilson and Wilson 2007) but in brown-grey colour. NLM GREY. P83.

This group may include more than one sub-fabric. Forms: rusticated jar, lid-seated jar Roxby type A, a hooked-rim, wide-mouthed jar, three everted-rim jars as Roxby B or C, a club-rim jar, an everted-rim, narrow-necked jar, plain-rim dish and developed flanged bowl. The range of forms suggests a date in the second century with the wide-mouthed jar and developed flanged bowl type extending into the later third or fourth (see under GRB1 for details of form dating).

GRB4A: A dark grey with grey core and buff/brown margins. Hard with sandy feel and hackly fracture. Abundant, well-sorted, medium, sub-angular quartz; rare medium rounded white calcareous inclusion. Some mica. Equivalent to GRB4A. Possibly NLM GREYB.

Very similar to BB1 in fabric but not in form. Many of the greyware forms were made in this fabric with an overwhelming emphasis on types which were common in the second century but with some later vessels. Forms included plain-, grooved-, inturned-, flat-, and bead-rim dishes, grooved flat-rim and developed flanged bowls, everted-rim jars, Roxby types A-D, a small bead-rim jar, a rusticated sherd and lids, suggesting the fabric may also be dated thus (see under GRB1 for dating evidence for forms).

GRB4B: Grey with buff margins and grey core. Sometimes grey/brown with brown margins. Sandy, gritty feel and hackly fracture. Abundant-moderate, medium, sub-angular and sub-rounded quartz; sparse fine to medium white calcareous inclusions; and rounded red/brown inclusions. Smaller quartz than GRB4A. cf. NLM NWLSA. P116, 121, 122, 136 and 137.

Forms: butt beaker sherds, dishes with inturned rims, plain-rim dishes/platters, cordoned, carinated bowls, plain concave body carinated bowls, bowl with upright rim and flange, bifid flanged rim bowl, everted-rim jars, an indented jar, rusticated jars, an incomplete rim from a jar with flat lid seated rim similar to Dales ware, lugged jars, and everted-rim storage jar and bifid rim lids with wavy line burnish. Decoration included burnished acute lattice, stabbed decoration, burnishing, cordons, wavy line burnish and rouletting. In general the fabric related to 'transitional' wares in the Midlands and the forms suggested a chronological emphasis in the later first and second century.

GRB4C: Dark grey/brown. Hard with smooth feel and hackly fracture. Abundant, medium sub-rounded and rounded, medium/coarse quartz; sparse rounded medium ironstone. Micaceous. Overlaps with both GRB4B and GTA8 - ?EAG GRB4. ?NLM SFGROG. P132.

Forms: dishes with inturned rims, everted-rim jars, a jar with rim formed by folding over body resulting in internal overhung similar to those in fabrics CTB1 and GTA8, rusticated jars, body sherds with rouletting, burnished wavy lines and acute lattice. The types made suggest a late first to second century date range.

GRB5: Light grey. Hard with rough feel and irregular fracture. Moderate, well-sorted, medium-sized, sub-angular, clear and opaque quartz; sparse, medium-sized, rounded, white, calcareous inclusions; moderate, ill-sorted, fine to coarse, rounded, black, shiny inclusions - iron oxides. NLM GREY.
No forms identified.
GRB6: Medium-light grey. Hard with slightly rough feel and irregular fracture. Moderate sub-rounded and sub-angular quartz, rare rounded flint? and rounded grey inclusions. NLM SYGR or GREY. P117.
Forms: flange of bowl or mortarium, plain-rim dish, dish with inturned rim, rolled-rim bowl, lipped-rim dish/bowl, body sherds with acute lattice burnish, bead-rim deep bowl and everted-rim wide-mouthed jars, indented jar/beaker, rusticated jars, lid-seated Roxby type A jar. The forms indicate a second to third century date range. This group is not unlike some of the second to third century wares at the Doncaster kilns.
GRB7: Undifferentiated GRB7 group from fieldwalking projects; includes GRB7A, B, C and D. NLM GREY.
Forms: dishes with plain, inturned and grooved rims, bowls/dishes with triangular, flat, lipped, hooked, bead rims and bowls with flat grooved rims and developed flanged bowls, carinated bowls, flanged bowls, bowls with bifid flange rims, cheesepresses, colanders, wide-mouthed jars with everted and hooked rims and heavy bead rims and inturned flanged bowl, everted-rim jar, beaker with long neck, rusticated jars, lid-seated jars, lugged jars with everted rims and everted-rim narrow necked jars. This group dates from the late first to late fourth century but with late second to third century types predominating.
GRB7A: Medium-light grey often with lighter margins. Hard fairly smooth with slightly irregular fracture. Moderate to sparse medium sub-angular quartz and some black medium/fine rounded inclusions. More like the North Lincs Dragendorff types. Finer than GRB6. NLM GREY.
Forms: carinated bowls, indented jar/beaker, rusticated jars, everted-rim jars, plain-rim dish.
GRB7B: Medium grey with pale margins and darker grey core. Hard and sandy feel. Irregular fracture with moderate medium sub-angular quartz. NLM GREY, P118-9 and 125.
Forms: plain- and grooved-rim dishes, triangular and bead-rim bowl/dishes, developed flanged bowl, bifid flanged bowl, collared bowl, wide-mouthed jars with everted and bead rims, indented jar/beakers, neckless jars with everted rims and rusticated jars, everted-rim jars and everted-rim narrow necked jars
GRB7C: Same as above, with brown orange core.
GRB7D: Medium grey with buff margins and grey core. Hard, with fairly smooth feel and fracture. Moderate to abundant, medium, well-sorted sub-angular and sub-rounded quartz. NLM GREY.
Forms: Wide-mouthed jars with everted and hooked rims.
GRB8: Fairly dark grey throughout. Hard and smooth with finely irregular fracture. Abundant, medium, well-sorted sub-angular quartz. NLM GREY.
Forms: plain-rim dish, developed flanged bowl, wide-mouthed jar with everted and hooked rims and narrow-mouthed jar with rebated rim.
GRB9: Medium grey. Hard, medium, fairly smooth. Moderate, medium, sub-angular quartz and sparse, ill-sorted coarse round ferrous inclusions. Possibly NLM NWLGR, Dragonby fabric?
Form: carinated bowl.
GRB10: Medium grey. Hard, coarse feel and irregular fracture. Moderate, sub-angular quartz and sparse, coarse, rounded ferrous inclusions. Similar to Roxby sample. Possible variant of NLM ROX GR. P129.
GRB11: As GRB7 but with rounded black inclusions. Similar to sample from Roxby in NLM fabric series (AV sample V3773) Possibly NLM ROX GR.
Forms: grooved-rim dish, carinated bowl and everted-rim wide-mouthed jar.
GRB12: Grey. Hard and gritty feel. Abundant, medium, sub-angular and rounded quartz. NLM GREY.
Forms: bead-rim deep bowl, colander, everted-rim storage jar, cordoned carinated bowl and rusticated ware. The fabric is similar to Trent Valley greywares and this may be a late first to second century ware.
GRB13: Black with grey core and brown margins. Hard with smooth feel and fracture. Moderate, fine quartz; sparse, medium, rounded quartz; and very coarse to coarse brown rounded inclusions, perhaps ironstone. Micaceous. NLM GREY.
Form: lipped-rim bowl, second to third century.
GRC1: Medium to light grey. Hard with rough feel and hackly fracture. Abundant, ill-sorted, medium to coarse sub-angular quartz; sparse, medium-sized, rounded, black iron oxides. NLM GRRO.
A small group comprising everted-rim jars, a club-rim jar, an everted-rim, wide-mouthed jar, and a storage jar, was identified and suggested a fairly early date range in the second or third century (see under GRB1 dating evidence for forms). The forms are common in North Lincolnshire but neither they nor the fabric could be attributed to a specific kiln.
GRC3: Dark grey, sometimes with light grey surface. Hard with rough feel and irregular fracture. Moderate, ill-sorted coarse to fine sub-angular quartz; sparse, well-sorted, coarse, angular quartzite; sparse, brown, iron oxide accretions on some of the coarse quartzite inclusions. Dales ware type fabric. CLAU LCOA? P9 and 92.
Forms: flat-rim dish, Dales ware type jar, double lid-seated jar (no. 92), and an unusual jar with flattened bead rim. This fabric compares with Darling's grit-tempered wares (Darling 1977, 31) which are dated to the third and fourth centuries. Darling notes that the fabrics of the double

lid-seated jars at Swanpool were very varied and it was not possible to distinguish Swanpool from non-Swanpool types by fabric. The production of double lid-seated jars at Linwood Warren and possibly Buslingthorpe raises the possibility of local production (Samuels 1983, fig. 184 no. 35). A late date is in keeping with the forms.
GRC4: Buff external surface, grey core, buff margin and dark grey internal surface. Hard with rough feel and hackly fracture. Abundant, ill-sorted, medium to coarse, sub-angular quartz. CLAU COAR.
Forms: storage jar and everted-rim, wide-mouthed jar.
GRC5: Grey. Hard with sandy feel and irregular fracture. Moderate, well-sorted, medium-sized, sub-angular quartz; sparse, coarse, sub-angular quartz. CLAU COAR.
Forms: flat-rim dish and carinated beaker, both most common in the second century.
GRC6: Medium grey. Hard with a slightly rough feel. Sparse coarse crystalline quartz; angular, black and white quartz; rounded pebbles; angular vesicles; background of fine quartz. NLM GRRO.
Forms: blunt ended everted rim and a storage jar with incomplete rim fragment of what may be a lid-seated jar.
GRC7?: Grey/buff ware. Rough feel and irregular fracture. Protruding coarse rounded quartz and flint on surface. Moderate, ill-sorted, coarse to medium, sub-rounded and rounded quartz and rare, ill-sorted, rounded inclusions including black inclusions, flint and grey inclusions. NLM GRRO.
Forms: everted-, hooked- and lid-seated rim jars and a wide-mouthed jar with hooked rim. Perhaps second to third century.
GRC8: Grey with brown core. Hard and fairly smooth. Moderate, ill-sorted coarse and medium rounded inclusions, comprising ironstone, quartz and very coarse rounded quartz, perhaps greenstone and ironstone. NLM GRRO.
Forms: everted- and lid-seated rim jars. ? Second century.
GRC9: Grey with dark grey surfaces. Hard and gritty. Abundant, coarse, sub-rounded and sub-angular quartz; sparse very coarse sub-rounded grey inclusions - siltstone?; and rounded, coarse ferrous inclusions.
Forms: base of deep bowl or storage jar and ?tile fragments.

GTA ware

It is often difficult to distinguish grog inclusions from clay pellets, clay temper and argillaceous rock inclusions. An attempt is made here on the basis of their shape, roundness, the nature of their boundaries with the clay matrix, their inclusions and colour. Undoubtedly some sherds may have been misidentified, particularly in the case of fabrics GTA8 and GTA10 where the same forms were produced and some overlap in fabric composition is evident at the extremes of each fabric definition. This problem has been recognised elsewhere (Whitbread 1986) and even under thin section some examples of grog and argillaceous rock inclusions cannot be distinguished. The certainty of identification is noted below. Darling suggests grog-tempered wares were not common at Lincoln until legionary and later contexts (Darling and Jones 1988, 33-4). The forms and fabric relationships observed here suggest the grog-tempered wares can be divided further with significant results.
GTA5: Dark brown to black with buff or orange margins and grey to buff core. Hard with rather leathery feel and very irregular fracture. Moderate, ill-sorted, fine to coarse, angular, buff inclusions - clearly grog; rare, fine, sub-angular quartz. NLM IAGROG. P57.
Forms: bead-rim storage jar (no. 17), everted-rim jar, deep club rim bowl and jar with upright rim and vestigial neck cordon similar to Nottinghamshire jar type dating to the LPRIA (Leary 2006). Probably early Roman but uncommon.
GTA8: Buff or grey. Hard with slightly grainy feel and irregular fracture. Moderate, well-sorted, medium-sized, sub-angular, opaque, quartz; sparse, ill-sorted, fine to medium-sized, white, laminar inclusions; sparse, well-sorted, coarse, sub-angular grey and buff argillaceous inclusions. These latter also include sub-angular grey argillaceous inclusions so may well be grog. Some of the pots had a bumpy surface, a characteristic of grog-tempered pottery. Fabrics GTA8 and GTA10 did overlap to a small degree apart from the grog or clay pellet inclusions and, in some cases, sherds may have been given the wrong code since it was sometimes impossible to decide what the argillaceous inclusion was. NLM IAGROG and SFGROG. P6-7, 10, 12, 13, 15, 62, 82, 85, 131 and 133.
Forms: predominantly used to make everted-rim jars, Roxby type A-C and club-rim jars, with smaller numbers of 'native' bead or everted-rim jars, lugged jars and storage jars. GTA8 is clearly included in Darling's grog-tempered ware 103 and many of her 'native' jars are found in this fabric (Darling 1984, nos 72-4, 88-9). The evidence from Lincoln suggests a post-conquest date for this fabric group (see above) and a mid-first century inception is in keeping with these forms which continue well into the second century. Similarly the club-rim form is dated from the mid-first century to the Antonine period (see CTB1) and although the examples at Old Winteringham and Winterton are for the most part recorded as shell-tempered, examples in a shell and grog-tempered fabric have been examined by the author in this form associated with mid- to late second century pottery types (Skitter-Hatton pipeline site 247, Bonner and Griffiths 1994).
The later Roxby forms in greyware have been dated to the second to early third century. Darling has noted the rebated-rim form in fabric 103 at Lincoln and suggests the continuation of the "pimply version of fabric 103" into the Hadrianic-Antonine period (Darling 1984, 89, see no. 58).

The forms give a first to second century date for this fabric and link it with GTA10 which has a similar range.

GTA9: Orange to buff with grey core. Soft with rather laminar fracture. Moderate, ill-sorted, medium to coarse vesicles and white laminar inclusions; moderate, fairly well-sorted, coarse, angular grey and buff grog; sparse, medium-sized, rounded quartz. NLM IAGROG.

Forms: 'native', stubby, everted-rim jar, club-rim jar, and storage jar (as nos 8, 12 and 16-7). This is a small group with nothing which need date later than the first century (see GTA8 for dating).

GTA10: Light grey. Hard with slightly rough feel and irregular fracture. Moderate, well-sorted, medium-sized, sub-angular quartz; sparse, ill-sorted, coarse to fine, rounded grey and buff clay pellets; sparse, ill-sorted, medium to coarse, rounded black iron oxides. Very like GTA8 except for colour and clay pellets. NLM SFGROG. P65, 70 and 78.

Forms: the same as GTA8 with the addition of a plain- and flat-rim dish; three late wide-mouthed jars with everted and hooked rims; a narrow-necked jar with bifid rim internally grooved to form slight lid-seating (cf. at Swanpool, Webster and Booth 1947, C43), (no. 70), and a narrow-necked jar with an extremely heavy rim and clumsy collar and internal groove, no. 65, both of later third and fourth century type.

A lid-seated rim jar in greyware from Lincoln is described as grey with quartz and "greyish inclusions, perhaps grog" (Darling 1984, no. 58, a description applicable to fabric GTA10) and dated Hadrianic-Antonine. The additional forms suggest an extension of the date range of GTA8 into the third or fourth century. This may reflect the change in fabric which in turn may relate to the increasing technological advances in temperature control (see below).

GTA11: Grey to buff. Hard with irregular fracture and rough feel. Abundant, ill-sorted, fine to very coarse, angular, buff inclusions being grog; rare, fine, sub-angular quartz. NLM IAGROG.

Form: storage jars. Possibly first to second century.

GTA12: Grey with orange wash. Very hard with rough feel and hackly fracture. Sparse, well-sorted, medium, sub-angular quartz; rare, medium-sized, rounded, black inclusions; sparse to moderate, ill-sorted, coarse to medium-sized, angular, grey inclusions - probably grog. NLM IAGROG.

No forms discernible.

GTA13: Grey. Very hard with rough feel and irregular fracture. Moderate, well-sorted, medium-sized, sub-angular quartz; moderate to sparse, ill-sorted, coarse, rounded light grey inclusions - probably clay pellets. NLM IAGROG.

Forms: Roxby A-C jars, club-rim jar, and a distinctive bead-rim jar with sharply cut channel under the rim. Forms suggest a second century date range, perhaps a variant of GTA10.

GTA14: Grey-brown-orange. Soft with smooth feel and irregular fracture. Moderate, ill-sorted, medium to fine, angular and sub-angular, brown and buff argillaceous inclusions - possibly grog; sparse, fine, sub-angular quartz; sparse, medium-sized, shell; rare, coarse flint. CLAU GROGF. P4, 46, 106-8.

Forms: cordoned jar (cf. Hawkes and Hull 1947, no. 218), imitation butt beaker sherds with combed and rouletted decoration, small jar or beaker with neatly everted rim, and storage jar with out-curving rim. The forms suggest a date in the first century AD.

M Mortaria

M1: White. Hard with smooth feel and irregular fracture. Moderate, well-sorted, fine, sub-angular quartz; sparse, ill-sorted, angular and rounded, black-brown inclusions. Coarse slag trituration grits c. 5mm. CLAU MORT. P99.

Form: Gillam form 245 (Gillam 1973).

M2: Cream with buff self-slip. Hard with smooth feel and finely irregular fracture. Sparse to moderate, well-sorted, fine, sub-angular quartz; sparse, ill-sorted, fine to medium-sized black-brown inclusions; sparse, well-sorted, fine, rounded, red inclusions. Few black trituration grits, 2-3mm. Probably Mancetter-Hartshill. Tomber and Dore 1998 MAH WH, CLAU MOMH, P101.

Form: Gillam form 254 (Gillam 1973).

M3: White. Hard with rough feel and hackly fracture. Abundant, well-sorted, medium-sized, sub-angular quartz. From the Verulamium region. Tomber and Dore 1998 VER WH, CLAU MOVR. P97.

M4: Buff with pale orange slip. Hard with smooth feel and finely irregular fracture. Moderate, well-sorted, fine, sub-angular quartz; spare to moderate, ill-sorted, fine to medium, platy, black inclusions; sparse, ill-sorted, fine to medium-sized, rounded, orange-brown inclusions. Abundant, black trituration grits, 2-6mm: slag. From the Nene Valley. Tomber and Dore 1998 LNV WH, CLAU MONV.

M5: Orange with grey core. Hard with sandy feel and irregular fracture. Moderate, well-sorted, medium-sized, rounded quartz; sparse, ill-sorted, medium to fine, rounded, brown inclusions. Coarse black trituration grits, 2-6mm. From Lincoln, potentially Swanpool. CLAU MOSPT. P98 and 100.

Forms: Gillam forms 278 and 282 (Gillam 1973).

M6: As M5 but with medium to coarse quartz and with greyish white slip. Tomber and Dore 1998 SWN WS, CLAU MOSPT.

Forms: Gillam 246 and 249 (Gillam 1973). P101.

M7: Buff with grey core. Hard with sandy feel and irregular fracture. Moderate, well-sorted, coarse to medium, sub-angular quartz; rare, ill-sorted, fine to coarse, rounded, brown inclusions. Ill-sorted, 2-6mm, black trituration grits: slag. Perhaps a variant of M5. Tomber and Dore 1998 SWN WS, CLAU MOSPT.

M8: Pink with cream core. Soft with smooth feel and fracture. Sparse, well-sorted, fine, rounded quartz; rare, ill-sorted, rounded brown and red inclusions; sparse, ill-sorted, fine to medium, rounded, white inclusions, non-reactive to acid. Coarse trituration grits, c. 2-4mm, comprising grog, quartz and what is perhaps sandstone. CLAU MORT.

M9: Buff. Hard with slightly rough feel and irregular fracture. Moderate, ill-sorted, fine to coarse, rounded, apparent limestone inclusions; moderate, well-sorted, medium-sized, rounded, quartz. Coarse black trituration grits, 2-6mm: slag. Tomber and Dore 1998 SWN WS, CLAU MOSPT?.

OA/B Oxidised wares

OAA1: Orange, sometimes with a grey core. Soft with slightly sandy feel and finely irregular fracture. Rare, well-sorted, fine, sub-angular quartz; rare, ill-sorted, medium to fine, rounded, brown iron oxides. Possibly oxidised Parisian ware. CLAU OXFIN.

Forms: everted-rim beaker as Parisian type 3 and a shallow bowl with flaring bifid rim, Roxby form S, dated Flavian to Antonine (Beaker, Elsdon 1982a; Roxby form S, Stead 1976). This fabric may date to the second to early third century as Parisian ware.

OAA2: Pinkish cream. Soft with smooth feel and finely irregular fracture. Sparse, well-sorted, fine, rounded, red iron oxides; sparse, well-sorted, very fine quartz; moderate, well-sorted, fine, platy, silver mica.

OAA3: Reddish orange. Soft with rather smooth feel and finely irregular fracture. Moderate, well-sorted, fine, sub-angular quartz; sparse, ill-sorted, fine to coarse, rounded, reddish brown iron oxides. CLAU OXFIN.

Forms: platter or shallow dish, carinated vessel, and everted-rim. No firm dating evidence.

OAA4: Orange with grey core. Hard, smooth with finely irregular fracture, similar to OAA3 but with grey core. Moderate, well-sorted, fine, sub-angular quartz; sparse, ill-sorted, fine to coarse, rounded, reddish brown iron oxides. Micaceous. ? NLM NWL OX.

OAA5: Orange with grey core. Slightly leathery feel, hard with finely irregular fracture. Abundant fine well sorted quartz and sparse fine rounded red/brown inclusions. Orange surfaces may be a slip. CLAU OXFIN.

OAB1: A general group of medium sand tempered orange-red-pink oxidised fabrics. P33, P38, P52, P103.

Forms: plain-rim dish, carinated bowl, bead-rim, hemispherical bowl possibly copying Drag. 37, flanged hemispherical bowl, Drag. 38 copy, long-necked beakers, and narrow-necked jar. This group may include several fabrics and, although it cannot be given an overall date range, it does seem to have been used predominantly for fine forms, perhaps tablewares, so can be seen as a functional grouping. LM MESOX and SPOX.

OAB2: Pale orange with grey core as FLB2 but no white slip. CLAU OX. P123.

Forms: plain-rim platter and plain flanged bowl, similar to those at Market Rasen kilns in the late second century (Samuels 1983, fig. 178 no. 34).

OBA1: Orange-buff with grey core. Soft with smooth feel and fracture. Sparse, well-sorted, medium-sized, sub-angular, quartz; rare, ill-sorted, fine to medium, rounded, brown inclusions. CLAU OXFIN.

OBB1: General group of medium sand tempered brown-buff oxidised fabrics. CLAU OX. P66.

Forms: flanged, straight-sided bowl, flanged, hemispherical bowl, colander, long-necked beaker, narrow-necked jug or flagon with bead rim and handle scar on neck (cf. double-handled greyware jug from Winterton dated early second century but little typological change between it and a fourth century example, Stead 1976, fig. 79 no. 1, cf. fig. 89 no. 187), Roxby type B jar, rusticated sherd, and ribbed handle. As OAB1 this group includes several fabrics and clearly includes fine and coarse ware forms.

OBC2: Buff to grey. Hard with sandy feel and irregular fracture. Moderate, ill-sorted, coarse to medium, sub-angular quartz; sparse, ill-sorted, coarse to medium rounded, black and brown iron oxides. CLAU OXC.

Forms: Roxby type A and C, and storage jar with out-curving rim. Possibly second to early third century.

OBC4: Buff. Hard with rough feel and hackly fracture. Abundant, ill-sorted, medium to very coarse, sub-angular quartz. CLAU OXC.

OBC5: Orange. Hard with rough feel and irregular fracture. Moderate, ill-sorted, medium to coarse, sub-angular quartz. CLAU OXC.

PQ Prehistoric quartz-tempered sherds

PQ3: Orange with buff interior. Soft with smooth feel and irregular fracture. Moderate, ill-sorted, coarse to fine, rounded-sub-angular quartz. CLAU IASA.

FG1: Buff with black interior. Soft with rough feel. Too small to obtain fresh fracture. Moderate, ill-sorted, coarse to medium, sub-angular flint; rare, medium-sized, rounded, quartz; sparse, ill-sorted, fine to medium-sized, rounded clay pellets or grog. Prehistoric, ? Bronze Age. CLAU FLIN.

TS Samian wares

The specific samian fabrics and sources present amongst the assemblages from the site are documented under the specialist reports on the samian ware.

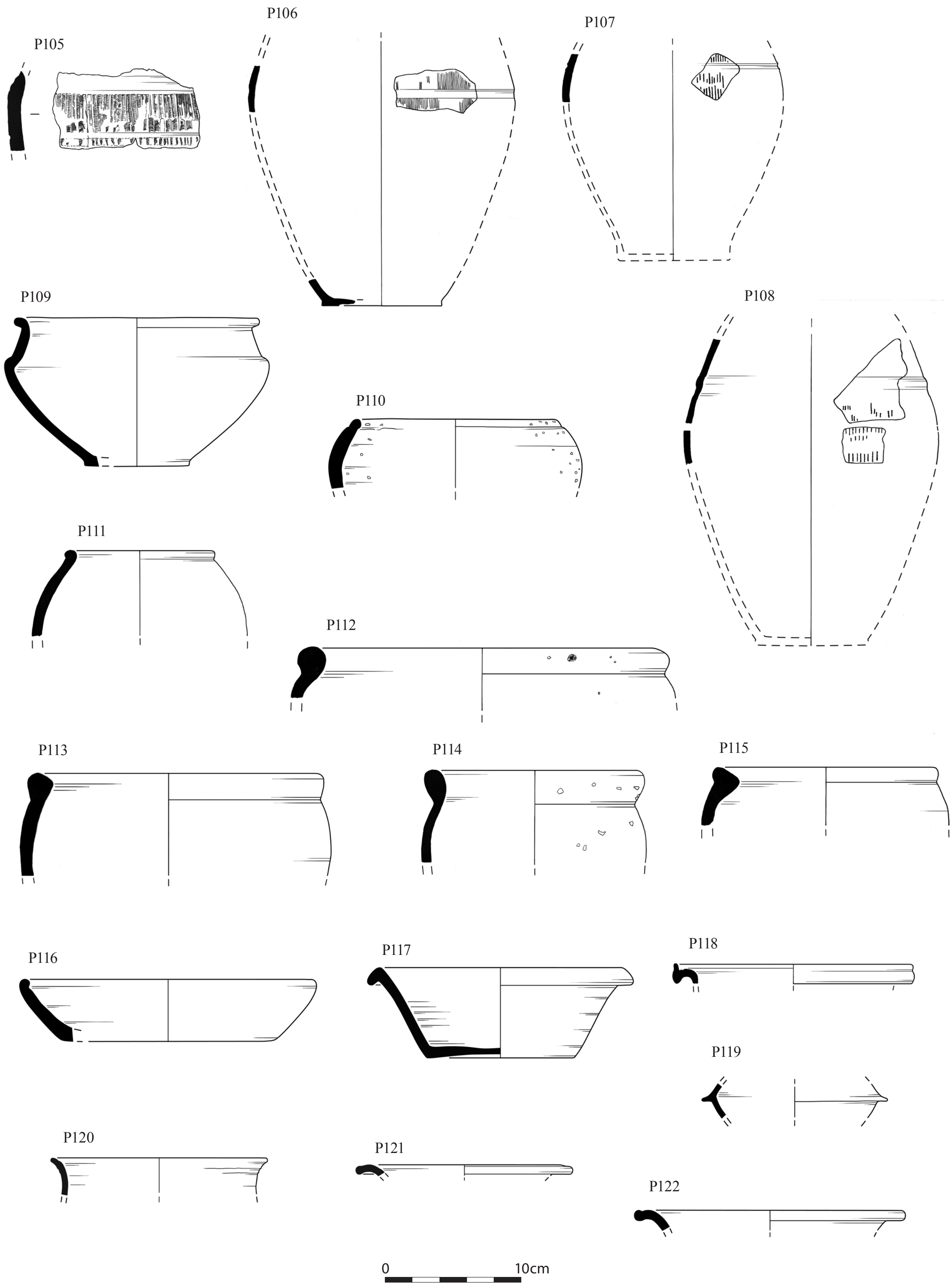


Figure 6.34 Selected pottery types from the excavations.

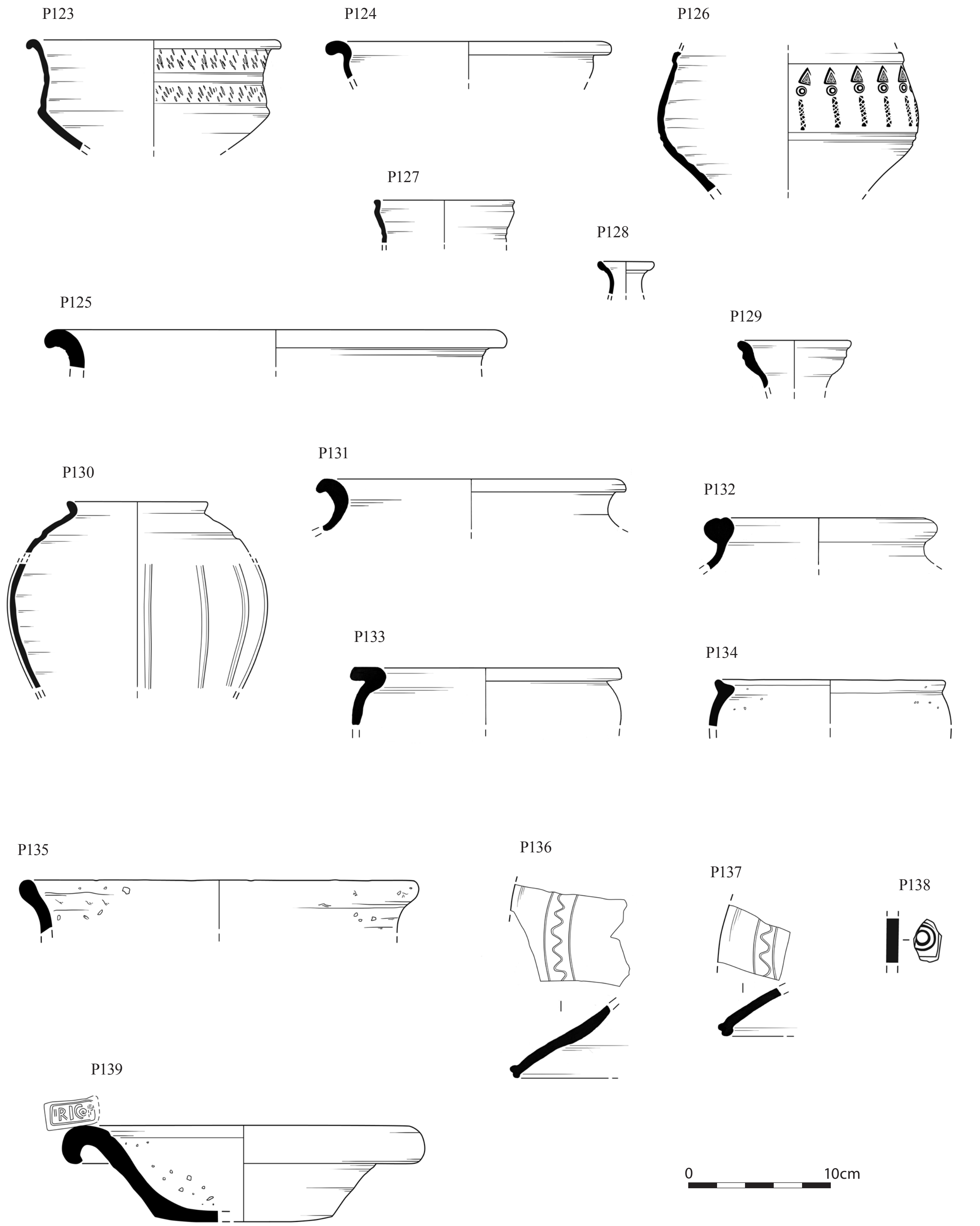


Figure 6.35 Selected pottery types from the excavations.

6.3 Catalogue of the Illustrated Pottery Types

Ruth Leary with Steven Willis

(The three and four digit numbers of the items specified at the end of each entry relate to the number allocated to the find by the British Gas archaeologists during the 1992-3 Skitter-Hatton survey).

From East Field:

Late Iron Age to early Romano-British pottery

P1. Orange-buff, shell-tempered body sherd with finger-nail impressions and grooved decoration. PRIA type. 575
P2. CTB6 plain-rim platter with internally off-set walls, copying imported platters and dating to the mid-first century AD (Rigby and Elsdon 1996, fig 12.1 nos 1510-12). 2631
P3. GRB1 butt beaker body sherd with buff margins. Decorated with vertical and oblique combed decoration below cordon formed by double groove. Possible comb-tip impressions above cordon. These appear at Dragonby in horizon 9, dated to the conquest period (Elsdon 1996, group 11). 8252
P4. GTA14 butt beaker body sherd with rounded, rectangular-toothed rouletting above flat cordon. Burnished on cordon. 8668
P5. CTB8 rim and body sherd of cordoned cup or bowl with traces of cordon outside upper body. Very abraded. These seem to belong to groups 4 and 10 at Dragonby from ceramic stage 8, suggesting a date in the early to mid-first century AD. 9668

Late Iron Age to mid-second century 'native' jar forms

P6. GTA8 bead-rim jar, flattened on top of rim. 2839
P7. GTA8 jar with rounded, upright rim. 7078
P8. CTB1 bead-rim jar, flattened on top of rim forming sharp junction with internal wall. 4381
P9. GRC3 jar with bead rim flattened internally. 1781
P10. GTA8 jar with chunky, everted rim. 2690
P11. CTB1 jar with square-sectioned everted rim. 8360
P12. GTA8 medium-necked jar with hammerhead rim and shoulder groove. Distinctive form with rim overlapping and forming sharp junction with internal wall. 4282
P13. GTA8 bowl or wide-mouthed jar with chunky, everted rim. Possibly related in form to no. 12. 3571
This common type appeared in the Late Iron Age and continued to around the middle of the second century AD (Darling 1984, 86-7 and 89). The types with hammerhead rim and almost flat everted rim (P12 and 133) compare well with examples from Winterton (Stead 1976, fig. 74 nos 7-12; fig. 76 nos 37-8, fig. 77 no. 58; fig. 78 no. 76; fig. 83 no. 87), Dragonby kiln 3 dated Flavian-Trajanic (Rigby and Stead 1976, fig. 64 no. 4-5) and South Ferriby (North Lincs fabric series sample).

Storage jars

P14. CTB2 storage jar with rebated rim. 8524
P15. GTA8 storage jar with thickened, upright rim, grooved internally. 3412
P16. CTB7 storage jar with thickened, out-turned rim. 2685
P17. CTB1 storage jar with bead rim. 576
Generally storage jars seem to date to the LPRIA-conquest period particularly in the early CTB7 fabric. The CTB2 and GTA8 jars relate in form to Roxby type A and may be as late as the first half of the second century.

Bowls and dishes

P18. GRB1 triangular-rim bowl with curved wall. Perhaps as a type at Dragonby (Gregory and Samuels 1996, 519), starting in the early second century. 8854
P19. GRB1 straight-sided bowl with flat rim, bent downwards. Copying black burnished forms of Hadrianic-Antonine type. 1684
P20. GRB1 curved-wall bowl with flat-rim, bent downwards. As P19. 7183
P21. GRB1 straight-sided bowl with flat rim. As P 19. 3300
P22. GRB1 straight-sided bowl with bead rim. Copying black burnished forms of late second to mid-third century type. 2599
P23. GRB1 curved-wall bowl with flat rim and wavy line burnishing on inside wall and double groove on outside wall. Rim profile incomplete. As P18. 8528
P24. GRB1 vessel with triangular rim. The rim has a double groove on the upper surface of the rim and notches, ?rouletted, along the edge. Possibly a bowl, or rim of elaborate narrow-necked jar. An unusual vessel. It compares with Swanpool D14-18 and Messingham type 3, both given a fourth century date, and was also found at Linwood Warren, for which a third or fourth century date is suggested (Webster and Booth 1947; Stead 1976, fig. 73; Samuels 1983, fig. 188 no. 46). 6902
P25. GRB1 dish with rim, thickened externally and grooved internally. Variant of Roxby type H, a common type in this area and dated Flavian to Antonine (Rigby and Stead 1976; Darling 1984, nos 43-44). 3198
P26. GRB1 straight-sided dish with plain rim, burnished inside body. Long lived form from mid-second or fourth

century but more common in the third to fourth century. 9449

P27. GRB1 flanged bowl. Late third to fourth century. 3421

P28. GRB1 straight-sided bowl with stepped rim, down-bent. 6219

P29. GRB1 straight-sided dish with grooved rim. Common long-lived form but Darling suggests that it perhaps did not continue much beyond the early third century (1999, 131). 5543

P30. GRB1 miniature, straight-sided, plain-rim bowl. As P26. 6809

P31. CTA2 dish or bowl with bead rim. This can be compared with material from Bourne and Greetham (Samuels 1983, fig. 214 no. 61) dated to the mid- to late second century (Cooper 2000, 75-6 and Precious 2001, 138-9) but such forms were also present at the Park at Lincoln in a late fourth century deposit (Darling 1977, nos 90-7). 8719

P32. GRB1 cordoned bowl with out-curving rim. As P5. 5364

P33. OAB1 hemispherical bowl or dish with bead rim. Similar to example from Messingham in North Lincs fabric series. Late third to fourth century. 1882

P34. GRB1 hemispherical, flanged bowl. Flanged bowls like this tend to be second century. 5654

P35. GRB1 hemispherical flanged bowl, burnished outside rim and with burnished wavy line outside body. The fabric and treatment suggest a late date, perhaps third or fourth century. 8039

P36. GRA7 everted rim, probably from carinated bowl. Second century fabric and form. Roxby type E. A very common form in Lincolnshire, appearing in the late first century but most common in the second century (Darling 1984, no. 94) although it is found in a deposit of the mid-third century at Winterton (Stead 1976, fig. 76, nos 30-1; fig. 80, no. 25; fig. 85, no. 112; fig. 87, no. 152). Darling suggests the proportion of the neck to body may be chronologically significant (Darling 1984, 89). The longer necked examples being dated later. It was made at the North Hykeham kiln in Lincolnshire (Thompson 1958, no. 17), Roxby, Lincs. (Stead 1976, fig. 66, nos 29-32), Dragonby kiln 3 (Stead 1976, fig. 64, no. 1), Market Rasen (Samuels 1983, fig. 179 nos 68-70) and at Torksey, Lincs. (Oswald 1937, no. 53). There are two vessels of this type present in ditch fill (9571) at Trench J, a larger version of near complete profile (in 2 large sherds) and a smaller version, again with most of the profile present, conforming to Type E no. 29 in the typology published in the Winterton volume (Rigby and Stead 1976). 2748

P37. GRB1 reeded-rim bowl. Late first to early second century. 5138

P38. OAB1 hemispherical bowl with plain rim and flange halfway down body. Late Drag. 38 copy, fourth century. 5120

P39. GRB1 bowl with nearly upright flange. The flange has grooves at the tip and the rim. This is a collared bowl as at Dragonby kiln waste pit 2567 (Swan 1996b, no. 1459-60). Swan gives this a Trajanic-early Hadrianic date and suggests a Pannonian ancestor to the type. 9413

P40. GRB1 bowl with nearly vertical flange, overhanging inside of bowl. 2755

Wide-mouthed jars

P41. GRB1 deep, wide-mouthed jar with rounded rim. A distinctive Midlands class of vessel ranging from the large, bucket-like jars from the Doncaster and Trentside kilns to the S-shaped profile of jars from Lincolnshire and the East Midlands burnished ware jars (Oswald 1937, nos 96-119; Buckland *et al*. 1980, 161, type Hc and d; Todd 1968b, nos 1-3). 3151

P42. GRB1 wide-mouthed vessel with bead and flange rim, decorated with notched decoration on flange. Fourth century Swanpool type (Webster and Booth 1947, D15-23). 7080

P43. GRB1 wide-mouthed jar with out-turned rim. Roxby type F, second century. 2554

P44. GRB1 wide-mouthed jar with undercut, everted rim. Similar to third century types from Lincoln (Darling 1999, fig. 37). 3326

Beakers

P45. GRA2 beaker with upright rim. 10415

P46. GTA14 small jar or beaker with triangular rim. 761

P47. GRA2 beaker with short, everted rim. 8501

P48. GRB1 beaker with short everted rim, slightly dished internally, and groove outside upper body. 7777

P49. GRB1 long-necked beaker with bead rim. Late third to fourth century. 4525

P50. GRA2 everted-rim beaker, cf. poppyhead beaker. 2576

P51. GRA7 long-necked, plain-rim beaker. Rim slightly flaring. Late third to fourth century. 9649.

P52. OAB1 long-necked, plain-rim beaker. Late third to fourth century. 888

P53. GRA7 everted-rim beaker. Second to early third century. 462

Many of the beaker types were of too simple form to date accurately.

Flagons, flasks and narrow-necked jars

P54. FLA2 ring-necked flagon. Late first to early second century. 7373

P55. GRA6 cupped-rim flask. Second to early third century (Elsdon 1982a, type 4). 4890

P56. GRB1 narrow-necked jar with bifid, everted rim. Probably a third century type. 8617
P57. GTA5 handle. 490
P58. GRB1 narrow-necked jar; stubby everted rim with multiple grooves. 6439.
P59. GRB1 jar with handle scar. 3220
P60. GRA6 variant of cupped-rim flask no. 55, with kink in wall of rim. As P55. 1135
P61. GRB1 narrow-necked jar with everted rim. 4966
P62. GTA8 narrow-necked vessel with traces of handle scar on rim. 10605
P63. GRB1 narrow-mouthed, rebated-rim vessel with groove on outside of rim. 5454
P64. GRB1 rebated-rim, narrow-necked jar. As Roxby type A. Second century. 8390
P65. GTA10 most unusual rim of narrow-necked vessel. Perhaps a local variant of Roxby type A. Second century. 3573
P66. OBB1 narrow-necked, handled vessel with bead rim. 1417
P67. GRB1 cupped-rim, narrow-necked jar with notched decoration outside rim. Swanpool type (Webster and Booth 1947, C40-43). Fourth century. 10026
P68. GRB1 cupped-rim, narrow-necked jar. As P67. 3431
P69. CT narrow-necked vessel with square rim. 9774
P70. GTA10 narrow-necked vessel with rebated rim. As P64. 2159
P71. GRB1 narrow-necked vessel with flanged neck. 553

Everted-rim jars

P72. GRB1 jar with everted-rim, thickened at tip. 3762
P73. GRB1 jar with cavetto rim. 1073
P74. GRB1 jar with everted rim. 3204
P75. GRB1 jar with everted rim. 1267
P76. GTA10 jar with everted rim. 3246
P77. GRB1 jar with hooked rim. 3207
P78. GRB1 jar with lipped, everted rim. 2618
P79. GRB1 jar with everted rim. 4107
P80. GRB1 jar with slightly hooked rim. 3845
These are mostly ill-dated variants of the common everted-rim jars based on black burnished types and dating to the second to mid-third century.

Everted-rim jars similar to Roxby B and C

P81. GRB1 jar with short neck and bead rim, decorated with single groove. 9622
P82. GTA8 jar with slightly expanded, short, everted rim. 2606
P83. GRB2 everted-rim jar with internal surface of rim distinctly flattened. 8734
P84. GRB1 jar with stubby, everted rim and decorated with cordons. 10214
Following Roxby forms B-C and dating to the second century and late first to second century.

Rebated-rim jars similar to Roxby A

P85. GTA8 jar with rebated, everted rim. 2515
P86. GRB1 bead-rim jar with groove on the inside of rim near tip, making slight rebate. 8349
P87. CTB1 jar with square rim, flattened and dished to make internal lid seating. 9775
P88. GRB1 bead-rim jar with internal rebate. 6394
Following Roxby form A and dating to the second century and late first to second century.

Other jar forms

P89. GRB1 rusticated jar body sherd. Late first to mid-second century. 10867
P90. GRB1 jar with rolled-over rim. 1310
P91. GRB1 cupped-rim jar. Mid-second to third century. A South Yorkshire type. 6881
P92. GRC3 double, lid-seated jar. Late fourth century (Darling 1977, 30-1). 8348
P93. GRB1 jar with bifurcated, cupped rim. 1615
P94. GRB1 small jar with small out-turned rim and very sharp shoulder. 3478
P95. GRB1 short, everted-rim jar. 564
P96. EYCT Huntcliff-type jar. Mid- to late fourth century. 5097

Mortaria

P97. M3 stamped bead-and-flange mortarium, see K. F. Hartley's report above (Section 6.1.11.2). 4919
P98. M5 reeded, hammerhead mortarium. 4474
P99. M1 bead-and-flange mortarium. 6624
P100. M5 reeded flange mortarium, very abraded. 636
P101. M2 bead-and-flange mortarium. 1772
P102. M6 bead-and-flange mortarium. 5513
P103. OAB1 bowl with reeded flange. Possibly a mortarium but no trituration grits. 392
P104. M6 bead-and-flange mortarium. 5572

From Excavations and Fieldwalking in Street Furlongs:

Late Iron Age to early Romano-British pottery

P105. CTB8 body sherd with rather poorly executed rouletting below a cordon. A butt beaker type. As P3. Trench A Context (1005).
P106. GTA14 rouletted butt beaker sherd, burnished cordon. As P3. Trench C Context (3003).

P107. GTA14 rouletted butt beaker sherd. As P3. Trench C Context (3003).
P108. GTA14 rouletted butt beaker sherd, cordoned. As P3. Trench C Context (3003).
P109. CTB8 wide-mouthed necked jar with in-sloping neck and everted rim. LPRIA/mid-first century (Elsdon 1996, type group 4). Trench D Context (4001), Square metre 71.
P110. CTB1 carinated bowl with grooved rim, as Dragonby type 5 (Gregory and Elsdon 1996, no. 237). Trench E Context (5004 L).
P111. CTB8 burnished beaker with bead rim (Elsdon 1996, type group, appearing in horizon 4 and continuing into the early Roman period but are more common in horizons 9-10/conquest period). Trench C Context (3003).

Late Iron Age to mid-second century 'native' jar forms

P112. CTB1 jar with bead rim. Trench A Context (1005).
P113. CTB1 jar with bead rim bevelled internally. Trench A Context (1005).
P114. CTB1 jar with body folded over to form rather upright rim. Trench C Context (3003).
P115. CTB1 jar with bead rim bevelled internally. Trench C Context (3003).
See P6-13 above.

Bowls and dishes

P116. GRB4B dish with inbent rim. As P25. Trench I Context (9021).
P117. GRB6 bowl with flat, down-bent rim. As P19. Trench J Context (9617).
P118. GRB7B bowl with flanged rim rebated at distal end. This belongs to a group of flanged bowls with a variety of grooves on the flange, sometimes bifid and often decorated on the flange and/or the internal wall represented by Roxby type S and in the Dragonby kiln waste pit 2567 (Swan 1996b, no. 1458). These date to the second century and their decoration compares well with that found on the platters with inbent rims (as P25), suggesting a similar date range. Swan suggests they are an "exotic" type introduced by the army. Trench A Context (1002).
P119. GRB7B collared bowl. As P39. Street Furlongs Fieldwalking, Square D4.
P120. GRA3 everted rim vessel with internal rebate. This vessel compares well with vessels from Lincoln dated c. AD 60-90 (Webster 1949, fig. 11 no. 21 in legionary group; Darling 1981, fig. 23.2 nos 20-1 in red slip ware). Trench E Context (5004).
P121. GRB4B bowl with flanged rim which is grooved at the tip of the flange and just before the junction with the body. As P118. Trench I Context (9008).
P122. GRB4B bowl with flange rim grooved at rim tip. As P118. Trench I Context (9008).
P123. OAB2 carinated cordoned bowl with zones of impressed decoration, possibly executed with a roulette wheel. This is a fine vessel and derives ultimately from the carinated and cordoned bowls of the LPRIA/mid-first century. A mid- to late first century date is likely for the form but precise parallels are lacking. Trench J Context (9651).

Wide-mouthed jars

P124. GRA2 small wide-mouthed jar with rolled over rim. Perhaps a third century type (Rigby and Stead 1976, fig. 87 no. 150). Street Furlongs Fieldwalking, Square K1.
P125. GRB7B necked bead-rim wide-mouthed jar. As Swanpool D37-43 (Webster and Booth 1947). Trench B Context (2003).

Beakers

P126. GRA7B stamped beaker (Elsdon 1982a, type 2 beaker). Trench J Context (9521).

Flagons, flasks and narrow-necked jars

P127. GRA10 cupped rim flask with grooved rim tip and burnished wavy line outside rim. As P55. Trench I Context (9017).
P128. GRA2 everted rim of small fine flask. Trench J Context (9651).
P129. GRB10 cupped ring-necked flagon. Hadrianic-Antonine. Trench A Context (1002).

Jars

P130. GRA2 fine greyware neckless jar with short everted rim and applied vertical ribs like a pillar moulded vessel. The form is of the late first-early second century. Trench J Context (9577).
P131. GTA8 hooked-rim vessel. Mid first to mid-second century. Trench C Context (3003).
P132. GRB4C bead-rim jar with groove on top of rim. Trench C Context (3003).
P133. GTA8 everted-rim jar. Mid first to mid-second century. Trench A Context (1003).
P134. CTB1 rebated-rim jar, non-local type, late first to early second century. Trench J Context (9669).
P135. CTB1 everted rim, rounded at tip. An unusual form, difficult to date. Trench J Context (9579).

Lid

P136. GRB4B bifid lid with wavy line burnish decoration on upper surface (Rigby and Stead 1976, fig. 76 no. 53), Flavian-Trajanic. Trench A Context (1002). 11.5
P137. GRB4B bifid lid with wavy line burnish decoration on upper surface. As P136. Trench A Context (1002).

Other

P138. GRA7 sherd with concentric stamp. Second to early third century. Trench D Context (4064).

Mortarium

P139. Lincoln mortarium, with part of stamp indicating this item is from the workshop of Crico. Dates to around AD 130. Trench J Context (9669).

Illustrated Pottery Types referred to in reporting the Trench Stratification

Reconstructed Form from Ditch [9699]
P140. GTA8 jar with everted rim. Mid-first to mid-second century. Trench J Context (9577), 18 sherds, plus small sherd from (9571).

Middle Iron Age Vessels from the Trench J pits [9645] and [9704] (Figure 4.10)

P141. Uniformly dark grey, hard, rock tempered fabric with sparse sub-angular crushed rock, possibly sandstone, or a grained igneous rock, with quartz grains and mica. Jar with well-defined shoulder and neck rising to an upright square-sectioned rim. The four sherds appear to all be from the same vessel (or are from different vessels characteristically identical); there are no conjoining sherds; handmade; 62.1g, rim diameter 130mm, RE: 0.12. Trench J (9503), (9644), (9646) and (9661).
P142. Brownish grey, hard, calcite and quartz grain tempered, perhaps also with grog, jar rim; apparently everted with a thickened terminal and an interior bevel; handmade; 9.7g, rim diameter c. 190mm, RE: 0.05. Trench J (9644).

Selected Vessels from Trench D Vulnerable to Ploughing or Disturbed by Ploughing

P143. CTB8. Beaker with cordoned neck and out-turned rim. Trench D Context (4042), 12 sherds.
P144. CTB8. Bead rim beaker (as recorded at Dragonby from Features F1267 and F1666). Trench D Context (4002) Square metre 71; 16 or 17 sherds all from the same vessel.

Vessels from Ditch [9670]/[9698]

P145. GRB7B. Small carinated bowl of Roxby type E. Second century. Trench J Context (9571), 1 sherd.
P146. GRB7C. Large carinated bowl of Roxby type E. Second century. Trench J Context (9571), 2 sherds.
P147. GRB7B. Jar with acute lattice decoration and burnish. *Post cocturam* piercing of base. Second century. Trench J Context (9669), 13 sherds.

6.4 Samian Ware from the Site

6.4.1 Samian Ware from the British Gas Fieldwalking in East Field 1992-3

Brenda Dickinson

6.4.1.1 Introduction to the Catalogue

The samian items are arranged by source and within source by approximate date order. The number at the beginning of each entry is the find identification number allocated during the collection exercise by the British Gas archaeologists in 1992-3 as part of the Skitter-Hatton survey. Rubbing records of the decorated sherds taken by Brian Hartley in 1993 are reproduced here as Fig. 6.36. In the catalogue the following conventional abbreviations are employed:

D = a figure-type in Déchelette, J. 1904. *Les Vases ceramiques ornes de la Gaule romaine*, (2 Vols) Paris.

O = a figure-type in Oswald, F. 1936-7. *Index of Figure-types on Terre Sigillata ('Samian Ware')*, Liverpool, University Press of Liverpool.

Rogers = a motif in Rogers, G.B. 1974. *Poteries sigillées de la Gaule centrale*, in Supplément 28, Gallia, Paris.

6.4.1.2 The Catalogue

1253. Probably South Gaulish, bowl, first century. Heavily burnt.
2712. South Gaulish, probably from a decorated bowl, first century.

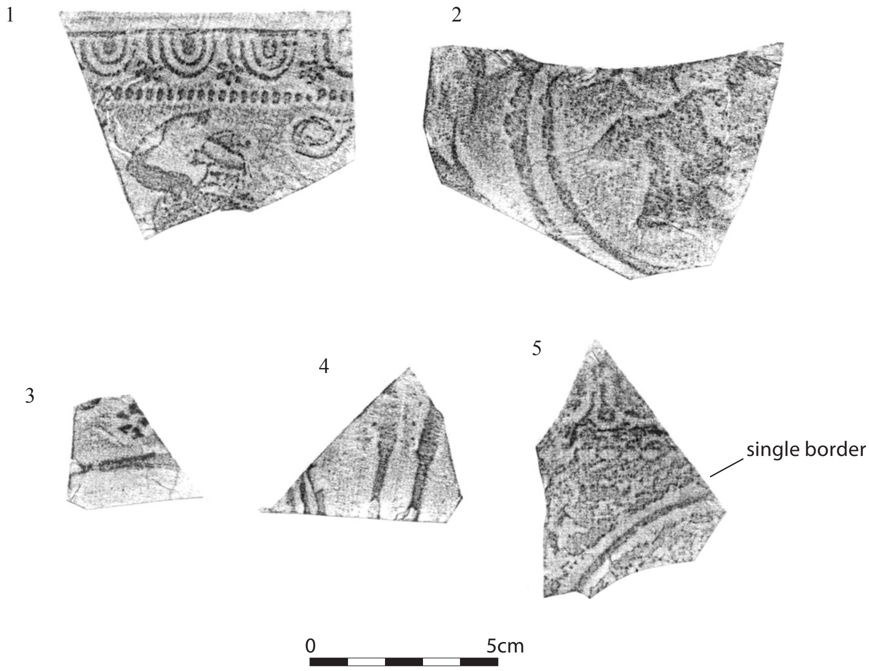


Figure 6.36 East Field 1992-3 fieldwalking. Rubbings of decorated samian sherds. 1: SH93 item 2810; 2: SH93 4070; 3: SH93 7364; 4: SH93 8166; 5: SH93. Number not recorded.

2845. South Gaulish, first century.
2854. South Gaulish, first century.
7764. South Gaulish, Drag. 15/17, Neronian or early-Flavian.
8327. Footring, South Gaulish, Drag. 15/17 or 18, Neronian or early-Flavian.
10661. Rim, South Gaulish, Drag. 18, Flavian.
916. Rim, South Gaulish, Drag. 18, Flavian.
394. South Gaulish, Flavian.
8166. South Gaulish, Drag. 37, c. AD 75-100. Decoration: has a triple medallion in the lower part of a scroll. (Fig. 6.36.4)
1065. Rim, South Gaulish, Drag. 18 or 18/31, Flavian or Flavian-Trajanic.
1841. South Gaulish, Drag. 30 or 37, Flavian or Flavian-Trajanic.
1811. South Gaulish, dish, Flavian or Flavian-Trajanic.
7181. Rim, South Gaulish, Flavian or Flavian-Trajanic.
2870. South Gaulish, late first century or early second century.
3061. Rim, South Gaulish, late first century or early second century.
6288. South Gaulish, late first century or early second century. Heavily burnt.
2967. Rim, Central Gaulish, Les Martres-de-Veyre, Drag. 18/31, Trajanic.
2716. Base, Central Gaulish, Les Martres-de-Veyre, Drag. 18/31, Trajanic. Drilled for rivet. Burnt.
3139. Rim, Central Gaulish, Les Martres-de-Veyre, Trajanic.
1694. Central Gaulish, Les Martres-de-Veyre, c. AD 100-150.
8266. Central Gaulish, Drag. 18/31, Hadrianic.
2810. Central Gaulish, Drag. 37, c. AD 130-150. Decoration: in the style of an anonymous maker, designated the Large-S Potter by Stanfield and Simpson (1958, pl.76) because of his use of an S-motif on much of his decorated ware. All the details of the decoration on this sherd are on two bowls from Caerwent (Newport Museum D2/6/242: Rogers 1999, pl.136, 1) and D2/5/216). They comprise the rosette-tongued ovolo (Rogers B24), a seated Apollo (D.52 = O.83) and the potter's characteristic S-motif. His career may have begun at Les Martres-de-Veyre, but the bulk of his output, including this Mount Pleasant bowl, originated at Lezoux, where he was at work in the Hadrianic to early-Antonine period. (Brenda Dickinson submitted an updated entry for this item in 2013, which is incorporated here). (Fig. 6.36.1)
8267. Central Gaulish, Drag. 18/31-31, Hadrianic or early-Antonine.
4323. Rim, Central Gaulish, probably Drag. 27, Hadrianic or early-Antonine.

7939. Central Gaulish, Drag. 30 or 37, Hadrianic or early-Antonine.
3295. Central Gaulish, Drag. 37, Hadrianic or early-Antonine.
4266. Central Gaulish, Drag. 37, Hadrianic or early-Antonine.
7785. Rim, Central Gaulish, Curle 11, Hadrianic or early-Antonine.
1877. Footring, Central Gaulish, cup, Hadrianic or early-Antonine.
1828. Rim, Central Gaulish, Drag. 18/31 or 31, Hadrianic or Antonine. Burnt.
6953. Central Gaulish, Drag. 30 or 37, Hadrianic or Antonine.
7986. Rim, Central Gaulish, Drag. 30 or 37, Hadrianic or Antonine.
2161. Central Gaulish, Drag. 37, Hadrianic or Antonine.
10385. Central Gaulish, bowl or dish, Hadrianic or Antonine.
2879. Central Gaulish, bowl or dish, Hadrianic or Antonine.
4894. Central Gaulish, bowl or dish, Hadrianic or Antonine.
4295. Central Gaulish, cup, Hadrianic or Antonine.
8073. Central Gaulish, dish, Hadrianic or Antonine. Burnt.
1552. Central Gaulish, Hadrianic or Antonine.
1608. Central Gaulish, Hadrianic or Antonine.
1637. Central Gaulish, Hadrianic or Antonine.
1879. Central Gaulish, Hadrianic or Antonine.
1897. Central Gaulish, Hadrianic or Antonine.
7734. Central Gaulish, Hadrianic or Antonine.
7943. Central Gaulish, Hadrianic or Antonine.
4787. Two fragments from one vessel, Central Gaulish, Hadrianic or Antonine.
2726. Footring, Central Gaulish, Hadrianic or Antonine.
2859. Rim, Central Gaulish, Hadrianic or Antonine.
1823. Rim, Central Gaulish, Drag. 18/31R, early to mid Antonine. Slightly burnt.
7364. Central Gaulish, Drag. 37, early to mid Antonine. Decoration: perhaps in the style of Criciro v. (Fig. 6.36.3)
1410. Central Gaulish, Drag. 18/31R, Antonine.
4051. Rim, Central Gaulish, Drag. 31, Antonine.
7442. Central Gaulish, Drag. 33, Antonine. Heavily burnt.
9840. Central Gaulish, probably Drag. 33, Antonine.
7542. Central Gaulish, probable Drag. 36 flange, Antonine.
4315. Rim, Central Gaulish, Drag. 37, Antonine.
2823. Central Gaulish, Drag. 38 or 44, Antonine.
4059. Central Gaulish, Drag. 38 or 44, Antonine.
6467. Rim, Central Gaulish, probably Drag. 38 or 44, Antonine.
9760. Central Gaulish, bowl, Antonine.
1753. Central Gaulish, bowl or dish, Antonine.
7479. Central Gaulish, Antonine.
3524. Footring, Central Gaulish, probably Antonine.
1951. Rim, Central Gaulish, Drag. 31, mid to late Antonine. Grooved for riveting.
1733. Central Gaulish, Walters 79 or TG, mid to late Antonine.
4070. Central Gaulish, Drag. 37, c. AD 160-195. Decoration includes a Cupid (D.264 = O.440) in a double medallion, as on a stamped bowl of Paternus v from Carrawburgh (Stanfield and Simpson 1958, pl. 105, 12). (Fig. 6.36.2)
6122. East Gaulish, Rheinzabern, Drag. 31R, late second century or first half of the third century. Cf. 8375.
8375. East Gaulish, Rheinzabern, Drag. 31R, late second century or first half of the third century.
1853. East Gaulish, Rheinzabern, Drag. 31(R?), late second century or first half of the third century.
1059. East Gaulish, probably Drag. 33, late second century or first half of the third century.
1730. East Gaulish, Rheinzabern, bowl or dish, late second century or first half of the third century.
9607. East Gaulish, Rheinzabern, bowl or dish, late second century or first half of the third century.
1726. Bead-lip, East Gaulish, late second century or first half of the third century.
9561. East Gaulish, probably Rheinzabern, late second century or first half of the third century.

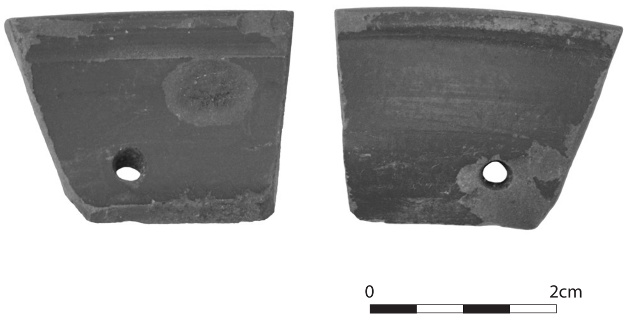


Figure 6.37 Les Brown Collection from East Field. A sherd from a Drag. 27 cup drilled for repair.

Table 6.4 Composition of the 1992-3 Samian Assemblage: the percentage of samian from the various sources.

Source	By number of vessels	By number of sherds
South Gaulish, La Graufesenque	20.6	21.0
Central Gaulish, Les Martres-de-Veyre	5.2	6.8
Central Gaulish, Lezoux	65.5	63.1
East Gaulish	10.5	6.8

6.4.1.3 Composition of the 1992-3 Assemblage of Samian from Fieldwalking

This collection of samian consists mainly of small sherds, many of indeterminate form, giving a total of 76 sherds from an estimated minimum of 29 vessels. Tables 6.4–6.6 show the composition of the assemblage. Although it is unwise to draw any firm conclusions from such a small assemblage, one point is immediately obvious, namely that the ratio of cups to dishes and bowls is abnormally low, even allowing that some of the unidentified sherds could have come from cups. For what it is worth, the pattern of deposition of the samian is typical of a site on which there was continuous activity from the first to the third century, with a not uncommon drop in supply in the Trajanic period. The greatest quantities were deposited in the second century, though so many sherds are not closely datable that it is impossible to say whether this happened in the Hadrianic or Antonine period. The latter seems more likely, however. The latest samian comes from East Gaul and much, if not all of it, is from Rheinzabern. Some of it will almost certainly be third-century. It may, or may not be significant that, though the proportion of decorated to plain samian in general seems normal for a civilian site, there is apparently no decorated samian amongst the East Gaulish ware.

Table 6.5 Composition of the 1992-3 Samian Assemblage by vessels and sherds per date range.

Date Range	Minimum Number of Vessels	Number of sherds
Neronian or early Flavian	2	2
Flavian	3	3
Flavian or Flavian/Trajanic	1	4
First century	1	4+?
Late first or early second century	-	3
Trajanic	2	3
Hadrianic	1	1
Hadrianic or early Antonine	4	8
Hadrianic or Antonine	2	20
Early to mid-Antonine	2	2
Antonine	6	12
Mid- to late Antonine	3	3
Late second or first half of third century	2	8
Undated	-	2

Table 6.6 Composition of the 1992-3 Samian Assemblage by Vessel Form.

Form Type	Number of Examples Represented
Decorated Bowls:	
Drag. 37	8
Plain Bowls:	
Drag. 31R	+2
Drag. 38 or 44	2
Curle 11	1
Dishes:	
Drag. 18/31	3
Drag. 18/31R	1
Drag. 18/31 or 31	1
Drag. 18/31-31	1
Drag. 31	2
Cups:	
Drag. 27	? 1
Drag. 33	1
Platters:	
Drag. 15/17	1
Drag. 15/17 or 18	1
Drag. 18	2
Walters 79 or Tg	3
Total	**30**

6.4.2 Samian Ware from Field Surfaces 1998-2013 (excluding gridded fieldwalking in Street Furlongs)

Steven Willis

6.4.2.1 From the surface of East Field

PL = precisely located; NL = recovered by visitors with no co-ordinates noted.

- Rim sherd, SG La Grauf., Drag. 18 platter, 2g, Diam. 190mm, RE: 0.03, c. AD 40-100. PL 2000
- Rim sherd, SG La Grauf., form not identifiable, 1g, Diam. uncertain, RE: 0.02, c. AD 40-100. PL 1998
- Body sherd, CG LMV, Drag. 18/31 dish, 7g, c. AD 100-125. PL 1998
- Base sherd, CG LMV, Drag. 37 bowl, 54g, Diam. 90mm, BE: 0.37, c. AD 100-125. No decoration represented. PL 1999
- Body sherd, CG LMV, small Drag. 37 bowl, 3g, c. AD 100-130. A fringe of the ovolo band occurs, below which is a wavy line border; below, a small dolphin is partially represented similar to O.2382. PL 1999
- Body sherd, CG Lezoux, probably Drag. 37 bowl, 11g, c. AD 120-140. No decoration represented. NL
- Two conjoining rim sherds, CG Lezoux, Drag. 18/31 dish, 5g, Diam. 190mm, RE: 0.04, c. AD 120-145. NL
- Body sherd, CG Lezoux, Drag. 18/31 dish, 4g, c. AD 120-150. PL 1998
- Rim sherd, CG Lezoux, Drag. 33 cup, 4g, Diam. 102mm, RE: 0.03, c. AD 120- 200.
PL 2000
- Body sherd, CG Lezoux, Drag. 33, 5g, c. AD 120-200. PL 1998
- Base sherd, CG Lezoux, Drag. 33, 2g, Diam. 70mm, BE: 0.11, c. AD 120-200.
PL 1999
- Body sherd, CG Lezoux, Drag. 33, 2g, c AD 120- 200. NL
- Rim sherd, CG Lezoux, Drag. 33, 4g, Diam. 130mm, RE: 0.06, c. AD 120-200. NL
- Base sherd, CG Lezoux, probably Drag. 33, 3g, Diam. c. 80mm, BE: 0.01, c. AD 120-200. PL 1998
- Base sherd, CG Lezoux, probable dish, 6g, Diam. c. 110mm, BE: 0.11, c. AD 120-200. PL 1998
- Rim sherd, CG Lezoux, bowl or dish, 1g, Diam. uncertain, RE: 0.02, c. AD 120-200. NL
- Body sherd, CG Lezoux, form not identifiable, 4g, c. AD 120-200. Both original surfaces are excoriated. NL
- Two conjoining body sherds, CG Lezoux, Drag. 38 bowl, 8g, c. AD 130-200.
PL 1998
- Rim sherd, CG Lezoux, Drag. 27 cup, 2g, Diam. uncertain, RE: 0.02, c. AD 140- 160. PL 1999
- Rim sherd, CG Lezoux, Drag. 31 dish, 20g, Diam. c 190mm, RE: 0.09, c. AD 150- 200. NL
- Two conjoining body sherds, CG Lezoux, probably Drag. 31 dish, 9g, c. AD 150-200. PL 1998

6.4.2.2 From the surface of Street Furlongs

- Body sherd, SG La Grauf., small Drag. 27 cup, 1g, c. AD 40-100. (9621)
- Rim sherd, CG Lezoux, Drag. 18/31 dish, 2g, Diam. 170mm, RE: 0.04, c. AD 120-140. (9621)
- Base sherd, CG Lezoux, small ?Drag. 27 cup, 2g, Diam. 40mm, BE: 0.03, c. AD 120-140. Item 4 2000
- Rim sherd, CG Lezoux, probably Drag. 18/31 dish, 1g, Diam. uncertian, RE: 0.01, c. AD 120-150. (9621)
- Body sherd, CG Lezoux, Drag. 37 bowl, 9g, c. AD 120-150.

A small area of decoration is present from low on the wall profile; on the right, in from the break, there occurs the head and abraded front legs of a dog running left similar to O.1998; two rosettes occur similar to Rogers types C.143 and C.281; a naked male figure partially appears on the left, and his left leg bent at the knee and left arm angled at the elbow and perhaps holding a dagger, mean this figure, as extant here, is not distinctive but similar to several types, particularly O.189, O.201a and O.688. Item SF 301

- Body sherd, CG Lezoux, Drag. 37 bowl, 1g, c. AD 120-150. A tiny area of decoration occurs with a fine border, below which are the terminals from an apparent gadroon band. Item SF 73
- Base and two conjoining body sherds, CG Lezoux, Drag. 18/31R dish, 15g, Diam. 110mm, BE: 0.12, c. AD 120-160. G. Bain 1999-2001
- Base sherd, CG Lezoux, hemispherical cup, probably Drag. 27, 5g, Diam. 50mm, BE: 0.16, c. AD 120-160. (9621)
- Rim sherd, CG Lezoux, Drag. 33 cup, 8g, Diam. 130mm, RE: 0.11, c. AD 120-200. Item SF 51
- Body sherd, CG Lezoux, Drag. 33, 1.5g, c. AD 120-200.

Item SF 54

- Base sherd, CG Lezoux, probably Drag. 33, 4g, Diam. 70mm, BE: 0.05, c. AD 120-200. (9621)
- Body sherd, CG Lezoux, bowl or dish, 3g, c. AD 120-200. NL 2003
- Body sherd, CG Lezoux, bowl or dish, 3g, c. AD 120-200. The sherd has been prepared for repair via the cleat

method; no trace of the lead cleat occurs. Slightly burnt. (9621)

• Body sherd, CG Lezoux, form not identifiable, possibly a dish, 1g, c. AD 120-200. (9621)

• Body sherd, CG Lezoux, form not identifiable, 1g, c. AD 120-200. (9621)

• Body sherd, CG Lezoux, form not identifiable, 1g, c. AD 120-200. (9621)

• Body sherd, CG Lezoux, Drag. 37 bowl, 11g, c. AD 145-170. The ovolo is represented which is large, with a double border and simple tongue; although this is somewhat blurred it is evidently Stanfield and Simpson's ovolo type 3 of Cinnamus ii (Stanfield and Simpson 1958, Fig. 47 No 3); below the border is a broad leaf approximating to Rogers H.92. Somewhat abraded. Survey item SF 3

• Base sherd, CG Lezoux, Drag. 31 dish, 32g, Diam. 90mm, BE: 0.13, c. AD 150-200.
Worn footring. Square T0 not walked

• Base sherd, CG Lezoux, Drag. 31, 12g, Diam. 80mm, BE: 0.18, c. AD 150-200. Worn footring. Seemingly trimmed round at the junction of the vessel wall and floor.
NL 2009

• Base sherd, CG Lezoux, Drag. 31, 11g, Diam. 100mm, BE: 0.15, c. AD 150-200. Item SF 200

• Body sherd, CG Lezoux, probably from a dish, 3g, c. AD 150-200. Abraded. The sherd has been prepared for repair via the cleat method; no trace of the lead cleat occurs.
Square Y0 not walked

• Body sherd, EG probably Argonne, possibly La Madeleine, Drag. 31 dish, 13g, c. AD 150-260. Item 2 2000

• Body sherd, CG Lezoux, Drag. 37 bowl, 11g, c. AD 160-95. Decoration occurs in panels divided by beaded columns and rows formed of large beads; a festoon is present (Rogers F.47) with a blurred astragalus terminal mask; within is contained the bird O.2239 and, below, the leaf Rogers K.17. All these decorative elements were used by Casvrivs and this vessel is typical of his style, not least in the careful spacing in the design. Item 1 2000

• Base sherd, CG Lezoux, Drag. 31R bowl, 39g, Diam. 90mm, BE: 0.10, c. AD 160- 200. Item 3 2000

• Body sherd, EG Rheinzabern, Drag. 27 cup, 1.5g, c. AD 160-240. (9621)

• Body sherd, EG Rheinzabern, closed form, evidently a beaker or vase, 1.5g, c. AD 160-240. The interior surface is unslipped; wall thickness c. 3.5mm; good quality finish.
East of J, 2003

• Body sherd, EG possibly Argonne, Drag. 37 bowl, 1.5g, c. AD 170-250. Part of the ovolo band is represented. Orange fabric with matt slip. (9621)

6.5 The Roman Glass

H.E.M. Cool

6.5.1 Introduction

The majority of the glass that has been recovered from the various programmes of investigation at Mount Pleasant, but especially from the fieldwalking in Street Furlongs, is of modern date, that is, it would have been made during the nineteenth and twentieth centuries. There is a conspicuous absence of anything belonging to the post-medieval period. The much smaller assemblage of Roman vessel glass came from the excavated trenches and the fieldwalking in Street Furlongs, and contains relatively few diagnostic items. There is a further group collected by Les Brown in the 1970s which in contrast to the other pieces has not been machinated. The survey by the British Gas archaeologists recovered only two fragments of glass reported as "both [from] blue-green mould made bottles common in the first and second century" (Catherall *et al*. 1998, 49).

Overwhelming the glass was blue/green and thereby indicative of a first to third century date and many of these fragments cannot be more closely dated within that period. There are, though, a small number of more diagnostic pieces where closer dating is possible. This material will be discussed first according to the various campaigns and then a brief overview will be presented.

6.5.2 Les Brown's collection of glass from East Field

All of the material in this group came from blue/green bottles. One fragment is of a blue shade of blue/green which is rarely encountered in Roman glass and so is very probably modern and will not be further considered here. The rest can be divided into four separate groupings. The fragments catalogued as No. 1 could all very plausibly come from a square bottle of c. 45-50mm in width, though only in one case is it possible to join any of them. There is a slight doubt as to whether one small shoulder fragment with the scar from the handle attachment belongs with the group as, if it does, one would have expected to have been able to join it in the small area where the junction of the handle and shoulder is missing on the other fragments. Nos. 2 and 3 come from the same family of bottles but would appear to be from different vessels. Blue/green bottles such as this were extremely common from the later first century into the early third century (Price and Cottam 1998, 194-200). If no. 3 is indeed from a cylindrical bottle that would have had a late first to early second century date as they went out of use earlier than the prismatic forms.

Though blue/green bottle fragments are an extremely common find in domestic assemblages, it is unusual to find fragments that could come from the same vessel. Where multiple fragments from the same vessel are found it is usually because the vessel has been deposited in some form of special deposit. They are found as part of the grave goods of first and second century cremation burials and sometimes act as the cinerary urn itself. They are also sometimes found in circumstances that suggest deliberate structured deposition associated with the closure of features like wells. It is plausible that such a source may explain No. 1 here. It is noticeably that all of the fragments could come from the upper part of the vessel. No fragments of base were recovered. It is also noticeable that the breaks are clean and fresh. Plausibly if a grave with such a vessel was hit during ploughing, this would be the sort of group that might be expected to be scattered on the surface. The absence of any part of the rim is surprising as this would have been a substantial piece of glass and might very well have remained entire. Possibly this could be the result of the way in which the fragments were collected and the circumstances of the field at the time of collection. There is one other small hint that a cremation burial might have been disturbed. No. 4 is a melted fragment of collapsed vessel glass which also has a fresh break. Glass can melt for many reasons but it would have needed quite an intense heat to produce this effect, that is to say, a conflagration rather than merely falling into a domestic fire. It is the sort of melted fragment that is frequently recovered from the pyre goods of cremation burials. No other fragment of glass from the Mount Pleasant material (Roman or modern) showed this level of distortion.

Catalogue

1. Square bottle; 12 neck handle and body fragments. Blue/green. Fragments consist of the following:-
Upper part of cylindrical neck fragment with small part of upper handle attachment.
Two joining fragments of angular reeded handle, upper attachment missing, most of lower attachment present retaining shoulder and upper part of one side.
Shoulder and upper side fragment retaining parts of two sides and base of neck.
Two shoulder and side fragments.
Shoulder fragment with scar from handle.
Three side fragments with scar of second side at 90° on interior.
Two flat side fragments.
Width of handle at carination c. 40mm. Weight 94.3g.

2. Bottle; cylindrical neck fragment. Blue/green. Weight 7.31g.

3. Bottle base fragment. Blue/green. Fragment from junction of edge and side, possibly a cylindrical bottle. Dimensions 39 x 20. Weight 7.88g.

4. Melted vessel fragment. Blue/green. Fresh break. Weight 7.06g.

6.5.3 Roman Glass from Surface Collections in Street Furlongs

The Roman material from this area collection contained few diagnostic pieces. Bottles were again represented (Nos. 6-8).

Catalogue *(continued)*

5. Base fragment. Blue/green. Edge of side curving into concave base with central thickening. Edge of irregularity, possibly from pontil scar. Dimensions 25 x 13mm, original diameter of vessel c. 35-40mm. Weight 2.08g. Street Furlongs 2004, south-east corner of field, 42m, north of south edge of field.

6. Prismatic bottle; fragment of shoulder and side. Blue/green. Weight 2.92g. Street Furlongs Fieldwalking, Square SF K5.

7. Prismatic bottle; body fragment. Blue/green. Weight 4.1g. Street Furlongs Fieldwalking, Square SF EE5.

8. Blue/green body fragments from the following Street Furlongs Fieldwalking, Squares: SF A5 (possible identification) SF C3, SF I5 and SF O2.

6.5.4 Roman Glass from the Excavated Trenches

Of particular interest is No. 9. Deep blue glass such as this is present in Claudio-Neronian assemblages and was going out of use during the Flavian period, a dating that would be appropriate for its context at

Trench A. The presence of the little bead No. 11 in a similarly dated upper ditch fill in Trench C is less explicable as small beads such as it appears to be, are a feature of late Roman assemblages as the habit of wearing bead strings of such beads does not start to be noticeable until the later second century and then generally on sites associated with the military. On a site such as this at Nettleton/Rothwell, the presence of such a bead would be more normal in the fourth century; nothing else from this context is of such a date.

The excavations in Trench J produced a slightly wider range of forms (Nos 12-19), although bottles were again present (No. 16). That glass was being used at Mount Pleasant in the first century is again suggested by the pillar moulded bowl fragment (No. 12). Though such vessels can very occasionally be found in circumstances suggesting they were still being used in the early second century, but overwhelmingly the majority of the examples of this very common form of bowl had gone out of use by the end of the first century (Price and Cottam 1998, 44).

Another fragment from a closely dated vessel type is No. 13, recovered from the lower ploughsoil horizon immediately south of Building 2, and approximately above (9518). This comes from a colourless cylindrical cup which was an extremely common form during the last third of the second century and the first half of the third century (Price and Cottam 1998, 99-101). It is not unusual to find multiple examples of these cups on a site but No. 13 is unusual in having abraded decoration consisting of two converging lines with a much smaller line centrally. These can plausibly be interpreted as part of the head and eye of a fish. This is a scheme of decoration known on a small number of such cups from the Rhineland and Britain. The fish are depicted swimming below the rim of the vessel as here. On some fragments it can be seen that there are palm fronds depicted between the fish. There is sometimes evidence that this frieze was above an inscription. Fremersdorf drew attention to the group (Fremersdorf 1970, 59-62; cf. Fremersdorf and Polónyi-Fremersdorf 1984) and was able to list 17 examples. Of these there were 12 with the fish and the remaining pieces were body fragments containing parts of the inscription. Of these, four of the fish pieces and three of the lettered pieces were from Britain.

By the time Allen (Allen 1986) published an example depicting a fish from a grave in the Derby Racecourse cemetery, she could point to two additions to the list with fish from Wood Burcote near Towcester (still unpublished) and Caerleon (see now RIB II.2 no. 2419.60). She also drew attention to the fragment from Coventina's Well, Carrawburgh (Allason-Jones and McKay 1985, 39 no. 137). This too could very well be part of the head of a fish. A rim fragment from Pudding Lane, London (RIB II.2 no. 2419.55) might be another example. The abraded cutting is similar but the letters are immediately below the rim and only a very small part of a motif that might be a fish tail was extant.

Within Britain, many of the pieces have come from old excavations and so the precise provenances are unknown. What can be said is that they have come from a range of backgrounds. There are pieces from major urban sites (Silchester, Colchester, Verulamium (letter only) and London (possible identification)). Military sites are represented by Corbridge, Chesters, Caerleon, Carrawburgh and Derby. Springhead would fall into the small town category. Wood Burcote appears to be the site of a villa and temple. Where there is more information about the context it is interesting that two pieces were definitely associated with votive activity: Coventina's Well and Springhead. The latter was found in a rubble filling in the North Wing of Temple II which was thought to be the deliberate burial of votive deposits in the mid-fourth century (Penn 1962, Table 9 no. 1, fig 5 no. 8). In the Derby grave the whole vessel was not present just a small rim fragment and a base fragment that could

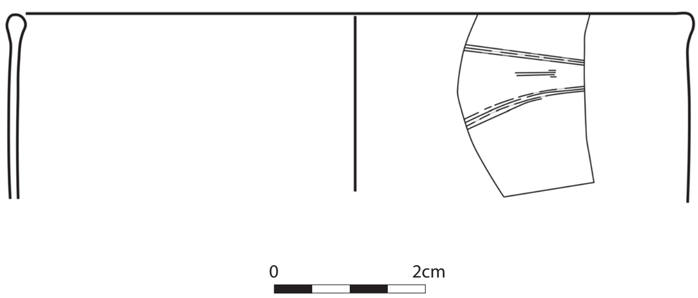


Figure 6.38 Trench J, (9502). Glass cup (No. 13) with fish decoration.

have come from the same vessel. It is impossible to say from the publication whether these were deliberately placed in the grave or were casual inclusions in the fill.

The combination of the fish symbol with palm fronds has led some authors to state categorically that these are early instances of Christian symbolism (e.g. Charlesworth 1959, 46). Others have been more circumspect pointing out that in no case does a complete cup survive and that it has never been possible to read more than a letter or two of the inscription(s) associates with them (Allen 1986). The occurrence of fragments most probably from fish cups in two overtly pagan votive deposits might argue against the Christian interpretation. The Springhead and Coventina's Well examples indicate that such vessels were thought appropriate for votive offerings, and it might be this sort of use that could explain what such a vessel was doing at Mount Pleasant. Against the background of where they have been found before, Mount Pleasant does not appear a likely site for one to be found.

The other pieces from Trench J do not include any where the form can be identified with certainty. The base fragment No. 15 has features which would be most appropriate for a bath-flask (Price and Cottam 1998, 188-90). The form of the vessel that No. 17 came from cannot be identified but the type of pale green bubbly glass it is made from would indicate a fourth century date. The find context of this item at Trench J is consistent with such a date.

Catalogue *(continued)*

9. Convex bodied thin walled jug or jar; body fragment, 25mm in longest dimension. Deep blue. Weight 1.1g. Trench A, (1005), RF 1010.

10. Prismatic bottle; body fragment, 29mm in longest dimension. Blue/green. Weight 3.51g. Trench B, (2001), square metre 39, RF 2034.

11. Spherical bead; approximately half represented. Translucent emerald green. Diameter c. 3mm. Trench C, (3003) from 1998 Environmental Sample <1>.

12. Pillar moulded bowl; lower body fragment. Blue/green. Part of two ribs; two narrow abraded bands on interior. Dimensions 34 x 25mm. Weight 5.46g. Trench J, (9500), RF 9510.

13. Cylindrical cup, rim fragment. Colourless. Vertical side, rim edge fire thickened. Two abraded bands sloping towards each other on upper body, lower one wider and lines that form it intermittent over the length, a small horizontal abraded line midway between them. Rim diameter c. 80-90mm, wall thickness 0.5mm, present height 23mm. Weight 0.77g. Trench J, (9502), RF 9509. (Fig. 6.38)

14. Base fragment. Blue/green. Tubular pushed-in base ring; side and base missing. Base diameter 60mm. Weight 1.35g. Trench J, (9512), RF 9513.

15. Base fragment. Blue/green. Side curving into thickened concave base with circular pontil scar. Base diameter c. 40mm, wall thickness 2.5mm. Weight 8.02g. Trench J, (9621).

16. Bottle; shoulder fragment. Blue/green. Weight 2.63g. Trench J, (9550), RF 9530.

17. Base fragment. Pale green; many small bubbles. Fragment broken at edge of high concave base. Base diameter c. 45-50mm, wall thickness 1.5mm. Weight 2.47g. Trench J, (9620).

18. Colourless body fragments. Trench J, (9558), 2003 Environmental Sample <3>.

19. Blue/green body fragments. Trench J, (9550), RF 9532, and Trench J, (9621).

6.5.5 Overview of the Roman Glass

Different categories of Roman sites tend to have assemblages of glass with different signatures (Cool and Baxter 1999). Where much of the material is coming from fieldwalking such signatures can be obscured because vessels with substantial wall thicknesses and/or robust parts will tend to survive at the expense of other vessel types. Thus bottle and pillar-moulded bowl fragments are to be expected. These are though often the signature of excavated rural sites in the early- to mid-Roman period as the inhabitants found a use for containers and large bowls rather than jugs and finer-walled drinking cups. The assemblage from Mount Pleasant, however, does appear to be broadly typical of a rural site even allowing for this. There does not appear to be the range of vessel forms that might be expected if this was a thriving roadside settlement of the second and third centuries. Something of this wider range of vessels would undoubtedly survive to be gathered amongst the fieldwalking finds. Jug handles, especially their attachment points, for example, tend to be robust. By the late second century more colourless tablewares might have been expected, but as can be seen colourless glass is very scarce amongst these collections. The only piece that appears out of the ordinary is the cylindrical cup with the fish decoration. It is unexpected against the background of the rest of the glass. If the site had a religious focus that attracted people to make votive offerings, then possibly that might be the explanation for its presence amongst this assemblage.

6.5.6 EDXRF Analysis of a fragment of Glass from Trench A

Steven Willis writes: A second fragment of glass came from Trench A, Context (1005), RF 1009. The piece is a body fragment from a thin walled vessel, pale olive green, weight 0.6g, 18mm in longest dimension and 1.5mm thick. The exterior surface is matt and convex. This is an unusual colour for Roman glass. Visual examination by both Hilary Cool and Jennifer Price led to the view that this was either Roman or Modern glass and it was suggested that the fragment be submitted for EDXRF analysis. This was apt given that this item was stratified in association with the deep blue fragment (Cool's Catalogue, No.9). The analysis was conducted by Lloyd Bosworth and the results were examined by David Dungworth. Establishing from initial results that the item was either Roman or post dated c. 1830 Dr Dungworth examined the compositional readings from more targeted analysis and concluded that they appear to show some similarities with later Roman glass known as HIMT (cf. Freestone 2005). Such a date would be at variance with the date of the context as indicated by other finds.

6.6 Iron Age and Roman Coins

6.6.1 Introduction

Steven Willis

A large number of Iron Age and Roman coins have been collected from East Field over recent decades via the use of metal detectors. Iron Age coins found in the 1980s and early 1990s were catalogued by Jeffrey May. His listing and discussion formed part of the unpublished report for British Gas (Catherall *et al.* 1998), and informed his numismatic papers of around that time. The PAS database holds records for the site (i.e. East Field) thanks to responsible reporting by finders. The archaeological work in East Field has not included a systematic metal detecting survey as the opportunity of a suitable window in the agricultural cycle has not arisen. East Field saw continued exploration by metal detector users through the 1990s and into the new century, but all fields at the site are now within Stewardship schemes and hence no use of metal detectors is allowed without formal permission from Natural England.

David Holman reports the coins from the archaeological fieldwork, including those from the excavation trenches, a few from East Field found during the excavation seasons (when the field was covered with crop stubble), and finds from Street Furlongs arising from systematic survey. Coins from East Field found by Les Brown are also reported here.

Permissions allowing systematic metal detecting were granted in 2011 for work in Street Furlongs. This survey was mainly the work of Stan Little who was assisted by Alan Daws and Steven Allenby. It took place over 21 days concurrent with the excavation season. In previous seasons detecting was by Stan Little and Tony Bibby. Overall ninety seven of the coins are from Street Furlongs, twelve from East Field and none from North Field. With East Field never in a suitable state for a systematic survey during the seasons of archaeological fieldwork undertaken at Mount Pleasant the catalogue of recovered coins is weighted towards Street Furlongs. This aspect means that the present catalogue might not give a complete picture of the character of the site over time. (David Holman and I are grateful to Richard Reece for reading this report and checking through the coin list; Dr Reece stated that he felt all significance areas are covered).

6.6.2 Coins found during the archaeological work at Mount Pleasant 1998-2013

David Holman

6.6.2.1 Introduction

During fieldwork undertaken across several fields overlying the site of the Late Iron Age and Roman rural settlement at Mount Pleasant, Nettleton/Rothwell, a total of 109 coins were found and have been fully recorded by the present writer (Table 6.7). These consist of three Iron Age, 104 Roman, one medieval, and one modern coin. The majority of these were found in the ploughsoil by the metal-detector team working on the Project over a period of several years, but particularly in 2011 when permissions were granted to detect across Street Furlongs under ideal conditions. No coins were recovered from stratified contexts in East Field, though six coins were recovered from ploughsoil contexts over the trenches. Equally the three coins from Trench I in Street Furlongs were from ploughsoil, whilst at Trench J there were four coins from the ploughsoil, together with three stratified in secure contexts (all associated with Building 2) and two from contexts that were post-Roman.

6.6.2.2 Iron Age Coins

The three Iron Age coins found are all issues traditionally attributed to the Corieltavi, the tribal grouping in whose heartland the site lies. They include two examples of the common silver unit usually referred to as the 'South Ferriby Boar' type (Fig. 6.39.2, Fig. 6.39.3) from the large number of specimens found at that site, close to the crossing of the Humber and since found in large numbers across Lincolnshire. The remaining Iron Age coin is the core of a plated 'North East Coast' type stater (Fig. 6.39.1), the earliest coin from Mount Pleasant, although no trace of the gold plating survives (as was verified by EDXRF analysis which detected only a slight trace). Plated forgeries of Iron Age coins are not uncommon finds and little can be read into the appearance of such a coin here. All the Iron Age coins recovered date from the mid to late first century BC, none of the later inscribed issues being present, and all that can be said from such a small sample is that they suggest that Iron Age activity in the area covered by Street Furlongs was somewhat limited in nature.

6.6.2.3 Roman Coins

Of the 104 Roman coins recovered, 90 are identifiable to one of the 21 periods used for the study of Roman coinage in Britain (Reece 1991). The condition of the coins is generally poor, a common feature of finds from ploughsoil, which are subject to environmental changes and farming activity, and the remaining 14 can only be allocated to broader periods owing to their condition. It is thus difficult to assess how much of the wear exhibited is the result of circulation and how much is due to post-depositional factors.

Figure coin 1 shows the number of coins from each period expressed as a percentage of the (identified) site total and Figure coin 2 the Roman coins expressed in terms of annual loss per 1000 (Reece 1991). These show a heavy concentration in the later third century, with a continuation into the mid-fourth century, albeit at a somewhat lower

Figure 6.39 Coins from the 1998-2013 fieldwork (Nos. 1-6); Les Brown Collection (Nos 7-8). No. 4 is a silver washed coin from East Field in 2000, and is 2012/11 in Table 6.7; other coins are mentioned in the text.

level. This is typical for a British site owing to the huge increase in circulating low-value coinage after around AD 260. There are just 13 coins dating from before AD 260, of which only 8 are identifiable to period, the earliest being of Vespasian (69-79). The very worn condition of the earlier coins suggests a long circulation life and a date of deposition as late as the third century need not be discounted. The three early third century denarii (2 plated) are not unusual as large bronze coins become increasingly scarce in Britain from around this time.

The period after AD 260 shows a significant increase in coin use and loss at Mount Pleasant. Of the 109 coins recovered, 54 are 'radiates' (antoniniani) dated AD 260-296 (periods 13 and 14), almost exactly half the site assemblage (59% of the identified coins). This is an unusually high proportion; indeed, only eight of the 140 sites listed by Reece (1991) have a larger component in this period. As is commonly the case for British sites, a large number of radiate copies are present, with 24 such coins (44%) recorded. Coins dated AD 296-330 (periods 15 and 16) also display an unusually high proportion (14%) which again is exceeded by only seven of the sites listed by Reece. Coins of the Tetrarchy (period 15), here represented by eight examples, are generally scarce finds on British sites and for this number to be present may suggest either a short-lived increase in activity or even (speculatively) a small purse hoard, and indeed, several of these coins appear to have come from the same part of the site. Three of these coins were found using a detector on the same day, from the ploughsoil of the south-east plateau area of Street Furlongs (coins 2012/30, 2012/31, 2012/35), a part of the site that otherwise produced few coins.

The latter half of the fourth century sees a very sudden drop in activity, sufficient to suggest that the site was rapidly abandoned. There are only two coins after AD 350, the latest dating to AD 364-378, and the ratio of early to late fourth century coins is at the top end of the range for the 140 sites listed by Reece. In fact, signs of reduced activity had already been apparent from several years earlier with a lower than expected number of period 17 coins (AD 330-348), the ratio of which compared to those of period 16 (AD 317-330) is unusually low, with only eight sites listed by Reece being lower. As is frequently the case with British sites, more than half of the period 17 coins are copies.

Comparing the coins from East Field and Street Furlongs (as far as this is possible given the group sizes), it is apparent that the East Field coins are very similar to the Street Furlongs coins until period 17 (330-348). The only two coins from the archaeological work dated after AD 348 both come from East Field, from ploughsoil at Trench F. Thus, with the period 18 and 19 coins, there is a 2/12 representation in East Field, as opposed to 0/97 for Street Furlongs. Normally one would be wary of making a comparison using as few as 12 coins, but in this case such an obvious discrepancy may suggest a very limited period of later occupation within East Field by Trench F, or it may be that the coins arrived as introductions from elsewhere.

The most appropriate site with which to make a comparison is Hatcliffe Top, some 9 kilometres to the north-east, which has seen similar metal-detecting activity and archaeological input as part of the Wolds Project undertaken by Steve Willis. That site has produced three Iron Age and 89 Roman coins (78 identifiable to period) but those bald figures give no indication of the remarkable disparity between these two geographically closely related sites. Hatcliffe again has few early (pre-AD 260) coins, but there the similarity ends as coins right up to AD 330, including the usually common 'radiates' (AD 260-296), are present only in very small numbers. From AD 330, that is to say, at just the time when coin loss at Mount Pleasant is starting to tail off, there is a significant increase at Hatcliffe Top and the high number of mid-late fourth century losses here is maintained into the 390s. The polarisation of the distribution of late third /early fourth century coins compared to mid-late fourth century coins between Mount Pleasant and Hatcliffe Top is so great that a link between these sites may perhaps be inferred, most probably as a result of settlement reorganization, possibly in response to Imperial and/ or external factors.

Few significant or unusual coins were noted at Mount Pleasant. One could note a Britannia as of Antoninus Pius and an antoninianus of Aurelian from Cyzicus (Fig. 6.39.5) but perhaps the most curious single find was a contemporary copy of a nummus of Diocletian with what appears to be a regular obverse allied to a reverse which is very clearly a barbarous, local copy (Fig. 6.39.6). The spatial distribution of the coins found in 1992-3 and 1998-2011 is discussed in Chapter 9.

6.6.2.4 Medieval and later

A solitary late 14th century penny was recovered, suggesting there was little activity here in the medieval period. One modern coin, a 1971 penny, was initially thought to be Roman. The principal interest of this latter coin is its very poor condition, showing that modern coins are unlikely to be of much use to future archaeologists owing to their composition which renders them more susceptible to fast deterioration than many Iron Age or Roman coins.

6.6.3 Coins from the site in the Collection of Les Brown

Les Brown has five coins from the site. He has kindly given permission of these coins to be included in this report. Les collected the coins from East Field in the 1970s by eye; hence it is not surprising that large distinctively coloured coins form this group, representing late first and second century imperial issues. The coins were identified by David Holman from photographs supplied by Alan Dennis of Caistor. The coins were subsequently weighed and examined by Steven Willis.

Catalogue

David Holman

Coin 1. Nerva, AD 97, As, Neptune standing right NEPTVNO CIRCENSES CONSTITVT, RIC - (although the type is known), BMC 3 (1966), Nerva no. 132. Weight 11.1g.
Coin 2. (Fig. 6.39.7). Hadrian, AD 125-128, Sestertius, Roma seated left, RIC 636. Weight 21.5g.
Coin 3. Sabina, AD 128-138, Denarius, Concordia seated left, RIC (Hadrian) 398. Weight 2.7g.
Coin 4. (Fig. 6.39.8). Lucilla, AD 164-169, Sestertius, Venus seated left, RIC (Marcus Aurelius) 1772. Weight 23.3g.
Coin 5. Commodus, AD 180-192, Sestertius, Figure seated left. Weight 18.5g.
David Holman writes: These coins are not inconsistent with the coin list for this site forthcoming from the archaeological interventions.

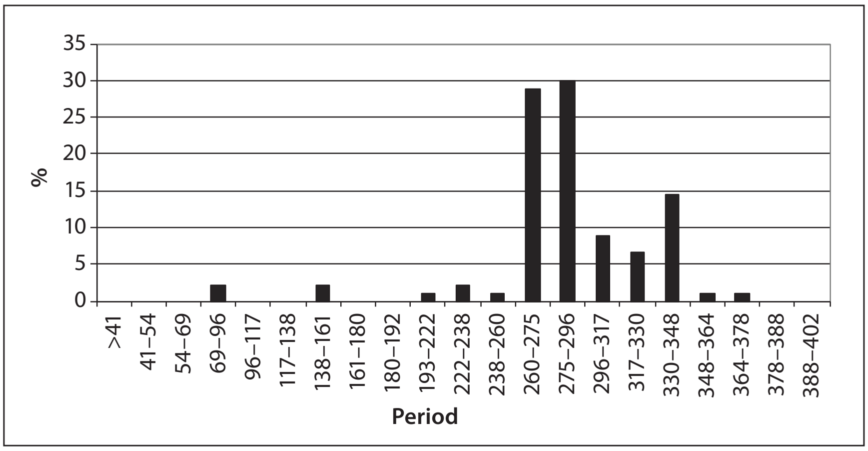


Figure 6.40 Roman coins (1998-2011) expressed as a percentage of the (identified) site total (n=90).

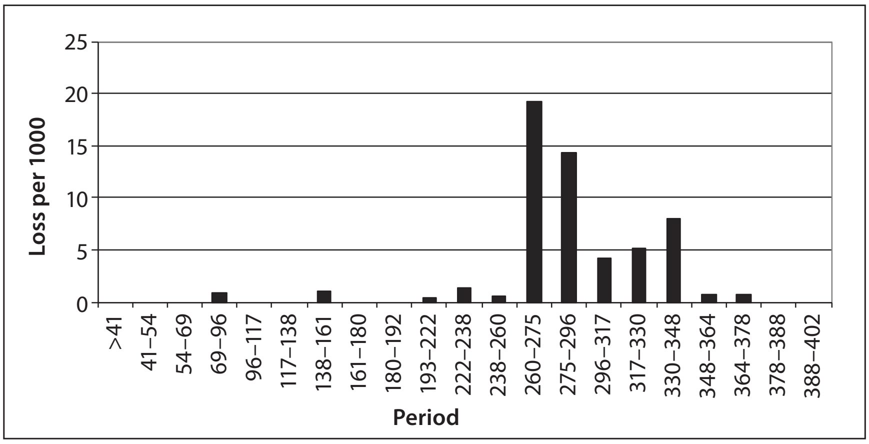


Figure 6.41 Roman coins (1998-2011) expressed in terms of annual loss per 1000.

Table 6.7 Coins from fieldwork at Mount Pleasant 1998-2011.

Period	Emperor etc.	Description	Mint	Denom.	Date	Reference	Condition	Weight (gm)	RF No.	Context	Year and Accession Code
IA	Corieltavi	Abstract head r. / Horse l.	*	AV/AE stater	Mid-late C1 BC	VA 804-4 ABC 1722	VW	2.23	74	Topsoil SF	2011 NMPA00 2000.194
IA	Corieltavi	Boar r. / horse r. (fragment)	*	AR unit	Late C1 BC	VA 877-1 ABC 1800	SW	0.45	189	Topsoil SF	2011 NMPA00 2000.194
IA	Corieltavi	Boar r. / horse r.	*	AR unit	Late C1 BC	VA 875-2 ABC 1800	VSW	1.27	2012 /9	Topsoil East Field	2000 NMPA00 2000.193
4	Vespasian	Rev: Aequitas stg. l.	Lyons or Rome	As	71-78	As RIC 287 (2.1)	VW	10.16	83	Topsoil SF	2011 NMPA00 2000.194
4	Vespasian	Rev. illegible	Lyons or Rome	As	69-79	*	EW	9.98	61	Topsoil SF	2011 NMPA00 2000.194
7	Faustina I, deified	Rev: Ceres stg. l. [AVG]V[STA]	Rome	Sestertius	141-145	As RIC (AP) 1116	VW(C)	27.26	2012 /18	9518	2002 NMPA00 2000.194
7	Antoninus Pius	Rev: Britannia std. l.	*	As	154-155	RIC 934	VW	7.49	174	Topsoil SF	2011 NMPA00 2000.194
8 or 9	Uncertain	Rev: Fig. stg. l. (square flan)	Rome	Sestertius	c.161-192	*	VW(C)	18.76	9560	9674	2011 NMPA00 2000.194
10	Caracalla	Rev: Salus stg. l., raising kneeling fig. SAL GEN HVM	*	Denarius (pl.)	199-201	RIC 42a	SW(C)	2.53	9559	9635	2011 NMPA00 2000.194
11	Severus Alexander	Rev: Aequitas stg. l. [AEQVITAS] AVG (exploding)	*	Denarius (pl.)	222-228	As RIC 274	VW	2.74	161	Topsoil SF	2011 NMPA00 2000.194
11	Julia Mamaea	Rev: Juno stg. l. IVNO CONSERVATRIX	Rome	Denarius	222-235	RIC (SA) 343	SW/ VSW	2.12	75	Topsoil SF	2011 NMPA00 2000.194
12	Valerian II, Caesar	Rev: Valerian stg. l. PRINCIPI IVVENTVTIS	Rome	Radiate	257-258	RIC 23	SW/ W	2.74	2012 /23	Topsoil SF G5	2006 NMPA00 2000.194
13	Gallienus	Rev: Libertas stg. l. [L]IBER[TAS A] VG XI	Rome	Radiate	264-266	RIC 233 (S)	VW/ W	1.48	2012 /25	Topsoil SF R4	2006 NMPA00 2000.194
13	Gallienus	Rev: Pax stg. l. [P] AX AE[TERNA]	Rome	Radiate	264-266	RIC 252 (S)	W(C)	1.92	2012 /20	9550	2003 NMPA00 2000.194
13	Gallienus	Rev: Sol stg. l. [AETERNITAS AVG] T	Rome	Radiate	260-268	RIC 160 (S)	VW	1.59	206	Topsoil SF	2011 NMPA00 2000.194
13	Gallienus	Rev. illegible (cut down / silver-washed) (copy?)	*	Radiate	260-268	*	UW/ EW	1.44	2012 /11	Topsoil East Field	2000 NMPA00 2000.193
13	Postumus	Rev: Neptune stg. l. NEPTVN[O REDVCI]	Cologne	Radiate	262-265	RIC 76	W	1.05	2012 /15	9003	2000 NMPA00 2000.194
13	Postumus	Rev: Felicitas stg. l. FELICITAS AVG	Cologne	Radiate	265-268	RIC 58	SW	2.86	2012 /14	9000-9003	2000 NMPA00 2000.194

Table 6.7 Coins from fieldwork at Mount Pleasant 1998-2011 (continued).

Period	Emperor etc.	Description	Mint	Denom.	Date	Reference	Condition	Weight (gm)	RF No.	Context	Year and Accession Code
13	Claudius II	Rev: Aeternitas stg. l. [AETER]NIT AVG (copy?)	Rome	Radiate	269-270	RIC 16	W	1.84	2012 /13	9001	2000 NMPA00 2000.194
13	Claudius II, deified	Rev: Altar CONSECR[ATIO]	Rome	Radiate	270	RIC 261	W	2.34	13	Topsoil SF	2011 NMPA00 2000.194
13	Claudius II, deified	Rev: Altar C[ONSECRA]TIO	Rome	Radiate	270	RIC 261	VW	2.36	96	Topsoil SF	2011 NMPA00 2000.194
13	Quintillus	Rev: Concordia stg. l. CONC[ORDIA AV]G	Rome	Radiate	270	RIC 13	VW/ EW	2.35	5	Topsoil SF	2011 NMPA00 2000.194
13	Victorinus	Rev: Salus stg. l. [SALVS] AV[G]	*	Radiate	269-271	As RIC 65	VW	1.83	172	Topsoil SF	2011 NMPA00 2000.194
13	Victorinus	Rev: Soldier stg. r. [VIRTVS A]V[G]	Cologne	Radiate	270-271	RIC 78	W/VW	1.57	11	Topsoil SF	2011 NMPA00 2000.194
13	Tetricus I	Rev: Pax stg. l.	*	Radiate	271-274	As RIC 100	VW	1.32	Al 1	Topsoil SF	2011 NMPA00 2000.194
13	Tetricus I	Rev: Pax stg. l. P[A]X [AVG]	Cologne	Radiate	272-273	RIC 100	W	1.35	2012 /28	Topsoil SF	2004 NMPA00 2000.194
13	Tetricus I	Rev: Spes wkg. l. [SPES P]VBLICA	Cologne	Radiate	272-273	RIC 136	VW	1.87	106	Topsoil SF	2011 NMPA00 2000.194
13	Tetricus I	Rev: Fig. stg. l. ?	*	Radiate	271-274	*	VW/ EW	1.15	12	Topsoil SF	2011 NMPA00 2000.194
13	Tetricus I	Rev: Fig. stg. l. ?	*	Radiate	271-274	*	EW	1.26	21	Topsoil SF	2011 NMPA00 2000.194
13	Tetricus I	Rev. illegible	*	Radiate	271-274	*	VW/ EW (C)	2.69	2012 /12	Topsoil East Field	2012 NMPA00 2000.193
13	Tetricus II	Rev: Caesar stg. l. [PRINC IVVENT]	*	Radiate	273-274	RIC 260	VW	1.07	32	Topsoil SF	2011 NMPA00 2000.194
13	Tetricus II	Rev: Spes wkg. l. [SPES AVGG]	*	Radiate	273-274	RIC 271	VW	1.38	101	Topsoil SF	2011 NMPA00 2000.194
13	Tetricus II	Rev: Fig. stg. l.	*	Radiate	273-274	*	VW	2.24	178	Topsoil SF	2011 NMPA00 2000.194
13	Tetricus II	Rev: Fig. stg. l.	*	Radiate	273-274	*	VW/ EW	1.88	2012 /1	2000	1998 NET 98 175.98
13	Aurelian	Rev: Aurelian and female fig. RESTITVT ORBIS A	Cyzicus	Radiate	272-274	RIC 348	W	2.99	4	Topsoil SF	2011 NMPA00 2000.194
13	Uncertain	Rev: Fig. stg. l.	*	Radiate	c.260-274	*	EW	1.25	39	Topsoil SF	2011 NMPA00 2000.194
13	Uncertain	Rev: Fig. stg. l.	*	Radiate	c.260-274	*	EW	1.04	203	Topsoil SF	2011 NMPA00 2000.194

Table 6.7 Coins from fieldwork at Mount Pleasant 1998-2011 (continued).

Period	Emperor etc.	Description	Mint	Denom.	Date	Reference	Condition	Weight (gm)	RF No.	Context	Year and Accession Code
13	Uncertain	Rev. illegible	*	Radiate	c.260-274	*	EW	1.89	2012/10	Topsoil East Field	2000 NMPA00 2000.193
14	'Gallienus'	Rev: Fides stg. l. (FIDES MILITVM]	*	Barb Rad	c.271-286	Copy of RIC 192a	VW/W	0.78	3	Topsoil SF	2011 NMPA00 2000.194
14	'Victorinus'	Rev: Soldier stg. r. [VIRTVS AVG]	*	Barb Rad	c.271-286	Copy of RIC 78	SW/ W	1.61	14	Topsoil SF	2011 NMPA00 2000.194
14	'Tetricus I'	Rev: Fig. stg. l. (?Hilaritas)	*	Barb Rad	c.271-286	Copy as RIC 79?	VW	2.44	40	Topsoil SF	2011 NMPA00 2000.194
14	'Tetricus I'	Rev: Laetitia stg. l. [LAE]TITIA AVG[G]	*	Barb Rad	c.271-286	Copy of RIC 88	VSW/SW	0.86	2012/4	6001 Square 114	1999 NMP99 154.99
14	'Tetricus I'	Rev: Fig. stg. l. (?Spes)	*	Barb Rad	c.271-286	Copy as RIC 130?	W	1.82	71	Topsoil SF	2011 NMPA00 2000.194
14	'Tetricus I'	Rev: Crude fig. stg. r. (?Virtus)	*	Barb Rad	c.271-286	Copy as RIC 145?	SW/W	1.20	45	Topsoil SF	2011 NMPA00 2000.194
14	'Tetricus I'	Rev: Fig. stg. l.	*	Barb Rad	c.271-286	*	EW	1.76	26	Topsoil SF	2011 NMPA00 2000.194
14	'Tetricus I'	Rev: Fig. stg. l.	*	Barb Rad	c.271-286	*	VW/EW	1.62	76	Topsoil SF	2011 NMPA00 2000.194
14	'Tetricus I'	Rev: Fig. stg. l.	*	Barb Rad	c.271-286	*	VW	0.86	170	Topsoil SF	2011 NMPA00 2000.194
14	'Tetricus I'	Rev. very crude and unintelligible	*	Barb Rad	c.271-286	*	W	2.16	183	Topsoil SF	2011 NMPA00 2000.194
14	'Tetricus II'	Rev: Fig. stg. l. ?	*	Barb Rad	c.271-286	*	SW	1.29	Al 4	Topsoil SF	2011 NMPA00 2000.194
14	Uncertain	Rev: Pax stg. l.	*	Barb Rad	c.271-286	*	EW/VW (C)	2.27	2012/7	Topsoil East Field	1998 NET 98 175.98
14	Uncertain	Rev: Fig. stg. l.	*	Barb Rad	c.271-286	*	EW	1.07	16	Topsoil SF	2011 NMPA00 2000.194
14	Uncertain	Rev: Fig. stg. l. (chipped)	*	Barb Rad	c.271-286	*	EW	0.88	104	Topsoil SF	2011 NMPA00 2000.194
14	Uncertain	Rev: Fig. stg. l. (chipped and cracked)	*	Barb Rad	c.271-286	*	EW	0.43	105	Topsoil SF	2011 NMPA00 2000.194
14	Uncertain	Rev: Fig. stg. l.	*	Barb Rad	c.271-286	*	EW/VW	1.92	2012/2	5007	1999 NMP99 154.99
14	Uncertain	Rev: Crude fig. stg. l.	*	Barb Rad	c.271-286	*	VW/W	0.89	107	Topsoil SF	2011 NMPA00 2000.194
14	Uncertain	Rev. illegible	*	Barb Rad	c.271-286	*	EW(C)	2.50	85	Topsoil SF	2011 NMPA00 2000.194

Table 6.7 Coins from fieldwork at Mount Pleasant 1998-2011 (continued).

Period	Emperor etc.	Description	Mint	Denom.	Date	Reference	Condition	Weight (gm)	RF No.	Context	Year and Accession Code
14	Uncertain	Rev. illegible	*	Barb Rad	c.271-286	*	VW/EW	1.21	187	Topsoil SF	2011 NMPA00 2000.194
14	Uncertain	Rev. illegible	*	Barb Rad	c.271-286	*	W/VW	1.02	173	Topsoil SF	2011 NMPA00 2000.194
14	Uncertain	Rev. illegible	*	Barb Rad	c.271-286	*	VW/EW	0.56	47	Topsoil SF	2011 NMPA00 2000.194
14	Illegible	Details illegible (copy)	*	Barb Rad	c.271-286	*	EW	0.79	177	Topsoil SF	2011 NMPA00 2000.194
14	Illegible	Details illegible (copy)	*	Barb Rad	c.271-286	*	EW	0.60	42	Topsoil SF	2011 NMPA00 2000.194
14	Illegible	Details illegible (copy) (chipped)	*	Barb Rad	c.271-286	*	EW	0.74	18	Topsoil SF	2011 NMPA00 2000.194
14	Carausius	Rev: Pax stg. l., vertical sceptre	*	Radiate	287-293	As RIC 98 etc	W	3.31	72	Topsoil SF	2011 NMPA00 2000.194
14	Allectus	Rev: Galley VIR[TVS AVG)	*	Quinarius	293-296	As RIC 55	VW	2.19	81	Topsoil SF	2011 NMPA00 2000.194
14	Allectus	Rev: Galley VIRTVS AVG QC	Colchester	Quinarius	293-296	RIC 129 var.	W/SW(C)	2.45	2012/17	9502	2002 NMPA00 2000.194
13 or 14	Uncertain	Rev: Fig. stg. l. (?Pax) (fragment)	*	Radiate	c.260-296	*	VW(C)	0.48	204	Topsoil SF	2011 NMPA00 2000.194
15	'Diocletian'	GENIO POPVLI ROMANI (copy - barbarous rev.)	*	Nummus	c.294-305	*	UW	8.58	2012/27	Topsoil SF	2004 NMPA00 2000.194
15	Licinius I	GENIO POP ROM T/F/PTR	Trier	Nummus	310-313	RIC VI, Trier 845b	W	2.60	49	Topsoil SF	2011 NMPA00 2000.194
15	Constantine I	COMITI AVGG NN /*/PLN	London	Nummus	310-312	RIC VI, London 177	SW/W	3.86	77	Topsoil SF	2011 NMPA00 2000.194
15	Constantine I	SOLI INVICTO COMITI */ /PLN	London	Nummus	312-313	RIC VI, London 282	SW	2.31	171	Topsoil SF	2011 NMPA00 2000.194
15	Constantine I	[SOLI INVICT]O COMI[TI]	*	Nummus	310-313	*	VW/EW	2.54	2012/31	Topsoil SF	2006 NMPA00 2000.194
15	Constantine I	SOLI INVICTO COMITI S/F/MLN	London	Nummus	315-316	RIC VII, London 43	SW	2.39	180	Topsoil SF	2011 NMPA00 2000.194
15	Constantine I	[SOL]I INVICTO COM[ITI] S/P/[PLN]	London	Nummus	317	As RIC VII, London 111	W	1.55	2012/30	Topsoil SF	2006 NMPA00 2000.194
15	H of Constantine	[SOL]I INVIC[TO COMITI] U/[PLN]	London	Nummus	318	As RIC VII, London 145	EW/VW	2.21	2012/35	Topsoil SF	2006 NMPA00 2000.194

Table 6.7 Coins from fieldwork at Mount Pleasant 1998-2011 (continued).

Period	Emperor etc.	Description	Mint	Denom.	Date	Reference	Condition	Weight (gm)	RF No.	Context	Year and Accession Code
16	Constantine I	VICTORIAE LAETA[E PRINC PERP]	*	AE3	318-320	*	SW	1.68	52	Topsoil SF	2011 NMPA00 2000.194
16	Crispus, Caesar	VIRTVS [EXERCIT] [ ]TR	Trier	AE3	320	RIC VII, Trier 270	W	2.10	185	Topsoil SF	2011 NMPA00 2000.194
16	'Licinius II, Caesar'	[V]IRTVS EXERCIT Obv. reads LICNIVS (copy)	*	AE3 (copy)	320-321	*	SW	1.70	176	Topsoil SF	2011 NMPA00 2000.194
16	Constantine I	DN CONSTANTINI MAX AVG VOT XX	Arles	AE3	321-322	As RIC VII, Arles 228	SW	1.88	2012 /32	Topsoil SF	2006 NMPA00 2000.194
16	Constantine I	[BEATA] TRA[NQV] ILLI[TAS[	*	AE3	321-323	*	W(E)	2.22	56	Topsoil SF	2011 NMPA00 2000.194
16	Constantine I	PRO[VIDENTIAE AV]GG PTR	Trier	AE3	324-325	RIC VII, Trier 449	W	2.12	Al 2	Topsoil SF	2011 NMPA00 2000.194
17	House of Constantine	[VRBS ROMA]	*	AE3	330-335	*	EW	1.48	19	Topsoil SF	2011 NMPA00 2000.194
17	Constantine II, Caesar	GLOR[IA EXERCITVS] (2) TR.P	Trier	AE3	332-333	RIC VII, Trier 539	VW/W	1.49	2012 /24	Topsoil SF R4	2006 NMPA00 2000.194
17	Helena	[PAX PVBLICA] (chipped) (?copy)	*	AE4	337-340	*	VW	0.58	108	Topsoil SF	2011 NMPA00 2000.194
17	Theodora	[PIETAS ROMANA]	*	AE4	337-340	*	VW	1.08	100	Topsoil SF	2011 NMPA00 2000.194
17	Constans	VICTORI[AE DD AVGG Q NN] Branch/TRP	Trier	AE3/4	347-348	RIC VIII, Trier 206	W	1.36	2012 /21	9558	2003 NMPA00 2000.194
17	House of Constantine	[VICTORIAE DD AVGG Q NN] (chipped)	*	AE4	347-348	*	EW	0.97	98	Topsoil SF	2011 NMPA00 2000.194
17	'House of Constantine'	[CONSTANTINO] POLIS (copy)	*	AE4 (copy)	c.335-345	*	W	1.15	2012 /26	Topsoil SF T1	2006 NMPA00 2000.194
17	'Constantius II, Caesar'	GLORIA EXERCITVS (2) .SLG (copy)	'Lyons'	AE3/4	c.335-345	Copy of RIC VII, Lyons 245	SW/ VSW	1.26	2012 /5	6001 Square 114	1999 NMP99 154.99
17	'Constantine I'	[GLORIA] EXERCITVS (2) T.R.P (copy)	'Trier'	AE4 (copy)	c.335-345	Copy of RIC VII, Trier 537	SW	0.77	2012 /8	Topsoil East Field	1998 NET 98 175.98
17	'House of Constantine'	[GLORIA EXERCITVS] (2) (copy)	*	AE4 (copy)	c.335-345	*	EW(C)	0.87	186	Topsoil SF	2011 NMPA00 2000.194
17	'House of Constantine'	[GLORIA EX] ERCITVS (1) (copy)	*	AE4 (copy)	c.335-345	*	VW/W	1.08	181	Topsoil SF	2011 NMPA00 2000.194

Table 6.7 Coins from fieldwork at Mount Pleasant 1998-2011 (continued).

Period	Emperor etc.	Description	Mint	Denom.	Date	Reference	Condition	Weight (gm)	RF No.	Context	Year and Accession Code
17	'House of Constantine'	[GLORIA EXERCITVS] (1) (copy)	*	AE4 (copy)	c.335-345	*	VW	0.66	2012 /33	Topsoil SF	2006 NMPA00 2000.194
17	'House of Constantine'	[VICTORIAE DD AVGG Q NN] (copy)	*	AE4 (copy)	c.347-348	Copy as LRBC 1, 145	VW	0.27	182	Topsoil SF	2011 NMPA00 2000.194
18	'House of Constantine'	[FEL TEMP REPARATIO] (falling horseman) (copy)	*	AE4 (copy)	c.355-365	*	EW	0.28	2012 /6	6007 East Field	1999 NMP99 154.99
19	House of Valentinian	[GLORIA ROMANORVM]	*	AE3	364-378	*	EW	1.95	2012 /3	6001 Square 114	1999 NMP99 154.99
*	Uncertain	Rev. illegible	Rome	As	C1 AD	*	EW	8.02	43	Topsoil SF	2011 NMPA00 2000.194
*	Uncertain	Rev. illegible	*	As	C1-C2 AD	*	EW	5.06	102	Topsoil SF	2011 NMPA00 2000.194
*	Illegible	Rev: Fig. stg. l.	*	As or dupondius	C1-C2 AD	*	EW(C)	11.27	2012 /34	Topsoil SF	2006 NMPA00 2000.194
*	Illegible	Rev: Fig. stg. l.?	Rome	Sestertius	c.138-180	*	EW(C)	22.55	2012 /22	9569	2003 NMPA00 2000.194
*	House of Constantine	Details illegible (copy?) (chipped)	*	AE3/4	c.330-360	*	EW	0.46	2012 /16	9501	2002 NMPA00 2000.194
*	'House of Constantine'	Rev. illegible	*	AE4 (copy)	c.335-365	*	EW	0.61	48	Topsoil SF	2011 NMPA00 2000.194
*	Illegible	Details illegible (chipped)	*	AE3	c.330-378	*	EW(C)	1.22	2012 /29	Topsoil SF	2006 NMPA00 2000.194
*	Illegible	Details illegible	*	AE3	c.260-378	*	EW	1.14	57	Topsoil SF	2011 NMPA00 2000.194
*	Illegible	Details illegible (copy)	*	AE4 (copy)	c.270-365	*	EW	1.08	2	Topsoil SF	2011 NMPA00 2000.194
*	Illegible	Details illegible (copy)	*	AE4 (copy)	c.270-365	*	EW	0.63	10	Topsoil SF	2011 NMPA00 2000.194
*	Illegible	Details illegible (copy)	*	AE4 (copy)	c.270-365	*	EW	0.34	99	Topsoil SF	2011 NMPA00 2000.194
*	Illegible	Details illegible (copy?) (chipped)	*	AE3/4	c.270-365	*	EW	0.26	2012 /19	9519	2002 NMPA00 2000.194
*	Edward III or Richard II	[CIV]ITAS EB[ORACI] Cross on breast (clipped)	York	Penny	1369-1399	S.1651 or 1690	W	0.96	68	Topsoil SF	2011 NMPA00 2000.194
*	Elizabeth II	Rev. illegible	*	Penny	1971	S.4237	EW(C)	3.04	41	Topsoil SF	2011 NMPA00 2000.194

6.6.4 Catalogue of Coins collected from East Field at the time of the British Gas Survey

Catalogue

Roger Bland

The catalogue begins with the find number. The find-spots are shown on Fig. 9.6.

2736. Marcus Aurelius, AD 161-80, or Commodus AD 180-92, brass Sestertius. Obv. and rev. illegible. Mint of Rome.

1173. Trebonianus Gallus, AD 251-3, base silver, radiate, IMP CAE C VIB TREB GALLUS PF AVG radiate bust v. Reverse: PAX AUGG, Pax standing l, mint of Rome, RIC 55.

6207. Claudius II, AD 268-70, base silver radiate, IMP C CLAVDIVS PF AVG radiate, cuiv. bust v. Reverse: VIRTVS AVG, soldier sty. l, branch and spear, at feet, shield, mint of Rome, RIC 109.

5846. Constantine I, AD 307-337, bronze "nummus", CONSTANTINVS MAX AVG bust v.
Reverse: GLORIA EXERCITVS (2 standards), mint of Arles, as LRBC 352, AD 330-5.

6470. Constantine II, AD 337-40, bronze "nummus", CONSTANTINVS IVN NOB C laur. bust v. Reverse: GLORIA EXERCITUS (2 standards) TR.[...], Mint of Trier, LRBC 63, AD 330-5.

1910. Constantius II, AD 323-61, bronze "nummus", FL IVL CONSTANTIVS NOB C laur., bust r. Reverse: GLORIA EXERCITVS (2 standards) branch, TRP, mint of Trier, LRBC 83, AD 330-5.

5583. Constantine II, AD 317-40, CONSTANTINVS NOB C lauv. cuiv. bust v. Reverse: GLORIA EXERCITVS (1 standard), mint f Lyon, as LRBC - , AD 335-7.

5461. Helena, mother of Constantine I, AD 337-41, bronze "nummus", FL IVI HELENAE AVG bust v. Reverse: PAX PVBLICA, (leaf) TRP (leaf), LRBC 128.

440. Constantius II, AD 323-61 or Constans, AD 333-50, bronze "nummus", obverse illegible. Reverse: VICTORIA DD AVGGQ NN (2 victories type), illegible mint mark, AD 341-8.

6506. Illegible, possible imitation of Roman bronze coin of 4th century.

5358. Illegible, possibly bronze coin.

6222. Illegible bronze coin.

6.7 The Small Finds from the 1998-2013 Excavations and Fieldwork

Nicholas J. Cooper

6.7.1 Introduction

A total of 47 objects recovered from the site during hand excavation and survey were submitted for identification and reporting. All objects, except one of animal bone, are copper alloy or iron, with one modern object of lead alloy. Conservation was undertaken by Jennifer Jones, Graham Morgan and Dave Dungworth and qualitative EDXRF analysis of object surfaces was undertaken by David Dungworth and K.A. Borrowman, the evidence from which is incorporated into the text. The Catalogue is arranged by functional category in line with Crummy (1983).

6.7.2 Objects of Personal Adornment and Dress

Brooches

A total of 14 brooches were recovered. They have been catalogued in accordance with the Mackreth corpus (2011) and in the same broad chronological order.

Late La Tène 'The Stead' or Nauheim-related

1. NET 98 175.98, East Field, Trench B (2006) RF 2030. Cu Alloy one piece brooch. Complete except for damage to catchplate. Four coil spring with external chord. The bow emerges from beneath the spring becoming wider and flatter at the top and then tapering continuously to the foot. The upper part of the bow is decorated with an incised zigzag down the mid-line, flanked by a single groove along each margin. A sharply defined half-round 'bead and reel' moulding, on the outer facing surface only, separates the upper and lower halves of the bow. The lower bow is decorated only by the marginal grooves which converge at the top of the catch plate and continue as a single incised line to the foot. Only the upper arm of the open catch plate frame is preserved. Length 85mm. (Fig. 6.42.1, Fig. 6.42.2)

This brooch belongs to Mackreth's Part 1.b1 Late La Tène group (Mackreth 2011, 9-10 and pl.1. 3731 and

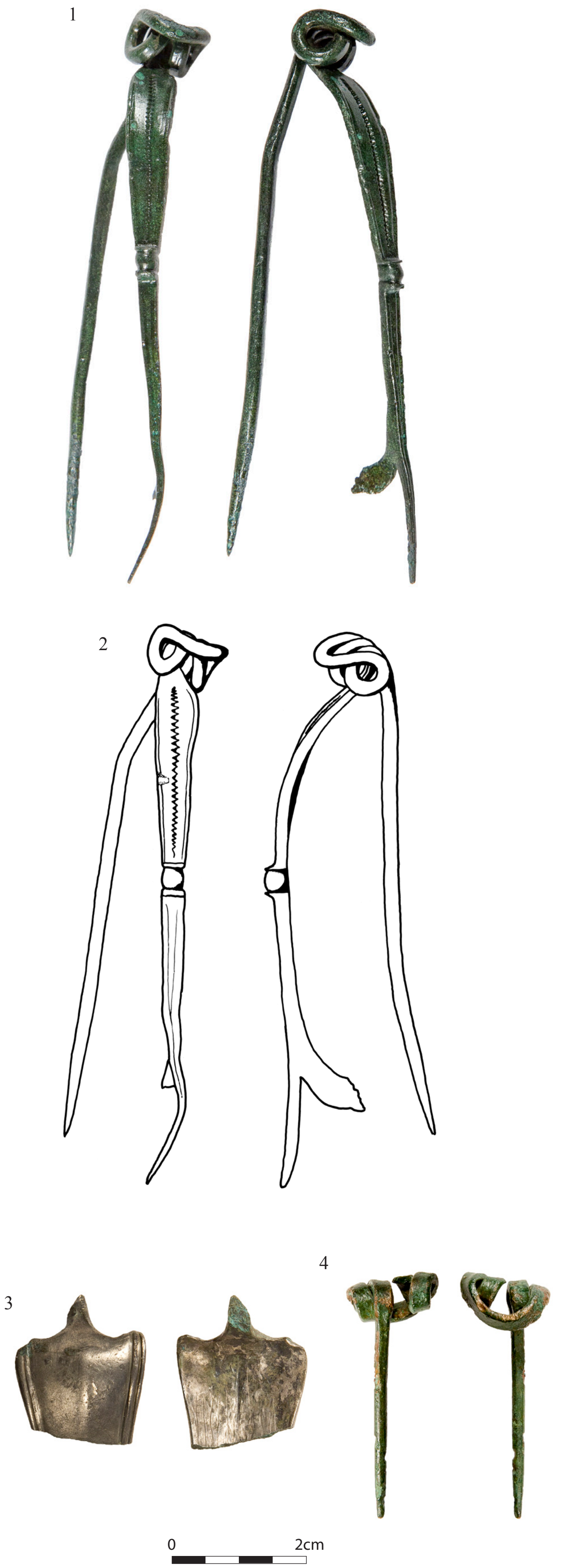


Figure 6.42 Brooches of the Late La Tène group.
1: Brooch no.1; 2: Drawing of Brooch no.1 showing incised zigzag; 3: Brooch no.2; 4: Brooch no.4.

13669, particularly the decoration and proportions of the latter, are close parallels whilst the half-round central moulding is replicated exactly on the bow of 2949). The dating evidence is tentative but is probably shared with the associated Type 1a.1 from Westhampnett cemetery dated 90-50 BC (Mackreth 2011, 9 and 13). He also argues that the similarity to the Nauheim supports this contention and that maybe it should be regarded as a proto-Nauheim (2011, 10) with the external chord being an early trait (most Nauheims having internal chords): see for example the similarity of decoration on the Nauheim in Mackreth corpus (2011, pl. 6.3946). The distribution is concentrated in the south-east of England (Mackreth 2011, 10; Stead 1998b) and so this would represent a northerly occurrence of the type.

2. NMP00 2000.193, East Field, U/S from ploughsoil, RF 8504. Copper alloy. Upper bow fragment with white metal plating (shown by EDXRF analysis to comprise silver with some gold) from a one piece brooch comprising a narrow 'neck' emerging from under the missing spring, which widens dramatically to form scooped shoulders which angle up and then drop to form a sharply tapering plate bow with double grooves running down each edge and a faint midline ridge. Width of shoulders 19mm. Likely length of brooch (based on parallels) 100mm. (Fig. 6.42.3)

This clearly comes from what would have been a large, highly decorated and well-made brooch also belonging to this group, probably with a bead and reel moulding half way down the bow. A close parallel is provided in the Mackreth corpus (2011, 10-1, pl. 3.3776) and he considers a date in the first half of the first century BC to be applicable.

3. NET 98 175.98, East Field, Trench B (2002) Sq. 28, RF 2037. Cu alloy one-piece brooch. Complete square-sectioned pin and part of spring (two coils and probable internal chord) from a small brooch, probably originally with a four-coil spring. Length of pin 38mm. Probably from a brooch of Late La Tène type. (not illustrated)

4. NPMA00 2000.194, Street Furlongs Fieldwalking Survey Sq. P4. One piece copper alloy brooch. Complete pin and four coiled spring with an internal chord from a brooch of Late La Tène type. Length of pin 37mm. (Fig. 6.42.4) Brooches of this general type on the Continent have been studied by Striewe (1996).

Langton Down

Three examples were recovered, one with the more typical reeded bow, and two of the more unusual Nertomarus subgroup.

5. NMP99 154.99, East Field, Trench D (4044), RF 4004. Copper alloy (brass) brooch with tinned coating surviving on raised edges of the bow. Complete reeded bow and enclosed spring casing (only slightly wider than the bow), with spring and base of pin *in situ* and part of pin shaft separate. Open catch-plate, damaged. Length 39mm. (Fig. 6.43.1, Fig. 6.43.2)

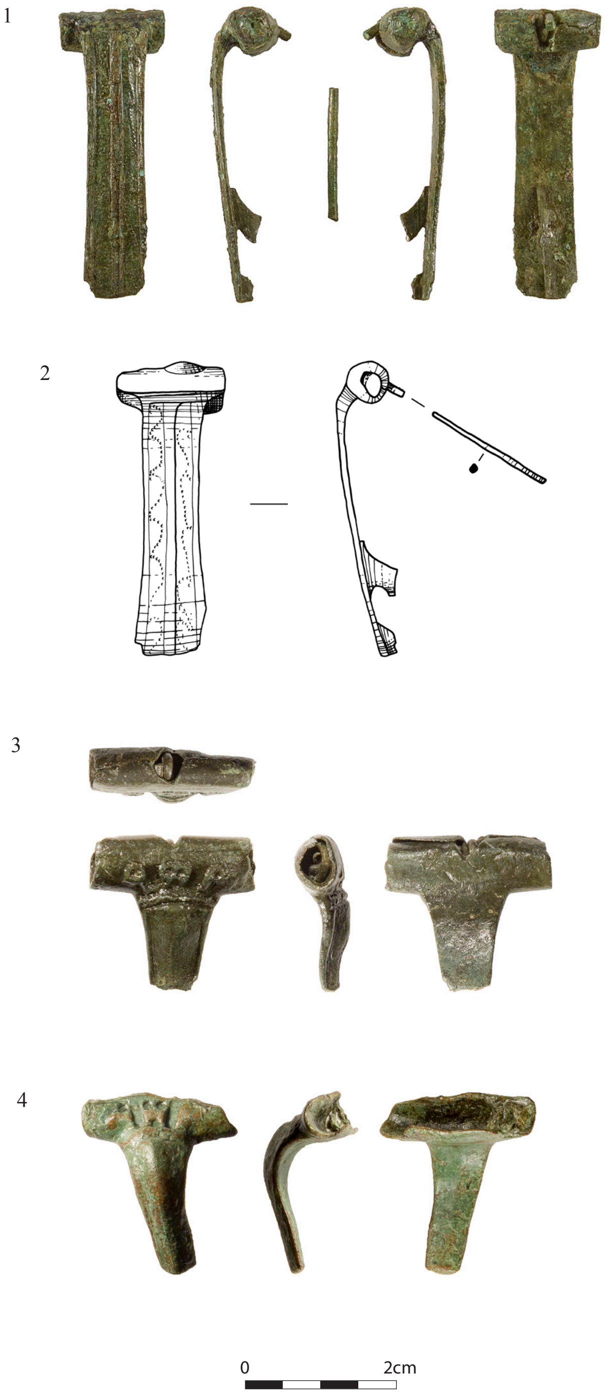


Figure 6.43 Brooches of the Langton Down group.
1: Broch no.5; 2: Drawing of Brooch no.5 showing scrolled punch-mark decoration; 3: Brooch no.6; 4: Brooch no.7.

The strip bow is decorated with a midline ridge with a central channel which may have contained copper wire (pers. comm. Justine Bayley). There is another ridge on each edge of the bow and the spaces either side of the midline are filled with interlocking scrolled lines of punch marks down the full length, similar to Mackreth's punched-dot decorated sub-group 4 (2011, 35 and pl. 20.6502), of which an example comes from a Phase 1 deposit at King Harry Lane (Stead and Rigby 1989, 93, fig. 49, E24). A pre-Conquest date is therefore likely and Mackreth argues that they are known from sites with high pre-Conquest status, with four known from Lincolnshire including one similar example from Dragonby (Olivier 1996, 244, fig. 11.5.54). Other good examples of punched scroll decoration come from Fishbourne (Hull 1971, 104, fig. 38.30 drawing also on a parallel from Old Sleaford 5238 perhaps from the same workshop) and Canterbury (Mackreth 1995, 973, fig. 407.86 and 87).

6. NET98 175.98, East Field, Trench B (2011), RF 2027. Upper bow and wings/spring casing only, with remains of spring within but pin missing. The upper bow is plain, has a triangular section with a marginal groove along each facing edge and a short line of punch marks just off the mid-line. There is a groove and rib, decorated with punch marks defining the junction of the bow and spring casing, and above this, as if emerging from behind the rib, the front of the casing is decorated with a stylised moulding of human or animal figure with a head (with three punches forming open eyes and mouth) and two outstretched arms (with rounded paws?). Width of wings 11mm. (Fig. 6.43.3)

7. NMP00 2000.193, East Field, U/S from ploughsoil, RF 8503. Upper bow and damaged wings/spring casing only; one coil of spring still *in situ*. Bow is plain and tapering with a triangular section. Faint ridge separates the bow from the spring casing above which the punch decorated 'figural motif' is placed in relief by cutting a slot either side of the central 'head'. A much cruder example than above. Width of spring case 20mm. (Fig. 6.43.4)

These two brooches belong to a subgroup of the Langton Down known as the Nertomarus (due to the fact that some of them are stamped with this name), 25 are recorded in the Mackreth corpus (none as northerly as these two) and two are illustrated (Mackreth 2011, 35 and pl.21.6532 and 6545, the latter being the closest parallel to this example). Mackreth does not entertain the idea that the decoration is figural and considers the variant to be a late one, and whilst the earliest dating comes from Bagendon c. AD 43-52 and Fishbourne AD 43-c.75

(Hull 1971, 100, fig. 38.28), he concludes that most were out of use by c. 55/60.

Aesica

8. NMPA00 2000.194, Street Furlongs Survey 2011, item 205. Cast copper alloy. Plain sheet fantail element with flaring terminals and concave lower edge with remains of solid catch plate. The fan narrows to a slender bow which protrudes out, and of which only a tiny stub remains. Width of fan 18mm. (not illustrated)

This is a difficult fragment to classify precisely but, given the early run of the brooch assemblage as a whole, the narrow bow junction, and the flaring tails of the fan, it is most likely to be from an Aesica (Mackreth 2011, 47-8, Subgroup 4, pl. 29.6125 and 6145). Dating is c. AD 25-60/70 on the basis of the latter parallel.

Colchester derivative: Rearhook

The rearward facing hook is a method of attaching the spring which is characteristic of the Icenian area and has a short-lived chronology between the Conquest and the Boudican Rebellion (Mackreth 2011, 60).

9. NMPA00 2000.194, Street Furlongs Survey 2011, item 24. Cu alloy cast brooch. Complete except for missing spring and pin and slight damage to catch plate. Bow of plano-convex section tapering to a point. Sides decorated with a single groove containing traces of white metal (tin) plating. Head of bow has a short tapering mid line groove above which is a protruding crest giving way to a rearward-facing hook which would once (together with some solder in the recessed wings) have held the chord of a multi-coiled spring in place behind the wide semi-circular recessed wings. The recess at the back of the wings also has a circular depression centrally, which may have served to hollow out the heavy head of the bow. The fronts of the wings are decorated with three 'bead and reel' mouldings on each side, each with a band of horizontal notches running vertically. The catch plate has a single angular opening with signs of fretting close to the bow. Length 61mm. (Fig. 6.44.1)

This type of moulded decoration on the wings is very common, though more usually combined with a decorated bow (e.g. Mackreth 2011, pl. 38. 939 which is the closest parallel and pl. 39.802-804, all of which have similar wing mouldings).

10. NMPA 00 2000.194, Street Furlongs, Trench J, (9505) RF 9511. Cast copper alloy (copper with tin and lead, whilst the pin also contains tin but only very low levels of lead). Complete except for much of spring and part of pin missing; rest of pin now separate. Very smooth surface with a sheen, possibly indicating traces of white metal coating. Bow of plano-convex section which tapers to a stubby point. A mid-line groove runs the length of the bow and is filled with a wavy line in relief. The same line motif is used in a zigzag fashion on each side of the bow to create a series of lozenge panels. The wings are decorated in the same way with a diagonal line on each and another vertical at each end. The rearhook rises slightly above the line of the bow. The semi-circular recess behind the wing contains four coils of the incomplete spring still held by solder. The catchplate is small and triangular with a single circular perforation. Length 40mm. (Fig. 6.44.2)

1

2

Figure 6.44 Colchester derivative, rearward facing hook brooches. 1: Brooch no.9; 2: Brooch no.10.

The use of wavy line decoration defines a specific sub-group within the rearhook class (Mackreth 2011, 62 Group 2 and pl. 39.12922 and 11961), but none share the intricate line decoration on the sides. This is a very finely-made and attractive brooch.

Colchester derivative: hinged pin

11. NMPA00 2000.194, Street Furlongs Survey 2011, item 208. Cast copper alloy. Upper part of bow, cylindrical wings, axis pin and part of pin preserved. Plain bow of plano-convex section, head of which swells to form a rounded umbo. Wings also plain except for pair of vertical grooves at each end. Axis pin of iron. Circular lug of copper alloy pin still *in situ*. Width of wings 31mm. (Fig. 6.45.1)

Similar to the simpler, undecorated, examples in the Mackreth corpus, within the hinged pin group (Mackreth 2011, 82 and pl. 57.2254).

12. NMPA00 2000.194, Street Furlongs Survey 2011, item 27. Cast copper alloy. Fragment from enclosed wing of hinged brooch with part of iron axis pin *in situ*. Decoration comprises three pairs of incised vertical lines. (not illustrated)

Figure 6.45 1: Brooch no.11, Colchester derivative, hinged pin brooch; 2: Brooch no.14, enamelled plate brooch; 3: Armlet no.15.

13. NMPA00 2000.194, Street Furlongs, Trench I, (9002) RF 9007. Tapering pin with part of perforated lug from a hinged brooch. Length of pin 48mm. (not illustrated)

Plate Brooch

14. NMPA00 2000.194, Street Furlongs Survey 2011, item 28. Cast copper alloy. Complete circular enamelled plate brooch, except for missing pin and damage to catch plate. The probably sprung pin would have been held by the single lug as is normal for this particular type, but the perforation is filled with the stub of an iron pin, suggesting a later repair. The white metal trim providing the framework of cells containing the enamel comprises a central dot with a lobed hexagon, the lobes of which terminate in dots of the same size as the central one. A single ring of white metal forms the edge of the brooch. The cell between the central dot and the hexagon contains black enamel, whilst the outer cell contains red enamel. Diameter 22mm. (Fig. 6.45.2)

This plate brooch belongs to Mackreth's Group 2b of his British plate brooches with applied white metal trim (Mackreth 2011, 156, pl. 105.11599 which is identical to the present example in terms of design and size). Examples of the type from Hockwold cum Wilton and Ilchester come from later second century deposits. Norfolk represents one of the concentrations of this second century type (Mackreth 2011, 158).

Armlet

15. NMPA00 2000.194, Street Furlongs, U/S from ploughsoil (9649). Copper alloy. Short curving section of wide sheet band of rectangular section but very slightly convex internally and concave externally. Both ends torn or clipped obliquely. The external surface is decorated with two parallel incised lines down the centre. Width of band 17mm. Internal diameter of band, 50mm. (Fig. 6.45.3)

The internal diameter indicated by this short length (which may not be accurate) is rather narrow for an armlet that would not have been as flexible as a wire one. There is a possibility that this belongs to an *armilla*, that is penannular bracelets that were presented to soldiers at the time of the Conquest (Crummy 2005), but this would be a very tentative suggestion, without the distinctively decorated terminals. Additionally, an '*ex votos*' example with a decorated terminal comes from Harlow temple (France and Gobel 1985, 84-5, fig. 43.46) and another from Leicester (Cool 2009b, 193, fig. 66.186).

Figure 6.46 Finger ring no.16 (Les Brown Collection).

Finger rings

16. Surface find from East Field collected by Les Brown prior to 1998. Copper alloy, comprising a single length of wire coiled twice with both terminals tapered. Internal diameter (from photo) 17mm. Thickness of wire 2mm. (Fig. 6.46)

This is very neatly-made and would appear to have been purposely made from wire rather than cut down from a bracelet. A similar example comes from Colchester where the author suggested an early Roman date for the type based on their common occurrence at Sheepen (Crummy 1983, 47, fig. 50.1759). Additionally an '*ex votos*' example comes from Harlow temple (France and Gobel 1985, 84-5, fig. 43.46) and two others come from Dragonby (Knowles and May 1996, 273, fig. 11.20.20 and 22).

17. NMPA00 2000.194, Street Furlongs Survey 2011, item 109. Copper alloy. Complete finger ring with plain hoop of D-shaped section. Rather heavy in appearance. Internal diameter 16mm, thickness of hoop 3mm, width of hoop 3mm. (not illustrated)

Belt fittings

18. NMPA00 2000.194, Street Furlongs Survey 2011, item 179. Cast copper alloy. Fragment of decorative fitting (either a buckle plate or a hinged strap end) comprising an ovoid open work frame with a saltire cross within. The inward facing surface of the oval has notching around the edge. The outside edge of the plate has a recess (now damaged) that would have accommodated the bar of a buckle frame, or was the suspension point of a hinged strap end. The inside edge of the plate is broken but would appear to have comprised another ovoid frame, or decorative terminal with three prongs. Surviving length 20mm, width of buckle recess 9mm. (not illustrated)

Whilst this could potentially be a ploughsoil find of medieval or later date, no parallels have been found in any of the major *corpora*, for example from medieval London (Egan and Pritchard 1991). It is rather slight to be a Roman buckle plate and there is no apparent means of attachment to a leather belt with rivet holes. If it was hinged or suspended freely there is an outside possibility of it being a hinged strap end of the kind used in late Roman belt sets, which do occasionally incorporate openwork designs on the Continent, for example (Bishop and Coulston 1993, 174, fig. 126.9), although it would be very small, does not conform to the typical 'amphora' design, and lacks the normal interlocking hinge plate. Without further research the identification of this piece remains uncertain.

19. NMPA00 2000.194, Street Furlongs Survey 2011, item 22. Copper alloy sheet buckle frame. Fragment from an oval frame cut from sheet with a bar set asymmetrically. Estimated width of buckle 40mm. (not illustrated)

Probably modern in date but no parallel has been traced.

6.7.3 Toilet Instruments

An interesting collection of toilet implements was recovered comprising both individual *ligulae*, which are long spoons used to remove ointments from unguent bottles, and elements belonging to chatelaine toilet sets, including nail cleaners, toilet spoons and tweezers.

Ligulae

20. Surface Find from East Field collected by Les Brown prior to 1998. Complete copper alloy ligula made from a plain straight rod handle with a small flat round or pear-shaped scoop, very slightly upturned at its end. Handle tapers to a plain terminal. Length 86mm, thickness of handle 2mm, diameter of flat bowl 5mm. (Fig. 6.47)

Figure 6.47 Ligula no.20 (Les Brown Collection).

21. NET98, 175.98, East Field, Trench C (3000) RF 3005. Bent lower shaft of copper alloy ligula (or possibly toilet spoon element) with small, flat, round, slightly angled bowl. Thickness of handle: 1.5mm. Diameter of bowl: 3mm. (not illustrated)

Spoons with small flat scoops are relatively common finds on urban sites or small town sites with similar examples to this from Colchester (Crummy 1983, 60, fig. 64.1897-1901) and Leicester (Cooper 1999, 263, fig. 127.115-6), but are also found on rural sites. Two north Lincolnshire examples, for instance, come from Burringham Road, Scunthorpe (Cooper 2009, 57, fig. 48.4) and Old Winteringham (Stead 1976, 212, fig. 110.101) both from third century contexts.

Toilet set elements

22. NET98 175.98, East Field, Trench A (1003) RF 1002. Complete copper alloy toilet spoon with candy twist handle, small, shallow pear-shaped bowl and integral suspension loop. Length 45mm, width of bowl 3.5mm. (Fig. 6.48.1; Fig. 6.49.1)

Figure 6.48 The toilet set from Trench A (Nos 1-3) and a further nail cleaner. 1: Spoon no.22; 2: Nail cleaner no.23; 3: Tweezers no.26; 4: Nail cleaner no.24.

An example of similar size with a suspension loop and a flat decorated handle came from Colchester (Crummy 1983, 60, fig. 64.1900).

23. NET98 175.98, East Field, Trench A (1002) RF 1000. Complete cast copper alloy nail cleaner of Crummy's Type 2a with offset shoulders and a leaf-shaped blade (1983, 58, fig. 62.1872). The blade tapers to paired prongs defined by a longitudinal groove running the length of the blade on the front face only. Beneath the suspension loop, which is flush with the blade, the neck is decorated with a semi-circular scoop on each side. Length 44mm. (Fig. 6.48.2; Fig. 6.49.2)

The size, style of the suspension loop and the quality of the piece indicate that this belonged to the same set as the toilet spoon (22) above, as is likely with the tweezers described below. Type 2a nail cleaners are thought to represent a mid-late first century type possibly extending into the second century (Crummy 1983, 58). Hella Eckardt's work has recently highlighted the fact that nail cleaners are more commonly found on small town sites together with villas and other rural settlements, rather than at the larger urban sites (Eckardt 2005, 145, fig. 1).

24. NMPA00 2000.194, Street Furlongs Survey 2011, item 103. Damaged but possibly re-sharpened copper alloy nail cleaner of Type 2a with leaf-shaped blade and suspension loop set transversely. Lower part of the blade broken and missing but there appears to have been an attempt to redefine the prongs by cutting a notch in the broken end. What remains of the lower part of the blade shows that it was offset from the tapering leaf-shape by a transverse moulding comprising two ridges, visible on both surfaces. The upper blade is decorated with a line of punch marks following each edge on the front surface only. The suspension loop sits on a simple pointed moulding. Surviving length 33mm. An unusual variant on Type 2a. (Fig. 6.48.3)

25. NET98 175.98, East Field, Trench C (3001) Sq. 60, RF 3000. Fragment of lower part of blade from a copper alloy nail cleaner of Type 2a. Pair of prongs defined by longitudinal groove on front face only. Surviving length 24mm. (not illustrated)

26. NET98 175.98, East Field, Trench A (1003) RF 1001. Complete forged copper alloy tweezers. Blades taper evenly along length towards suspension loop. Decorated with faintly incised marginal lines along the length of the blades, as is common, and transverse single lines immediately below the loop and one third of the way up it on each side. Length 53mm. (Fig. 6.48.4; Fig. 6.49.3)

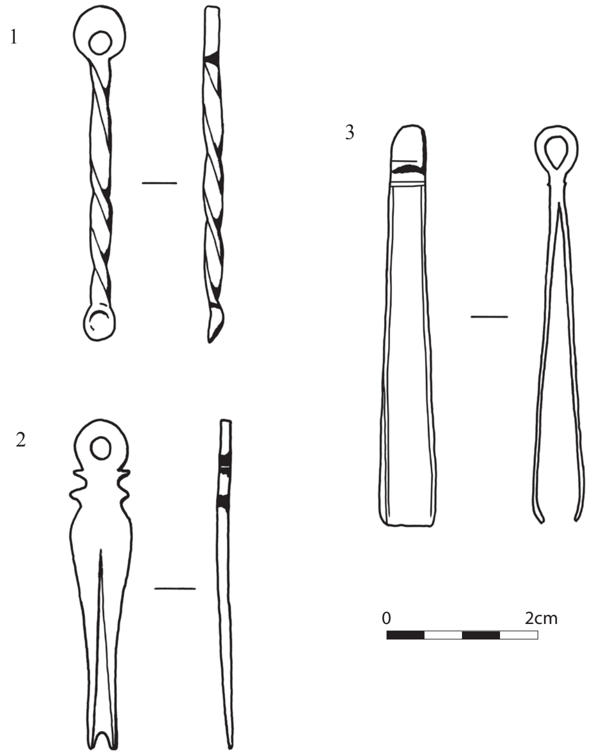


Figure 6.49 Drawings of 1: Toilet spoon no.22, 2: Nail cleaner no.23 and 3: Tweezers no.26; these belong to the same set (from Trench A).

Figure 6.50 Trench J. Spindlewhorl no.27.

The latter belong to the same set as 22 and 23 above, becoming dispersed once the chatelaine had broken, or deliberately deposited separately as *ex votos*. A similarly-decorated pair came from Colchester (Crummy 1983, 59, fig. 63.1883).

6.7.4 Textiles

Spindlewhorl

27. NMPA00 2000.194, Street Furlongs, Trench J (9571) RF 9554. Bone spindlewhorl manufactured from a femoral head of cattle *Bos Taurus* (pers. comm. Jennifer Browning). Conical with a flattened top, sawn off. Surfaces and cancellous tissue polished. Diameter 39mm, height 17mm, diameter of perforation 7.5mm, weight 12g. (Fig. 6.50)

Spindlewhorls manufactured from bone are relatively unusual, particularly in the Roman period when pot sherds were commonly used, and typologically, fully hemispherical examples are diagnostically Middle Saxon in date with two examples from Leicester (Cool 2009a; Harvey 2004). However, Late Iron Age examples are known from Danebury (Cunliffe and Poole 1991, 366, fig. 7.37.3.369) and Late Iron Age or early Roman hemispherical examples come from Dragonby (Taylor and May 1996, 364, fig. 14.11.138-141). An early Roman example of conical form with a flattened top, similar to the present example came from Beck Row, Mildenhall in Suffolk (Cooper 2013, no.16, unpub. report for AS Contracts).

6.7.5 Household Utensils

Spoon

28. NMPA00 2000.194, Street Furlongs, Trench I, (9010) RF 9067. Tapering pointed handle (bent) and part of presumably circular bowl (mostly missing) with patches of extant tin plating identified during analysis. Surviving length 103mm. (not illustrated)

This is an example of Crummy's Type 1 spoon dating to the second half of the first and the second century (Crummy 1983, 69, fig. 73.2008). Spoons represent an unusual find on a rural site in comparison to urban and the tin plating adds to the status indicated. Tin plating of spoons may have been undertaken to avoid the impact on taste from an uncoated copper alloy spoon (pers. comm. Ellen Swift). The bent handle suggests this had an *ex votos* function.

6.7.6 Fittings

Studs

29. NMPA00 2000.194, Street Furlongs Survey 2011, item 188. Copper alloy sheet. Complete but damaged large, flat, circular stud with upper part of integral square-sectioned tapering shaft remaining. Diameter of stud 28mm. (not illustrated)

30. NMPA00 2000.194, Street Furlongs, ploughsoil find from south-east plateau area, 2006. Copper alloy sheet. Complete dome-headed stud with integral square-sectioned tapering shaft. Diameter 12mm, length of shaft 10mm. (not illustrated)

31. NMPA00 2000.194, Street Furlongs, U/S from ploughsoil (9649). Copper alloy sheet. Complete dome-headed stud with base of integral square-sectioned tapering shaft remaining. Diameter 12mm. (not illustrated)

Studs of this kind are relatively common on urban sites but much less so on rural sites. They were used to emboss wooden boxes or items of furniture incorporating leather upholstery for example (Crummy 1983, 85, fig. 90 and 116, fig. 120).

Miscellaneous copper alloy fittings

32. NMPA00. 2000.194, Street Furlongs Survey 2011, item 175. Copper alloy. Broken length of rectangular section rod widening and thinning at one end. Surviving length 30mm. (not illustrated)

33. NMPA00 2000.194, Street Furlongs Survey 2011, item 44. Copper alloy. Broken length of circular-section shaft, flattening at one end below a rectangular moulding, above which the shaft has been clipped. Surviving length 41mm. (not illustrated)

34. NMPA00 2000.194, Street Furlongs, Trench I (9010) RF 9063. Miscellaneous fragment of thin copper alloy sheet possibly originally used as edge binding. Folded length 11mm. (not illustrated)

35. NMPA00 2000.194, Street Furlongs, Trench I (9003) RF 9051. Triangular fragment of thin copper alloy sheet folded to form a pointed edge binding. Folded length 8mm. (not illustrated)

Iron fittings

36. NET98 NMP175.98, East Field, Trench C (3003) RF 3010. Iron rod handle with shepherd's crook suspension loop. Length 86mm. (not illustrated)

Similar examples are known to be the handles of slide keys; an iron example coming from Catterick (Mould 2002, 121, fig. 290.53).

37. NMPA00 2000.194, Street Furlongs, Trench I (9003) RF 9033. Ovoid iron plate with central square perforation and rectangular section 'spike' projecting from one side. Length 90mm. (Fig. 6.51)

This is likely to be an element from a composite structural fitting, with the square perforation allowing attachment to wood with a nail, or to another metal plate with a rivet. One possibility, explained by the projection, is that this was part of an iron window grille as illustrated by Manning, formed of a lattice of iron bars with spiked projections guarding the voids (Manning 1985, 128, pl. 60 R17 and 18).

Iron nails

Square-sectioned shaft fragments from three nails or probable nails of Manning (1985) Type 1, used in timber construction, were submitted as a sample of those recovered during the fieldwork.

38. NET98 NMP175.98, East Field, Trench B (2010) RF 2038. Probable nail shank with pointed terminal. (not illustrated)

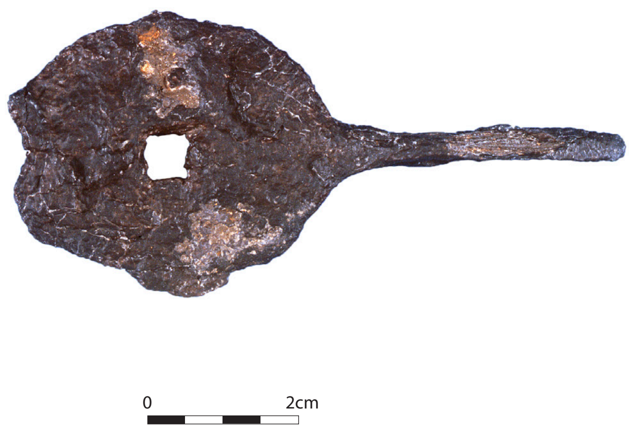


Figure 6.51 Trench I. Perforated iron plate no.37.

39). NMPA00 2000.194, Street Furlongs, Trench J (9687). (not illustrated)

40. NET98 NMP175.98, East Field, Trench B (2011) RF 2028. (not illustrated)

6.7.7 ?Military

41. NMP.99 154.99, East Field, Trench F (6007) RF 6006. Copper alloy sheet. V-shaped piece of sheet with outer edges folded inwards to form a binding, presumably around a leather sheath. Outer face decorated with fine bands of linear incisions arranged in herringbone, vertical and horizontal blocks. Length 33mm. (Fig. 6.52)

This is considered to be the terminal binding of a dagger sheath, on to which a decorative chape would have slotted. It can be broadly paralleled by some early Roman military sheaths of mid-to-late first century date such as the example from The Titelberg (Bishop and Coulston 1993, 74, Type B, and fig. 41.1). Sheaths of Bishop and Coulston's Type B incorporated organic materials such as leather and wood and presumably the binding was used to secure the edges of the leather. Metal sheath binding ceases after the mid-second century. (We are grateful to Malcolm Lyne for his assistance with identifying this piece).

Figure 6.52 Trench F. Dagger sheath binding no.41.

6.7.8 Modern Objects
(not catalogued in detail)

42. NMP00 2000.193, East Field, Trench H (8001) RF 8001. Cast copper alloy. Caricature head of bird or duck with large bill, red inlay for eyes and thin neck. Broken length 20mm. Possibly Roman. (not illustrated)

43. NMPA00 2000.194, Street Furlongs Survey 2011, item 184. Brass cast L-shaped fitting with circular perforation. Probably a ballcock actuator (pers. comm. G.C. Morgan). (not illustrated)

44. NMPA00 2000.194, Street Furlongs Survey 2011, item 50. Copper alloy sheet clip. Machine made. (not illustrated)

45. NMPA00 2000.194, Street Furlongs Survey 2011, item 190. Copper alloy cast flat circular button with base of iron loop to the rear. (not illustrated)

46. NMPA00 2000.194, Street Furlongs, ploughsoil find from south-east plateau area, 2006. Copper alloy sheet button. Four recessed perforations. (not illustrated)

47. NMPA00 2000.194, Street Furlongs, Trench J (9621). Nickel coated. Miniature treasure chest with lifting lid, manufactured in lead-tin alloy with nickel plating. The inside of the lid is stamped with a manufacturer's name 'OLDCRAFT'. Length 20mm. Nickel was first isolated in 1750 but only made in substantial quantities from the middle of the 19th century at about the same time that industrial scale electroplating was developed; nickel plating of tin-lead alloys is widely used for contemporary statuettes and similar castings (pers. comm. David Dungworth). Presumably a toy or gaming piece from a board game, perhaps. (not illustrated)

6.7.9 Discussion

The relatively small assemblage of 38 diagnostically Iron Age and Roman objects represented here needs to be placed in the context of previous finds from the site and a consideration of the methods used to retrieve those and the current collection. Prior to the current project, attention had been drawn to the site because of the large number of finds being metal-detected from East Field. These finds comprised many Iron Age and Roman coins, brooches and miniature martial objects, including shields, swords, axes and a spear which would be consistent with the location of a temple or shrine receiving *ex votos* items (Willis and Dungworth 1999, 6; Farley 2011; May 1998).

The current assemblage also has a substantial metal-detected element to it (19 of 47 objects) mainly deriving from the systematic survey of Street Furlongs in 2011, and even without this factor, it is skewed heavily towards the representation of metals, with only one object of animal bone. Animal bone is well-preserved on the site, and although five other sawn fragments relating to bone-working activity, including the polished shaft fragment from a pin or needle, are reported on separately (Rackham this volume), the total number of artefacts still appears low. Objects in other materials that might be expected from hand excavation and are reported on separately include two intaglios (one still in its ring), 35 whetstones, vessel glass and additionally two silver, and one gold, finger rings. There is also a notable lack of undiagnostic material such as scraps of copper alloy, amorphous lead and sundry iron, which may have been selected out during detecting, but instead probably indicates that much of the material entered the ground for a specific reason other than rubbish disposal or accidental loss. Equally, turning to the relatively small number of iron objects, although the less prepossessing matter was not seen in this sample, but is listed by trench above, there is a generally low figure for iron objects, including nails. During the Late Iron Age and early Roman site phases traditional carpentry without nails and dogs, etc. is likely to have been the case for most of its buildings and other structures. At this time iron items which had served their original purpose might have been collected for reuse.

Table 6.8 presents a functional analysis of the assemblage as reported on here which allows broad comparisons to be made with other site collections (e.g. Cooper 2007, 47, Table 4.1). Only the 31 objects (excluding iron nails) that could be confidently identified to a functional category are included, but even this small sample highlights some distinctive characteristics.

If the analysis is compared with that from another ostensibly rural site in North Lincolnshire, contrasts are apparent both in terms of the presence and absence of specific categories of finds and the relative proportions of those that are represented. The assemblage from Burringham Road, Scunthorpe (33 finds), defined as an edge of settlement agricultural site was dominated by agricultural items and tools which are not represented at all at Mount Pleasant (Cooper 2009, 59, Table 4). Personal items together with toilet implements make up 30% at Scunthorpe compared to 78% of the assemblage at Mount Pleasant. This very high percentage of personal and toilet items, and the lack of objects in many other categories, even in small amounts, supports the original contention that the assemblage has a substantial votive element to it and it bears detailed comparison with other shrine sites such as Hallaton, Leicestershire (Cooper and Score 2011) and Harlow Temple, Essex (France and Gobel 1985).

Looking at the personal dress items from Mount Pleasant, the predominance of brooches is emphatic (14 of 17) but this is almost certainly due to the early date of the assemblage, before other common 'Roman' dress accessories such as hairpins start to become fashionable, probably from the Flavian period onwards. Indeed, comparing it with the assemblage from Harlow, the only real difference is the lack of metal hairpins at Mount Pleasant (France and Gobel 1985, 83, fig.42); otherwise the range of votive finds, even including the wire finger ring and the occurrence of an '*armilla*' armlet, is very similar. With the exception of the enamelled plate brooch of second century date, five of the brooches would have entered the ground during the century before the Conquest with the Langton Downs, Aesica and Colchester derivatives following soon after, during the next few decades perhaps. The wire finger ring and suspected '*armilla*' would also suggest deposition in the decades after the Conquest.

The toilet implements are not so closely dated but perhaps represent the continuation of votive activity further into the Roman period. They become common in the later decades of the first and the early second centuries, but on the evidence of sites in Essex and Hertfordshire may have declined in use thereafter (Carr 2007, 106-9). The dating of the Type 2a nail cleaner elements would fit with this mid-late first century chronology perhaps extending into the second as would the single occurrence of the contemporary tin-plated spoon, the deliberate bending of which would confirm that this, too, was a votive object

Table 6.8 Functional analysis of the assemblage reported on here (not including objects reported on separately e.g. intaglios and whetstones).

Category	Personal	Toilet	Textiles	Household	Fittings	Total
Number of finds	17	7	1	1	5	31
% of Assemblage	55	23	3	3	16	100

subject to the ritual 'killing' noticeable in objects at both Harlow and Hallaton. Both the latter site and Mount Pleasant also have indications that ritual activity extended back into the Bronze Age or incorporated bronze metalwork of that period into later activity (Cooper and Score 2011, 79, fig. 55.3-4).

Spatially, the assemblage can be conveniently split between East Field and Street Furlongs on either side of the High Street. Of the 38 Iron Age and Roman objects identified, 16 come from East Field and 22 from Street Furlongs (14 of the latter during the metal detector survey of that field). Eight of the fourteen brooches came from Street Furlongs but all but one of those are post-conquest in date, whilst the early brooches are concentrated in East Field, along with the wire finger ring. The armlet and other finger ring come from Street Furlongs. All but one of the toilet implements also come from East Field, the associated toilet set elements coming specifically from Trench A.

Overall, the character of the assemblage is not typically rural and certainly suggests votive activity even if there is no structural evidence for a shrine as such (the valley head in the area of Trench A being a possible focus?). This activity in terms of coin and finds depositions appears to extend eastwards across the road into Street Furlongs. Domestic evidence from small finds that might typify a roadside settlement during the second and third centuries, however, appears to be lacking from the assemblage as reported on here. For example, cheap dress accessories such as bone hairpins or textile equipment such as bone needles or ceramic spindlewhorls made from pot sherds might have been expected from hand excavation, but whilst this may be explained by predominance of metal detection as a method of retrieval, as noted above in relation to *ex votos* items, copper alloy versions of hairpins and needles were not recovered either.

6.8 Four Finger Rings and an Intaglio from East Field

Ian J. Marshman

6.8.1 Introduction

This report discusses five items of jewellery from the Mount Pleasant, Nettleton/Rothwell, site. The first item is an intaglio found by Les Brown of Caistor on the surface of the ploughsoil in East Field some forty years ago. Mr Brown kindly made the item available for study. Following this, four precious metal finger rings found using metal detectors in the 1980s are reported. These rings are understood to be reliably attributed to East Field. Adam Daubney, the Portable Antiquities Scheme Officer for Lincolnshire brought these rings to the attention of S. Willis, and the owner, Michael O'Bee, gave permission for the items to be included in this report. Mr O'Bee provided the photographs of the silver rings via Adam Daubney, whilst the gold ring was photographed by Adam Daubney; these photographs form the basis for the identifications in this case.

6.8.2 The Intaglio

The intaglio was found on the field surface by eye, as a separate item (that is to say it was not set in a ring). The location was near the mid-point of East Field on its eastern side. (See marked find-spot on the site map, Appendix 3)

Description

This is an oval intaglio of red jasper measuring 10 x 8 x 2 mm, weighing 0.4g. It has a bevelled lower face (Henig form F2, Henig 2007, fig. 1), and is engraved on its upper surface with an image of the goddess Roma. The goddess is shown facing towards the right, seated upon a cuirass, wearing a plumed helmet, a belted *peplos*, and *himation*. In her right hand she holds a *parazonium* (dagger), and in her left hand she holds out a Victoriola, carrying a tiny wreath and palm branch. Behind her rests a round shield with projecting boss. The artefact has some slight wear to its upper surface, and a small chip on the underside. (Fig. 6.53)

Figure 6.53 The intaglio from East Field (Les Brown Collection).

Discussion

The engraving style is typical of that current in the second century AD, with a somewhat schematic and linear rendering of the figure, and details executed with short parallel grooves. This style has been labelled by Maaskant-Kleibrink as the 'small grooves style' (1975, 199) and Guiraud as the 'courant classique linéaire' (1988, 50-2). Henig has proposed a more specific date range of c. AD 120-180 for what he labels the 'patterned style' (Henig 1988, 149-51). Red jasper was not commonly used to make intaglios before the second century (Henig 2007, 8), and further supports this date. It is also worth noting that when viewed on a sealing, the intaglio's motif would be reversed, meaning that the goddess would have faced left and held the Victoriola in her right hand, as she appears on Hadrianic coinage (e.g. *RIC* II, 693).

Roma is not a particularly common motif on intaglios in Roman Britain (or elsewhere), where out of nearly 2,000 artefacts known, she occurs on only 17 other examples. These come mainly from the province's larger towns and forts: London (Henig 1984), Cirencester (Henig 2007, no. A130), Silchester (Henig 2007, no. 249), Bath (Henig 1992a), Wroxeter (Henig 2007, no. 251) two from Colchester (Henig 2007, no. 250; Henig 1992b, 151), two from York (Henig 2007, no. A85; unpublished, from Hungate), and from the forts at Newstead (Walter Elliot and Henig 1999, 394), Wallsend (unpublished), and at Caerleon two have been found in and around the fortress (Zienkiewicz 1986, nos 41 and 42; Henig *et al*. 2000, 325). Two do come from small towns, however, one at Worcester (Henig 1992c, 84), and the other at Fenny Stratford (Henig 2007, no. 248). Despite many intaglios being known from rural sites only one intaglio with an image of Roma has come from a rural location; it was found by a metal detectorist several miles south of Piercebridge, and was set in a gold ring (Portable Antiquities Scheme (PAS) database ref. DUR-721633). The most similar to the Mount Pleasant, Nettleton/Rothwell, intaglio, in terms of both composition and style, are the two examples from York, both of these show the goddess clutching her dagger and holding a Victoriola, instead of holding a sceptre/spear and the Palladium as she is also sometimes depicted. They are however engraved on different gemstones, one a carnelian, and the other a nicolo, which is set in an iron ring. Roma occurs on intaglios in many other parts of the empire, with notably similar depictions on a carnelian set in an iron ring from Munich (Brandt *et al*. 1972, no. 2695), and a red jasper from the major gem working centre of Aquileia (Sena Chiesa 1966, no. 646), both of which have been dated to the second century AD.

Rather more intaglios have been found in Lincolnshire than in other parts of the rural Roman Midlands (Lincolnshire, excluding Lincoln, has 53 reported, whereas Leicestershire, excluding Leicester, has a record of nine). Nearby there are several intaglios from the settlements at Winteringham, Dragonby, Owmby and Kirmington, many of which are now in the North Lincolnshire Museum. The high frequency of intaglios in Lincolnshire may in part be related to the influence of veterans settling around the *colonia,* but it may also be related to modern land use, as so much of the landscape of the county is under the plough, and thus lends itself to fieldwalking and metal detecting.

6.8.3 The Finger Rings

Description

Ring 1. Silver finger ring with broad shoulders and wide flat bezel (Type V, Henig 2007, fig. 1) set with a projecting red carnelian intaglio. The intaglio has a convex surface (probably type A6, Henig 2007, fig. 1) and has several dark inclusions. It is engraved rather crudely with the figure of an eagle standing leftwards but facing right and carrying a wreath in its beak. The surface of the intaglio appears quite worn, with the original polished surface only remaining within the grooves. (Fig. 6.54)

Figure 6.54 Ring 1 from East Field (Michael O'Bee Collection).

The style of the engraving is typical of what has been termed the 'Incoherent Grooves Style' by Maaskant-Kleibrink, and dated from the second to the third centuries AD (1975, 227 and 231).

Eagles are fairly common subjects for intaglios, and are often shown in association with military standards or trophies, or perched besides Jupiter. This composition of a lone eagle carrying a wreath is seen on 7 other intaglios from Britain, including a carnelian from nearby Owmby-by-Spital (although this may be earlier, Henig 2007, no. 691) and another from Water Newton (Henig 2007, no. A189). The latter gem also offers a close parallel for the Mount Pleasant intaglio's disjointed engraving style. It can also be compared with a carnelian from the Rhineland dated to the second to third centuries AD (Krug 1980, no. 223). Both the intaglio's cursory style and the ring's form suggest a date in the late second or third century AD, but the level of ware on the gem could suggest that it had been curated for some time before it was deposited.

Ring 2. Silver finger ring of Henig Type V form (see above), set with an embossed silver relief. The relief shows the god Vulcan in his forge. Vulcan is depicted bearded and wearing a wide brimmed hat, boots and the short one-shouldered tunic worn by slaves and craftsmen. He stands frontally but facing left, carrying a pair of tongs in his left hand and holding a long handled hammer in his right, prized above an anvil. There is a short groundline. The ring appears to have been badly chipped and scratched, but this may have occurred post-deposition. (Fig. 6.55)

Figure 6.55 Ring 2 from East Field (Michael O'Bee Collection).

Figure 6.56 Ring 3 from East Field (Michael O'Bee Collection).

Ring 3. Silver finger ring of Henig Type V form (see above), set with an embossed silver relief showing Vulcan. The design is less distinct than ring 2 in some places, especially around the lower torso and in the area of the anvil. There are also slight differences in the details of the composition, with the hammer having a shorter handle and the tongs being held at a more acute angle. The ring is also scratched and worn. (Fig. 6.56)

Ring 4. Gold finger ring with angled shoulders and a curved lower hoop (Type VIII, Henig 2007, fig. 1) set with an embossed gold relief showing Vulcan. The band is uncharacteristically thin and flimsy in profile (cf. Marshman 2012). This relief is the most detailed and also the most carefully embossed. The musculature of the god's chest is clearly rendered, as are the folds in his tunic and there is elaboration of the tongs, the anvil and the block on which it rests. The ring appears to be in better condition than rings 1 and 2, with only light scratching and a nick on the edge of the relief. (Fig. 6.57)

Discussion

Roman rings set with separate relief decoration are uncommon, and usually only carry representations of the *dextrarum iunctio* (clasped hands e.g. Henig 2007, no. 775). These three rings are an important addition to a growing cluster of such rings known from the East Midlands that depict Vulcan. Isolated gold relief have been found without rings at Newport in Lincoln (unpublished in The Collection, Lincoln), from 'near Newark-on-Trent' (PAS ref.

Figure 6.57 Ring 4 from East Field (Michael O'Bee Collection).

DENO-C7EA54), and also in a small hoard of late Roman jewellery from Owmby-by-Spital (Johns 1980, 88). A gold relief set in a silver ring of Henig Type V has also been found at Brant Broughton (Johns 1991). A gold relief and several fragments of a gold ring have been found in St Matthews just outside Roman Leicester, which Henig has suggested depicts Bonus Eventus (2007, no. 764), but may in light of these discoveries, also show Vulcan (it was not available for study at the time of writing). This would bring the total of such 'Vulcan rings' known from the East Midlands to eight. Elsewhere several other motifs are known on embossed reliefs, mostly just outside the region in which the Vulcan reliefs are found. Across the Humber, a gold relief showing Cupid holding a downturned torch set in a silver Henig Type V ring has been recorded from 'near North Cave' (PAS ref. LVPL-841), and another (now lost) example with this motif in a gold ring of the same form was found near London Bridge (Henig 2007, 762). Norfolk has produced three unique embossed reliefs all set in Henig Type V rings: a gilt bronze ring with a gold relief showing Cupid and Psyche embracing from Brampton (Henig 2007, no. 763), a silver ring with a gold embossed with a bust of Mercury and a caduceus from Woodcock Hall (Henig 2007, no. A208), and a silver ring with a silver depicting Ganymede offering a cup to the eagle from 'near Pulham Market' (PAS ref. NMS-E3D804).

That all but one (ring 4) of these rings set with embossed reliefs share a common form, may suggest they are contemporary. The technique and style of the relief images has led Johns to date the example from Owmby-by-Spital to the late third century AD (1980, 88) and Henig to attribute the Woodcock Hall ring to the late second century AD (Henig 2007, 213), but with none having been recovered from a closely dated context it may be unwise to attempt to suggest a date more specific than around the third century AD.

At least 5 different embossing stamps appear to have been used to make the eight known relief's showing Vulcan. Both rings 2 and 3 have different representations. The objects from Leicester and Owmby-by-Spital both also appear to be different. However, the relief of ring 4 is so similar to the relief from Newark-on-Trent as to indicate that both were probably embossed with the same tool, although because the measurements of the Mount Pleasant rings are unknown this can only be a suggestion. The images, however, on the relief from Newport and that from Brant Broughton can be overlapped perfectly in photo editing software, and are of corresponding sizes, and so were almost certainly produced using the same embossing stamp.

6.8.4 Discussion of the Assemblage

The three rings with images of Vulcan complement the other examples from the East Midlands and further demonstrate that the deity was particularly important to individuals in this region. This is also indicated by the torso of a copper alloy Vulcan statuette, which was found by a metal detectorist several miles north of the Nettleton/Rothwell site, in the parish of Barnetby le Wold (PAS ref. NLM-1132). The god of fire and smithing is attested across Roman Britain and is sometimes associated with the smith gods of local traditions (Green 1976, 24). Yet unlike many of the Graeco-Roman pantheon he is generally not found on objects of personal adornment (Johns 1991, 62), excluding the priestly regalia from the temple at Farley Heath where his naked 'celtic' equivalent is depicted (Goodchild 1938). Vulcan often appears as a secondary figure in Romano-British worship, such as with Jupiter on a silver votive leaf from Stoney Stratford (*RIB* 215). The god is also depicted in repoussé on two similar leaves, dated to the third-century from the temple at Barkway, whose primary dedication was to Mars Toutatis/Altor (Potter and Johns 1992, 171 and 177 cf. pl. 77). Given this association with Mars Toutatis it is interesting to wonder how these 'Vulcan rings' relate to the 'TOT' rings common in the same region at about the same time (Daubney 2010a).

Since all five of these objects from the present site have little in the way of context, bar the fact that they are from the same field, it is difficult to know what the significance of their deposition at Mount Pleasant is. Loose intaglios are relatively common site finds, and the red jasper intaglio could simply be the result of everyday loss, although they do occur in 'special deposits' (Alexander and Pullinger 2000, 45-7). However, precious metal rings are much less common, and to find three decorated in an uncommon way and bearing the unusual subject of Vulcan is worthy of comment. It is possible that the rings were dispersed from a small jewellery hoard, such as that which contained the loose relief at Owmby-by-Spital. Given the evidence for ritual activity at Mount Pleasant, however, it is appropriate that votive deposition should also be considered. Although all three of the rings share the same common form, they have different levels of wear, and those with reliefs appear to have been produced using three different embossing tools and so it seems unlikely that they result from the same workshop, as has been suggested for the jewellery hoard at Thetford, also from a temple site (Johns and Potter 1983, 21 and 70). The four rings could therefore represent multiple votive offerings at Mount Pleasant by devotees of Vulcan.

The two intaglios from the site offer an insight into the types of people visiting the Nettleton/Rothwell site. The eagle holding a wreath was symbolic of victory, and is a common motif on the intaglios used by the military community, and should not be unexpected given the proximity to Lincoln, especially given its *colonia* status. The loose intaglio showing Roma is earlier than the other jewellery reported here. As described above, Roma is more commonly found on intaglios from larger urban centres and military establishments, and when used as a seal it would have sent an unambiguous message that its owner actively supported the Roman state, and perhaps had a personal function within it, as an official of some kind.

6.9 The Lead Tablet

R.S.O. Tomlin

A lead tablet bearing an inscription was found in 2011 during the systematic metal detecting survey in Street Furlongs.

6.9.1 Description and Transcript

Irregular oblong cut from sheet lead c. 2 mm thick, 84 by 45 mm, inscribed long-axis on both faces in fourth-century New Roman Cursive handwriting (NRC) (Fig. 6.58, Fig. 6.60). After being inscribed, the tablet was folded onto itself three times beginning from the right-hand edge (Fig. 6.59). This protected the inner face and half the outer face, but exposed the other, left-hand half, which has now lost all its text. Both faces are also quite badly corroded, especially around the edges, and the folding (and subsequent unfolding) has caused three vertical bands of stress and cracking, which have damaged or destroyed the writing there.[1]

The text is now too fragmentary for it to be clear whether it continued from one face to the other, or whether they were treated separately. A continuous text is suggested by the inner face having seven lines of text which continue to the very bottom, whereas the outer face has only five lines, with space for another at the bottom. But the first three lines of the outer face appear to be syntactical, whereas most of the inner face consists of personal names, something which might be expected to conclude a 'curse tablet'. This incidentally is what it seems to be, both by its general appearance

1 The tablet is not quite flat, so it is slightly wider at the folds than the drawing might suggest.

and by what can be read of the text. It was probably prompted by theft, as will be suggested, and it is the most northern yet found in Britain.[2]

Transcript[3]

(i) outer face

[...]dfundat
[...]..m. ipsis
[...]tr. q[.]od
[...]anni[ ]er
[...]mua.ier

(reconstructed text)

[... a]dfundat
[... ?a]nima ipsis
[...]tr. q[u]od
[...]anni[ ]er
[...]mua.ier

(ii) inner face

har.[.] qui se..t[ ]at frnem
de inn[.].snstius nomine
seruandi {e}hermoni epino
tener[.]e clarenti epinus
seremenella mulier
mel[.]done e{e}uopius
.[...].anenti

(reconstructed text)

har[..] qui se..t[ ]at f[ur]em
de inn[.].snstius nomine
Servandi Hermoni Epino
Tener[a]e Clarenti Epinus
Sere<me>nella mulier
Mel[i]done Euopius
.[…].anenti

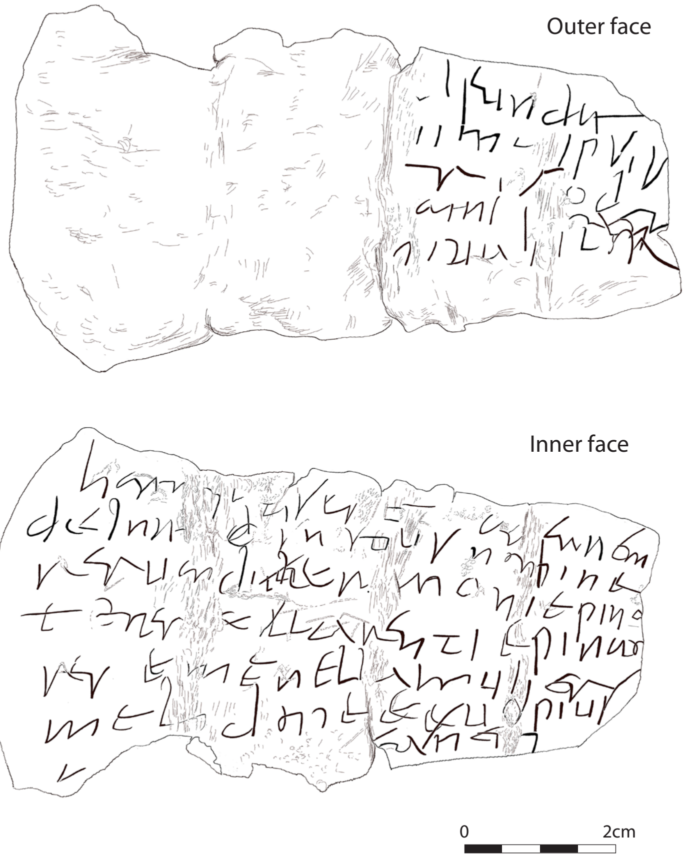


Figure 6.58 Drawing of the lead tablet, showing the New Roman Cursive handwriting.

Figure 6.59 Photo of the lead tablet showing manner in which it had been folded.

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2 In general see Tomlin 1988, 60-1, who has noted subsequent discoveries annually in *Britannia* under 'Roman Britain: Inscriptions'. They are concentrated in the Severn valley and the south-east, the three from Ratcliffe-on-Soar (Notts.) being hitherto the most northern (see Section 9.10).
3 Letter by letter, but with word-separation, which on the whole was not observed in the original. A stop marks the remains of a letter not interpreted. Letters underlined are of uncertain reading. This literal transcript is followed by a reconstructed text, which marks with brackets the letters which have been [restored], the letters which are regarded as <superfluous>, the letters which were {deleted} in the original. Proper names have been capitalized. For all these points, reference should be made to the line-by-line commentary which follows.

6.9.2 Commentary

Outer face (i)

1. *[a]dfundat*. The sequence *fundat* is clear, granted that the penultimate letter is *a* ligatured to *t*, not *i* to *t* (for *fundit*). Downward ligature of *i* to the next letter is not found in this text, and *u* is precluded by the verb-ending. The present subjunctive is also more likely than the present indicative, since it implies a wish expressed: compare *Tab. Sulis* 44.7, *fundat*, requiring the thief to 'spill' his own blood. The letter before *f* is incomplete, but there is the hint of the loop of *d* in the corroded surface. The verb *adfundat* would mean 'let him spill (something) *into*'; perhaps the thief, his blood into a stolen vessel, as in *Tab. Sulis* 44.

2. The ending *ipsis* ('to them') is quite clear, but only *m* before it; however, the traces are consistent with *[a] nima* ('soul'), which might refer to the thief's accursed 'life' (see note to *Tab. Sulis* 37.1), although the plural of *ipsis* is puzzling. The case of *anima* may actually be accusative, *anima(m)*, the (unsounded) final *-m* being omitted.

3. The line clearly ends in *od*, which suggests *quod* ('what' or 'because'). There is a long descender, which would be typical of the vertical *q* in NRC.

4 and **5.** The ends of these lines overlap, and further confusion is caused by the long descender from 3; there is also damage due to the fold. Both apparently end in *-er*, which may suggest the annotation *mulier* as in ii 5, but this is not fully supported by the preceding traces.

Inner face (ii)

1. The long descender suggests that the first letter is *h*, not *n*. Then *a* is certain, ligatured to what could be *n*, *r* or *s*, itself followed by strokes which disappear into the damage; one possibility is ligatured *t* and part of another letter.

The line clearly ends with *frnem*, an impossible sequence, but in this hand *u* can be made like *r* (compare *Epinus* at the end of 4), and *n* and *r* are only distinguishable by the angle of the third stroke. So it is probable that *furem* ('thief', in the accusative case) was intended, whether the scribe was only writing carelessly, or (but less likely) made a copying error.

The middle part of this line is quite badly damaged. The v-shaped loop and long descender of *q* can be recognized, and also *s*. The word-ending before *f[ur]em* suggests a verb, not a noun, and probably a subjunctive in *-at* like *[a]dfundat* in i 1. The traces would support *qui sentiat* ('who may feel'), rather widely spaced, but this is conjectural.

2. The first four letters are clear, and the elaborate long *i* (a letter which elsewhere is quite short) suggests a new word began here, after the preposition *de* ('from'). An alternative reading would be *dei* ('of the god'), but this is precluded by what is probably *nn*.

The line clearly ends in *nomine* ('name', in the ablative case), preceded by the sequence *-stius*. Except for *nomine*, there is no sign of the ablative required by the preposition *de*, so the intervening text would seem to have defined this 'name' or 'account' (a term which is formulaic in tablets which curse a nameless thief: Tomlin 1988, 65 and 95-8). Therefore the sequence *-stius* cannot be the end of a masculine name in the nominative case, but rather suggests *istius*, although *i* cannot be seen.

Figure 6.60 A detail of the handwriting on the tablet.

This would be the genitive case of the demonstrative *iste*, but any preceding noun or personal name is beyond conjecture; the personal name *Innocentius*, incidentally, cannot be read.

3-6. These lines (and quite likely 7 as well) consist only of personal names. Such lists are common in 'curse tablets', and are those of suspects or enemies. This list is unusual, however, in that the case-endings are not all nominative: they are variously nominative, genitive, or dative, which would imply relationships (for example parent and child, husband and wife), but it is difficult to see any pattern. This will be further discussed below.

3. *Servandi* is the genitive of *Servandus*, which is well attested; in Britain it occurs in a list of names in a 'curse tablet' from Leicester (*Britannia* 40 (2009), 327, No. 21), in the Ashwell Treasure (Tomlin 2008, 312-3, Nos. 21 and 23), and probably at Carlisle (*RIB* II.4, 2445.36). Although the reading is certain, it may be noted that *s* ligatured to *e* in this hand is indistinguishable from *r*.

3. Hermoni. After Servandi, the scribe wrote e by mistake, evidently a failure to aspirate the name *Hermo*, since he then crossed it out with a diagonal stroke and wrote over it the *h* of *Hermoni*. This would be the dative of *Hermo*, a Greek personal name quite well attested in the West (for example *CIL* vi 21133, *AE* 2003, 115), but it has not previously been found in Britain.[4]

3. *Epino*. The reading is clear, except for the diminutive *o* at the end. It is the dative of the name *Epinus*, which is repeated at the end of 4 (see note below).

4. *Tener[a]e*. The first and last *e* are damaged, and *a* has been lost in the fold. It would be the genitive or dative of a feminine name, *Tenera*, which seems to be unattested; but since *tener* means 'tender' (and is frequent in metrical epitaphs), its use as a name is understandable.

4. *Clarenti*. The initial *c* is angular, and distinguished from the following *l* by an upward diagonal stroke. The name *Clarentius* is a typically 'late' (third-century or later) formation from a present participle, *clarens* ('being distinguished'), and is borne by a follower of Symmachus (*ep*. ix 119); it is well attested in Africa as the name of a Donatist bishop (Augustine, *ep.* 70.1, with Mandouze 1982, 209); note also *CIL* viii 22657, 1 (a silver dish) and *CIL* viii 26789 (an epitaph).

4 The genitive of *Hermonius* would also be possible, but the succeeding names are in the dative.

4. *Epinus*. The final letter resembles *o*, but is not made in two strokes, like *o* elsewhere. It can be taken as *s*, made in a confined space. The name *Epinus* is the Latinised form of Celtic *Epenos* ('horseman'), which is well attested on coins; a known derivative is the feminine name *Epinia* (*CIL* v 4024).

5. The scribe began with *ser* like that in *Servandi* (3), but apparently lifted his stilus before completing the *r*: there is the appropriate space before the next letter, *e*, but no sign of incision. He completed the name with *-emenella*, the first syllable being superfluous; this would be a repetition-error, unless he simply wrote *en* to correct *em*, which he then failed to cross out. *Serenella* would be the diminutive of *Serena*, which is quite common; in the Classical form *Serenilla* it is already attested (*CIL* vi 15659; xii 833), but the modern Italian form is *Serenella*.
The next word is *mulier*, which identifies Serenella as 'a woman', possibly the same usage as in i 4 and 5. Its purpose is unclear: it may imply that she was the consort of Epinus, whose name precedes hers, or that she was an adult among children (see further below), but neither explanation can apply to the other two British instances of *mulier*. The epitaph of Tancorix (*RIB* 908) describes her simply as *mulier*, presumably because her name ended in the masculine suffix *-rix* ('king'), but in a 'curse tablet' from Uley (Tomlin 1993, 121, No. 2) Saturnina describes herself as *mulier*, although her gender cannot have been in doubt.

6. The line ends with *Euopius*, a Greek personal name derived from Greek *euopis* ('fair-eyed' or 'fair to look on'), which is attested at Rome (*CIL* vi 23222). The scribe wrote *e* twice by mistake, no doubt because he was repeating it from the end of the previous name, and then crossed out the third *e* with a diagonal stroke. There is just a trace of *o* in the damage due to the fold, and the concluding *-pius* is perfectly clear.

Before *Euopius* is a name ending in *-done*, which is a Greek termination, but feminine. The full reading is uncertain since, although the initial *me* is clear, the next letter has been damaged by the fold. There is a bold downstroke like the long *i* in 2, which continues to the right at an angle, faint traces suggesting it is *h*, or *l* ligatured to another letter, most likely *i*. There is a Greek name *Hedone* ('joy'), which is well attested in the West, but there would hardly be room for *e* between *h* and *d*, and there is no sign of it; also the redundant *me* ('me', in the accusative case) would be difficult to explain among all these names. *Melidone* is thus a possible reading, but it is apparently unattested as a name, and to derive it from Greek *meledone* ('care' or 'sorrow') would be difficult.

7. The left-hand half of this line has broken off, or is badly corroded, but part of the first letter survives, and is possibly *a*. The line ended a little short of the right-hand edge, in what appears to be the sequence *-anenti*. This would suggest another name like *Clarentius* (4) formed from a present participle, but the remains of the previous letter cannot be *m* (for *manens*, 'remaining'), and look rather like *e*.

No continuous translation is possible, but after 1-2, which may be '… thief, concerning the name of …' there is a sequence of personal names (the feminine in italics): ' … of Servandus, to Hermo, to Epinus, to (*or* of) *Tenera*; of Clarentius, Epinus, *Serenella* a woman, *Melidone*, Euopius …'

In other 'curse tablets', suspects or enemies are listed in the nominative case, but in this list the case varies. The only discernible pattern is that one masculine name in the genitive (*Servandus*) is followed by three names in the dative; the second (*Clarentius*) by at least four names in the nominative. Perhaps they comprise two families or households, each identified by the name of its head, the *paterfamilias*, but this does not explain the shift from the dative to the nominative. This might suggest that members of the second household, in the nominative case, are doing something to (or perhaps *for*) members of the first household. The preceding text is so fragmentary, however, that the nature of this action cannot be guessed, but there is a broad hint in *[a]dfundat*, *furem* and *nomine*, that the context was one of a 'curse tablet' against theft. In its present state, however, its immediate interest is the wide variety of personal names.

6.10 Worked Animal Bones

Sue Stallibrass and James Rackham

Only six bone items showed evidence of bone working; of these the spindlewhorl is reported separately above (Section 6.7.4). Three of the worked items came from (3003) in Trench C, the uppermost ditch fill of [3008]. These three bones are very similar to each other. Each consists of one end of a large long bone plus part of its shaft. The shaft of each one has been sawn through by the use of a large-bladed knife (rather than a saw). This has 'ringed' the circumference of the shaft deep into the cortical bone. The shaft has then been snapped through, leaving a jagged edge in the middle. One bone is a small horse (pony-sized) distal-fused metapodial, cut through mid-shaft. A second consists of the proximal third of a pony-sized horse metatarsal. The third is the proximal half of a cattle metatarsal, in which a hole has been bored along the long axis. The latter is the only one of these three bones to show traces of use wear. The cut end of the shaft, despite being jagged where the central portion has been snapped through, is well polished, as though it has rubbed against something. The anterior ridge on the proximal shaft also shows some sign of use-polishing, although to a lesser extent. The proximal epiphysis of this bone has been strongly chewed by canids. Although each of these three bones could have been used as a natural socketed handle, the two pony bones appear to be waste or unused pieces, showing no signs of wear. Similarly worked long bones have been found at a number of Iron Age and Roman sites, such as Danebury (Sellwood 1984, fig. 7.39 no. 3.217), Thorpe Thewles (Swain 1987, 92, fig. 59 no. 2) and Dragonby (Taylor and May 1996, 359, fig. 14.8), where it is suggested they may represent handles for metal tools with tangs. Bones such as these are indeed typically used for the manufacture of a variety of objects including handles, bone plates for decoration and bone awls, needles and pins. The find of a fragment of polished rounded bone 'needle' from context (9571) in Trench J could be a fragment of the finished product of the activities using the metatarsi shafts. A small longitudinal 'sliver' of cattle size long bone shaft from context (9521) also implies bone working since it appears to have been split using a blade and would be consistent with splitting a long bone shaft for the manufacture of pins or needles. Notably contexts (9521) and (9571) are fills from the same ditch ([9525]/[(9573]), from which came the bone spindlewhorl (from (9571)). Hence the six worked bone items recovered occurred in just two ditches and may all have been quite closely contemporary.

6.11 The Querns

Ruth Shaffrey

6.11.1 Form

Fieldwork at Mount Pleasant, Nettleton/Rothwell, between 1998 and 2013, has produced a total of 18 querns. No querns were found during the survey by the British Gas team. Of these 18 querns six came from excavation trenches and the remainder from either systematic fieldwalking or hedge-line survey (the latter being undertaken due to the likelihood that worked stones (including querns), together with other stone, may have been removed from the field to a margin where they would not interfere with agricultural work). The find locations are indicated on a plan of the site (see Appendix 3). Most of the querns are of probable Spilsby Sandstone (see below), with four fragments of Millstone Grit and one of basalt. Of the 18 querns represented, ten are undiagnostic fragments including one fragment that does not retain sufficient diagnostic detail to identify it categorically as a quern fragment, and seven fragments identified as querns only by the presence of a pecked surface. The remaining eight fragments (seven of Spilsby Sandstone and one of Millstone Grit) retain some typological features or dimensions. None are complete. There is no evidence for millstones.

Three of the diagnostic Spilsby Sandstone fragments are sufficiently complete for their diameter to be measurable. These measure 350mm, 400mm and 450-480mm with corresponding maximum thicknesses of 52, 89 and 160mm. Other fragments have thicknesses of 104 and 120mm, which although not necessarily maximum dimensions, are suggestive of beehive querns, rather than of their thinner, flatter Romano-British counterparts.

Two querns of Spilsby Sandstone are Beehive forms likely to be of Iron Age date. One is a thick upper stone with flat grinding surfaces (No. 16). It is heavily damaged and lacking many original edges, but appears to show a steeply angled handle socket, unpierced, but now almost worn through to the grinding surface. Quern No. 17 is a lower stone, with typical slightly rounded base and almost flat grinding surface. It has a neatly drilled spindle socket measuring 45mm deep and this, remarkably, still contains the iron spindle. The spindle had seemingly been fixed into position with earth and grit; there is no evidence that it had been attached with lead, although the top part of the socket was not filled with earth and it is possible the lead (or another holding substance) had fallen out.

Quern No. 18 may be a very heavily worn beehive quern, but it also resembles querns of Romano-British flat-topped type from elsewhere in the country (Shaffrey 2006, fig. 4.14; Ingle 1989).

A small number of querns seem very likely to be of Roman date. This includes a single diagnostic Millstone Grit fragment (No. 4; RF 9065), which, although its circumference does not survive, has flat parallel faces with radial grooving on the grinding surface. It is clearly of Romano-British disc form, and measures 44mm in thickness. Two other fragments are of similar thickness (35 and 54mm: being No. 5, in Millstone Grit, and No. 8 of Spilsby Sandstone) and seemingly too thin to have been beehive querns. These can probably also be assumed to be of Roman date.

Quern No. 7 (RF 9521) is represented by six adjoining fragments, of which only one was available for analysis. It was recorded as being a lower stone, and presuming this is the case, it is probably of Romano-British date as lower beehive quern stones in northern England are only partially perforated (Heslop 2008, 59) and the socket on this stone goes right through the quern.

It is not possible to date the querns any more closely than the broad ranges they have been given here.

6.11.2 Catalogue of the Quernstones

1. Possible rotary quern fragment. Spilsby Sandstone. Amorphous lump with central 'socket' that appears to be formed from the weathering out of a fossil. None of the original edges are there and the inside of the socket is not worn, however there is some very slight wear on the face around the hole, suggesting it may have been a quern. Weighs 1.467kg. RF 8002a. Trench H, Context (8007), fill of early Roman ditch, cut [8010]. (Fig. 6.61.1)

2. Probable rotary quern fragment. Basalt. Probably from an erratic. Small fragment with part of possible worked face. Weighs 0.075kg. RF 8002b. Trench H, Context (8007), fill of early Roman ditch, cut [8010]. (not illustrated)

3. Rotary quern fragment, probable lower stone. Spilsby Sandstone. Two adjoining edge fragments (plus tiny bit). There are slightly curved radial grooves on the grinding surface - not enough survive to determine if these are

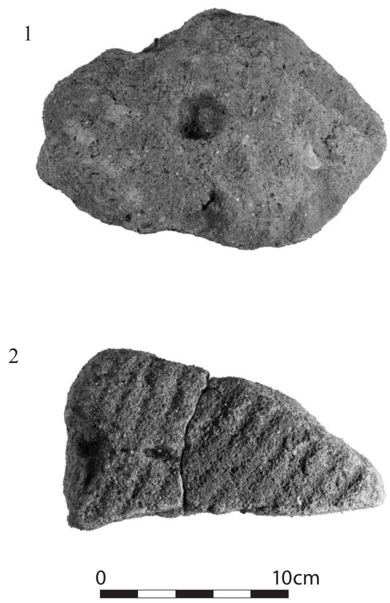

Figure 6.61 Spilsby Sandstone rotary quern fragments. 1: Quern no.1; 2: Quern no.3.

harped. The circumference is damaged and irregular but would appear to indicate a diameter in the region of 350mm. The edges and other face are roughly worked (or damaged) and the grinding surface is slightly convex suggesting it is probably a lower stone. Measures 52mm thick x approximately 350mm diameter. Weighs 1.038kg. RF 9056. Trench I, Context (9011), Romano-British layer. (Fig. 6.61.2)

4. Rotary quern fragment. Millstone Grit. No original edges but fragment of disc type quern with flat parallel faces. The grinding surface is pecked and the other surface is less neatly worked, perhaps suggesting it is a lower stone. Measures 44mm thick. Weighs 0.837kg. RF 9065. Trench I, Context (9022), fill of Roman ditch, cut [9020]. (not illustrated)

5. Probable rotary quern fragment. Millstone Grit. Part of worked surface. Fragment measures 35mm thick. Weighs 0.208kg. RF 9527. Trench J, Context (9521), fill of a Roman ditch, cut [9525].

6. Probable rotary quern fragment. Spilsby Sandstone. Larger fragment with a pecked surface, but it is not clear whether this is edge or face. Weighs 1.292kg. RF 9557. Trench J, Context (9577), fill of early Roman ditch, cut [9699]. (not illustrated)

Figure 6.62 Spilsby Sandstone rotary quern fragments. 1: Quern no.7; 2: Quern no.16.

7. Rotary quern fragments, from probable lower stone**.** Spilsby Sandstone. Six adjoining fragments, of which only one was available for analysis. Small section of pecked grinding surface survives and part of opposing face. Fully perforated stone. Measures 104mm thick x approximately 420-460mm diameter. Single examined fragment weighs 0.757kg; all fragments weigh 10.596kg. RF 9521. From below hedge by the High Street, on west side of Street Furlongs, September 2002. (Fig. 6.62.1)

8. Rotary quern fragment. Spilsby Sandstone. Edge fragment with pecked grinding surface, pecked straight edges sloping inwards and upper surface that slopes downwards slightly. The grinding surface is flat and pecked. The upper surface is worn. Measures 54mm max thickness. Weighs 0.527kg. Street Furlongs Fieldwalking, Square SF B2. (not illustrated)

9. Probable rotary quern fragment. Spilsby Sandstone. Small fragment with probable remains of eye measuring 80mm diameter, suggesting it is an upper stone. Weighs 0.044kg. Street Furlongs Fieldwalking, Square SF I5 (rewalked). (not illustrated)

10. Probable rotary quern fragment. Spilsby Sandstone. Small undiagnostic fragment with pecked surface and hole where fossil has weathered out. Weighs 0.175kg. Street Furlongs Fieldwalking, Square SF K4. (not illustrated)

11. Rotary quern fragment. Spilsby Sandstone. One face is worn smooth and has several fossil shell holes. The other face is damaged and none of the original face survives. The central hole survives - it is cylindrical and roughly circular and probably only about 15mm in diameter. Measures 120mm thick. Weighs 4.242kg. Street Furlongs Fieldwalking, Square SF S0 (not walked). (not illustrated)

12. Rotary quern fragment. Millstone Grit. Small undiagnostic fragment with pecked surface. Measures 33mm thick. Weighs 0.161kg. Street Furlongs Fieldwalking, Square SF HH4. (not illustrated)

13. Possible quern fragment. Spilsby Sandstone. No diagnostic features but part of a worn surface suggests use as a quern. Measures 49mm thick. Weighs 0.553kg. Street Furlongs, 2011 Survey item 9, field surface. (not illustrated)

14. Rotary quern fragment. Millstone Grit. One worn convex surface. Opposing face is possibly worked, however, this fragment has definitely been reused as a hone as there is a distinctive groove across one edge. Measures 48mm thick. Weighs 0.621kg. Street Furlongs, 2011 Survey item 89, field surface. (not illustrated)

Figure 6.63 Spilsby Sandstone rotary quern (lower stone): Quern no.17.

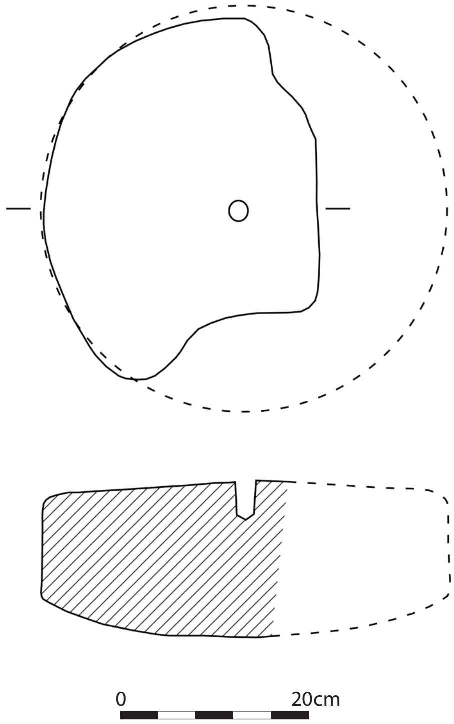

Figure 6.64 Drawing of Quern no.17; plan and section.

15. Probable rotary quern fragment. Spilsby Sandstone. Small fragment with part of worn face. Measurements are indeterminate. Weighs 0.174kg. Street Furlongs, 2011 Survey item 29, field surface. (not illustrated)

16. Upper rotary quern fragment Spilsby Sandstone. Flat grinding surface with part of handle socket surviving - diagonal, steeply sloping and conical. Upper surface is slightly convex and worn very smooth indicating that the quern has been heavily reused. Measures 125mm thick x estimated diameter 270mm. Weighs 6.784kg. From below eastern hedgerow of Street Furlongs, April 2013. (Fig. 6.62.2)

17. Lower rotary quern half. Spilsby Sandstone. Spindle socket is circular (17mm diameter) and retains part of its original iron spindle *in situ* (Fig 6.65).The grinding surface is almost flat, pecked and slightly more worn towards one edge. The edges are pecked, straight and vertical. The base is gently rounded (convex) and pecked/dressed. The quern is not circular, or the spindle socket is not centrally placed; the latter might well be so and explained by the occurrence of a fossil in a central location that looks to have been avoided in drilling the socket. Measures 440-480mm diameter x 131-160mm thick. Weighs 38.580kg. From below eastern hedgerow of Street Furlongs, April 2013. (Fig. 6.63, Fig. 6.64)

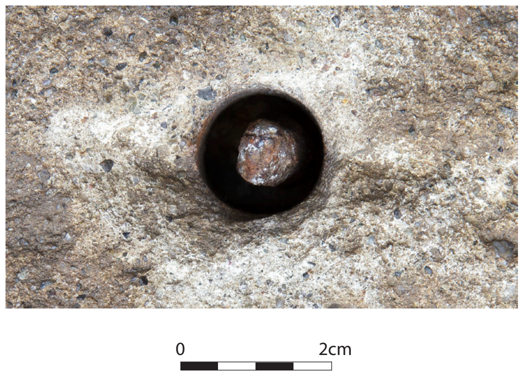

Figure 6.65 Detail of iron spindle inside Quern no.17.

18. Upper rotary quern quarter. Spilsby Sandstone. Straight pecked sides that are either vertical or gently slope in, depending on how you hold the fragment. The side pecking appears to be in very faint vertical lines. The grinding surface is worn smooth and has evidently seen some use. Some of the fossils shells are absent. The grinding surface is slightly curved around the diameter and may have been slightly concave into the middle or flatter. The eye measures 54mm diameter. There is a circular conical hopper around the eye. It measures 170mm diameter. Measures approximately 400mm diameter x 89mm thick. Weighs 6.820kg. Recovered in the 1970s from below northern hedgerow of East Field (mid-point) by Les Brown. (Fig. 6.66, Fig. 6.67)

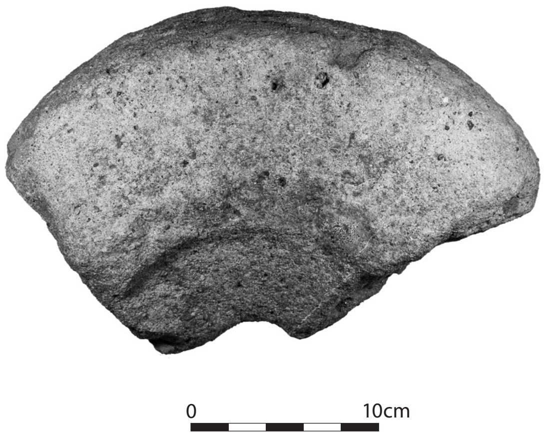

Figure 6.66 Spilsby Sandstone rotary quern (upper stone): Quern no.18.

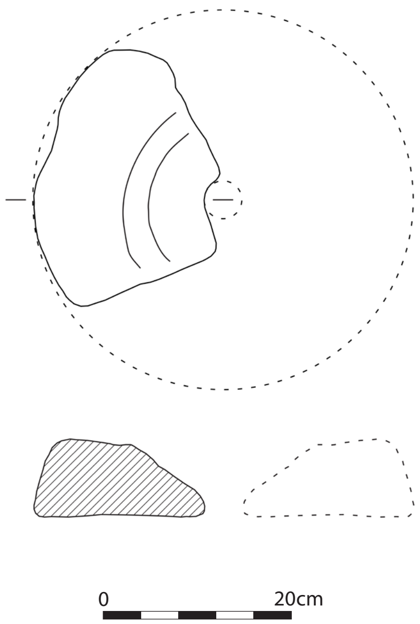

Figure 6.67 Drawing of Quern no.18; plan and section.

6.11.3 Discussion

The quern assemblage mainly comprises querns of Spilsby Sandstone and Millstone Grit with a single other stone. The querns of likely Spilsby Sandstone can be described as a coarse-grained calcareous grey sandstone with frequent polished grains of assorted colours and some fossil content. Garnet is not observable in hand specimen analysis, but nor was it seen in querns identified as likely Spilsby Sandstone at Dragonby or samples of said stone from Nettleton Top (Wright 1996). The identification of Spilsby Sandstone is given with the proviso that none of the present assemblage have been thin sectioned and the similarity with Folkestone Beds and Elsham Sandstone (from the north-west edge of the Wolds in North Lincolnshire) remains as previously noted (Ingle 1989; Wright 1996; though see discussion below). The coarse grained texture of the querns from this site, combined with the proximity of the site to Nettleton Top are the principal reasons this identification and provenance have been assigned. The distribution of Spilsby Sandstone querns has not been comprehensively mapped, though it is known they were used in Lincolnshire, Northamptonshire, Cambridgeshire and south Yorkshire. The large fossils present in some of these examples may have made the stone inferior as a quern stone material, potentially introducing small fragments of milky shell grit into the flour, and might render some stones prone to fracture along the line of the fossil shell. Such aspects do not, however, appear to have stopped its exploitation.

The querns identified as Millstone Grit are best described as of a medium to coarse grained highly feldspathic sandstone with occasional quartz pebbles. It is not possible to identify a likely source for these querns, although it would not be unreasonable to assume they originated in South Yorkshire or Derbyshire. A single quern is made of basalt (No. 2; RF 8002b). It is an undiagnostic fragment, so nothing can be said of likely date or form (though it was stratified in a ditch together with early Roman pottery).

The querns forming this assemblage were recovered from contexts of Roman date or were found during fieldwalking or survey, and are therefore undated by context. The form of some of the querns indicates likely Roman dates; (Nos 4 and 5, Millstone Grit; No. 8 Spilsby Sandstone). A further three example are of Beehive forms and likely to be of Iron Age date (Nos 16, 17, 18). The remaining querns could be of any date, although at nearby Dragonby, Wright noted that most of the Spilsby Sandstone querns occurred in Iron Age phases, and that where they were found in Roman contexts, they are likely to have been residual (Wright 1996, 368). None of the Millstone Grit querns can be confirmed as being of Iron Age form and we could speculate that two phases of activity are represented, with the Spilsby Sandstone indicating Iron Age occupation and the Millstone Grit relating to Roman use.

The single basalt quern is hard to place. Evidence from other sites in Yorkshire and north Lincolnshire indicates that exploitation of erratics for querns does occur, but only in small numbers. The large assemblage at Dragonby produced a number of such querns (Wright 1996, 367) while just north of the

Humber a road-scheme project recovered erratic querns from three sites (Shaffrey in prep.). Previous work has indicated that this low level exploitation occurred over a significant time period, with saddle querns, beehive querns and Romano-British style quern types all represented in such lithics. Probable saddle querns were found at High Wold, Bridlington (Heslop and Gaunt 2009), and beehive and flat rotary querns at Dragonby and from the Easington to Ganstead pipeline (Wright 1996; Shaffrey in prep.). It is unclear whether the presence of querns made from erratics can be interpreted as high status (Heslop 2008, 16), or low status (Shaffrey in prep.), and might be determined by future analysis of their contexts of recovery. Whatever the implication of the use of erratic for querns, the lithology utilised here is in keeping with the general area and not unexpected.

The presence of a moderate number of rotary querns of both Iron Age and Romano-British form indicates occupation during both those periods, and possibly that spanned the transition. The fragmentary nature of most of the pieces and definite reuse of one fragment for sharpening (No. 14) may indicate that the querns were used for grinding grain some significant time prior to their deposition. This secondary use of quern fragments is typical, however, as they were hard wearing and easily put to other uses once they were no longer functional as querns.

6.12 Whetstones and Hones

Ruth Shaffrey

6.12.1 Introduction

A total of eleven sharpening stones were found during the archaeological fieldwork at Mount Pleasant and are reported below. Les Brown of Caistor had collected a number of sharpening stones from East Field in his youth and a representative sample of approximately half of his collection is also reported here. No whetstones or hones were recovered during the British Gas fieldwalking of 1992-3. The stones from the archaeological fieldwork comprise four whetstones (i.e. stones shaped for use as sharpening stones), six hones (stones naturally formed and collected and used for sharpening but not otherwise humanly modified) and one modern carborundum whetstone. The ten stones from Les Brown's collection include four hones and six whetstones.

6.12.2 Whetstones and Hones from the Archaeological Fieldwork

Nine of the stones came from ploughsoil in East Field and Street Furlongs, and of the remaining two only one was securely stratified. Of the nine stones from ploughsoil eight were recovered from systematic survey in Street Furlongs with the one item from East Field being a chance surface find seen amongst the cut crop stubble in 1998. The stones were found over a wide area.

Catalogue of whetstones and hones from the archaeological fieldwork

1. Hone. Very fine-grained sandstone, dark reddish brown, micaceous and distinct from the rest of the hones and whetstones from the site. Very well used hone. Slab shaped with extensive wear to both faces and one edge,

Figure 6.68 Sandstone hones and whetstone.
1: Hone no.1; 2: Hone no.2; 3: Whetstone no.3.

which are worn very smooth. Slightly bevelled across the arrises. Measures 70 x 65 x 18mm. Weighs 152g. RF 3024, Trench C 1998, Context (3003), top fill of ditch, dated by pottery to the first century AD into the early second century. (Fig. 6.68.1)

Figure 6.69 Two non-local whetstones from Street Furlongs in sandstone from the Wealden formation. 1: Whetstone no.4; 2: Whetstone no.9.

Figure 6.70 Whetstone no.7.

2. Hone. Fine-grained pale brown micaceous sandstone. Slab shaped piece, not obviously shaped but with two worn faces, one with some sharpening grooves and an edge that is heavily worn and slightly concave. Measures 60 x 40 x 17mm. Weighs 73g. RF 9558, Trench J 2004, Context (9612), stone tumble layer over Building 2, deposited in the late or post-Roman period. (Fig. 6.68.2)

3. Whetstone. Fine-grained micaceous pale brown, well-sorted sandstone with well-rounded grains including the occasional opaque grain. End portion of 'cigar' shaped whetstone. The stone tapers slightly away from the surviving end. The cross-section is oblong with rounded arrises. The stone has general wear all over, although one face is worn smoother than the others. Measures >38 x 28 x 16mm (> indicating the stone was originally longer than this surviving portion). Weighs 44g. RF 0003, East Field, 1998, field surface. (Fig. 6.68.3)

4. Whetstone. Fine-grained micaceous sandstone with occasional opaque content and some very small shell fragments. A sandstone from the Wealden formation. Central portion of whetstone with oval cross-section. One side is slightly damaged but there is wear all over the stone and the sides are slightly bevelled. Measures >40 x 23 x 12mm. Weighs 24g. Street Furlongs, 2011 Survey item 9649a, field surface, not precisely located. (Fig. 6.69.1)

5. Cobble hone. Fine-grained slightly micaceous grey green sandstone. Cobble with naturally flat smooth sides but used as a hone along the length of one face with two shallow sharpening grooves. Naturally fractured to create roughly L-shaped profile. Measures 91 x 38 x 33mm. Weighs 173g. Street Furlongs, 2011 Survey item 9649b, field surface, not precisely located. (not illustrated)

6. Whetstone. Carborundum. Modern (post 1890) neatly shaped whetstone. Measures >89 x 39 x 27mm. Weighs 147g. Street Furlongs, 2011 Survey item SF 201, field surface. (not illustrated)

7. Whetstone. Fine-grained slightly micaceous pale brown sandstone. Small rectilinear whetstone with oblong cross-section. One end is original, one damaged. The arrises are rounded and the stone has general wear with one or two small sharpening grooves. There are no remnants of manufacturing recesses. Measures >55 x 20 x 11mm. Weighs 28g. Street Furlongs Fieldwalking, Square SF H3. (Fig. 6.70)

8. Hone. Fine-grained slightly micaceous pale brown sandstone. Flat piece of stone, unshaped but with one

Figure 6.71 Hone no.8.

smooth face (possibly natural) and one smooth utilised edge, now slightly concave. Measures 70 x 50 x 22mm. Weighs 112g. Street Furlongs Fieldwalking, Square SF K4. (Fig. 6.71)

9. Whetstone fragment. Medium-grained, greenish grey, very micaceous and containing an opaque mineral. A sandstone from the Wealden formation. Fragment, broken along bedding plane so that what survives is a very thin fragment. The edges *may* be slightly bevelled but it is not especially worn. Measures 31 x 24 x 4mm. Weighs 7g. Street Furlongs Fieldwalking, Square SF N1. (Fig. 6.69.2)

10. Possible hone. Fine-grained pale brown micaceous sandstone. Flat piece of stone with one smooth face. Could be part of a hone although the surface could equally well be natural. None of the edges show signs of having been shaped or used. Measures 47 x 41 x 7mm. Weighs 31g. Street Furlongs Fieldwalking, Square SF Z2.

11. Rubber/hone. Fine grained pale brown micaceous sandstone. Unshaped stone that has been used on multiple sides. One face is slightly convex, rounded and worn suggesting use as a rubber, however the opposing face is also slightly worn as is one of the edges. Measures 67 x 54 x 22mm. Weighs 142g. Street Furlongs Fieldwalking, Square SF EE5.

6.12.3 Discussion

The hones and whetstones comprise an interesting assemblage of tools. Most of the hones are formed of slab shaped pieces of stone, generally smallish, hand-sized pieces. Their general consistency in size belies a difference in the way they were used. They are variously worn across the edges, the arrises or the faces or a combination of some or all of these. Two examples also bear sharpening grooves. One of the stones also has wear consistent with use as a rubber indicating a possible multi-functional role (No. 11). The indication is that the stones served to sharpen a variety of different tools, although none were used to sharpen large agricultural blades. None of the hones or whetstones are 'personalised', that is to say, none are perforated for suspension or demonstrate unusual use wear. The four whetstones, all of which are from ploughsoil contexts, are of different types. One has a neat rectilinear shape (No. 7), another an oval cross-section (No. 4) and a third a tapered irregular 'cigar' shape (No. 3).

Most of the stones are made of a fine-grained micaceous sandstone, presumably local as it occurs in slab form or are cobbles with no deliberate shaping and therefore probably collected in their current form. Two examples are of a different lithology with inclusions of an opaque material (i.e. black) as well as some shell content. Under a hand lens, these are confirmed as qualitatively identical to a recently recognized whetstone source in the Weald Clay Formation of the Weald in southern England (Allen and Scott 2013); thin section analysis would provide confirmation but John Allen has viewed these items from Mount Pleasant and verifies the attribution (see also below 6.12.5). A further hone (No. 1) is of a distinctive micaceous sandstone, quite different to the rest of the assemblage. Notably this hone comes from a secure stratified context at Trench C; the source of this stone is unknown at present. A single whetstone is of carborundum (No. 6) and therefore dates to post AD 1890; it came from ploughsoil during the 2011 survey.

The recovery of this number of tools, together with the fact that more had been collected from East Field by Mr Les Brown in past years (see below), indicates that a significant level of tool maintenance was occurring. The unstratified nature of the majority of the assemblage means that one cannot say for certain whether individually those stones derive from ancient activity. In addition to the carborundum some may have been in use in more recent times. However, their density in this area, which corresponds with the extent of the distribution of the other archaeological finds, strongly suggests that a significant proportion are likely to be associated with the ancient site, as the frequency is greater than one might expect from fields with a sole history of arable activity. The presence of some imported whetstones, supplementing stones that were (presumably) picked up *ad hoc*, however, indicates that this use was something other than at subsistence, and implies industrial level activity, and/or integration with trading networks supplying extra-regional specialist whetstones, alongside practical 'rural status'

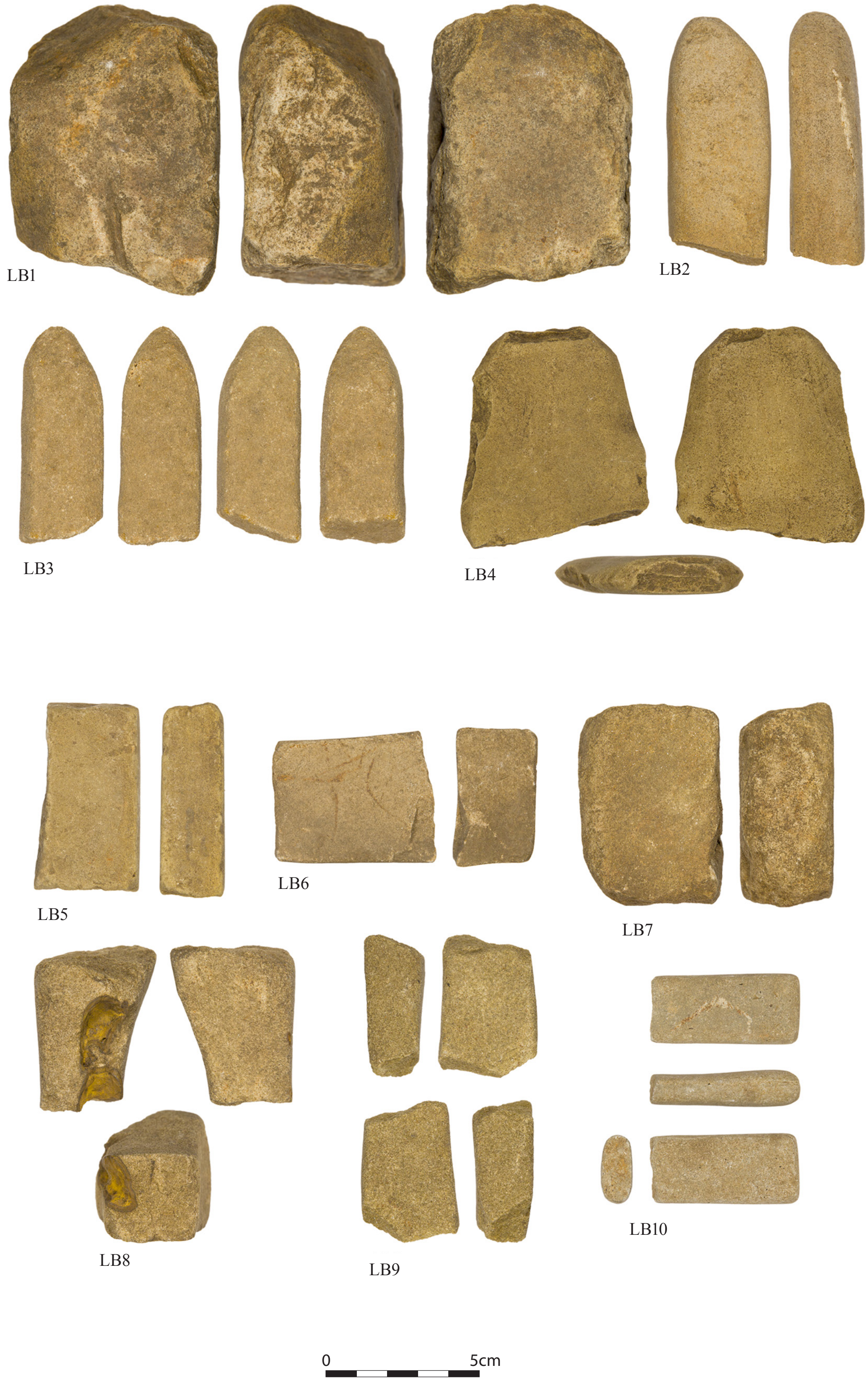

Figure 6.72 Whetstones and hones from Les Brown's Collection.

settlement use. This is the picture from the Street Furlongs area from where the large proportion of these stones, catalogued above, were forthcoming. This is in contrast with the supply of stone for querns which generally indicated the use of locally available (and possibly inferior) stone types over imported varieties. At nearby Dragonby, a similar sized assemblage consists entirely of whetstones, with no cobble or slab shaped hones catalogued, although the report fails to mention what types of stones were employed (May 1996, 378-81).

6.12.4 Whetstones and Hones from Les Brown's Collection

An assemblage of c. 20 whetstones and hones were collected by Les Brown from the ploughsoil surface of East Field over a period of years around four decades ago. Ten of these were submitted for recording; the selection was made by Steve Willis and Les Brown in order to submit a representative sample. All ten were found to have been utilised for whetting, but the variation within the group is noteworthy, consistent with the group from the archaeological fieldwork reported above. Four of the stones have been classified as hones. The remainder are whetstones whose shape has been deliberately created.

LB1. Hone. Medium grained well-sorted quartz sandstone. Large chunk of stone. Deep groove on one side, well established (not plough damage) and general wear all over the stone. Opposing face is concave, smooth and worn. Measures >91 x >53 x >67mm. Weighs 639g. (Fig. 6.72)

LB2. Pebble hone. Fine grained well-sorted micaceous pale brown sandstone. Elongate cobble with generally worn surfaces. Some evidence of use as a hone across one end, which is slightly bevelled. Measures >75 x 32 x 24mm. Weighs 102g. (Fig. 6.72)

LB3. Whetstone. Medium grained quartz sandstone. Coarser than previous examples. Elongate hone with square cross-section. Pointed at one end, like a pencil suggesting it has been rubbed against something, rather than something being rubbed against it. Measures >69 x 25 x 25mm. Weighs 64g. (Fig. 6.72)

LB4. Pebble hone. Fine grained well-sorted micaceous pale brown sandstone. Flat stone with flat, slightly uneven worn faces. Edges are used and one is particularly bevelled. Measures >66 x 61 x 11mm. Weighs 81g. (Fig. 6.72)

LB5. Whetstone. Fine grained well-sorted pale brown sandstone. Section of probable slab shaped whetstone. Fairly square arrises. Mostly worn across one edge which has a convex profile. Measures >61 x >32 x 20mm. Weighs 77g. (Fig. 6.72)

LB6. Whetstone. Fine to medium grained neat quartz sandstone. Central section of very square neat whetstone. The arrises are very sharp. All the edges are worn very smooth and concave across their width. Quite unusual wear suggesting the stone was rubbed against something long and thin (but not the edge of a sharp blade). Measures >50 x 40 x 24mm. Weighs 106g. (Fig. 6.72)

LB7. Hone. Fine grained well-sorted micaceous pale brown sandstone. Roughly cuboid stone, generally worn but with one particularly flat face. Possible hone. Measures 63 x >47 x 30mm. Weighs 165g. (Fig. 6.72)

LB8. Whetstone. Medium grained feldspathic quartz sandstone. Irregularly shaped stone - very concave faces, square section. Measures 47 x 27-40mm x 29 x 39mm. Weighs 96g. (Fig. 6.72)

LB9. Whetstone. Medium grained feldspathic micaceous sandstone. Like a finer grained Millstone Grit. Central section with rectangular section and fairly sharp arrises. Measures >45 x 30 x 20mm. Weighs 45g. (Fig. 6.72)

LB10. Whetstone. Fine grained greenish grey sandstone with some black content (not Spilsby Sandstone!). Wealden sandstone. Neat elongate whetstone with sub-rectangular profile. The stone is generally worn and has rounded edges. Measures >47mm x 22 x 12mm. Weighs 26g. (Fig. 6.72)

6.12.5 Discussion

The type of use wear on these tools varies but includes general wear all over, grooves (LB No. 1), concave wear on faces or edges - some of which suggests use along the length of the stone (LB No. 6), convex wear across the edges (LB No. 10) and/or faces, and wear specific to the end of the stone (LB No. 2), in one case creating a notable point shape (LB No. 3). The variation of wear amongst this collection from East Field suggests that the tools were being used for a wide range of activities, some of which were clearly quite specific tasks. It is possible that these represent a nearby workshop with a selection of tools, however, as unstratified finds resulting from fieldwalking, they could be simply a range of tools from a significant period of time.

All the stones are made from fine to medium grained sandstones, one of which (LB No. 8) contains part of an iron nodule. One stone (LB No. 10) is of a greenish grey sandstone containing some opaque (black) material. This is a further example of a Wealden sandstone whetting stone from the site, alongside whetstones No. 4 (Street Furlongs, 2011 Survey item 9649a) and No. 9 (Street Furlongs Fieldwalking, Square SF N1) described above (Section 6.12.2). Wealden sandstone has been newly identified as a source for whetstones during the Roman period (Allen and Scott 2013). Its distribution is currently being researched by John Allen, but is likely to have been extensive (pers. comm. John Allen). In Lincolnshire, the large Fiskerton whetstones, of Roman date, have recently been re-identified as Wealden sandstone (Allen in press), so its occurrence here at Mount Pleasant on the Wolds may be part of a much wider picture of distribution.

6.13 Metalworking and Residue Evidence

6.13.1 Crucibles

Steven Willis (EDXRF analysis by David Dungworth)

Crucible 1. East Field, Trench C, Context (3003), RF 3025, upper fill of ditch. Body fragment from a handmade ceramic crucible. The fragment has a light grey interior surface, a mid to dark grey core and a yellowish brown exterior surface. The exterior has been smoothed but the interior, whilst smooth, shows small undulations. The fabric has well-sorted fine inclusions including quartz, whilst rare, fairly fine, sub-angular inclusions may be from disaggregated sandstone. Fractures are irregular and the fabric matrix has a pumice/biscuit-like appearance resulting from exposure to high temperature; the item seems light for its size. No macroscopically visible residues occur on the interior or exterior surfaces, although there is discolouration. EDXRF showed the presence of Cu and Zn. Weight 6.5g; 22mm x 20mm; vessel wall thickness c. 11.5mm.

Crucible 2. East Field, Trench C, Context (3003), RF 3008, upper fill of ditch. Small body fragment from a handmade ceramic crucible, evidently a different vessel from Crucible 1. The item interior is somewhat concave and suggests the possibility that this might be from a tube, but may readily be from an open standard crucible, and this is the agreed working interpretation (of D. Dungworth and S. Willis). The fragment has a light grey interior surface, and a mid to dark grey core; the exterior surface looks on first viewing to be missing from this piece but closer inspection shows that a small area is present but is quite rough due to exposure to high temperature, and is grey. The interior was a finished surface but in its current state is rough and blistered. The fabric has well-sorted fine inclusions and as with Crucible 1 there are rare sub-angular inclusions. Fractures are irregular and the fabric matrix has a pumice/biscuit-like appearance (resulting from exposure to high temperature); again the item seems light for its size. Across most of the extant interior surface is a copper verdigris residue. Weight 2.1g; 20mm x 16mm; vessel wall thickness c. 10mm.

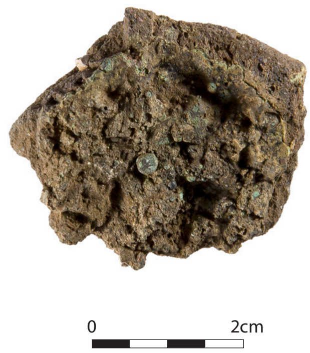

Figure 6.73 Part of the rim, upper wall and base of Crucible 3.

Crucible 3. From Street Furlongs Fieldwalking, Square SF T1. This is represented by part of the rim, upper wall and base of the spout from a small-medium handmade ceramic crucible. The rim is rounded. The vessel is light to mid-grey with occasional well-sorted fine quartz and other inclusions, whilst slightly larger angular flint also occurs. The exposure to high temperature has resulted in a rough biscuit-like appearance to the fabric typical of crucibles of this type. An amorphous hard residue adheres to the interior surface, covering it to the rim and this has a grey appearance with yellow and green elements. A spherical green ‘bead’ is visible within this surface (3mm across). EDXRF of the residue shows the presence of Cu, Sn and Pb. The absence of Zn raises the possibility that this is pre-Roman. Weight 19.9g; diameter c. 90mm, with c. 8% of the circumference present; surviving height 33mm (width of fragment 37mm); vessel wall thickness c. 9mm; residue thickness c. 5mm. (Fig. 6.73)

Table 6.9 Summary table of materials recovered from the excavated trenches at Mount Pleasant.

Category of Material	Count	Weight (g)
Mass of slag (smithing hearth bottom or furnace bottom)	3	253.2
Non-diagnostic ironworking slag	17	152.2
Iron ore	11	77.0
Other slag	1	87.2
Vitrified ceramic hearth/furnace lining	>20	100.0
Fuel Ash Slag	25	306.7
Vitrified Charcoal	47	373.5
Geological material (other than iron ore)	3	128.6
Lead run	1	5.2
Iron object	1	1.8
Total	**>130**	**1485.4**

Table 6.10 Summary table of materials recovered from fieldwalking at Mount Pleasant (North Field and Street Furlongs).

Category of Material	Count	Weight (g)
Mass of slag (smithing hearth bottom or furnace bottom)	2	269.2
Non-diagnostic ironworking slag	36	372.1
Iron ore	3	23.3
Other slag	2	10.6
Fuel Ash Slag	3	46.1
Vitrified Charcoal	20	34.2
Geological material (other than iron ore)	2	31.4
Iron object	2	116.6
Total	**70**	**903.5**

6.13.2 Slag and other Residues from the Archaeological Fieldwork

David Dungworth

Material recovered during excavation and fieldwalking at Mount Pleasant and thought to derive from metalworking was examined. All material was examined by eye, with some additional examination using a x10-20 magnification binocular microscope. Examination was aided in a few cases by obtaining a fresh fracture surface. Identification of materials was aided in many cases by estimating density (by heft). Material was weighed by class and by context (or other relevant information on provenance).

The material recovered from the excavations included over 400g of iron-working slag (Table 6.9) but none of it was sufficiently distinctive to be certain which process was responsible for its formation.

The material recovered during fieldwalking included over 600g of ironworking slag (Table 6.10) but none of it was sufficiently distinctive to be certain which process was responsible for its formation.

In general terms the material recovered from both the excavations and fieldwalking is broadly similar. It includes just over 1kg of ironworking debris but it is not possible to identify whether this was generated by iron smelting or iron smithing. The presence of small amounts (just over 100g) of iron ore might be taken to suggest that some iron smelting may have taken place. The small quantity of iron slag recovered, however, would be more consistent with iron smithing rather than iron smelting which tends to produce relatively large quantities of slag and other debris.

The presence of fuel ash slag shows that some high-temperature fires were present and that these were probably of a non-metallurgical nature. The presence of small amounts of vitrified charcoal is consistent with high-temperature fires.

The listing of the above items forms part of the site archive.

6.13.3 Iron Ore and Slag collected from East Field by Les Brown prior to the Archaeological Fieldwork

David Dungworth and Steven Willis

Les Brown has ten items in his collection of surface finds from East Field, gathered during the 1970s, relating to, or potentially relating to, ironworking. These comprise the following. Six nodules of iron ore (c. 200g) of the type that occur naturally in the Wolds chalk (five are between 19 and 37grams). Two items are ironworking slag (36.7g and 103.3g). More significant are two items of bloomery slag displaying flow (31.7g and 148.2g); these are likely to be from iron smelting and to pre-date the medieval era. Considering their morphology these two pieces are probably either prehistoric or early medieval.

Chapter 7

Palaeoenvironment and Diet:

Environmental Remains, Faunal Remains and Marine Shell

D. James Rackham, John Giorgi, Wendy Smith and Elizabeth Somerville

7.1 Environmental Archaeology Report

D. James Rackham, John Giorgi and Wendy Smith (The Environmental Archaeology Consultancy)

7.1.1 Introduction

Excavations carried out by Steven Willis as part of a research investigation of the site at Mount Pleasant opened up a series of ten trenches which investigated prehistoric and Roman settlement features. Environmental soil samples were collected from nine of these trenches (Table 7.1) and over the seven excavation seasons that the programme ran a total of thirty four samples were taken. Samples were collected from prehistoric (Neolithic, ?Bronze Age, Middle Iron Age), Late Iron Age/early Roman and Romano-British features. Sample size ranges between 1 and 40 litres, with 30 litres being taken as the standard sample size where sufficient sediment was available. In addition to the soil samples a total of 4431 bone fragments were collected by hand and a few snail shells.

7.1.2 Methods

The soil samples were processed in the following manner. Sample volume and weight was measured prior to processing. The samples were washed in a 'Siraf' tank (Williams 1973) using a flotation sieve with a 0.5mm mesh and an internal wet sieve of 1mm mesh for the residue. Both residue and flot were dried and the residues subsequently re-floated to ensure the efficient recovery of charred material. The dry volume of the flots was measured and the volume and weight of the residue recorded. Two samples from the first season, from contexts (1047) and (3003), were processed and assessed at Durham University (Huntley 1999) and only the sample from context (3003) was submitted for further work to the Environmental Archaeology Consultancy as the potential of that from (1047) was deemed unpromising (Huntley 1999).

The residues were sorted by eye, and environmental and archaeological finds picked out, noted on the assessment sheet and bagged independently. A magnet was run through each residue in order to recover magnetised material. The residue was then discarded. The flot of each sample was studied using x10 magnifications and the presence of environmental finds (i.e. snails, charcoal, carbonised seeds, bones, etc.) was noted and their abundance and species diversity recorded on the assessment sheet. An estimate was made of the frequency of fragments of charred grain, chaff and individual weed seeds during the scanning. The flots were then bagged and along with the finds from the sorted residue, constitute the material archive of the samples.

The individual components of the samples were then preliminarily identified and the results are summarized below in Tables 7.2 and 7.3. Elements were subsequently submitted for more detailed analysis and are presented below (Tables 7.4-6). All samples will be referred to below by their context number.

7.1.3 Results

The summary of all the finds from the samples presented in Table 7.2 affords a quick guide to the range of material present in the deposits and their relative density. It is clear that both the range and density of finds increases in the Romano-British features.

Table 7.1 Mount Pleasant: Samples taken for environmental analysis.

	Sample No.	Trench	Context	Sample Vol. (L)	Sample Wt. (Kg)	Feature Type	Date
NMP98		A	1047	nd	nd	Lower fill of ditch 1026	Neolithic or Bronze Age
NMP98		C	3003	30	nd	Top fill of ditch 3008	LIA - 1st C. AD
NMP99	1	D	4005	30	35	Fill of gully/ditch 4006	1st C. AD
NMP99	2	D	4008	30	35	Fill of gully/ditch 4015	1st C. AD
NMP99	3	D	4018	30	31	Fill of linear cut 4050	Neolithic
NMP99	4	D	4064	30	35	Fill of gully/ditch 4065	1st– early 2nd C. AD
NMP99	5	D	4071	30	36	Fill of gully/ditch 4072	1st C. AD
NMP99	6	E	5004	25	26	Layer	1st– 2nd C. AD
NMP99	7	E	5010	10	11	Fill of gully	1st– early 2nd C. AD
NMP99	8	D	4012	30	33	Fill linear cut 4028	Neolithic
NMP99	9	F	6015	25	28	Fill of ditch 6014	*c.* 2nd –3rd /4th C. AD
NMP99	10	D	4078	1	1.1	Fill of post-pipe 4079	Neolithic
NMP00	1	G	7003	30	28.25	Fill: linear post setting complex	? Neolithic
NMP00	2	G	7005	30	34	Fill in palisade slot	? Neolithic
NMP00	3	H	8004	30	32	Enclosure ditch fill	Late 1st– mid-2nd C. AD
NMP00	4	H	8005	27	26.5	Fill: cross linear post setting	? Neolithic
NMP00	5	H	8009	16	17.5	Top fill of enclosure ditch	1st C. AD
NMP00	6	H	8007	28	29	Main fill of enclosure ditch	1st C. AD
NMP00	7	H	8016	28	28	Fill of pit within linear post complex	? Neolithic
NMPA00	9	I	9010	26	26	Property boundary ditch 9013	Mid Roman
NMPA00	10	I	9008	32	28	Property boundary ditch 9009	Mid Roman
NMPA00	11	I	9022	29	26	Property boundary ditch 9020	Mid Roman
NMPA02	1	J	9505	30	30	Upper fill of ditch cut 9514	1st– early 2nd C. AD
NMPA02	2	J	9522	30	35.5	Lower fill of ditch cut 9514	LIA
NMPA03	3	J	9558	30	36	Fill of sub-soiler channel 9578	Redeposited Later Roman
NMPA03	4	J	9577	30	31	Lower fill of ditch 9699	Mid-Late 1st C. AD
NMPA03	5	J	9569	30	31	Floor surface within stone founded building	3rd C. AD
NMPA11	6	J	9644	40	45	Fill of sausage shaped pit 9645	MIA
NMPA11	7	J	9650	22	26	Uppermost fill of ditch 9694	2nd C. AD
NMPA11	8	J	9661	3	3.75	Fill of sausage shaped pit 9704	MIA
NMPA11	9	J	9666	10	10	Fill of ditch 9694	Late 1st– 2nd C. AD
NMPA11	10	J	9680	30	36	Fill of ditch 9700	LIA
NMPA11	11	J	9684	10	10.5	Fill of ditch 9699	Mid-Late 1st C. AD
NMPA11	12	J	9687	13	14	Fill of corn-dryer flue	Late Roman

MIA – Middle Iron Age; LIA – Late Iron Age; nd – no data

Neolithic to Middle Iron Age

Samples assigned to this period were recovered from linear cuts and post settings in Trenches D, G and H and two sausage shaped pits in Trench J. Deposits assigned to the Neolithic era appear to be characterized by decalcification. The animal bone is rare and degraded and the snails are represented by an intrusive species that burrows to up to two metres, *Cecilioides acicula*, with only single or a very few shells of other taxa, specifically *Trichia hispida* and *Vallonia* sp. (Table 7.5). Charcoal concentrations were extremely low and only two samples produced any charred seeds or grain, and then only one or two seeds. A single grain from (4012) has been identified as wheat (Table 7.6). Pottery, worked flint and fired earth were not found in any of these samples, although a few grams of burnt flint were recovered from (4018). This absence of finds less likely to degrade suggests that these features may be remote from habitation where the general rubbish of a settlement might be expected to accumulate, although earlier prehistoric sites often produce little cultural and environmental material from their samples. Two of the samples in Trench D produced a couple of flakes of hammerscale. Given that hammerscale occurs in higher concentrations in early Romano-British deposits in this trench these few flakes could easily have derived from later levels and moved through the deposits as a result of soil processes, and are unlikely to indicate contemporary iron smithing.

Later Iron Age/Early Romano-British

Deposits assigned to the Late Iron Age and early Roman period were sampled in Trenches C, D, H and J (Table 7.2). The samples from Trench H were taken from the main and upper fills of enclosure ditches including [8010]. Although context (8007) produced ceramics and quern stone fragments the soil samples were fairly barren of finds although a little charred cereal and domestic animal bone was present in (8007) and a single chaff fragment from (8009) has been assigned to spelt wheat.

The samples from Trenches C, D, H and J were all taken from ditch or gully fills and produced pottery, a few flakes of hammerscale, small fragments of slag or fuel ash slag and domestic animal bone (Table 7.2). Additionally two produced tiny fragments of glass, one produced four pieces of corroded iron, including a small nail, and two produced fragments of oyster shell. These samples were all richer in charred plant remains including charcoal, charred cereal grain and weed seeds. These concentrations seem likely to reflect the proximity of habitation, clearly evident from the structural remains in Trench J. These assemblages are typical of domestic rubbish with the hammerscale indicating contemporary iron smithing probably taking place near Trenches C and D, and possibly J, in the first century AD. The densities of hammerscale are low, and although the magnetic component of some of the samples also included several small fragments of slag, this is insufficient evidence to suggest iron-smithing within the trench areas or their immediate vicinity.

One sample, from the top fill of ditch [3008], produced a fairly rich charred plant assemblage dominated by grasses and what appear to be ericaceous (heather) twigs.

Chicken eggshell was present in context (9577) as were charred remains of oats, previously only identified from a single grain in one of the earlier prehistoric samples. (9577) was particularly rich in charred plant remains, dominated by seeds of grasses, particularly heath grass, and pasture plants (see below).

Three of the samples, two from ditch [9514] and the third from ditch [3008] (Trench C), produced relatively rich assemblages of small vertebrate bones. These are not natural pit fall contexts and although these assemblages may have built up from a local death assemblage raptor pellets could have contributed to the samples. The taxa identified in Trench C include wood mouse, water vole, field vole, bank vole, mole, common shrew, frog/toad and also bones of a small passerine and a bird the size of a small thrush. This is a wild fauna indicating ground cover and limited disturbance, but if some derives from predatory bird pellets then it need not indicate local conditions. The taxa from the fills of ditch [9514] in Trench J show a similar suite with the addition of pygmy shrew, water shrew, house mouse and slow worm. While the house mouse is clearly indicative of buildings suitable for its habitat nearby the assemblage is still largely a wild fauna. The water shrew is perhaps unexpected since this species is normally found near water, although it can occur some distance from water and often occurs in woodland (Corbet and Southern 1977). Without some positive indication of the taphonomic origin of these small vertebrate fauna their environmental implications remain problematic, although the molluscan assemblages from the deposits, unaffected by the same taphonomic problems may be more useful.

Table 7.2 Mount Pleasant. Archaeological finds from the assessed samples.

Trench	Sample No.	Date	Context	Sample Vol. (L)	Res. Vol. (L)	Pot £/#	Flint £/#	Brick/Tile Wt.	Fired Earth (g)	Ferrous No/Wt. (g)	Mag. Wt. (g)	Hammer-Scale	Slag	Fuel Ash Slag	Bone Wt.	Fish Bone Wt.	Marine Shell Wt.	Burnt Flint Wt.	Other
D	3	Neolithic	4018	30	1.5						<1	2	+					8	
D	8	Neolithic	4012	30	3						<1	2	+		<1				
D	10	Neolithic	4078	1	0.05						-								
G	1	?Neolithic	7003	30	0.8						<1				<1				
G	2	?Neolithic	7005	30	2.8						<1								
H	4	?Neolithic	8005	27	1.2						<1								
H	7	?Neolithic	8016	28	1.5						<1				<1				
J	6	Middle IA	9644	40	2.5		1/0.2		96		0.6				16.4			405	burnt stone & chalk -81g; small piece of possible amber?
J	8	Middle IA	9661	3	0.125				2.4		0.4				0.6				
J	2	LIA	9522	30	9.5				1		1	1	+		4				glass 1/<1
J	10	LIA	9680	30	7.75				6		0.8				1.8			8.4	
C		LIA - 1st C. AD	3003	30	0.35	16/6				4/3	2	19		1	23				glass 1/<1; Cu x 1
H	5	1st C. AD	8009	16	4.5						<1								
H	6	1st C. AD	8007	28	9.9						<1				30				
D	1	1st C. AD	4005	30	0.9	7/9					4	20		+	36				
D	2	1st C. AD	4008	30	2.5	13/11					1	3			7		<1		
D	5	1st C. AD	4071	30	8	3/14					3	12	+		14		<1		some cinder fragments in flot
J	11	Mid-Late 1st c. AD	9684	10	0.7		1/0.2		6.2		10.2				29.3			662	
J	4	Mid-Late 1st C. AD	9577	30	0.75	2/1	3/1		7		3	1		2	33				
E	7	1st– early 2nd C. AD	5010	10	0.5	1/<1					1	1	+		4				
D	4	1st– early 2nd C. AD	4064	30	3	6/6					1	4	+		6				possible corroded iron, lots cinder and small slag in flot
J	1	1st– early 2nd C. AD	9505	30	2	7/6					3	7	+		67				
H	3	Late 1st– mid-2nd C.	8004	30	3.8				<1		1								
J	9	Late 1st– 2nd C. AD	9666	10	0.225	1/1.4					2.4				5.4			29.2	mortar/plaster-1.8g
E	6	1st– 2nd C. AD	5004	25	0.7	10/11					2	6		+	12			+	some fired clay
J	7	2nd C. AD	9650	22	3.1	1/2.2			5.4		2.8				3.7			3.8	
I	9	Mid Roman	9010	26	0.5	14/9			2	2/9	2	16	3		27				
I	10	Mid Roman	9008	32	0.5	5/6					1	4	1		11				
I	11	Mid Roman	9022	29	0.22	2/1					1	1			9				
F	9	*c.* 2nd –3rd /4th c. AD	6015	25	2	1/1					<1	1			1				
J	5	3rd C. AD	9569	30	6	7/7*			139	2/	8	3		1	41	<1	1		coal – 1g
J	12	Late Roman	9687	13	1.2				37.6		1				3.4				
J	3	Redp. Late Roman	9558	30	4	18/52		32	4		2	4		1	11		2		glass x1

£/# - no sherds/weight in g.; + present in quantities of less than 1 gramme weight or 1-10 pieces; ++ = >10 pieces;

Table 7.3 Mount Pleasant. Environmental finds from the processed samples.

Sample No.	Context	Sample Vol. (L)	Flot Volume Ml	Charcoal *0	Charred Grain*	Chaff*	Charred Seed*	Un-charred seed*	Small Vert.	Snails*	Comments and some Identifications
3	4018	30	<1	1			?			1	
8	4012	30	<1	1	1					2	*Triticum*
10	4078	1	<1	2			1			1	
1	7003	30	11	1				1		2	95% root
2	7005	30	10	1				1		3	90% root
4	8005	27	10	1						2	95% root
7	8016	28	4	1				1		3	60% root
6	9644	40	140	5	2	1	1	+	1	3/3	*Triticum spelta, Hordeum vulgare, Corylus avellana* nutshell x 30; sheep size, burnt bone, field vole; oak charcoal
8	9661	3	35	5	1			+	1		*Triticum, Hordeum vulgare*; slow worm, frog/toad, indet fish
2	9522	30	7	1/3	1		2	1	3	3/2	cf *Hordeum*, sheep/goat, field vole, wood mouse, common shrew, mole, small bird, lizard, slow worm, small fish
10	9680	30	14	1/2	1		2	+	1	3/5	*Triticum.;* indet bone, field vole, house mouse, wood mouse, frog/toad
	3003	30	35	4	2	1	4		3	2	*T. spelta*, pig, wood mouse, water vole, field vole, bank vole, mole, common shrew, frog/toad, small passerine, turdidae size bird
5	8009	16	16	1	1			1		2	*T. spelta;* 90% root
6	8007	29	20	1	1		1	1		3	Cereal indet; sheep, cattle, rodent; 90% root
1	4005	30	10	3	2		3		1	1	*Triticum*, sheep, vole
2	4008	30	5	2	1		2		1	2	*Triticum*, oyster, pig, rodent
5	4071	30	10	4	1		3		1	3	*Hordeum*, oyster, legume?, sheep, mouse skeleton
11	9684	10	40	4/5	2	2	3	+	1	2/2	*Triticum spelta, T. aestivum, Hordeum vulgare, Avena* sp.; sheep, cattle size, rodent, frog/toad; charcoal – small roundwood and possible heather
4	9577	30	120#	5	2	1	4		2	3	*Hordeum, T.spelta, Avena*, chicken eggshell, bank vole, shrew, frog/toad, small bird
7	5010	10	1	2	1		2		1	2	cattle, sheep, vole, frog/toad, jackdaw
4	4064	30	15	3	2		2			2	*Triticum*, barley, cattle, sheep
1	9505	30	5	3	2		2	2	4	4/2	*Hordeum*, sheep/goat, pig, cattle, bank vole, field vole, house mouse, wood mouse, common shrew, pygmy shrew, water shrew, mole, small bird, frog/toad
3	8004	30	29	1	1			1		5	Cereal indet*,* 60% root
9	9666	10	30	3/4	5	5	3	+	1	1/2	*Triticum spelta, T. aestivum, Hordeum vulgare, Avena* sp.; burnt bone, field vole, slow worm, indet fish bone
6	5004	25	9	3	2	1	3		1	3	*Hordeum*, *T. spelta*, cattle, sheep, rodent
7	9650	22	20	2/3	2	2	2	+	1	2/2	*Triticum spelta, Hordeum vulgare*,; sheep size, cattle tooth?, small bird; charcoal-small twiggy – heather?
9	9010	26	27	5	3	4	3	1		2	*Hordeum, T. spelta, Bromus, Carex,* sheep, bank vole, field vole, common shrew, pygmy shrew, house mouse; 10% root
10	9008	32	7	2	2	1	2	1		2	*Hordeum, T. spelta, Avena*, rodent*;* 20% root
11	9022	29	8	2	2	1	2	1		2	*Hordeum, Triticum,* sheep, house mouse, water shrew, frog/toad; modern *Fumaria, Chenopodium* spp*;* 40% root
9	6015	25	2	2	?				1	3	water vole, vole
5	9569	30	80#	5	3	1	5		2	3	*Hordeum*, *T. spelta*, chicken eggshell, pig, rodent, bird, small fish, oyster
12	9687	13	113	5/5	5	3	2	+	1	3/2	*T. spelta, Hordeum vulgare, cf Avena* sp.; sheep size, cattle size, field vole, mouse;
3	9558	30	5	2	2		2		1	3	*T. spelta*, sheep, vole, frog/toad, oyster

lots rootlets included in flot volume; + present

Table 7.4 Molluscan taxa recorded from the samples and the number of shells identified.

Date	MIA	LIA	LIA	1st C	1st C	Mid-late 1st C. AD	Late 1st– mid-2nd C.	2 – 3/ 4th C	3rd C	Late Roman
Context	9644	9522	9680	8007	8009	9577	8004	6015	9569	9558
Volume	40	30	30	29	16	30	30	25	30	30
Open country										
Cecilioides acicula		>50	>100	>50	>20	10		>100	64	>50
Candidula intersecta	1	8		13	2	10		2		30
Candidula sp.			2							
Helicella itala	31		24							
Helicella sp.							1		4	4
Vertigo pygmaea	6		11		1		2	4	6*	4
Vertigo sp.			4	1						6
Pupilla muscorum	1		8	25	3		1	7	17*	1
Vallonia costata	1	3	34				42			
Vallonia excentrica	12	5	41	13		6	16	13	5	42
Vallonia pulchella				1			13			
Vallonia sp.	9	11	106	19	4			7		31
Catholic										
Trichia hispida	36	73	195	13	6	14	188	8	12*	52
Cepeae sp.		1	1				1			
Cochlicopa lubrica			9				1	1		
Cochlicopa lubricella		1	7				1			
Cochlicopa sp.	4	2	16				4	1	1	2
Shade loving										
Discus rotundatus	1	2	31	1			42		23	10
Aegopinella nitidula	6						4			
Aegopinella pura	1		5				24			
Nesovitrea hammonis			1				2	1		
Oxychilus cellarius			34				3			
Oxychilus alliarus			30						6	4
Oxychilus sp.	2	1	16				5		5	
Vitrea crystallina	7								2	
Vitrea contracta							3		6	1
Vitrea sp.			29			1	3		1	
Acanthinula aculeata	1		8							
Punctum pygmaeum		2	26	1				1		5
Marpessa laminata		1								
Clausilia bidentata		2								
Clausilidae			5							
Vitrina pelucida	1		5						1	
Carychium sp.	6		77				4			
Indet .			45							

* - includes burnt shells; habitat groupings broadly taken from Evans 1972; Ellis 1969; Cameron and Redfern 1976 cf. Kerney and Cameron 1979

Table 7.5 Molluscan taxa recorded from the remaining samples.

Date	**? Neolithic**	**? Neolithic**	**? Neolithic**	**LIA–1st C**	**1st C**	**1st C**	**1st– Early 2nd C. AD**	**1st– Early 2nd C. AD**	**Early Roman**	**Early Roman**	**Early Roman**	**Early Roman**	**Early Roman**	**Mid Roman**	**Mid Roman**	**Mid Roman**	**Late Roman**
Context	7003	7005	8016	3003	4008	4071	4064	9505	9650	9666	9684	5010	5004	9010	9008	9022	9687
Open country																	
Cecilioides acicula	++	++	++	++	++	++	+	++	++	+	++	++	++	++	++	++	+++
Candidula intersecta										1							
Helicella itala									14	1	+						9
Helicella sp.	+							+				+	+				
Vertigo pygmaea								+									
Vertigo sp.					+						+	+			+		1
Pupilla muscorum					+	+			1					+			
Vallonia costata						+											
Vallonia excentrica								+	2		+						7
Vallonia sp.	+		+			+	+		1				+				
Catholic																	
Tricia hispida		+			+	+	+	+	12	1	+		+			+	20
Cochlicopa sp.									3	2							1
Shade loving																	
Discus rotundatus								+									36
Aegopinella pura				+					2								
Oxychilus alliarus											+						
Oxychilus cellarius											+						6
Oxychilus sp.								+									
Vitrea sp.										1	+						
Vitrina sp.																	1
Carychium sp.									1								

+ - present; ++ abundant; habitat groupings broadly taken from Evans 1972; Ellis 1969; Cameron and Redfern 1976

The molluscs from five samples have been quantified (Table 7.4), while the taxa from a further seven have been identified (Table 7.5). A later prehistoric assemblage from pit [9645] suggests an open landscape, although 20% of the shells can be associated with more shaded habitats. The shell assemblages from the Late Iron Age/early Roman enclosure ditch in Trench H are dominated by taxa of open country or grassland habitats. The shells from ditch [9514] in Trench J, while still showing a preponderance of grassland taxa, do include a few shells of shaded or woodland habitats, but those from the Late Iron Age fill in the same feature to the east, (9680), show that a little earlier there was a mix of woodland (shade loving) and grassland taxa (Tables 7.4 and 7.5). These latter might indicate that the ditch carried a hedge along one of its banks, an environment which could also offer sufficient cover for all of the small vertebrate species identified. The remaining first century samples produced few snails (Table 7.5), although those that were identified tend to indicate a grassland environment in the immediate vicinity of the features, with occasional shade loving taxa that could derive from hedgerows. The quantified sample from (9577) shows a dominance of open country and catholic taxa in the mid to late first century around Trench J (Table 7.4). A few shells were hand-picked during excavation from deposits of this period in Trenches A, C, H and I but most were shells of *Cepeae nemoralis*, *Helicella itala* and *Carychium* sp. adding no new data to the picture. A few shells collected by hand in Trenches H and I producing shells of *Discus rotundatus, Aegopinella nitidula, Trichia hispida, Cepeae nemoralis* and *Cochlicopa* sp.. The two taxa of woodland habitat, *Discus* and *Aegopinella* duplicate species already identified in the sample from (8004).

Second and Third Century Romano-British deposits

Trenches E, F, H, I and J produced samples dated to the early-middle Roman period. Once again they were all taken from ditch fills and they show a similar range and density of material to the earlier Romano-British activity indicating continued domestic occupation and iron smithing activity. The latter once again occurring in too low a density to indicate smithing in the immediate vicinity of the trenches.

Particularly rich in charred plant remains was (9010), in Trench I which contains more cereal chaff and grass caryopses than any other element and is evidently largely crop processing waste. This is one of only two samples recovered from the site (the second is from context (9687) that positively shows that crops were being processed at Mount Pleasant. Contrastingly, the sample from the ditch in Trench H (8004) shows a low level of domestic material being incorporated into the ditch fills.

Samples again produced small vertebrate fauna. Occurrences of house mouse are in Trenches I and J (Table 7.3) and suggest proximity to buildings that would have afforded a suitable habitat for the species.

The snail assemblages from these samples are much poorer than those from the earlier ditches and show a suite of shells suggesting an open landscape around the features dated to this period.

Later Romano-British

Four samples from Trenches F and J were taken from contexts assigned to the middle to late and late Roman period. These were taken from a ditch, a floor surface within a stone-founded building, a likely corn-dryer flue, and a gully (though this is redeposited material). The fill, (6015), of ditch [6014] was largely devoid of cultural material compared with the other Romano-British samples. It included very little charred material and few finds and the ditch was clearly receiving limited occupation debris at this location. Two samples from Trench J (9569) and (9558) are much richer including pottery, brick/tile, fired earth, hammerscale, fuel ash slag, animal bone and oyster shell, with one producing a small fragment of glass and the other two corroded iron objects. The floor surface (9569) produced chicken eggshell and finds of fish bone. This deposit also produced a rich assemblage of charred plant remains many of the identified taxa of which can be found in wet meadow or pasture.

The snail assemblages from both these samples include a substantial component characteristic of shaded or woodland environments, although (9558) is still dominated by open country taxa. Several shells from (9569) of taxa of open country environments or catholic habit have been burnt. Considering this sample is from a floor surface one wonders whether these shells have been brought in with material and subsequently burnt on fires in the building. The origin of those shells more typical of shaded habitats is more difficult to account for in this situation but many may have entered the building after its abandonment.

7.1.4 The Charred Plant Remains

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(individual reports collated by DJR)

7.1.4.1 Introduction

Twenty four of the thirty four samples were studied in detail for their archaeobotanical remains. The remaining samples either produced no charred seeds or only one or two fragments, most of which were unidentifiable.

The flots were sorted for plant remains by the authors using a low-powered binocular microscope at a magnification of x12. Identifications were made at magnifications up to x50 in comparison with the author's modern seed collections and/or in consultation with illustrations, photographs and reference manuals (Cappers *et al.* 2006; Jacomet 2006).

Nomenclature for economic plants follows Zohary and Hopf (2000) and nomenclature for indigenous taxa follows Stace (2005). Stace (2005) was also used for habitat/ecological information along with Hanf (1983) and Wilson and King (2003). The traditional binomial system for the cereals has been used here, following Zohary and Hopf (2000, Table 3, 28 and Table 5, 65). Quantification is based on the reconstruction of whole plant parts, but in those cases where it was not possible to quantify highly fragmented material (i.e. unidentified leaf or twig or culm/root fragments) a semi-quantitative system was adopted. Intact spelt wheat spikelet forks are scored as a complete unit, with the exact score for glume bases and rachis internodes presented in parentheses behind the spikelet score (see Table 7.6). All other charred material was quantified by JG except cereal fragments smaller than 2mm, *Corylus avellana* (hazel nut) shell fragments, grass/cereal culm nodes/internodes, root, twig fragments, charcoal and indeterminate items, while grass/cereal culm nodes, ericaceous twig fragments, culm/root fragments and unidentified and indeterminate seeds were quantified by WS (see Table 7.6).

In many cases the poor preservation of the plant remains meant that identifications could not be made further than family or genus level. In addition, many of the samples contained badly warped and twisted material that was unrecognizable. In such cases, the material was labelled 'indeterminate'. Any items which had diagnostic features preserved but could not be identified have been labelled 'unidentified'.

7.1.4.2 Results

Table 7.6 lists the taxa identified and Figure 7.1 provides a breakdown of the types of plants recovered in each sample. The samples presented in Table 7.6 and Figure 7.1 are in chronological order.

Only small amounts of charred plant remains were recovered from the seven prehistoric (Neolithic) samples (Table 7.2) and in the main these were not of interpretable value, only one producing identifiable material (Table 7.6). Most of the remaining twenty three later prehistoric, Late Iron Age and Roman samples that were studied in detail are primarily comprised of mixtures of cereal grain and weed/ wild seeds, with small quantities of cereal chaff (Table 7.6). Eight of these samples produced assemblages of over 100 identifications (excluding indeterminate and unidentified seeds). Variable amounts of charcoal were present in all the flots (Table 7.3).

Cereal grains were present in all the flots although poor preservation meant that over half could not be identified further. Large numbers of un-quantified cereal fragments were present in several flots, particularly the early Roman ditch fills (9666), (9684) and the likely corn-dryer flue (9687). Cereal crops identified from Late Iron Age and Roman period samples include spelt (*Triticum spelta*) and hulled barley (*Hordeum* sp.), with both grain and chaff identified. There was no definite evidence for *Triticum dicoccum* (emmer wheat). Traces of free-threshing *Triticum aestivum/turgidum* (bread/ rivet wheat) grains were also found in two early Roman ditch fills. The overall dominance of cereal crops in these samples is unlikely to be due to any particular scarcity of non-cereal crops on site but, instead, reflects the pattern of charring events at Mount Pleasant, which appear to frequently involve cereal grain. In most cases, only small quantities of cereal chaff were recovered in this assemblage; although a series of samples in Trench J produced significant cereal chaff assemblages (Table 7.6), and two early/mid-Roman samples (9666 and 9010) were dominated by cereal chaff.

The weed/wild component of the assemblages was dominated by large and small grass caryopses. Most of the grasses were not identifiable to genus or species level; however, several identifications were made, such as oat (which could be a cultivated variety – *Avena* sp.), crested dog's tail (*Cynosurus cristatus*), cat's-tail (*Phleum* sp.), brome (*Bromus* sp.) and heath grass (*Danthonia decumbens*). Plants recovered which typically, or are likely to, occur as weeds of cereal crops include common/ long-headed poppy (*Papaver rhoeas*/ P. *dubium*), common fumitory (*Fumaria officinalis*), ?common stichwort (*Stellaria media*), corn spurrey (*Spergula arvensis*), corn cockle (*Agrostemma githago*), dock (*Rumex* sp.), black bindweed (*Fallopia convolvulus*), knotgrass (*Polygonum aviculare*), vetch/ vetchling (*Vicia* sp./ *Lathyrus* sp.), melilot/ medick/ clover (*Melilotus* sp./ *Medicago* sp./ *Trifolium* sp.), field madder (*Sherardia arvensis*) and scentless mayweed (*Tripleurospermum inodorum*). Some of the weed/wild plants recovered were typical of grassland, such as the grasses noted above and especially the buttercups (*Ranunculus acris*/ *repens*/ *bulbosus* and *Ranunculus ficaria*), self-heal (*Prunella vulgaris*) and plantains (*Plantago media*/ *P. lanceolota*). Dock, knotgrass, vetch/ vetchling and melilot/ medick/ clover also all occur in grassland habitats, as can sedges (*Carex* sp.). The presence of self-heal and plantains suggests that some of the grass was quite short, most likely through grazing, whilst the *Carex* might indicate damper areas. The recovery of heath grass (*Danthonia decumbens*), heather (*Calluna vulgaris*) leaves, heath (*Erica* sp.) leaves, possible ericaceous charcoal and the possible gorse (cf. *Ulex europaeus*) also suggest that acid soils and areas of scrub may also have existed locally. Small numbers of charred *Corylus avellana* (hazel) nut shell were found in several later prehistoric and Romano-British deposits and a group of possible mineralized shell fragments were recovered in floor deposit (9569), all of which probably represent the burnt by-products of gathered food.

The preservation of plant remains in the assemblage was often poor and, as a result, most samples had large quantities of unidentified and indeterminate plant remains. The poor preservation could be due to a number of reasons such as conditions of charring or exposure to the elements. Most of the samples contained large quantities of modern roots and worm egg cases, and burrowing snails (*Cecilioides acicula*) which indicates that most of the deposits will have suffered some bioturbation. Numbers of uncharred seeds of *Chenopodium* sp. (goosefoots), *Fumaria* sp. (fumitory), *Lapsana communis* (nipplewort), *Atriplex* sp. (oraches) and *Urtica dioica* (common nettle) also indicate recent contamination in some samples.

7.1.4.3 The Discussion

The plant remains from Mount Pleasant could derive from several sources and provide some information about the nature of the surrounding landscape. There is limited evidence for continuity of crops between the prehistoric and Roman periods. The Roman archaeobotanical assemblage provides information about cereal crops in use and their cultivation conditions. The recovery of fragments of heather (*Calluna vulgaris*) leaves, heath (*Erica* sp.) leaves, possible ericaceous charcoal, hazel (*Corylus avellana*) nutshell and possible gorse (*Ulex europaeus*) seed provide limited evidence for acid soils and scrub in the area. Plants of scrub/ heath could have entered the deposits in a variety of ways.

Evidence for continuity of cereal crops

The Middle Iron Age, Late Iron Age/early Roman sample contexts (9644), (8009), (9522) and (3003) and Romano-British samples (9008), (9010), (9577), (9558), (9569), (9650), (9666), (9685), (9687) provide good evidence for the continuous cultivation of spelt (*Triticum spelta*) in the area from at least the Late Iron Age to the end of the Roman period. Only a few grains or glume bases of spelt were identified from Late Iron Age/early Roman deposits but they do at least suggest that at this date the peoples of this area had access to spelt, even if they may not have been cultivating it. Spelt is generally higher yielding in Britain and more tolerant of cold winters (e.g. van der Veen and Palmer 1997). Its possible continuous use at Mount Pleasant from prehistoric times may reflect the intentional selection of this crop over emmer (the other glume wheat cultivated in prehistoric and Roman Britain) to suit the conditions of the area. No emmer was positively identified from the site. There was also occasional evidence for the presence of free-threshing wheat (*Triticum aestivum* type) in the early Roman period. Barley (*Hordeum* sp.) is recorded from samples from later prehistoric deposits through to the third century AD, but occurs in much lower numbers than the wheat. The few oat grains (*Avena* sp.) that have been identified probably derive from weeds of the other cereals or wild oats and cannot be used to suggest the cultivation of oats. A Romano-British site at Barnetby le Wold, a few kilometres to the north, also produced similar evidence with a dominance of spelt wheat and barley and small numbers of free-threshing wheat grains (Snelling *et al*. 2002). Archaeobotanical evidence from across southern England suggests that in both the Iron Age and Romano-British periods spelt wheat and hulled barley were the main cereals with occasional finds of free-threshing wheat (Greig 1991, 306 and 309).

Spelt wheat may have been used for baking, porridge and gruel during the Roman period (Renfrew 1985, 22) with a suggestion that the increased cultivation of spelt may be partly associated with a preference for bread in Britain during the Roman period (Cool 2006, 75). Barley may have been used for human food and for fodder for horses while both cereals may have been used in brewing; indeed, a large number of sprouted spelt wheat grains in a rich assemblage from the likely corn-dryer flue of Romano-British date (9687) may be evidence of on-site brewing although germination may also naturally occur in damp conditions.

Evidence for crop processing

As Figure 7.1 illustrates, the Romano-British samples typically are comprised of grasses and cereal grain, with two samples (9666) and (9010) having large quantities of cereal chaff (43 and 65% respectively based on all identifications in the assemblages, except for indeterminate or unidentified material); one sample (9569) is dominated by weed seeds. In many of the samples weeds and grasses exceed the cereal component. Even if not all of these are entering the deposits as weeds of the cereal crop, the presence of a large component of similar size to the cereal grains suggests that this material may include the fine sieving product (*sensu* Hillman 1984a; 1984b; Jones 1984).

The separation of cereal grain from its surrounding chaff requires a specific set of crop processing sequences (e.g. Hillman 1981; 1984a; 1984b; 1985; Jones 1981; 1984; 1987; 1996). These gradually remove the crop processing by-product (cereal straw, cereal chaff and any accompanying weeds of the crop) from the crop processing product (in this case, the spelt grain). Ultimately processing semi-clean or clean cereal grain by parching (to dry the grain before making flour) or by malting (to encourage germination to convert the starch in the grain to sugar for fermentation) would involve heating the grain (most likely in a corn-dryer in the Roman period) and repeatedly risking charring of part or all of the crop (e.g. van der Veen 1989).

The contaminants (or other plant remains) recovered with the spelt grain (see Table 7.6 and Fig 7.1) also help to confirm this interpretation. Certainly the barley, spelt and indeterminate wheat grain are of a similar size to the oat, brome and indeterminate large grass caryopses and, therefore, would most likely remain with the cereal grain throughout the entire crop processing sequence, including sieving of the product to remove crop contaminants. The smaller weed seeds which have been recovered (e.g. *Tripleurospermum inodorum*, *Cynosurus cristatus* and *Papaver rhoeas/ dubium, Rumex* spp., Polygonaceae,) would normally have been separated at an earlier stage of the processing sequence using the 'wheat' sieve (Hillman 1984b) although the small seeds longer on one axis may have persisted through to the final stages of cleaning. Unless these contaminants were hand-picked from the spelt grain, the basic processing sequence of winnowing, threshing and sieving would not separate these contaminants from the spelt or barley grain (e.g. Jones 1996). Other potential charred cereal debris included occasional cereal/grass culm node/internode fragments in several samples; this material would have also been separated at an earlier stage of the processing sequence although some straw nodes of a similar size to the grain may have required hand-sorting before grain use.

Some of the weed/ wild plants recovered are unlikely to have occurred with cereal crops (especially the heathland flora), but they may have entered these assemblages through use in close proximity to a corn-dryer. For example, the possible use of turf for fuel or to block the flue of a corn-dryer may have resulted in the charring of these weed/wild plants that are unlikely to be weeds of the crop.

A large quantity of spelt glume bases (N = 148 or 26.5% of all identifications) was present in one sample (9010) and spelt and wheat glume (N=234 or 34.6% of identifications) bases in sample (9666). Three explanations for the presence of spelt glume bases in these samples, as well as appearing in low quantities in other samples, are possible. The spelt glume bases could have entered the assemblage as loose contaminants, which were of a sufficient length to remain with spelt grains during coarse and fine sieving (e.g. Hillman 1984a; 1984b; Jones 1984; 1996). Alternatively, the spelt glume bases could represent a small quantity of incompletely processed spelt spikelets, which remained intact throughout the processing sequence. Finally, it is possible that waste cereal chaff could have been used as kindling or fuel for a corn-dryer and ultimately mixed with charred grain when disposed of in ditches and gullies around the site.

The bulk of the charred plant material from the site derives from the final stages of crop-processing and food preparation. The cereal grains (dominant in many of the samples) may have been accidentally charred while being de-husked or dried before milling or during the malting process. The hulled wheat chaff may have been burnt as a result of parching to facilitate the separation of the spelt grains from their husks, a process which is carried out during the final stages of cleaning before grain use.

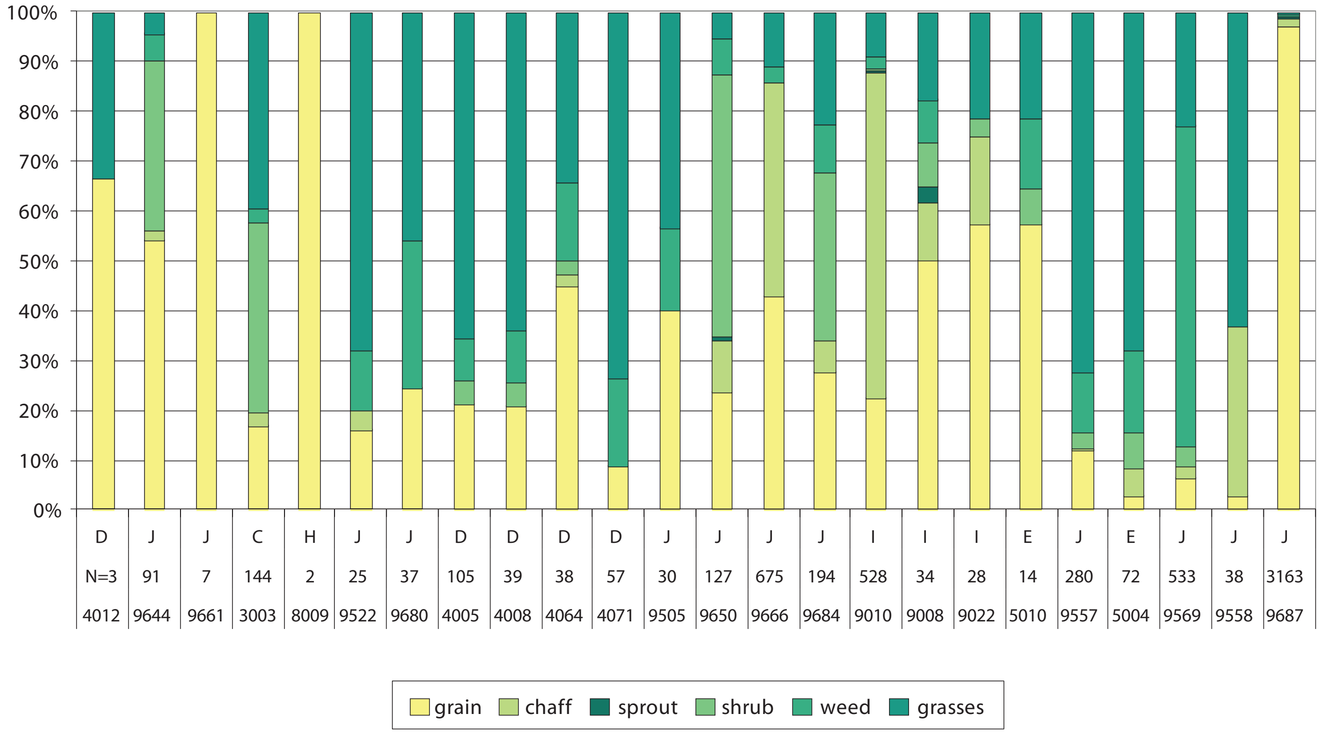


Figure 7.1 Proportion of the different charred plant categories in the Mount Pleasant samples in approximate chronological order. (the unidentified and indeterminate seeds have been excluded because they were not counted across all samples – the 'weed' component is therefore a bit greater in most samples and appreciably greater in some-see Table 7.6).

Evidence for cultivation conditions

The recovery of taxa such as sedge (*Carex* sp.), common spike-rush/ slender spike-rush (*Eleocharis palustris/ uniglumis*) may suggest that crops were cultivated in wet or damp soil conditions. However, many of the other taxa recovered are not particularly indicative of such conditions (e.g. *Papaver rhoeas/ dubium*, *Spergula arvensis*, *Agrostemma githago*, *Silene* sp., *Rumex* sp., *Polygonum aviculare*, *Fallopia convolvulus*, *Brassica* sp./ *Sinapis* sp., *Vicia* sp./ *Lathyrus* sp., *Prunella vulgaris*, *Plantago media/ lanceolota* and *Eurphrasia* sp./ *Odontites* sp.), which suggests that better-drained or well-drained soils were largely cultivated.

The presence of *Sherardia arvensis* (in both a late prehistoric and early Roman sample) and *Fumaria officinalis*, may tentatively suggest the cultivation of (light) calcareous loams; *Tripleurospermum inodorum* on the other hand may be found in a range of soils. There is little evidence for harvesting methods although some of the low growing weeds, for example *Sherardia arvensis* and *Melilotus/Medicago/Trifolium* could point to harvesting of cereals by reaping low on the straw although it should be emphasized that these are only tentative suggestions.

Limited evidence for grassland, scrub and acid soils in the area

A number of taxa, other than the grasses themselves, typical of grassland (e.g. *Odontites* sp./ *Euphrasia* sp., *Rumex, Rumex acetosella, Melilotus/Medicago/Trifolium species, Ranunculus sp.)* and in particular short, possibly grazed, grassland (e.g. *Prunella vulgaris* and *Plantago lanceolota/ media*) were recovered. This may provide limited evidence for grassland in the area, however, these also can occur as weeds of cereal crops. In addition, the recovery of taxa such as heather (*Calluna vulgaris*), heath (*Erica* sp.) and heath-grass (*Danthonia decumbens*) provides some evidence for the exploitation of acid soils in the area, although the latter does occur locally in calcareous grasslands (Rose 1989).

Possible routes for plants of scrub/ heathland to enter the Mount Pleasant deposits

The recovery of small quantities of heather (*Calluna vulgaris*) leaves and possible flowers and heath (*Erica* sp.) leaves in the assemblage, with possible ericaceous charcoal in several samples, could be easily explained as accidental charring or the use of such 'furze' as fuel. Davis (1999, 48) argues that there were extensive areas of heathland in England during the Medieval period and, certainly heather was collected, 'even coppiced' (managed by cutting back), for fuel and firelighters. It seems likely that the regular exploitation of heathland areas for heather/ling fuel could have occurred in earlier periods.

However, along with remains of heather and heath, several samples have produced caryopses of heath-grass (*Danthonia decumbens*). Indeed, in one sample (9577) 31% of all identifications (N = 129 out of a total 413 identifications) were heath-grass caryopses. Three possible explanations for this result are possible. First, it could be that heath-grass was used as kindling on site and that charred heath-grass caryopses were ultimately deposited with small quantities of charred grain in the ditch. Second, it may be that grass turf was used as fuel, or possibly to block the flue of a corn-dryer or oven, and that charred debris from the turf was then mixed with charred grain from a corn-dryer.

Finally, it is possible that heather, heath and heath-grass were used in the construction materials (cob walls, heather or turf thatch roofs and/or flooring) of the buildings and were charred accidentally, or possibly intentionally as materials were replaced. Such building materials could be part of the general rubbish on site that was dumped with cereal processing waste in ditch and gully deposits. Certainly, similar types of remains were recovered from 16-22 Coppergate in York (Kenward and Hall 1995, 610 and 724-5). It has been suggested that *Danthonia decumbens*, the best represented charred weed seed in the samples (Table 7.6), may however have also been an arable weed in the past, only being eradicated as such following the change from ard to mould board ploughing (Hillman 1981, 146). These taxa also suggest that some areas around the site were effectively scrub or heathland.

Neolithic samples

The seven samples from this period are typically lacking in charred plant remains, and also included very little charcoal. Apart from single grains of wheat and oat, a grass seed, and a couple of unidentifiable seeds identifiable charred plant remains were absent. This lack of 'domestic' rubbish however is fairly characteristic and does not permit any interpretation as to the character of the site at this time.

Middle Iron Age samples

The charred plant remains in the two samples from the two later prehistoric sausage shaped pit fills [9644] and [9661] consisted mainly of fragmented charcoal with only small assemblages of poorly preserved cereal grains including spelt wheat and hulled barley. Pit fill [9644] also contained a few hulled (spelt) wheat chaff fragments, *Corylus avellana* shell fragments and a small number of charred weeds including *Sherardia arvensis*. The grains may have been accidentally burnt during the final stages of crop cleaning and food preparation with the traces of chaff and weed seeds (which included large seeds, e.g. *Bromus*) also removed by de-husking or hand-sorting in the latter stages. Both samples contained low densities of charred plant remains (1.5 and 2.3 items per litre of processed soil), and probably represent background cereal debris blowing around the site.

Late Iron Age/early Roman samples

The four samples assigned to the Late Iron Age/ Early Roman period (3003), (8009), (9522), (9680) produced relatively small flots, with very little charcoal, a small number of cereal grains, including wheat, and weed seeds (mainly small-seeded grasses), again largely representing cereal debris blowing around the site from the final stages of crop-processing and food preparation. Context (3003) produced the richest assemblage with a small number of wheat grains, a number of unidentifiable cereal/grass seeds, a number of grass seeds and stem fragments, charred twigs of probable ericaceous stems and an abundance of other charcoal. Among the few chaff fragments spelt is positively identified. The density of identified charred remains in this sample (5.3/litre) suggests dumping from activity nearby

First century – early second century AD samples from Trench D

Four samples assigned to the first century into the early second century AD were taken from gullies or ditches in Trench D located within an enclosure complex revealed by geophysics (Fig. 3.1). These samples all derive from the linears at the north end of this trench (4008), (4064) and (4071) or the middle (4005), probably relating to an enclosure. Despite the occurrence of cultural debris and animal bone from these features the soil samples were not rich in charred plant remains although charcoal is fairly abundant. A few grains of unidentified wheat (*Triticum* sp.), and a larger number of cereal/large grass and large and small grass caryopses were recorded in all four samples with other charred weed seeds of possible arable weeds and grassland plants. These are rather undiagnostic assemblages probably reflecting accidental waste from food preparation and final cleaning of the crops, with perhaps grassland elements being introduced through other pathways, such as structural, floor coverings, fodder or dung.

Early Roman samples from Trench J

All five samples assigned to the early Roman period derive from ditch fills in Trench J. Two of these are richer than any of the preceding samples and a general increase in the density of remains is characteristic of Trench J.

Ditch [9694]

There were two fill samples from this ditch; the upper fill [9650] produced only a small charred plant assemblage together with a large quantity of un-charred intrusive botanical material. Fill [9666] on the other hand contained a rich charred plant assemblage with almost equal amounts of poorly preserved cereal grain (43% of quantified items but excluding small fragments) and cereal chaff (43% virtually all from hulled wheat) plus a small amount of wild plants/ weed seeds (14%). Wheat grains dominated, with spelt being the main cereal (determined largely on the basis of the chaff) while there were a few free-threshing wheat grains and a small quantity of hulled barley grains. While it is possible that the grains and chaff derive from separate charring episodes, the presence of almost equal amounts of both could suggest that the remains were initially spelt spikelets, broken up when accidentally charred, either during de-husking or as a result of the burning of a storage deposit, spelt often being stored in spikelet form to prolong its storage capacity. The possible use of the grains for malting is unlikely because there were very few sprouted grains and loose cereal coleoptiles in the sample.

The weed remains in the ditch included both large seeds (e.g. *Bromus*) characteristic of stored grain deposits and small seeds from a range of typical arable weeds, for example *Fumaria* sp., *Sherardia arvensis, Tripleurospermum inodorum* and particularly grasses, some of which may have been separated from the grain at an earlier processing stage; again there is evidence from the wild plant remains (*Plantago media/ lanceolata, Carex, Calluna vulgaris, Rumex acetosella, Danthonia decumbens*) for a possible grassland/heath environment, this material possibly representing the residues of spent fuel.

Ditch [9699]

The fill (9684) sample from this ditch produced a moderate sized charred plant assemblage with almost equal amounts of poorly preserved cereal grain (spelt wheat, free-threshing wheat and hulled barley) and wild plant/weed seeds, plus a small amount of hulled (spelt) wheat chaff. As noted above, the grains may

Table 7.6a Charred plant remains from Mount Pleasant, Lincolnshire (in chronological order).

	Period	E NEO	MIA		LIA		LIA 1st C.	1st C.				1st-2nd C.
	Feature	ditch	pit	pit	ditch	ditch	ditch	ditch	g/d	g/d	g/d	g/d
	Trench	D	J	J	J	J	C	H	D	D	D	D
	Cut Number	4028	9645	9704	9514	9700	3008	8010	4006	4015	4072	4065
	Context Number	4012	9644	9661	9522	9680	3003	8009	4005	4008	4071	4064
	Sample Number	8	6	8	2	10	1	5	1	2	5	4
	Vol Sample (L)	30	40	3	30	30	30	16	30	30	30	30
	Vol Flot (Ml)	<1	100	35	7	18	35	16	10	5	10	15
Cereal grains												
Triticum dicoccum/spelta	emmer/spelt wheat		1									
T. cf *spelta*	?spelt		2					1				
Triticum sp(p).	wheat	1	2			1	3	1	2	1s		2
cf. *Triticum* sp(p).	?wheat		8	3		3						
Hordeum vulgare L.	barley, hulled twisted			1								
H. vulgare L.	barley, hulled straight			1								
H. vulgare L.	barley, hulled		1									
Hordeum sp.	hulled barley										1	2
cf. *H. vulgare*	?barley		1									
cf. *Hordeum* sp.	possible barley				1							
Avena sp.	oat	1										
Cerealia indet.	indet. cereal		24	2		4						
Cerealia/Poaceae indet.	indet grain/ large grasses		10		3	1	21		20	7	4	13
Cerealia indet.	indet cereal fragments <2mm		++	+		+						
Cereal chaff												
Triticum spelta L.	spelt glume bases		1				1					
Triticum sp(p).	wheat glume bases		1				1					
cf. *Hordeum* sp.	? barley rachis				1							1
Cerealia indet.	rachis internodes						2					
Other plant/weed seeds												
cf. *Ranunculus* sp.	?buttercup					1						
Papaver rhoeas/dubium L.	common/ long-headed poppy											1
Corylus avellana L.	hazelnut shell frags		++						1	2		1
Montia fontana L.	blink						14?a		4?m	1?m	4?m	
Stellaria sp.	stichwort								1			
cf. *Stellaria* sp.	possible stichwort								1			
Spergula arvensis L. s.l.	corn spurrey				1m?							
Caryophyllaceae indet.	pink family				1							
Persicaria sp.	knotweed										1	
Rumex acetosella agg.	sheep's sorrel					1						
Rumex sp(p).	dock		2									

Table 7.6a Charred plant remains from Mount Pleasant, Lincolnshire (in chronological order) (continued).

	Period	**E NEO**	**MIA**		**LIA**		**LIA 1st C.**	**1st C.**				**1st-2nd C.**
	Feature	ditch	pit	pit	ditch	ditch	ditch	ditch	g/d	g/d	g/d	g/d
	Trench	D	J	J	J	J	C	H	D	D	D	D
	Cut Number	4028	9645	9704	9514	9700	3008	8010	4006	4015	4072	4065
	Context Number	4012	9644	9661	9522	9680	3003	8009	4005	4008	4071	4064
	Sample Number	8	6	8	2	10	1	5	1	2	5	4
	Vol Sample (L)	30	40	3	30	30	30	16	30	30	30	30
	Vol Flot (Ml)	<1	100	35	7	18	35	16	10	5	10	15
	Trench	D	J	J	J	J	C	H	D	D	D	D
Cereal grains												
Fallopia convolvulus(L.) Love	black bindweed									1		1
Polygonaceae indet.						2						
Brassica sp./*Sinapsis* sp.	cabbage/ mustard						1					
Raphanus raphanistrum L.	wild radish - capsule fragment				1		1		1			1
Calluna vulgaris type	heather-type flowers					1						
Vicia/Lathyrus sp(p).	vetch/tare/ vetchling		1								1	
Melilotus/Medicago/ Trifolium sp(p).	melilot/ medicks/ clovers		1			4	1		1	1	3	
Euphrasia/Odontites sp.	eyebrights/ bartsias					3			1		1	1
Galium sp.	bedstraw						1					
Sherardia arvensis L.	field madder		1									
Carex sp(p). 3 sided	sedge									1		1
Cyperaceae	unidentified sedge family											1
Cynosurus cristatus L.	crested dog's-tail										1	
Phleum sp.	cat's-tail								1			1
Bromus sp(p).	brome		1									
cf. *Bromus* sp(p).	?brome		1									
Danthonia decumbens (L.) DC	heath grass					1	7		38	1		6
Poaceae indet.	grasses (large seeds)	1	2		3		2		4	4	4	
Poaceae indet.	grasses (small seeds)				3	16	4		2	3	31	1
cf. *Cerealia/Poaceae* indet.	?cereal/grass culm node/ internode		+		4		3					2
indeterminate	culms/root fragments				7		8		23	4	4	1
unidentified - ?Poaceae??	stalk						33			13	2	2
unidentified - Ericaceae?	twig fragments						55		4			
indeterminate	wood charcoal	+	+++++	+++++	++	++	++++	+	+++	++	++++	+++
indeterminate			+	+	+	+	++	+	++	++	++	++
TOTAL		**3**	**60**	**7**	**25**	**38**	**158**	**2**	**117**	**28**	**57**	**36**
Item Density (per litre of processed soil)		**0.1**	**1.5**	**2.3**	**0.83**	**1.3**	**5.27**	**0.12**	**3.9**	**0.93**	**1.9**	**1.2**

Table 7.6b Charred plant remains from Mount Pleasant, Lincolnshire (in chronological order).

	Period	EARLY ROMAN						MID ROMAN				3rd C.	3/4 C.	LROM
	Feature	ditch	ditch	ditch	ditch	gully	ditch	ditch	ditch	ditch	layer	floor	slot	flue
	Trench	J	J	J	J	E	J	I	I	I	E	J	J	J
	Cut Number	9514	9694	9694	9699	5011	9573	9013	9009	9020	-	-	9578	9688
	Context Number	9505	9650	9666	9684	5010	9577	9010	9008	9022	5004	9569	9558	9687
	Sample Number	1	7	9	11	7	4	9	10	11	6	5	3	12
	Vol Sample (L)	30	22	10	10	10	30	26	32	29	25	30	30	13
	Vol Flot (Ml)	5	35	35	30	27	120#	27	7	8	9	80#	5	100
Cereal grains														
Triticum dicoccum/spelta	emmer/spelt wheat			5	2									2
T. spelta L.	spelt			5				2	1					125
T. cf. *spelta*	?spelt			3				5 (=1s)	1s		1	1		353
T. aestivum/spelta type	free-threshing/ spelt wheat			2										
T. aestivum type	free-threshing wheat			2	2									
T. cf. *aestivum type*	?free-threshing wheat			2										
Triticum sp(p).	wheat		2	38	4		5	23	2	2				235
cf. *Triticum* sp(p).	?wheat		3	32	4									543
Hordeum vulgare L.	barley, hulled twisted		1		1							4		6
H. vulgare L.	barley, hulled straight										1	25		
H. vulgare L.	barley, hulled			4										4
H. vulgare L.	barley, indet			2	3									1
Hordeum sp.	hulled barley	1					3	5		1				
cf. *H. vulgare*	?barley			12	2									
cf. *Hordeum* sp.	possible barley							2						
Avena sp.	oat			2	1		2		1			2		2
cf. *Avena* sp.	?oat			2	2									
Cerealia indet.	indet. cereal	1	19	160	28				1	1		1		1792
Cerealia/Poaceae indet.	indet grain/ large grasses	10	5	17	4	8	23	80*	11	12			1	
Cerealia/Poaceae indet.	indet grain/ large grass fragments													+++
cf. Cerealia	poorly preserved fragment of ear												6	
Cerealia indet.	indet cereal fragments <2mm		++	++++	+++									+++++
Cerealia indet.	loose cereal coleoptiles		1					3	1					13
Cereal chaff														
Triticum spelta L.	spelt glume bases		3	107	6			143	1					17
T. spelta L.	spelt spikelet forks			7	1		1(=2gb)	5 (=8gb +1r)				2	1	1

Key: + = estimate; ?a=questionably ancient; ?m=possibly modern; s=sprouted; +=<10 items; gb=glume base; r=rachis.

Table 7.6b Charred plant remains from Mount Pleasant, Lincolnshire (in chronological order). (continued)

	Period	**EARLY ROMAN**						**MID ROMAN**				**3rd C.**	**3/4 C.**	**LROM**
	Feature	ditch	ditch	ditch	ditch	gully	ditch	ditch	ditch	ditch	layer	floor	slot	flue
	Trench	J	J	J	J	E	J	I	I	I	E	J	J	J
	Cut Number	9514	9694	9694	9699	5011	9573	9013	9009	9020	-	-	9578	9688
	Context Number	9505	9650	9666	9684	5010	9577	9010	9008	9022	5004	9569	9558	9687
	Sample Number	1	7	9	11	7	4	9	10	11	6	5	3	12
	Vol Sample (L)	30	22	10	10	10	30	26	32	29	25	30	30	13
	Vol Flot (Ml)	5	35	35	30	27	120#	27	7	8	9	80#	5	100
Cereal grains														
T. spelta L.	spelt rachis			18										2
Triticum sp(p).	wheat glume bases		10	120	3			87	1				1	19
Triticum sp(p).	wheat spikelet forks/bases			11	3									7
Triticum sp(p).	wheat rachis			26				66	1		4	1	11	13
Hordeum sp(p).	barley rachis			3				1						
cf. *Hordeum* sp.	? barley rachis											6		
Cerealia indet.	rachis internodes							45	1	5		5		
Other plant/weed seeds														
Ranunculus acris L./ *repens* L./ *bulbosus* L.	meadow/ creeping/ bulbous buttercup	1												
Ranunculus ficaria L.	lesser celandine	1					1					8		
cf. *Ranunculus ficaria* L.	possible lesser celandine											2		
cf. *Ranunculus* sp.	?buttercup													
Papaver rhoeas/dubium L.	common/long-headed poppy											1		1
Fumaria officinalis L.	common fumitory		1								1			
Corylus avellana L.	hazelnut shell frags						3	1				20?m		
Chenopodium sp.	goosefoot family/pink family							2						
Atriplex sp.	orache											211?a		
Chenopodiaceae	goosefoot family								1?m					
Chenopodiaceae/ Caryophyllaceae	goosefoot family/pink family	3										4		
Montia fontana L.	blink						3?m							
Stellaria sp.	stichwort										2?m			
cf. *Stellaria media*	?common chickweed			1										
cf. *Stellaria* sp.	possible stichwort													
Spergula arvensis L. s.l.	corn spurrey													
Silene sp.	campion					1						1		
Caryophyllaceae indet.	pink family													

Key: + = estimate; ?a=questionably ancient; ?m=possibly modern; s=sprouted; +=<10 items; gb=glume base; r=rachis.

Table 7.6b Charred plant remains from Mount Pleasant, Lincolnshire (in chronological order) (continued).

	Period	**EARLY ROMAN**						**MID ROMAN**				**3rd C.**	**3/4 C.**	**LROM**
	Feature	ditch	ditch	ditch	ditch	gully	ditch	ditch	ditch	ditch	layer	floor	slot	flue
	Trench	J	J	J	J	E	J	I	I	I	E	J	J	J
	Cut Number	9514	9694	9694	9699	5011	9573	9013	9009	9020	-	-	9578	9688
	Context Number	9505	9650	9666	9684	5010	9577	9010	9008	9022	5004	9569	9558	9687
	Sample Number	1	7	9	11	7	4	9	10	11	6	5	3	12
	Vol Sample (L)	30	22	10	10	10	30	26	32	29	25	30	30	13
	Vol Flot (Ml)	5	35	35	30	27	120#	27	7	8	9	80#	5	100
Cereal grains														
Persicaria sp.	knotweed													
Agrostemma githago L.	corncockle													1
Rumex acetosella agg.	sheep's sorrel			1	1									
Rumex sp(p).	dock			2	5		2		1			8		1
Fallopia convolvulus(L.) Love	black bindweed											6		
Polygonum aviculare L.	knotgrass							1						
cf. *Polygonum* sp.	possible knotgrass										1	2		
Polygonaceae indet.			1	2	2									
Brassica sp./*Sinapsis* sp.	cabbage/ mustard											1		
Raphanus raphanistrum L.	wild radish - capsule fragment							1				2		
Calluna vulgaris type	heather-type flowers		1				+							
Calluna vulgaris (L.) Hull	leaf						+		1					
Erica sp.	leaf						+							
Vicia/Lathyrus sp(p).	vetch/tare/ vetchling		4		1		1	2				4		6
Melilotus/Medicago/ Trifolium sp(p).	melilot/ medicks/ clovers			3	1		3				7	39		1
cf. *Ulex europaeus* L.	possible gorse									1				
Fabaceae indet.	small rounded legumes			2	2									3
Apiaceae	carrot family						1					2		
Lamiaceae	dead-nettle family						1							
Prunella vulgaris L.	selfheal											2		
Plantago media/ lanceolata	hoary/ribwort plantain		1	3	2		7					12		3
cf. *Plantago media* L./*P. lanceolata* L.	possible hoary/ribwort plantain						3							
Euphrasia/Odontites sp.	eyebrights/ bartsias			2	4		1	3			1	17		1
Galium sp.	bedstraw						1	1						
Sherardia arvensis L.	field madder		1											

Key: + = estimate; ?a=questionably ancient; ?m=possibly modern; s=sprouted; +=<10 items; gb=glume base; r=rachis.

Table 7.6b Charred plant remains from Mount Pleasant, Lincolnshire (in chronological order) (continued).

	Period	**EARLY ROMAN**						**MID ROMAN**				**3rd C.**	**3/4 C.**	**LROM**
	Feature	ditch	ditch	ditch	ditch	gully	ditch	ditch	ditch	ditch	layer	floor	slot	flue
	Trench	J	J	J	J	E	J	I	I	I	E	J	J	J
	Cut Number	9514	9694	9694	9699	5011	9573	9013	9009	9020	-	-	9578	9688
	Context Number	9505	9650	9666	9684	5010	9577	9010	9008	9022	5004	9569	9558	9687
	Sample Number	1	7	9	11	7	4	9	10	11	6	5	3	12
	Vol Sample (L)	30	22	10	10	10	30	26	32	29	25	30	30	13
	Vol Flot (Ml)	5	35	35	30	27	120#	27	7	8	9	80#	5	100
Cereal grains														
Tripleurospermum inodorum (L.) Sch. Bip.	scentless mayweed			2			1							
Eleocharis palustris (L.) Roem.& Schult./ E. uniglumis (Link) Schult.	common spike rush/slender spike rush						2					4		
Carex sp(p). *2 sided*	sedge			2	1									
Carex sp(p). 3 sided	sedge		1	1			7	5	1			18		
Cyperaceae	unidentified sedge family					1								
Cynosurus cristatus L.	crested dog's-tail						1					13		
Avena/Bromus sp.	oat/brome		1	2	1		2					2		
Phleum sp.	cat's-tail							4						
Bromus sp(p).	brome			7				1						2
cf. *Bromus* sp(p).	?brome				1			3						
Danthonia decumbens (L.) DC	heath grass	8	4	19	30		129	3	3	1	13	13		
Poaceae indet.	grasses (large seeds)	2	1	11	2		7	22	2	1	7	10		
Poaceae indet.	grasses (small seeds)	1	1	35	10		35	5		4	4	49	1	9
cf. Cerealia/Poaceae indet.	?cereal/grass culm node/ internode		+	+	+	2	6	3			14	35	23	
indeterminate	culms/root fragments	2		+		1	23	6	1		7			
unidentified - ?Poaceae??	stalk										4			
Unidentified - *(??Conopodium)*	round tuber							2			1			
unidentified - Ericaceae?	twig fragments		66		65	1	3		2		5			
indeterminate	wood charcoal	+++	++++	+++++	+++++	++	+++++	+++++	++	++	+++	+++++	++	+++++
indeterminate		++	+	+	+	++	+++	++	++	++	++	+++	++	+
TOTAL	**Seeds, chaff, excluding twigs**	**30**	**61**	**675**	**129**	**14**	**292**	**532**	**38**	**28**	**73**	**533**	**44**	**3163**
Item Density (per litre of processed soil)		**1**	**2.8**	**67.5**	**12.9**	**1.4**	**9.7**	**20.5**	**1.2**	**0.97**	**2.9**	**17.8**	**1.5**	**243.3**

Key: + = estimate; ?a=questionably ancient; ?m=possibly modern; s=sprouted; +=<10 items; gb=glume base; r=rachis.

have been accidentally burnt during the final stages of crop cleaning and food preparation with the traces of burnt chaff probably from de-husking and/or use as tinder. The wild plants/weed seeds derive from both cereal weeds (the large ones requiring hand-sorting and small seeds separated by the 'wheat' sieve) and possibly local grassland/heath vegetation with *Danthonia decumbens* accounting for almost 50% of the weed seeds, these remains probably being used as kindling/fuel.

(9577) was a rich sample, from another point along this ditch but is completely dominated by grasses with just a few cereal remains, a few seeds of grassland plants and a small heathland element. Heath grass (*Danthonia decumbens*) is the dominant taxon, comprising 44% of the identified assemblage. This species is typically found on moors and heaths but occurs locally in calcareous grasslands (Rose 1989) and was probably found local to the site. It may not be associated with the cereal crop in this context and may have been gathered as hay or collected dry and burnt as a firelighter.

Ditch [9514]

Context (9505) represents a later fill of this Late Iron Age ditch with mid-to late first century pottery. The deposits were less rich than those above, comprising a few charred cereal grains, among which a single grain of barley could be identified, and an assemblage otherwise dominated by grasses with occasional weed seeds.

Mid-Roman samples

A series of samples have been assigned to the early to mid-Roman and second-third centuries AD. These were recovered from Trenches E (5010), (5004) and I (9010), (9008) and (9022). One of these deposits was particularly rich: (9010) from ditch [9013] in Trench I is dominated by spelt wheat chaff, with a few spelt, wheat and barley grains, grasses and a very few weed seeds. This appears to derive largely from crop processing waste, possibly used as kindling.

Later Roman samples

Three samples, one from a floor (9569) assigned a third century date, a second from a slot now understood to be a subsoiler cut turning in third-fourth century deposits (9558), and a third taken from the base of an apparent corn-dryer flue of Roman date, were all taken from Trench J. The subsoiler slot produced a relatively poor charred plant assemblage with a few charred grain fragments and chaff, and grass caryopses. The floor deposit was more rewarding, although a large number of *Atriplex* seeds (40% of the assemblage - Table 7.6) may not be ancient. Apart from these questionable seeds the assemblage is dominated by grasses, sedges and grassland plants, with a small collection of cereal remains dominated by barley, the only sample from the site with a number of cereal remains in which barley exceeds wheat. Although a small assemblage of barley grain and a little spelt and barley chaff is present the grasses, sedges and wild plant seeds may not be crop processing waste and as with sample (9577) they may have arrived on site as hay, and subsequently been burnt.

Roman corn-dryer flue (9687)

This sample produced an exceptionally rich charred plant assemblage with several thousand quantified items and a high item density of 243 per litre of processed soil. This assemblage is larger than the sum of all the other samples taken on site. The charred plant remains consisted virtually entirely of grains (mostly poorly preserved) and accounted for 97% of the quantified items, excluding the very large number of cereal fragments in the sample. The well preserved grains were almost completely spelt wheat, the presence of which was confirmed by a small amount of identifiable chaff fragments (2% of the remains). There were only a few hulled barley grains plus a very small number of wild plant/weed seeds (1% of the remains) including a few characteristic large cereal weeds, for example *Agrostemma githago* and *Bromus* sp. A large percentage of the cereal grains had sprouted, possibly more than two-thirds but it is difficult to be more precise because of the poor grain preservation. There were also a number of loose cereal coleoptiles. While grain may naturally germinate and spoil in wet conditions it is possible that this assemblage represents the accidentally burnt remains of spelt wheat being used for malting. This process involves germinating the grain (to convert the starch in the grain to sugar for fermentation) and stopping the process when the coleoptiles have reached the length of the grain by roasting in a corn-dryer. Sprouted cereal grains were also present in several other samples although not in significant numbers as to suggest malting on site as seems, in contrast, to be the case with this rich sample.

7.2 Animal Bones

D. James Rackham

7.2.1 Introduction

The series of ten relatively small scale trenches that comprised the project (Fig. 3.1) were excavated from the topsoil downwards and animal bones collected by hand along with other archaeological finds as the spoil was removed. The consistent recovery of very small bone fragments from the archaeological deposits serves as testimony to the very efficient recovery of the animal bone assemblage. Just two contexts were dry-sieved on a 5mm mesh, (4005) and (4008), 100 litres from each, but only (4005) produced a large assemblage and the proportion identified was lower than the site average (see below) at 24%. The assemblages have been broadly phased on the basis of the recovered ceramics and the stratigraphy and the total of 3669 recorded bone fragments or partial skeletons assigned as shown in Table 7.7. A total of 4431 fragments were recorded on site, but during recording joins, modern breaks, partial skeletons, etc. were reconstructed where possible and logged as a single entry. In addition to the hand collected bone a number of bone fragments were recovered from the soil sample residues where residues caught on a 2mm sieve were sorted for bone fragments (see Table 7.3 above).

The hand collected bones have been identified and recorded following the procedures of the Environmental Archaeology Consultancy (see Key attached to the archive catalogue) and a catalogue of all the material produced which is available with the site archive. The efficient recovery inevitably has the effect that a much lower proportion of the recovered sample can be identified to species and a relatively large proportion of the assemblage could not be identified (67%) being at best assigned to cattle size (CSZ- 17%) or sheep sized (SSZ – 29%) categories, and at worst merely classed as indeterminate (21%). These figures indicate a relatively high degree of fragmentation of the bone, with an overall fragmentation index (calculated on the basis of the total number of anatomical zones recorded by the total number of specimens recorded) of 0.34, indicating on average that each fragment carried about a third of an anatomical zone (Rackham 1986). The level of fragmentation varied across trenches and periods of deposition. Trenches D and H show the greatest degree of fragmentation, while Trenches C and E show the least. Trench H is also characterized by a higher level of erosion of the bone, probably responsible for the fact that fragmentation is most severe in this trench. Of the periods represented the Middle Iron Age (MIA)

Table 7.7 Recorded fragments numbers assigned to each phase within each trench.

Phase Trench	A	B	C	D	E	F	H	I	J	Total
Early Neolithic				5						5
Iron Age			3							3
Middle Iron Age									252	252
Late Iron Age	17	2	9							28
Late Iron Age-early Roman	302	64	413	361	30		39		346	1555
Early Roman	2			4	167		11		778	962
Middle Roman									106	106
Middle to late Roman									2	2
Late Roman									52	52
Late Roman?									28	28
Late-post Roman									36	36
Roman		21				3	3	483	22	532
Roman - redeposited									55	55
Post Roman									25	25
Modern						1				1
intrusive				3						3
not phased				14			4		6	24
Totals	**321**	**87**	**425**	**387**	**197**	**4**	**57**	**483**	**1708**	**3669**

shows the most severe fragmentation and generally the highest proportion of more poorly preserved bone fragments. Despite this, and the absence of any bone from Trench G, and the occurrence of occasional associated teeth with the mandible lost, the condition of much of the bone is average to good and it is difficult to conceive of any significant loss of material from most of the deposits post-burial. It would appear that where deposits were decalcified no bone has survived, so the ?Neolithic palisade slot in Trench G produced no surviving bone since most of the fills of this feature were decalcified.

A fragmentation index can be calculated for each period and species where the sample size is sufficient (Table 7.8) and this clearly illustrates that of the major species cattle bones have suffered the greatest fragmentation, possibly associated with butchery, pigs the next, then sheep/goat, and the horse show the highest index indicating the least fragmented, probably indicating that this species was not heavily butchered and probably not eaten. These different levels of fragmentation and butchery have an impact on the analysis of the relative importance of the different species.

A few of the other charateristics of the bones have been recorded. The presence of charred, burnt and calcined bone was noted, chop and knife cut marks, evidence of sawing and bone working, and whether the bones were gnawed by dogs or rodents (Table 7.9). Relatively few of the Iron Age (IA) and earlier bones had been burnt or scavenged by dogs, with the incidence rising in the LIA-EROM period and increasing again in the early Roman period (EROM) where nearly 20% of the individual bone fragments had been burnt or charred, and five percent of the assemblage gnawed. The bulk of this charred material was recovered from Trench J and may reflect the domestic character of this area with food remains being discarded onto the domestic cooking fires. Relatively few bones show clear evidence of butchery, and proportionally cattle and cattle size bones show a greater incidence of chop and cut marks than pig, sheep/goat and sheep size bones. This is to be expected since cattle bones require butchery to reduce the 'joints' to a manageable size for domestic consumption, while much of the butchery of sheep and pig carcasses may occur at the joints with little or no physical evidence surviving. There was no fragment of horse bone with visible evidence of either butchery or dog gnawing, and most of the bones were less fragmented than comparable sized cattle bones. This would suggest that horses were probably not part of the human diet at any period, although two metatarsal bone fragments are waste from bone working.

7.2.2 Distribution and Character of the Assemblages

While it is difficult to directly draw comparisons across the trenches, because volume of soil removed, number of features, etc. vary, the quantity of bone recovered from each trench might be expected to reflect the level and intensity of occupation in that part of the site, assuming that the bulk of the animal bone derives from domestic activities. The date of the deposits and the local preservation conditions also have an impact.

Accepting these provisos the level of domestic activity seems likely to be low in Trenches G, F and H, despite the obvious impact of post-burial erosion, perhaps indicating a certain remoteness from 'housing' in the Late Iron Age and early Roman periods. Interestingly one might draw a similar conclusion for Trench B despite its position near the probable contemporary road and the presence within the trench of the corner of a Roman structure, though in this case it is likely that the structural remains and the longevity of the associated surface meant that cut features were not represent as this was an established property plot. Trenches A, C and D show similar sizes of bone assemblage with a concentration of material assigned to the LIA-EROM period. The much smaller size of Trench A implies an appreciably greater density at this location, and the concentration of bone in ditch fills (1002 Lower), (1003) and (1005) perhaps suggests it lies within discard range of a contemporary building. The bulk of the bone from Trench C derived from context (3003), a ditch fill, and similarly the bulk of the assemblage from Trench D was recovered from context (4005), the fill of ditch/gully [4006]. The soil samples from both deposits produced pottery, hammerscale and charred cereals, with (3003) also producing iron and copper alloy objects and glass. This implies a broadly domestic origin for most of the debris in these deposits, with a little industrial input.

Trench E was located close to the High Street and was of much smaller scale than the other trenches. Nevertheless it still recorded nearly two hundred fragments of bone, implying a higher density of material than any of the other trenches, bar J. Layer (5004), a loamy soil horizon that extended across the whole trench is responsible for most of the bone from this trench, and the soil sample collected from it produced charred cereals, pottery, hammerscale and burnt flint, reflecting the inclusion of other domestic, and a little industrial, debris in the deposit.

In Trench H the bone was located in a ditch, (8007), and gully, (8004), fill of LIA-EROM and EROM date respectively. The largest feature in this trench was a palisade complex tentatively assigned to the Neolithic, but no bone was recovered and the absence of all but tiny degraded fragments of bone in the one soil sample collected from this feature suggests that the deposits were decalcified.

Trench I produced the second largest bone assemblage, all of it assigned a Roman date (ROM), but thought to be broadly early falling between the early Roman and early middle Roman (pers. comm. S. Willis). The trench might lie between two house plots and a general spread of material across several ditch and gully fills, with larger assemblages deriving from ditch fill (9028), and a layer of 'hillwash', (9003), containing redeposited Roman would certainly suggest proximity to housing. Soil samples from contemporary

Table 7.8 Frequency of identified bone fragments (nisp) of cattle, sheep/goat, pig and horse, and individual zones (z), with the fragmentation index (Fragindx) for each period; and total number of fragments of cattle size (CSZ) and sheep size (SSZ) fragments.

	Cattle			Sheep or goat			Pig			Horse			CSZ	SSZ
Phase	Nisp	Z	Frag Indx	Nisp	Z	Frag Indx	Nisp	Z	Frag Indx	Nisp	Z	Frag Indx	Csz Sp	Ssz Sp
ENEO	3												1	
IA										1	4	4		1
MIA	17	15	0.88	18	5	0.28	5						46	104
LIA	6	4	0.67	4	3	0.75							1	10
LIA-EROM	80	69	0.86	342	403	1.18	80	81	1	17	41	2.4	184	460
EROM	53	33	0.62	188	198	1.05	49	54	1.1	4	6	1.5	163	318
MROM	6	1	0.17	8	6	0.75	9	7	0.78				30	35
M-LROM	1												1	
LROM	6	7	1.17	26	16	0.61	5	2	0.4				13	18
L-PROM	2	1	0.5	6	9	1.5	2	2	1				8	7
ROM	114	94	0.82	72	57	0.79	14	7	0.5	12	24	2	141	78
ROM redep.	3			4	1	0.25	3	2	0.67				14	12
Post-ROM	2	3	1.5	3	1	0.33							3	6A
Overall	**293**	**227**	**0.77**	**671**	**699**	**1.04**	**167**	**155**	**0.93**	**34**	**75**	**2.2**		

Table 7.9 Frequency of burnt, chopped, worked and gnawed bones by period.

Phase	unmodified	Burnt/calcined	Chopped/cut	Sawn/worked	Dog gnawed
ENEO	5				
IA	2	1			
MIA	209	2			5
LIA	26	1	1		1
LIA-EROM	1420	120	12	3	54
EROM	683	180	30	2	47
MROM	65	23	7		3
M-LROM	2				
LROM	67	7	3		5
L-PROM	27	2			2
ROM	494	33	6		23
ROM redep.	43	5			1
Post-ROM	11	3	1		2
MOD	1				
intrusive	2	1			
not phased	22		2		

Only six bone fragments/items show evidence of bone working and these are discussed elsewhere (Section 6.10).

deposits contain a range of domestic debris with one particularly rich charred plant assemblage dominated by charred cereal grain and chaff. Table Finally Trench J produced by far the highest density of animal bone. This included the largest MIA assemblage on the site derived mainly from later prehistoric pit fill (9664), and fairly large assemblages from LIA/EROM ditch fill (9505) and EROM ditch fills (9571) and (9577). A scatter of bones across a number of other features and relatively high concentrations of charred cereal remains and other domestic debris in the soil samples illustrates a much higher concentration of domestic rubbish in the deposits of this trench than elsewhere on site, and virtually the only deposits with animal bone assigned to the middle and late Roman periods.

There were a few 'groups' of bones probably derived from the same animal or limb of an animal, typically referred to these days as 'associated bone groups'. Apart from the two partial dog skeletons noted below two cattle vertebrae, a thoracic 1 and the adjacent cervical 7 in LIA-EROM context (3003) in Trench C probably derived from the same animal, perhaps a 'joint' from the lower neck region. A fragmented cervical and lumbar vertebrum of horse in context (3009) probably also derived from the same animal, although the absence of the several vertebrae that lay between these two suggests that they probably derive from a disturbed burial, presumably beyond the trench limits. Fragments of three lumbar vertebrae of horse almost certainly from the same animal were recorded from LIA-EROM contexts (4041) and (4042) in Trench D, perhaps again indicating disturbance of a burial. The humerus, radius and ulna of the left forelimb of an ox occurred together in gully/ditch terminal context (9018) in Trench I. This is not particularly unusual but it is a much larger carcass unit than might normally

Table 7.10 Frequency of fragments of each taxa or category recorded from each period.

Species	ENEO	IA	MIA	LIA	LIA-EROM	EROM	MROM	M-LROM	LROM	LROM?	L-PROM	ROM	ROM re-deposited	Post-ROM
Horse		1			17	4						12		
Cattle	3		17	6	80	53	6	1	3	3	2	114	3	2
Cattle size	1		46	1	184	163	30	1	5	8	8	141	14	3
Sheep/goat			17	4	338	179	8		16	11	6	76	4	3
Sheep			1		4	9								
Goat					2									
Sheep size		1	104	10	460	318	35		15	3	7	78	12	6
Pig			5		80	49	8		2	3	2	14	3	1
Red deer	1													
Dog			2	1*	2*	2						2		
Cat					1	1								
Mole					2							1		
Rodent					2									
Vole					1									
Small mammal						1			1					
Chicken				1	1	1	2					1		
Duck									1					
Goose						2	2							
Crow/rook					2									
Wader- plover?													2	
Passerine					1									
Unidentified bird					1	3	2		2			1	1	
Unidentified		1	60	5	377	160	12		8		11	99	9	2
Totals	**5**	**3**	**262**	**28**	**1555**	**945**	**105**	**2**	**53**	**28**	**36**	**539**	**48**	**17**

* includes a partial skeleton recorded as a single specimen

be associated with domestic food consumption and would feed quite a number of people. Finally, two sheep/goat femora (i.e. left and right), quite possibly from the same individual occurred in ditch fill context (9680). Most of the shaft of both survives and they are very similar in size but could still derive from different individuals.

7.2.3 Species

The identified fraction of the assemblages (33%) is dominated by sheep/goat, cattle and pig bones. Three percent of this group were identified as horse, while a few bone fragments of chicken, goat, red deer, dog, cat, mole, vole, rodent, duck, goose, crow, a wader and a small passerine are present (Table 7.10). Although recovery was clearly very efficient for hand collection the smaller taxa must still be seriously under-represented in this collection. Small vole incisors, rodent bones, small birds and fragments of some larger birds occur but their incidence in the soil sample residues (Table 7.11: 23 of the 34 samples), a very small fraction of the total soil excavated, indicate the extent to which they are missing from the hand collected assemblage.

Additional taxa recorded from the soil samples include house mouse, wood mouse, field vole, bank vole, water vole, common shrew, pygmy shrew, water shrew, jackdaw, thrush family, lizard, slow worm, frog/toad and fish (Table 7.11). Hand recovery will have had a less significant impact on the frequency of bones of the domestic species.

The only bone from the certain Neolithic deposits was the group in (4038) which were a placed concentration by the chalk-cut side of the feature. This absence, plus the absence of any bones from the likely Neolithic - possibly Bronze Age - soil samples (Table 7.11) seems likely to illustrate the loss of bone from the earlier deposits at the site as a result of decalcification of the soils, although finds of any sort were infrequent in these samples. Before discussing the main domesticates we should briefly consider the cattle and sheep/goat bones. Two goat horn cores were identified but none of the other ovicaprid bones were recognised as carrying the anatomical characteristics of goat. Separation of sheep and goat while possible on many bones, particularly if intact, is problematic on fragmented bones, although some skull fragments, metapodials, pelves and one or two other elements can be separated. It is probably reasonable to assume that most if not all of the sheep/goat bones derive from sheep. One cattle radius fragment from the early Neolithic context (4038) is large, much larger than the other cattle bones from the site. This is briefly considered below as possibly deriving from a small aurochs, but in all other periods the cattle bones are consistent with domestic animals.

While we could use the incidence of identified bone fragments as a measure of the relative importance of the animal species at the site we have already seen that the fragmentation varies across species, and this can impact on the relative frequency of the taxa, the greater fragmentation of cattle bones being likely to inflate the cattle numbers. The periods with more than thirty bone fragments assigned to the main domesticates have been compared for two other measures of abundance in Table 7.12. These are the total number of anatomical zones of each species and the most frequent zone on any paired bone element in the assemblage. The latter is similar to Binford's (1984) minimum number of elements (MNE), but is probably too small a sample for confident use at this site.

In the small MIA sample from pits [9645] and [9704] sheep/goat slightly outnumber cattle bone fragments, but many of the identified sheep bones carried no anatomical zones, with the result that cattle remains are actually more abundant in this period than sheep.

By the Late Iron Age to early Roman period sheep have become the most numerous animal on the site and there is little marked difference between the three measures being used to assess relative abundance. Sheep constitute 66-69%, pig 14-15% and cattle 12-15% whatever measure is used. A very similar picture is presented by the early Roman contexts.

In the Roman group which derives mainly from Trench I (Table 7.7) the picture is clearly different. Cattle outnumber sheep/goat fragments, and pig is much less frequent than in the other assemblages. On the basis of the zone counts cattle represent 52%, sheep/goat 31%, horse 13% and pig 4% (Table 7.12). While the 'Roman' sample is not large, and a significant element of the Trench I assemblage derives from hillwash (context (9003)) this contrasts with the Late Iron Age and early Roman assemblages, perhaps suggesting a change in the focus of the animal husbandry at some time in the Roman period. A similar marked change in species abundance was recorded between the early Roman period and the late Roman deposits at Rectory Farm on the fen edge in South Lincolnshire (Hunn and Rackham in press) apparently associated with the establishment of a 'villa' at the site. The Iron Age and Romano-British site at Dragonby, some 30km to the north-west, shows a similar dominance of sheep from the Late Iron Age, although cattle become more important in the second

Table 7.11 Frequency of soil samples in which vertebrate taxa were identified.

Species	? NEO / BA	Later PREH	LIA-EROM	1st C	EROM	MROM	LROM
No. of samples	7	2	5	4	4	6	5
Cattle			1	1	2	2	
Cattle size					1		1
Sheep/goat			2	3	2	4	1
Sheep size		1			1		1
Pig			1	1	1		1
House mouse			1		1	2	
Wood mouse			3		1		
Mouse				1			1
Field vole		1	3		2	1	1
Bank vole			1		1	2	
Water vole			1				1
Vole, indeterminate				1		1	2
Rodent			1	1	1	2	1
Mole			2		1		
Common shrew			2		1	1	
Pygmy Shrew					1	1	
Water Shrew					1	1	
Shrew indeterminate						1	
Jackdaw						1	
Turdidae, Thrush family			1				
Bird, indeterminate							1
Small passerine			1				
Small bird, indeterminate			1		2	1	
Lizard			1				
Slow worm		1	1		1		
Frog/toad		1	1		2	3	1
Fish		1			1		
Small fish			1				1

Table 7.12 Different measures of relative abundance of the main domestic species. (nisp-number of identified specimens, z – total number of anatomical zones, mfz – most frequent anatomical zone of a paired element).

	MIA			LIA-EROM			EROM			ROM		
Species	Nisp	Z	Mfz	Nisp	Z	Mfz	Nisp	Z	Mfz	Nisp	Z	Mfz
Horse				17	41	1	4	6	1	12	24	1
Cattle	17	15	1	80	69	4	53	33	3	114	94	5
Sheep/goat	18	5	1	350	397	20	208	178	11	76	57	5
Pig	5			80	81	4	50	58	4	14	7	1

Same data presented as percentages

	MIA			LIA-EROM			EROM			ROM		
Species	**Nisp**	**Z**	**Mfz**	**Nisp**	**Z**	**Mfz**	**Nisp**	**Z**	**Mfz**	**Nisp**	**Z**	**Mfz**
Horse				3	7	3	1	2	5	6	13	8
Cattle	42.5	75		15	12	14	17	12	16	53	52	42
Sheep/goat	45	25		66	67	69	66	65	58	35	31	42
Pig	12.5			15	14	14	16	21	21	6	4	8

and early third century AD (Harman 1996a). A small bone assemblage from a closer site at Barnetby le Wold (Snelling *et al*. 2002; Rackham and Snelling 2004) on the north-west edge of the Wolds contrasts with Mount Pleasant showing a dominance of cattle during most phases of Late Iron Age and Romano-British occupation, although bone recovery was probably not so efficient.

Horse bones occur in all the larger period assemblages, and their absence from the other periods is likely to reflect the sample size. Horse meat does not appear to have been eaten. Goat is indicated by two horn cores, one a female and the other a male, both occurring in the LIA-EROM phase. There may be further goat bones among the sheep/goat assemblage but where anatomical characters permit, only sheep were recognised. Dog is represented by a few bones from MIA to ROM date and two partial skeletons. At least one of the bones shows evidence of gnawing, while the partial skeletons were recovered from LIA and LIA-EROM deposits in Trenches A and C. One of these was a small immature animal, and the second a small-medium sized dog. Two cat bones were recovered from Late Iron Age to early Roman deposits, quite possibly kept to keep down the numbers of house and wood mouse in the buildings. The red deer fragment from the early Neolithic context, (4038), in Trench D is a large antler tine, and occurs with the fragmented distal shaft of a large 'Bos' radius which could possibly derive from a small aurochs, although the bone is too incomplete and poorly preserved for confident identification.

Bones of chicken, duck and goose occur in low numbers from the Late Iron Age. The presence of eggshell in the soil samples suggests the chickens supplied eggs as well as meat, but neither the duck nor goose bones can be confidently assigned to species, although the latter include a small wild species and birds of greylag size, while the duck is consistent with mallard (cf. Harman 1996b). These bones are presumed to reflect small scale hunting of wildfowl rather than domestic exploitation although both species are believed to have been domesticated in Europe by the Roman period (Serjeantson 2009). The only other birds positively identified among the hand collected bones are crow or rook and a wader of comparable size to golden plover, together with likely woodcock from (3003). The latter two may

Table 7.13 Aged individuals based upon the dentition (after O'Connor 1989).

Cattle	Neonatal	Juvenile	Immature	Sub-Adult	Adult	Elderly
MIA						1
LIA				1		1
LIA-EROM		1			1	1
EROM			1	1	1	3
MROM				1		
LROM		1				
ROM		1		3		2
ROM redep.						1

Sheep	Neonatal	Juvenile	Immature	Sub-Adult	Adult	Elderly
MIA				1		
LIA			1	1		
LIA-EROM		4	6	8	11	1
EROM		2	1	9	5	1
MROM						
LROM						
ROM			1	2	7	1
ROM redep.						
Post ROM				1	1	

Pig	Neonatal	Juvenile	Immature	Sub-Adult	Adult	Elderly
LIA						
LIA-EROM		3	1	2		
EROM		1				
MROM						

have been a food items, but the crow or rook, and the jackdaw from the samples, are likely to have been scavengers on the site. The smaller birds, including thrush family and small passerines recovered from the samples as well as hand collected are likely to be natural casualties at the site. The small vertebrates have been discussed in the report on the soil samples.

7.2.4 Husbandry

The data available from the assemblage for reconstructing the cull structure of the cattle, sheep and pigs are fairly limited and when considered by period are insufficient for confident interpretation although some comments can be offered.

Table 7.14 Epiphyseal fusion data for cattle, sheep and pig. (Unf – unfused epiphysis; JFus – just fused; Fus – fused).

Cattle Epiphyses	LIA & LIA/EROM			EROM			ROM			LROM		
	Unf	Jfus	Fus	Unf	Jfus	Fus	Unf	Jfus	Fus	Unf	Jfus	Fus
Acetabulum	1		1						3	1		
Scapula, tuberosity	1								1			
Humerus, distal	1		1						3			
Radius, prox.	1		1						1			
Phalanges, pr.	1		2			1			2			2
Metacarpus, dist.												
Tibia, dist.			1						1			
Metatarsus, dist.			1						1			
Calcaneum, prox.												
Humerus, prox.									1			
Radius, dist.			1			1			1			
Femur, prox.			1				1		1			
Femur, dist.			1				1		1			
Tiba, prox.	1											
Ulna, prox. ad dist.	1			1					1			
Ant. Vert		1					2		3			
Post vert.			1				4		1			

Sheep/goat epiphyses	LIA-ROM			EROM			M-LROM			ROM		
	Unf	Jfus	Fus	Unf	Jfus	Fus	Unf	Jfus	Fus	Unf	Jfus	Fus
Acetabulum	2		3	1		3						
Scapula, tuberosity			6	1		1						1
Humerus, distal	1	1	11			4						1
Radius, prox.			6	1		1			1			3
Phalanges, pr.			6	1					3			2
Metacarpus, dist.			2			3	2				1	
Tibia, dist.	6		6			3			1			1
Metatarsus, dist.	1		2									
Calcaneum, prox.	3		3	3	1	1						
Humerus, prox.	1											
Radius, dist.	6			1								
Femur, prox.	4			1		1	1					
Femur, dist.	1			1								
Tiba, prox.		1		1								
Ulna, prox. ad dist.	1		1	1		1	1					
Ant. Vert	6			2		5	2					
Post vert.	5			3	1	4	1					

Table 7.14 Epiphyseal fusion data for cattle, sheep and pig. (Unf – unfused epiphysis; JFus – just fused; Fus – fused) (continued).

Pig epiphyses	LIA-ROM			EROM			M-LROM			ROM		
	Unf	Jfus	Fus	Unf	Jfus	Fus	Unf	Jfus	Fus	Unf	Jfus	Fus
Acetabulum	2											
Scapula, tuberosity						1			1			1
Humerus, distal						1						
Radius, prox.			2									
Phalanges, pr.	2	1	2				1			2		
Metacarpus, dist.	5			2			1					
Tibia, dist.				1								
Metatarsus, dist.							2					
Calcaneum, prox.				1			1					
Humerus, prox.										1		
Radius, dist.	1											
Femur, prox.												
Femur, dist.												
Tiba, prox.												
Ulna, prox. ad dist.	1			1								
Ant. Vert	1			1	1		1					
Post vert.	2			2			1					

The majority of cattle jaws and loose teeth indicate elderly animals (Table 7.13), although individuals of all ages are present. There is a possibility that the age structure in the 'ROM' group and the middle and later Roman deposits is younger than the earlier assemblages, with sub-adult and juvenile individuals being more numerous than adult and elderly animals, although these results run counter to the epiphyseal data (Table 7.14) which suggest a largely adult population in the 'ROM' assemblage with only the latest fusing bones showing an unfused condition. Among the bones lacking teeth or epiphyses fragments were classified to 'juvenile' or 'immature' on the basis of the size of the bone and the surface porosity. Among these fragments bones classified as juvenile or immature occur with greater frequency in the LIA-EROM and EROM assemblages than in the ROM group. The presence of one or two bones from very young beasts indicates breeding of cattle at the site, but no neonatal bones of cattle were recorded. The elderly group suggests possible breeding, milking and ploughing stock, although whether all or just one is impossible to identify. A single pathological phalanx, with bone growth around the edges of the proximal articulation could result from inflammation caused by stresses or trauma during ploughing, but this is speculative and might easily be due to other causes.

The data for pig are even more limited, although as is characteristic of this species the bones and jaws are dominated by fragments from juvenile and immature animals, with some sub-adults. There is no indication of adult breeding animals among the sample population, although one bone from a 'ROM' contexts is recorded as 'neonatal' and clearly indicative of breeding on site.

The sheep/goat sample permits a little more consideration. There is a suggestion from the dental data that the cull structure changes. In the LIA-EROM group the sub-adult and younger animals exceed the adults and the slaughter of juvenile and immature animals indicates either milk and/or meat as the focus of production rather than wool, although skins may also have been important. In the EROM assemblage sub-adults dominate and adults have dropped in relative numbers. In the 'ROM' group adults dominate, while the sub-adult and younger age categories have shrunk. This pattern appears to be broadly supported by the epiphyseal data (Table 7.14). The LIA-ROM assemblage has a higher proportion of juvenile and immature animals than the EROM assemblage, while the small sample from the ROM group has no definite juveniles, although one bone may derive from an animal slaughtered between 18 and 24 months. A few bones without dental or epiphyseal data were described as juvenile or immature, twenty two of the sheep/goat fragments from the LIA-EROM assemblages, ten from the EROM sample and three from the ROM sample. This reducing proportion of the juvenile and immature sheep/goat bones across the three assemblages is consistent with the apparent changes in the cull structure. At its simplest level the increase in adults in the ROM group might be interpreted as moving from a milk and meat focus for the husbandry towards wool, but the samples are insufficient for confident interpretation and the flock would have been used for all purposes, whether or not one purpose was of greater economic importance.

The horse bones indicate adult animals, although a single femur has a fused proximal and unfused distal epiphysis placing the age of the animal at about 3-3.5 years (Silver 1969). The absence of butchery, low fragmentation and largely adult age structure suggests that the horses were for riding.

Table 7.15 Frequency of fragments of each element of sheep/goat and sheep size by period.

Name	IA	MIA	LIA	LIA-EROM	EROM	L-PROM	LROM	MROM	ROM	ROM redep.
skeleton									1	
horn core					1					
maxilla				2						
skull		5		42	32				1	
Mandible		1	3	64	30	1		1	8	1
hyoid		1								
mandibular teeth		2	1	22	10		2		16	
maxillary teeth		2		14	14	1	8		10	
tooth					4				2	
atlas					1					1
axis				1						
cervical vert.				4	4	1	2			
thoracic vert		2		8	4					
lumbar vert.		1		5	9					
sacrum				3						
vertebra				2	2					
rib		45	3	181	128	3	9	13	8	
costal cartilage				1				2		
sternum								1		
scapula				24	12				1	
Humerus				27	15		2		3	1
Radius		2		30	8	2	2		8	
Ulna				11	9		1		2	
Metacarpus		5	1	12	12		1	1	2	
sesamoid				1						
phalanx 1				2	1	1		1	2	
phalanx 2				6			2			
phalanx 3				1						
innominate				15	7		1			2
Femur		2		42	19		1		1	
Tibia		1		51	25	1	4	2	10	1
Astragalus				7	1					
calcaneum				6	5			1	2	
centroquartal				1	2					
metatarsus		4		13	11		1	3	8	
Metapodial		1		4			1			
long bone	1	33	5	173	108	2	6	15	61	9
indeterminate		15	1	27	32		1	3	7	1

7.2.5 Carcass Distribution and Butchery

In smaller assemblages recognition of any patterns among the bones represented is particularly difficult, and this is true for the cattle and pigs bones at this site. All parts of the carcass are represented, although zones of mandible, scapula, humerus and femur are the most abundant, while unzoned fragments of cattle and cattle size rib and skull are frequent although under-represented. Vertebrae are relatively under-represented. There are insufficient data to allow any comparison of the different period assemblages. Rib fragments of cattle and cattle size carry the most cut and chop marks, but marks indicative of both meat removal and dismemberment of the carcass occur on limb and girdle bones, while cuts on a phalanx might reflect skinning.

Among the pig bones, skull, mandible and scapula are most frequently represented by zones, while unzoned skull and mandible fragments are the most abundant. As with cattle, vertebrae are under-represented. There is a scatter of bones from other parts of the carcass but no evidence for selection. No pig bones were observed with chop or cut marks.

Among the sheep/goat bones zones of tibia, mandibles and humeri occur with the greatest frequency, the proximal midshaft area of the tibia, the distal end of the humerus, and the diastemal part of the mandible. All three of these fragments are readily identified and fairly robust and are as likely to reflect survival as selection. Among the unzoned fragments mandible, skull and ribs predominate. There is a marked lack of vertebral fragments of both sheep/goat and sheep size, and in general fragments of scapula, humerus, radius, femur and tibia occur with the greatest frequency (Table 7.15). The element fragment frequencies are similar across all the periods. As with the cattle bones chop and cut marks occur with the greatest frequency on rib fragments.

The pattern of representation of different bones in the assemblages is not particularly informative. It follows the pattern of many sites and may reflect aspects of bone fragment survival as well as carcass processing. The consistently low occurrence of vertebral fragments, even among the cattle size and sheep size bones, suggests a real lack from the assemblage, perhaps explained by primary butchery taking place elsewhere and the spinal bones not reaching the excavated sites. A general lack of phalanges would be consistent with this, although this is generally attributed to the lower recovery efficiency of the smaller bones and/or foot bones going off site with the hides. The very high recovery in this assemblage with many small fragments much smaller than phalanges being collected suggests this absence is real. Perhaps the spine was generally fed to the dogs and has been totally destroyed, while the feet left the site with the hides. Only two of the dog gnawed bones are vertebral fragments. We rarely consider that the dogs on the site had to be fed, and that this must have been largely meat and bones. The less valuable parts of the carcasses are likely to have fed these animals and this in part could account for the lack of vertebrae and foot bones in the 'domestic' rubbish assemblages.

7.2.6 Size of the Animals

During the identification and recording of the bone significant differences in the size of the domesticates was observed but few of the bones allowed measurements that could illustrate this. A large ox radius has been noted from the early Neolithic deposits, and tentatively suggested as a possible aurochsen bone, although at this date the reduction in the size of the domestic ox was not as great as by the Late Bronze and Iron Age (Davis 1987). An extremely large astragalus is present in an EROM context, (9571), the upper fill of ditch [9573]. This exceeds in size the largest astragali recorded by Dobney *et al.* (1996) from Roman Lincoln (Fig. 7.2). This could be accounted for by contamination (a relatively modern animal) though this is thought improbable, or indicate the presence of very large oxen on the site, possibly bred from stock imported from Europe and used for draught purposes. The other astragali fall within the range recorded in Lincoln for first to fourth century AD animals. Two other cattle bones were noted as being particularly large, a mandible and a metatarsus from LIA-EROM context (1002), an upper ditch fill.

Although there was some indication of smaller gracile and larger more robust sheep the measured bones were limited. The distal end of the sheep humeri and tibiae have been plotted and compared with Roman Lincoln specimens (Fig. 7.3; Fig. 7.4). The tibiae are all contained within the range afforded by first to fourth century AD examples from Lincoln with the LIA-EROM specimens towards the bottom of this range.

The humeri show a similar pattern although one specimen from ROM context (9008) in Trench I is larger than the biggest example from Lincoln (Fig. 7.4 and could possibly be accounted for as a ram. A metacarpus and a tibia fragment from deposits in Trench J were logged also as large, although they carried no measurable dimensions.

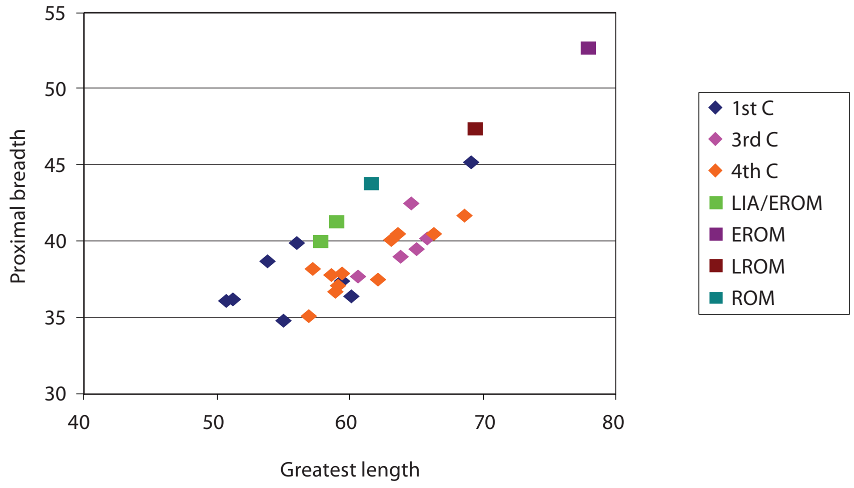


Figure 7.2 Distribution of greatest length and proximal breadth of cattle astragali from Mount Pleasant compared with astragali from dated horizons in Lincoln (Dobney *et al*. 1996). Lincoln specimens indicated by a diamond; measurements in mm; not all the Lincoln data have been used.

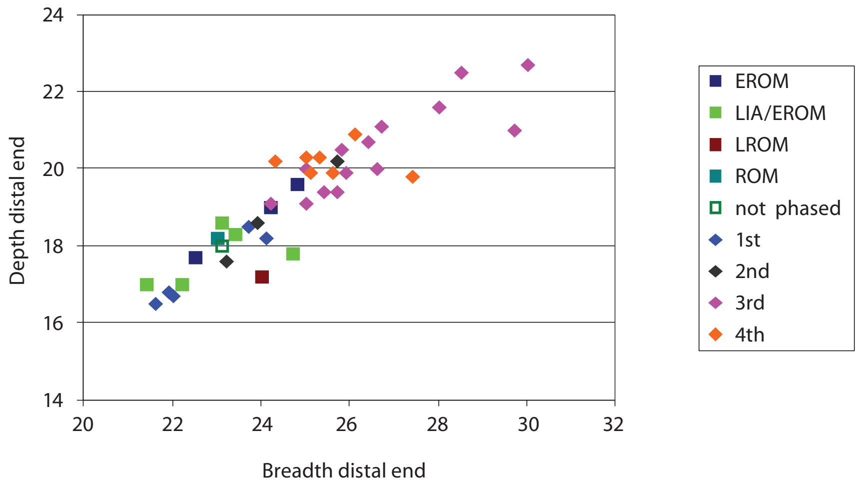


Figure 7.3 Comparison of sheep/goat distal tibia measurements with Roman examples from Lincoln (Dobney *et al*. 1996). Lincoln specimens indicated by a diamond; measurements in mm.

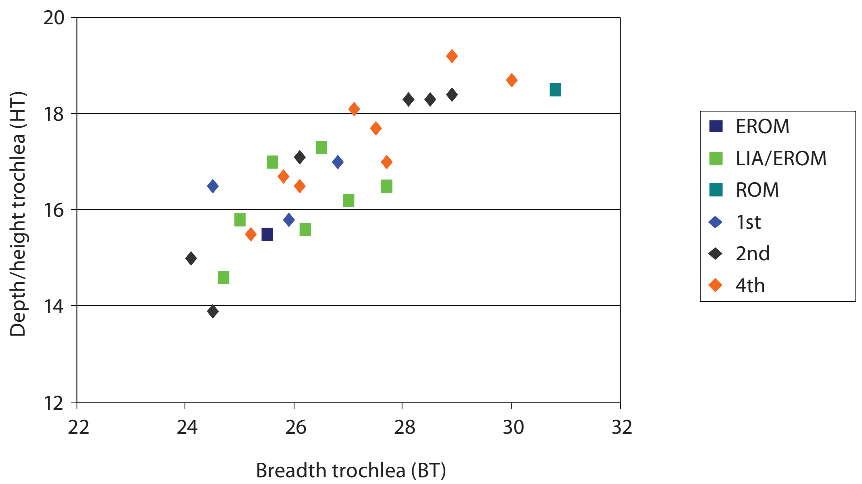


Figure 7.4 Comparison of sheep/goat distal humeri measurements with Roman examples from Lincoln (Dobney *et al*. 1996). Lincoln specimens indicated by a diamond; measurements in mm.

7.2.7 Discussion

Despite the relatively small size of the samples, and their dispersal across a very large multi-period site complex we can draw a few conclusions. Earlier prehistoric bone is likely to have been lost from most of the deposits although a few larger 'chalky' bones have survived from one lower early Neolithic linear feature fill.

The deposits in general, particularly those of the Late Iron Age to early Roman (LIA-EROM) and the early Roman (EROM) periods are dominated by the bones of sheep, exceeding 60% of the assemblage on the basis of several measures. There is a slight suggestion that in the Middle Iron Age and Iron Age deposits cattle were relatively more important than later, while the assemblage from Trench I which is broadly dated to the early to mid-Roman period is clearly at odds with contemporary assemblages in the other trenches, in that cattle are more numerous than sheep. There is nothing among the bones to account for this, such as a concentration of primary butchery waste. The cattle bones in Trench I are relatively less fragmented than the sheep and pig bones, which contrasts with the LIA-EROM and EROM groups where cattle bones are more fragmented than the sheep and pigs. This is even more surprising considering that a significant part of the assemblage was recovered from (9003), a layer described as hillwash, but with no indication that the bone was less well preserved. As noted above a change from sheep dominated to cattle in the late Roman period at Rectory Farm, south Lincolnshire, is associated with the development of a 'villa' on the site, while at Dragonby cattle become more important in the second and early third century AD, although not exceeding sheep (Harman 1996a). Fourteen kilometres, as the crow flies, from Mount Pleasant a small assemblage of bone from a mid-late Iron Age, Late Iron Age and Roman rural settlement at Barnetby le Wold are all dominated by cattle, but this site lies at a much lower altitude at the base of the Wolds and would probably have had a different pastoral economy. The urban settlement at Lincoln also shows a dominance of cattle, but here it will reflect the urban market and the wide catchment available to this centre. If the Trench I ROM assemblage is contemporary with the EROM assemblage from the nearby Trench J then it seems unlikely that the cattle dominance can be attributed to a local change in pastoral economy – almost certainly the factor at Dragonby and Rectory Farm - but more likely to reflect some local selective focus, possibly due to status or the character of the activities at Trench I. A slight discrepancy between the dental ageing data and that from the epiphyses in the Trench I cattle assemblage may be a factor, and the slightly younger age profile suggested by the dental data might reflect status or pastoral economy. A roadside stopping place catering for travellers might have a different 'menu' to the local farmsteads, although at only 4.5 kilometres from Caistor it would be a bit close to the local town, if indeed Caistor was a centre of significance at that time in the Roman era (which is not known). On this limited data set it is probably rash to try too hard to account for this change in species abundance, and possible age structure, in just one of the excavation trenches.

The numerical dominance of sheep at the site seems likely to be due to a local landscape of fairly short grassland, an inference made of the basis of the altitude, crop mark evidence for fields and enclosures, the soils, charred plant remains and the terrestrial mollusc data in the majority of the soil samples collected from the trenches. The soils are freely draining calcareous coarse and fine loamy soils (Soil Survey of England and Wales 1980) tending to encourage herb rich calcareous pastures (www.Landis.org) where not cultivated. Such a landscape is more suited to sheep than cattle, and the richer pastures would have been more localised to valley areas on this upland plateau by comparison with the landscape below the Wolds. Nevertheless despite this numerical dominance among the bone assemblage it is clear that cattle, an animal several times heavier than the contemporary sheep, would still have supplied the majority of the meat eaten at the site, with pigs in third place although still important, and a major resource during the winter months when first and second year animals are likely to have been slaughtered in preference to sheep or cattle. With the complete absence of any adult pig bones among the assemblage, although a single neonatal bone is recorded, it is possible that the settlement did not maintain a breeding population, but fattened weaners obtained from farms in the Ancholme Valley below the Wolds. A market for such trade in livestock during the Roman period may have existed at Market Rasen or Caistor or other smaller nucleated centres but too little is known of those sites to establish their nature. The positive identification of goat cannot be viewed as unusual given that both Dragonby and Lincoln record goat bones. Goats, unlike sheep, are often kept in small numbers, particularly as milkers and the single finds in Trenches A and J of LIA-EROM date suggest this role rather than for the production of meat.

Despite a relative absence of chicken bones on the site, and probable chicken eggshell in only two soil samples, chickens will have made a small contribution both in meat and eggs. They were more abundant at Dragonby (approx. 0.8% of identified bones), absent from the small Barnetby le Wold assemblage, and relatively uncommon in the Roman assemblages from Lincoln where they represented just over 2% of the identified bones. They are present in Late Iron Age deposits but no earlier. At least one of the goose bones is from a wild goose, but the remaining geese and duck may be either domestic or wild. That there must have been domestic birds among the later Roman geese and ducks from Lincoln has been considered (Dobney *et al.* 1996) but without positive identification this is always conjecture. The only bones perhaps indicative of hunting at Mount Pleasant in the later prehistoric and Roman periods are the sternal fragment and humerus probably from a single wader of golden plover size from redeposited Roman material. So unless the geese and ducks are wild birds hunting is likely to be a very small contributor to the bone assemblage. Other birds identified among the hand collected bone and soil sample residues are likely to be natural deaths on the site.

Discounting the bone spindlewhorl, there are three bones that indicate some craft working of bone at the site. All are the proximal ends of metapodials and represent the waste sawn from the metapodial shaft, a piece of bone that can be used in the manufacture of a variety of objects. An example of one such object was also found, part of a smoothed and polished large bone awl or needle. A fourth piece of bone waste suggests that such objects may have been the intended product from the metapodial shafts. This is a thin slice, just a few millimetres thick taken from the end of a shaft of a cattle sized long bone. Unfortunately it could not be specifically identified but is consistent with something like a cattle metatarsus, and although thinner than the manufactured awl or needle found would have been suitable for a bone pin. Such craft work can be domestic as well as professional in nature, and the scale of the operation is generally only evident when a sizeable assemblage is identified such as that from Meppershall, Leicestershire (Rackham and Giorgi 2004).

We have briefly suggested that the goat is likely to have been kept for milk, and the chickens for meat and eggs. Pigs are generally viewed as primarily a meat resource. Their young age profile in the assemblages and the fecundity of the species makes them an ideal fat and protein resource and particularly useful for winter food, when curing can extend the useful life of the resources of a single carcass over several weeks or months. It is always more difficult to reconstruct the economic roles of the cattle and sheep. Most rural models at this date suggest a 'mixed' role and that is true for this Mount Pleasant assemblage. The cattle include juveniles, immature, sub-adult, adult and elderly animals with a sample size really too small to allow interpretation. The 'typical' model would be that calves indicate milking, immature and sub-adult beasts a meat supply, and elderly animals a milk supply. The merest suggestion of a larger sub-adult group in the ROM assemblage from Trench I might be forced into a model presenting meat as more important in this group and hence perhaps reflecting a higher status through selectivity of meat supply (see above), but frankly we spend too much time pushing our limited data sets into such models and in truth these data indicate some animals slaughtered across a broad range of ages. Even the large sample from Dragonby (Harman 1996a, 154) afforded limited reconstruction of the cattle husbandry. The occasional large beast in the cattle assemblage, and the pathology on one first phalanx proximal articulation, might be associated with draught oxen, the former almost certainly imported to the site rather than bred from the native breeds. Local arable cultivation is suggested by the chaff rich assemblages from the samples in Trenches I and J and draught oxen will have been essential for tilling the cereal fields. Experimental ploughing (pers. comm. Peter Reynolds) has suggested that a well-trained pair of plough oxen are extremely valuable and would be kept for as long as practicable, certainly many years, and the elderly cattle, at least some of them, represented in the mandibular samples must surely derive from draught animals.

Arguably data for the sheep allow a more positive assessment. The pattern associated with commercial wool production in the medieval period, a largely elderly sample, is not present so wool production is perhaps a by-product or component of the economy rather than a focus. There is clearly an immature and sub-adult cull reflecting the importance of a meat supply from the flocks, but with sheep having generally one lamb, and occasionally two, adult flock size must be maintained (unlike the fecund pigs), hence there will always be an adult component in the cull. Sheep may have been milked which would require an adult and elderly component and possibly some lambs. While these are present they are not dominant so milk production, and by extension cheese, is not the major focus.

It is to be expected that in the Late Iron Age and early Roman period in a rural setting, the farming will have a significant subsistence element even if there is a market for the farms' produce in the local town or nearby military establishment. In these circumstances a 'mixed' pastoral economy is inevitable and husbandry that includes elements of meat and milk production, traction, breeding, wool and also skins and hides must surely be typical. The interest is perhaps in whether we can see the beginnings of major commercial agriculture as the Roman towns and military create a 'large market' for the produce. The dominance of cattle in the late Roman villa phase at Rectory Farm might mark a commercialization of the cattle herds; the huge market created by Lincoln must have stimulated the agricultural production in the area so that farmsteads become commercial as well as subsistence units. The animals destined for these markets left the farms on the hoof, leaving no signature behind, so it might be difficult to recognise the beginnings of this commercialization, since much of what was eaten at the farm or local rural settlements would be the stock that did not have a market in the nearby towns. We do not know the distance such stock might be driven, although in the medieval and post-medieval period cattle herds were taken hundreds of kilometres, and also overseas. Lincoln is the biggest local market to Mount Pleasant in the Roman period but at 38 kilometres distance would surely not have been regularly visited. One imagines the stock was taken to the local markets at Market Rasen, some 12 kilometres, and Caistor, at 4.5 km, and perhaps driven on in mixed herds from several farmers to centres like Lincoln over a period of several days. It is difficult to see how the major centres could be supplied with food without this sort of infrastructure and there is clear evidence amongst the pottery at Mount Pleasant of trade with Lincoln so the movement of stock is also feasible. It may be that the larger assemblages at Nettleton are too early in the Roman period to have registered a change due to the expanding market at Lincoln.

7.3 General Discussion of the Environmental and Faunal Remains, and Conclusions

The disparate nature of the environmental sampling across a series of exploratory evaluation trenches does not lend itself to a detailed analysis of the results. The primary aims of the project were concerned with evaluating the quality of the remains, their survival conditions, and the dating and character of the site from which strategies for the management and preservation of this and other similar sites could be drawn up. Within this framework the environmental sampling programme can make a contribution to our knowledge of the site.

The range of environmental evidence recovered from the soil samples is characteristic of dry well-drained calcareous sites where waterlogged preservation is absent and survival of microscopic biological remains such as pollen and parasite eggs is very poor. The pollen was originally assessed by Jacqui Huntley (Huntley 1999) from a sample from the lower fill of a large ditch in Trench A and the very poor results led to the exclusion of this material from the further sampling. The calcareous soils of most of the trenches were considered unsuitable for the survival of pollen, and in those that were decalcified pollen is likely to have been broken down before the sediments became decalcified. The environmental evidence therefore included charcoal, charred cereal remains and weed seeds, bones of small mammals, amphibians and reptiles, domestic animal bones, wild bird and fish bones, terrestrial snails and marine shellfish. These lend themselves to studies of the agricultural economy and diet at the site, but also to very local palaeoenvironmental reconstruction. Broader environmental reconstruction is much more problematic and probably best approached by offsite studies of pollen in the valley immediately west of the site (Nettleton Bottom). One positive outcome of the sampling is the clear evidence for distributional data which indicate that the density of cultural and environmental material varies appreciably across the site. A second archaeological outcome is the evidence for craft or industrial activities on the site, represented by a low density scatter of iron smithing hammerscale and a very small assemblage of bone working waste. The evidence suggests that proximity to a smithing area may well be recognised by a marked increase in densities of hammerscale, and also indicates that this activity may well have been undertaken at a number of different locations during the Late Iron Age and Romano-British history of the site. Likewise the bone working waste was recovered from Trenches C and J.

While it is clear that this range of evidence is present its survival and distribution is very variable. A marked absence of animal bone and mollusc shells in the earlier prehistoric features suggests that the older deposits have suffered from decalcification a conclusion reinforced by observation of the deep ditch sequence in Trench A where some of the fills clearly showed evidence of decalcification. This puts serious limitations upon the potential of any Neolithic, Bronze Age and Early-Middle Iron Age deposits on the site, which may be largely devoid of data relating to the animal husbandry and the palaeoenvironment of the settlement. The charred plant remains should survive, although densities of charred material on earlier prehistoric sites are notoriously low. In the Late Iron Age and Romano-British periods survival is better although still possibly variable across the site. A substantial increase in the quantity of debris entering the deposits means that studies of the agricultural economy, the diet, evidence for iron smithing activity and some spatial analysis become possible. The series of evaluation trenches opened already show a marked spatial pattern. Relatively high concentrations of occupation debris occur in the samples from Trenches C, D, I and J in the Romano-British periods suggesting contemporary habitation in the near vicinity, and in Trench J actually within the trench. The animal bone shows a concentration in Trench J and most of the environmental evidence has been recovered from Late Iron Age and early Roman deposits. At least some of the enclosures investigated therefore appear to be around habitations rather than paddocks or fields.

While there is little immediate threat to the survival of any of this material other than through plough damage in the 'very' long term the decalcification processes are likely to continue and material, particularly animal bone and shell, may be lost from progressively younger deposits. The etching recorded by Stallibrass (1999) on the bones of small vertebrates as a product of the animals having been eaten may be evidence for the beginnings of this loss and surface pitting of the bone fragments from some samples, such as the Late Iron Age/Early Roman enclosure ditch fill (8007) in Trench H suggests that it has started in some areas. The bones in the samples from Trenches I and J appear chalky but in relatively good condition and indicate better preservation in this area, possibly a product of the burial environment and some protection by colluvial sediments (Willis 2003). There may be a survival gradient with poorer preservation on the higher areas of the site in the field west of the road, where the ground has been more truncated by ploughing. Study of this is best addressed through the analysis of the hand collected animal bone from the trenches, Stallibrass (1999) has already noted that preservation is better in the deepest deposits, and the study of the bone diagenesis conducted by Janine Davis (1999), albeit that that research was never completed. Only Trench H shows a significantly greater level of surface bone erosion with no fragments surviving in good condition, and most of this material derives from deposits of Late Iron Age to Roman date so perhaps there is appreciable local variation in soil conditions effecting post-burial erosion.

The results of the analysis of the environmental samples are informative in two general areas. The limited palaeoenvironmental evidence would suggest that the site lay within an open grassland environment, probably for all of its archaeological history so far investigated. Shade loving taxa of terrestrial snails in the early Roman ditch of Trench H and the lower fill of an earlier Late Iron Age/early Roman ditch in Trench J may indicate hedges along the banks of these ditches, while their concentration in the floor deposit of the building in Trench J could be colonisation of the building after abandonment or perhaps even while in functional use if vegetation was brought into the building, as suggested by the burnt grassland snails recorded. Structures and ungrazed vegetation around them could create a sufficient habitat for these taxa to colonize if disturbance was limited. This picture is supported by the small vertebrate fauna which includes two or three species that require good ground cover and limited disturbance. The occurrence of house mouse in the Roman period probably indicates the proximity of buildings since this species tends to favour barns and buildings although it is sometimes found in open fields in arable and hedgerows (Corbet and Southern 1977). There are few local pollen studies that might inform us on the vegetational history of the area, partly due to the calcareous soils of the Wolds plateau being unsuitable for the survival of pollen, but the work at Crosby Warren near Dragonby (Holland 1996) shows the onset of major woodland clearance in the Late Iron Age and a Romano-British phase of further reduction in woodland, increasing cereal type pollen and ribwort plantain, suggesting an expanding arable and pastoral landscape. The landscape around Dragonby is not a match for Mount Pleasant but it does show an intensification of agriculture (mixed farming with a pastoral bias), that it is suggested might date to the later first and early second centuries AD. At Mount Pleasant and in the Nettleton/Rothwell area it is quite possible that little woodland remained by the Late Iron Age; clearance across the plateau areas of the Wolds is likely by that time with stands likely to have been largely restricted to the valleys and on the steeper slopes, although we have no pollen sequences that could support this suggestion.

The prehistoric samples from Nettleton only produced small quantities of charred plant remains, which were not of interpretable value. However, the recovery of spelt grain and glume bases in the Late Iron Age/early Roman period and in the Romano-British samples provides evidence for the use of spelt at the site from this period and throughout the Roman period.

Cereal crops (spelt and barley, and to a limited extent bread wheat) dominate the Roman assemblage, which reflects the repeated pattern of charring events involving cereal grain (most likely through parching or malting) at Mount Pleasant. With the exception of two samples, (9010) and (9666), only small quantities of cereal chaff were recovered in this assemblage. These latter samples do however suggest that some crop processing was being undertaken at the site in the early-mid-Roman period. Contemporary assemblages from Dragonby (van der Veen 1996) to the north-west and Barnetby le Wold (Snelling *et al.* 2002) a few kilometres to the north also show a dominance of spelt wheat and barley, although bread/club wheat is also recorded in very low numbers, as it is here in the early Roman deposits.

The weed/ wild taxa recovered with the cereal grain include weeds that are typically recovered with cereal crops in archaeobotanical assemblages. The presence of taxa such as sedge (*Carex* sp.) and common spike-rush/ slender spike-rush (*Eleocharis palustris/uniglumis*) may indicate that some of the area cultivated was damp, or possibly wet. The recovery of such taxa as heather (*Calluna vulgaris*) and heath (*Erica* sp.) indicate the presence of acid soils and areas of scrub/ heathland somewhere in the vicinity. The recovery of taxa typical of grassland such as self-heal (*Prunella vulgaris*), eyebright/bartsia (*Euphrasia* sp./*Odontities* sp.) and hoary/ ribwort plantain (*Plantago media/lanceolata*) is fairly limited. This seems likely to reflect the relatively poor chances of survival through charring of grassland species since the snails clearly indicate that the site was dominated by grassland taxa, and the cattle and sheep bones are evidence for extensive pastures. Finally, the recovery of heathland taxa in this assemblage might indicate their use in building materials (i.e. cob walls, heather or turf thatch or flooring materials) at the site, an inference perhaps supported by the fact that the local soils are calcareous and there would need to be a good reason for transporting heathland plants from any distance. There is also the possibility that some of these plants arrived in animal dung from areas away from the site where cattle and sheep were grazed, and the dung was subsequently used as fuel.

The limited data recovered from the samples and the hand collected animal bone also shows the animals that were exploited at the site. Sheep and cattle dominated the assemblages, with pigs an important, but less significant element. Chickens were kept for their eggs and meat but do not appear to have been particularly abundant. Several small birds may also have been food items, while the oyster shells and fish bones indicate trade beyond the resources of the site itself. The pastoral husbandry appears geared to generalized production exploiting all product areas although the flocks of sheep and their pastures would have been the most visible part. Some of the elderly cattle must have been used as draught animals, ploughing the arable, and there is a stronger pattern for meat production in the sheep assemblage than for wool. The living animals have a further role and it might be assumed that folding the sheep onto the arable fields to manure them was also carried out after the harvest and during periods of fallow.

It is clear that the two trenches that were excavated on the east side of the road have produced a greater density of economic environmental evidence, particularly in the form of charred crop remains, showing both crop processing activities and consumption, but also the possibility of malting for beer, and also animal bones. This tends to suggest a greater focus of activity or 'occupation' on this side of the Roman road, although it might merely reflect that the excavations on this side were located closer to the buildings and activity areas than were the trenches on the west side of the road (and that was indeed the aim in the location of Trench J). The bone assemblage from Roman deposits (ROM) in Trench I stands out from the remainder of the site, but although suggestions have been offered to explain this it is not clear whether this might be due to status differences, the character of the activities in this area, or possibly even date. With evidence among the cultural remains for trade with Lincoln in the Roman period we might assume the farmsteads at Mount Pleasant could have been supplying some of their produce to this market, but the evidence allows us to go no further than a mixed, largely subsistence, agricultural economy. This must surely have been supplying the more local population centres, but the lack of substantial middle and later Roman deposits in this assemblage might account for no clear 'commercialization' of the farming economy.

Finally the environmental samples have also suggested that iron smithing was undertaken on the site from the Late Iron Age and probably right through to the end of the Roman period, and this activity may have been undertaken at a number of locations around the site. The animal bone has given a brief glimpse of bone working, although this may have been merely at a domestic scale.

There have been very few significant recent excavations of Late Iron Age and Roman rural sites on the Wolds and this was a strong motivation behind the presently described fieldwork project. The area is less pressured by development, although arable farming is a major destructive force, and the lack of comparative data from what is quite a large geographical region makes it difficult to place the Mount Pleasant site within a broad regional picture. The recent excavations at Hatcliffe Top afford a second well excavated and sampled Romano-British settlement on the Wolds but if more information is to be collected it may require research excavations rather than those led by development. The Wolds must have been an important resource for the supply of agricultural produce to the centre at Lincoln, and other smaller centres of population. Palaeoenvironmental studies that allow some consideration of the vegetational history of the Wolds and changes to the regional landscape during the 1st millennia BC and AD are lacking, although some studies exist for the lowland areas surrounding them. The nature of environmental data is that small scale interventions rarely generate samples and assemblages that permit useful analysis and interpretation of the character of a settlement. The bone assemblage from Nettleton is itself marginal in this respect and without one or two larger projects the Wolds will remain a blank on the map for this aspect of archaeology.

7.4 Marine Shell

E. M. Somerville

7.4.1 Introduction

A small assemblage of oysters from excavations in East Field and Street Furlongs, and from fieldwalking in Street Furlongs, was analysed. The potential interest of the marine shell from this site relates to what it might reveal with respect to changes in diet and culture in the Roman era especially compared to the Iron Age (Willis 2007; Hill and Willis 2013) in an area of Britain from where hitherto few assemblages of marine shell have been archaeologically excavated and studied.

Not all the contexts containing shell could be phased. Given the fact that no prehistoric or transitional (i.e. LPRIA/first century) contexts contained evidence for the use of marine molluscs and the lack of later activity on the site, some residual material is included in this general Roman (unphased) grouping on the assumption they are most likely to derive from the Roman era. The shells from fieldwalking have been kept separate because of the possible impact of post-depositional processes. The majority of the excavated marine shell came from Trench J. Within that trench the early Roman phased shell came from ditch fills which predated the stone building (Building 2). The mid-Roman and late Roman shell came from contexts associated with this building and its likely replacement.

7.4.2 Methods

Shell from the site was already washed. The author's standard methods for post-excavation analysis were followed (e.g. Somerville and Bonell 2006). Shell was identified (cf. Fish and Fish 1989), sorted and weighed. The minimum number of individuals (MNI) for each context were calculated with the greater of the two numbers for sided whole valves plus sided umbos was taken, plus half (rounded down) of any unsided umbos. Where the species was only represented by fragments and/or a single unsided umbo, an MNI of 1 was given for the context. The MNI from each context was then summed for each phase. Some contexts were grouped prior to the MNI calculation where there was good reason to consider them to sample the same fill. The shell from fieldwalking was treated as a single context.

The maximum length (from umbo to opposite margin) and width (orthogonal to length) were measured. Whole oyster shells were systematically scored for a number of characteristics including age and extent to which the surface bore the marks of infestation by the polychaete worms *Polydora ciliata*, *P. hoplura* and the burrowing sponge *Cliona celata*. Presence/absence of these infesting species on sided umbos was noted. In addition both whole valves and sided umbos were inspected for the presence on the shell surface of any other epifauna, any damage to the shell by predatory molluscs (drillholes), and the presence of adhering shell. Valves were inspected for evidence for how the shell was opened, and for any indications of reuse of the shell by people (e.g. nailholes – cf. Holden 1963). Age at death of the shell was estimated by counting the growth lines at the umbo for both whole valves and sided umbos, and whole valves were also weighed individually. The presence of any distortion of the shell profile was also scored for both sided umbos and whole valves.

7.4.3 Results

1. Preservation and Distribution of Shell

With the exception of two fragments of whelk, one from *Buccinum undatum* (the *Common Whelk* which occurs widely around British shores) and the other from *Neptunea* sp both from general Roman (unphased) contexts, all the shell came from oysters (*Ostrea edulis*).

Tables 7.16 and 7.17 give the counts for the oyster shell, together with a calculation for meat weight from the MNI, following Winder (1992).

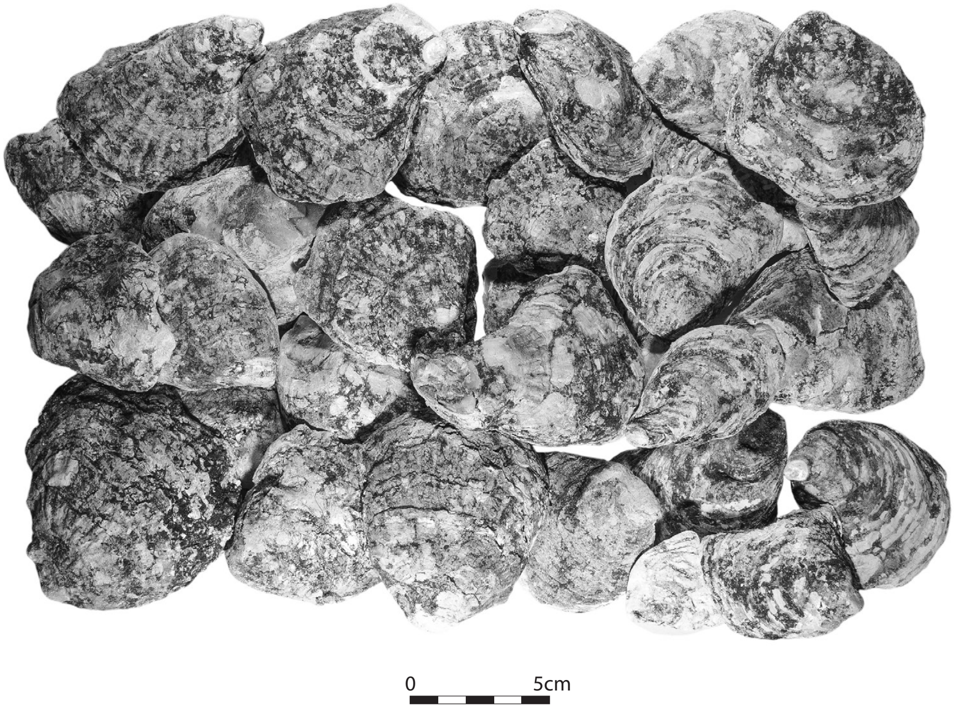


Figure 7.5 Oysters from Trench J, ditch fill context (9571). A number of these shells are 'chalky'.

The shell from a group of early Roman ditch-fill contexts was very "chalky" (cf. Korringa 1951) and, unfortunately, this meant that about half the whole valves and sided umbos for this period were adversely affected. The reason for this differential preservation is uncertain as contributing factors may include initial differences in the shells and differences in the depositional environment as well as interactions between these. Chalky shells are more difficult to evaluate for infestations and epifauna and often cannot be aged. It is also possible that more will be judged as incomplete, that is to say catalogued as umbos, because it was harder to see the pallial line.

Table 7.18 shows that the phased contexts tend to have a higher ratio of whole shells to umbos than the Roman group of contexts which includes residual material. As might be expected, the fieldwalking group had the lowest proportion of whole shell and thus the highest proportional weight of fragments (Table 7.18). However, there is no clear indication that the chalky nature of many of the early Roman contexts contributed to poorer survival of the shell in this group of contexts.

No evidence was found for any re-use of valves. The approximately equal number of right and left valves plus umbos in the larger groups and phases indicates similar disposal of both valves. Only one valve had a notch which indicated damage during opening.

2. Size and Growth of Oysters

The numbers of shells included in the following analyses are not identical because length was measured whenever possible, but this includes shells which were broken in a way which prevented a measurement of width. Not all whole valves and sided umbos could be aged, as shown in Table 7.20.

Statistical analysis (one-way ANOVA) of the phased contexts showed no significant difference between the phases for either left valves ($F_{2/15}$ = 1.05; p = 0.39) or right valves ($F_{2/17}$ = 1.32; p = 0.29). Obviously, given the very small size of the mid-Roman and late Roman sample compared to the early Roman sample, this result can only be taken as provisional and indicative. The plots (Figs 7.6 and 7.7) of shell length for whole left and right valves, respectively, for the entire excavated sample shows the different phases as well as the unphased shell. From this it can be seen that the modal shell length class is 7cm for both valves. There is a sharper lower boundary to the distribution for left valves.

Both the whole valves and the sided umbos were aged and this combined data is shown in Table 7.20. Statistical analysis (one-way ANOVA) again showed no significant difference between the phased deposits ($F_{2,75}$ = 0.77; p = 0.47), although this has to be taken with caution because of the very different sizes of the samples. However, for age, the distribution is more

*Table 7.16 Counts of valves, umbos and fragments (*Phase is used for excavated contexts which are given a period: ER – Early Roman; MR – Mid-Roman; LR – Late Roman. **Group is used for both the Roman (unphased) (R) contexts and for the shell collected during fieldwalking in St Furlongs (FW)).*

Phase* or Group**	Whole left valves	Whole right valves	Left umbos	Right umbos	Unsided umbos	Fragments	MNI
ER	13	11	33	27	18	79	57
MR	2	5	2	3	2	18	11
LR	3	4	9	4	8	18	17
R	5	9	22	18	21	79	49
Total excavated	23	29	66	52	49	194	134
FW	1	3	11	6	13	35	18

Table 7.17 Total Oyster shell from the different phases and groups.

Phase/Group	Weight of shell (g)	MNI	Meat weight (g)
Early Roman	1848	57	427.5
Mid-Roman	231.5	11	82.5
Late Roman	475.9	17	127.5
Roman (unphased)	1159	49	367.5
Total excavated	3714.4	134	1005
Fieldwalking	540.8	18	135

Table 7.18 Survival of shell from the different phases and groups. (Abbreviations for Phase/Group as for Table 7.16).

Phase or Group	No. whole shells	No. umbos	Ratio of whole shells: umbos	Weight whole shells (g)	% wt whole	Wt umbos (g)	% wt umbos	Wt frag (g)	% wt frags
ER	24	58	0.41	702.9	38.04	972.4	52.62	172.7	9.35
MR	7	7	1.0	136.2	58.83	77.8	33.61	17.5	7.56
LR	7	21	0.33	229.7	48.27	218	45.81	27.7	5.82
R	14	61	0.23	362.7	31.29	667.4	57.58	128.8	11.11
FW	4	30	0.13	77.9	14.41	351.9	65.07	111	20.53

Table 7.19. Summary of metrical data for whole valves.

Phase/Group	Number of Left valves	Mean length (cm) of Left valves (+/-s.d.)	Number of Right valves	Mean length (cm) of Right valves (+/-s.d.)
Early Roman	13	7.88 (+/- 0.65)	11	7.6 (+/- 1.52)
Mid-Roman	2	8.35 (+/- 1.20)	5	6.6 (+/- 1.05)
Late Roman	3	8.57 (+/- 1.32)	4	6.8 (+/- 0.36)
Roman (unphased)	5	7.66 (+/- 1.44)	9	7.4 (+/- 1.17)
Total excavated	23	7.97 (+/- 0.96)	29	7.25 (+/- 1.24)
Fieldwalking	1	8.5	3	6.4 (+/- 1.68)

interesting than the average as this can give some insight into the management and harvesting of the oysters and Figure 7.8 shows the excavated sample as a combined plot.

As might be expected from the results for length and for age, the growth of the oysters was similar in all phases and, in order to maximise the data presented here, the right and left valves from all the excavated samples have been plotted on a single graph (Fig. 7.9) which shows that there is linear growth asymptotes after about 6 years of age.

A similarly combined plot of valve age against valve weight (Fig. 7.10) shows that valve weight shows no such asymptote. The older left valves, in particular, can become markedly heavier with no apparent increase in linear dimensions, an effect shown clearly in the plot of shell length against weight (Fig. 7.11).

The shape of the shell may vary depending on the conditions under which the oysters grew. This was examined by dividing maximum length by maximum width and plotting the resulting measure for the excavated shell as a combined plot for right and left valves. The majority of the shells are close to a measure of 1, that is to say, approximately as wide as they are long. The actual shape of the shells varied between "round" i.e. maximum width at about the mid-point of length and "triangular" i.e. maximum width in the lower part of the shell (Table 7.21).

A further aspect of shell shape which was noted for both valves and umbos was the amount of distortion. This was an all-or-none judgement of whether there is any deviation of the shape from a smooth curve (left valves and umbos) or a flat shell (right valves and umbos). The results are shown in Table 7.21 as percentages. Due to the small numbers involved, the figure for the total excavated sample gives the best indication of the shape of the shells in this assemblage. Although the level of distortion is quite high, it was rarely severe, and most often confined to the region of the umbo for left valves. None of the shells showed the sort of distortions which could come from having grown on a gravelly bottom.

3. Infestation of Oysters

The amount of infestation by the three organisms which can damage the shell (*Polydora ciliata*, *P. hoplura* and *Cliona celata*) was very low, but this observation has to be tempered by the possibility that slight infestations of *P. ciliata* may not have been detectable when the shell surface was very chalky. Table 7.22 shows the degree of infestation on all whole valves from the site and Table 7.23 shows the infesting species noted and also other epifauna given as percentage of the valves plus umbos affected. The one severely affected shell was infested by *C. celata*. Overall *P. ciliata* is the predominant source of infestation and no traces were seen of the larger *P. hoplura*. With one exception, adhering shell was only observed on left valves or umbos. There were no conjoined shells. The absence of any sand-tubes or calcareous worms may be a result of the cleaning of the shell or the "chalky" surface condition of some of the valves and umbos.

7.4.4 Discussion

The small size of the assemblage makes it difficult to draw strong conclusions. Since there was no statistical difference between oysters from phased contexts, the entire excavated sample will be considered together when making comparison with other sites. The overall survival of the shell is good, and it is probably only the small size of the sample which made the occurrence of chalky shells in the early Roman contexts so noticeable. A certain amount of chalky deposit is normal within the shells of oysters (reviewed in MacDonald 2011), and in *O. edulis* this has been found to increase with size and age (Korringa 1951). However, what is encountered in the archaeological context is the exposure of such deposits as a result of pre- and/or post-depositional processes and consequently this condition of the shells cannot be used to infer anything about the extent of these chalky deposits in shells which have retained prismatic layers intact. This means that information about differences in the amount of chalky deposits in *Crassotrea gigas* from different habitats (Macdonald 2011) cannot be used to infer the origin of archaeological oysters.

The size of the oysters from the Mount Pleasant site average 7.25cm for right and 7.97cm for left valve length. This is very similar to the value given by Winder (1992) for the overall length average for oysters of 7.15cm for right valves and 8.04cm for left valves from a range of Roman sites in southern England. Data from Sussex sites show some variability with the large later first to early second century midden context at Fishbourne containing oysters whose right valves mean length was 7.8cm (Somerville and Bonell 2006), whilst the mid-first to late second century deposits at Chanctonbury, West Sussex, had mean values for the right valve length of 6.89 to 7.62cm (Somerville 2001). In contrast, the first century deposits at Faversham, Kent, contained somewhat smaller oysters with an average length of 6.4cm for the right valves (Somerville 1995). From the east coast Winder (1992) gives values for Roman period oysters in terms of the maximum diameter of the left valve, which would be close to

Table 7.20 Summary of aging data for whole valves and umbos combined.

Phase/Group	Total No. of shells (valves + umbos)	Mean age (yrs) (+/- s.d.)	Minimum age	Maximum age	No. of unaged shells
Early Roman	80	7.18 (+/- 3.30)	2	18	24
Mid-Roman	13	5.86 (+/- 2.85)	3	11	6
Late Roman	20	6.40 (+/- 2.85)	3	14	5
Roman (unphased)	54	6.34 (+/- 2.20)	3	12	16
Total excavated	167	6.72 (+/- 2.89)	2	18	51
Fieldwalking	21	5.88 (+/- 2.52)	2	13	4

*Table 7.21 Shell shape. (*The single left valve was broken at the side so that width, and location of maximum width could not be determined).*

Phase/Group	Left valves % triangular	Left valves % distorted	Right valves % triangular	Right valves % distorted	Left umbos % distorted	Right umbos % distorted
Early Roman	54.5	61.5	60	72.7	50	52
Mid-Roman	50	50	66.7	40	50	75
Late Roman	33.3	33.3	66.7	100	44.4	25
Roman (unphased)	100	0	87.7	44.74	50	33.3
Total excavated	55.6	43.5	68.2	62.1	49.2	45.1
Fieldwalking	n/a*	0	50	33.3	44.4	50

Table 7.22 Infestation of whole valves (right and left combined).

Phase/Group	No. infestation	Infestation class 1 (trace)	Infestation class 2 (Up to 1/3 shell affected)	Infestation class 3 (Between 1/3 and 2/3 shell affected)	Infestation class 4 (More than 2/3 of shell affected)	Infestation class 5 (Severe – shell classed as "rottenback")
Early Roman	21	3				
Mid-Roman	4	2		1		
Late Roman	6			1		
Roman (unphased)	10	3				1
Total excavated	44	5		2		1
Fieldwalking	3		1			

Table 7.23 Incidence of infesting and encrusting organisms (valves and umbos combined) by phase.

Phase	P. ciliata	P. hoplura	C. celata	Adhering shell	Barnacles	Bryozoa	Drill-holes
Early Roman	11.9%	-	3.6%	8.3%	2.4%	-	-
Mid-Roman	33.3%	-	-	-	8.3%	-	-
Late Roman	10%	-	-	10%	-	5%	5%
Roman (unphased)	18.5%	-	3.7%	1.9%	-	-	1.9%
Total excavated	15.3%	-	2.9%	5.9%	1.8%	0.6%	1.2%
Fieldwalking	33.3%	-	-	-	-	-	4.8%

the length as measured here. The values for two samples from Colchester are 8.03 and 8.13cm and for North Shoebury, 8.11 and 7.97cm. Monckton (1995) describes Roman period oysters from Leicester as being similar to those from Essex and larger than medieval period oysters. The mid-first century site at Redcliff-North Ferriby, on the north bank of the Humber, had oysters with mean lengths of 7.33cm for right and 8.31cm for left valves (Somerville forthcoming). Unfortunately no metrical data is given for the large sample of Roman-British oysters from Dragonby, North Lincolnshire (Alvey 1996). In conclusion, the sample of oysters from Mount Pleasant, are close to the average for Roman Britain, but are smaller than the oysters of this date from Essex. They are similar in size to the oysters from Redcliff-North Ferriby.

The modal age for the oysters from Mount Pleasant is 5 to 6 years, which might imply that they are growing somewhat more slowly than modern farmed oysters (Walne 1974) and the long tail on the distribution (Fig. 7.8) also implies that this is a wild population which was being exploited rather than a managed stock. The modal age at Mount Pleasant is higher than that for Redcliff, where the overall modal age was 3-4 years (Somerville forthcoming). However, it is closer to the reported average age for Dragonby of 4-5 years (Alvey 1996). Valve weights also show a tail of higher values which relate to the presence of older oysters.

The infestation on the oysters is dominated by *P. ciliata*, with no evidence of *P. hoplura* and only traces of *C. celata*, although that did include the most heavily infested whole valve and similar heavy infestation was seen on a few fragments of shell. Infestation measured as incidence allows the use of sided umbos as well as whole valves, but can give an inflated impression of the seriousness of the infestation, which is shown more accurately, albeit for a smaller sample by the data on whole valves for infestation class. Comparison to other sites again shows that the Mount Pleasant oysters are quite typical for the Roman period. The oysters from Fishbourne show quite variable amounts in incidence of infestation ranging from overall averages of 18% to 34.3% for *P. ciliata*, whilst *C. celata* is only 1.7% to 5.0% (Somerville and Bonell 2003; 2006), although the majority of whole valves are only lightly affected. Incidence rates at Chanctonbury are higher with an overall average of 50.1% for *P. ciliata* and 3.03% for *C. celata*, although the extent of infestation was light on individual valves (Somerville 2001). Both of these south-coast sites also had infestation from *P. hoplura*. The oysters from Redcliff (Somerville forthcoming) had a combination of low amounts of infestation on individual valves, but high incidence of infestation of *P. ciliata* in the three main phases (63.3-71.8%) together with low levels of *C celata* (1.1-3.7%), and some traces of *P. hoplura* which was not found at Mount Pleasant. Alvey (1996) reports that 17.75% of the valves showed infestation, although this is then somewhat confusingly described as both large and small. The small borings would match *P. ciliata*, but the larger borings could be either *C. celata* or *P. hoplura*. Neither of these would be expected to be common; *C. celata*, because that is the general pattern for Roman oysters in Britain, and *P. hoplura*, because it is reported as rarely seen on East Coast oysters (Winder 1992). Overall then, the pattern of infestation seen on the small sample from Mount Pleasant matches the pattern of infestation at Redcliff in the dominance of *P. ciliata*. The amount of infestation by *P. ciliata* is lower than that found at Redcliff, which may imply different sources for, or different selection of, oysters. The presence of *P. ciliata* is commensurate with collection from relatively shallow water (Cole, 1956; Smith, 1987; Winder, 1992).

The shape of the oysters from Mount Pleasant (Fig. 7.12) is in accord with a population which is not forming a reef, and this is corroborated by the lack of conjoined shells, and the low level of adhering shell. The amount of distortion, none of which was severe, is commensurate with hard rather than soft ground, although there was no evidence for a gravelly bottom from inspection of the shells. Accordingly, the most likely source would be areas of firm substrate.

7.4.5 Conclusion

The oysters from Mount Pleasant, Nettleton/Rothwell, are typical Roman oysters in terms of size and level of infestation. They probably came from a bed growing in shallow water. The coast near the Humber is well within the current distribution of *O. edulis* (Seaward 1982). The oysters could have been brought to Mount Pleasant from the Humber estuary either by the Roman equivalent of Caistor High Street or directly from the east coast. Since transport is involved, it might be expected that some selection took place of the oysters, and this is possibly hinted at in the abrupt lower boundary to the size of the larger left valves. It is also possible that there might have been selection against more seriously infested shells in case of breakage during transport. There does not seem to have been strong selection against oysters which were heavier than would be expected for their size.

Oysters are often associated with a change to a 'Roman diet' in Britain, but they are not completely absent from Iron Age sites (Willis 2007; Hill and Willis

2013) although, in general, the exploitation of marine and aquatic resources during that era in England was not extensive (Jay and Richards 2007; Dobney and Ervynck 2007). The rapidity and extent with which oysters do appear on Romano-British sites is notable, and that seems to be the case at Dragonby (Alvey 1996). Mount Pleasant fits in with this general scenario in terms of the presence of oysters in Roman layers, together with the lack of any examples from Iron Age or transitional Iron-Age/Roman deposits of the first century AD, thus indicating a change in choices and practice, reflecting that seen at other sites spanning the Iron Age and Roman eras. The early Roman phase covers a period up to the third and possibly fourth quarter of the second century, so it is difficult to say how rapidly oysters were adopted on this site.

The possibility of a Romano-British temple at Mount Pleasant makes the comparison with Chanctonbury particularly interesting, since it is a known temple site (cf. above). In contrast to the examination of the oysters from that site the analysis here has not included any spatial dimension, beyond noting the differences between the phases, since there were few find-spots and these may be insufficient to provide a meaningful picture; the incidence of oysters is shown in Fig. 7.13. At Chanctonbury the oysters found outside the two temple areas were significantly larger than those found inside, but were also noted as having marginally more infestation (Somerville 2001).

An interesting comparison to make at Mount Pleasant is between the oysters and the composition of the animal bone assemblage. Animal bone assemblages often show marked cultural shifts during the Roman era (Allen and Sykes 2011), and Rackham points to this in the case of the present site (cf. above Section 7.2). Yet whilst the shift may include the occasional incorporation of wild or managed oysters into diet it did not extend to a marked embracing of fish or hunted resources (Jones 1996); neither here nor at Dragonby in the Roman-British period was there a detectable increase in the numbers of wild animal bones present (Harman 1996).

Whilst oysters were a common part of the Roman military diet (Davies 1971), the location of Mount Pleasant makes a direct influence of military custom unlikely as there are no early military sites nearby (Whitwell 2001), unless the settlement itself included veterans.

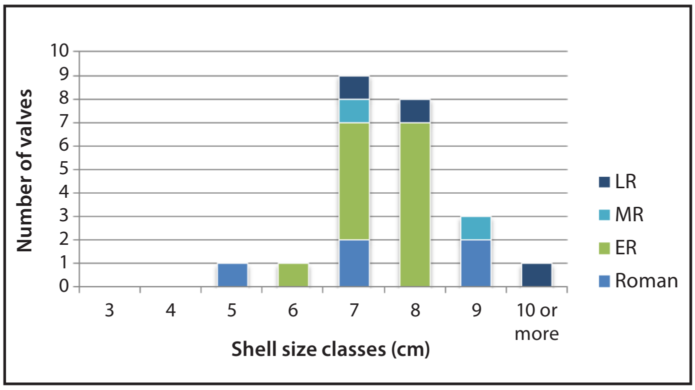


Figure 7.6 Distribution of shell length for whole left valves (phase abbreviations as for Table 7.16).

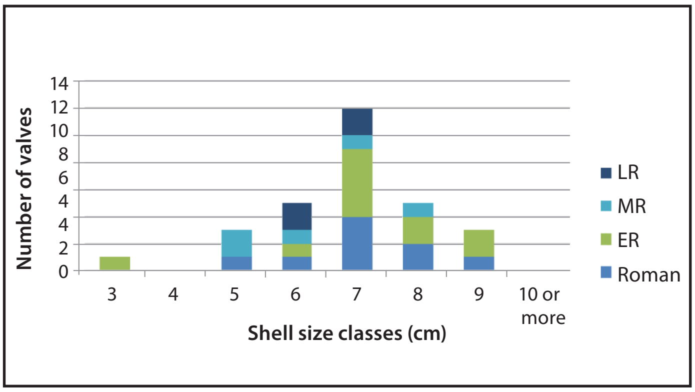


Figure 7.7 Distribution of shell length for whole right valves (phase abbreviations as for Table 7.16).

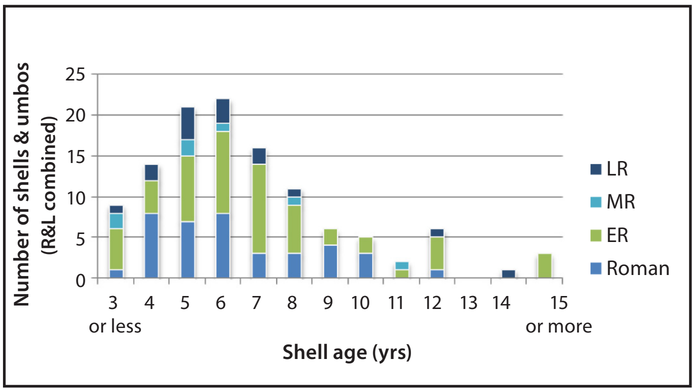


Figure 7.8 Distribution of ages of oysters (phase abbreviations as for Table 7.16).

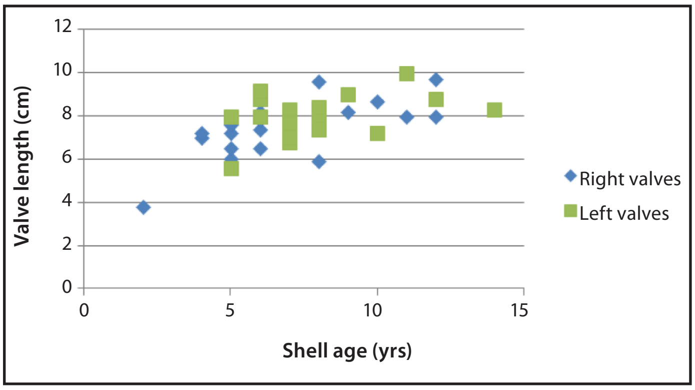


Figure 7.9 Growth of oysters as analysed by the increase in valve length with age; all excavated samples combined.

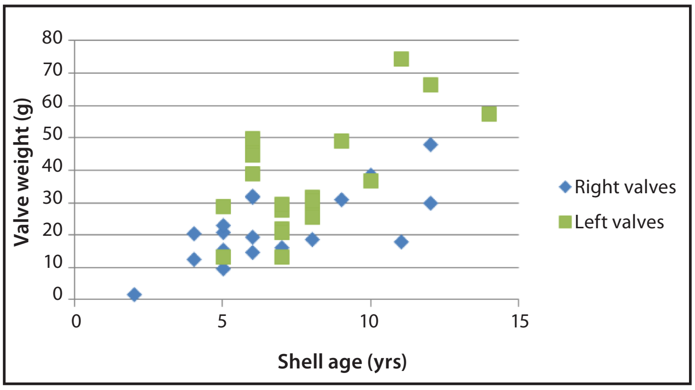


Figure 7.10 Growth of oysters as analysed by the increase in valve weight with age; all excavated samples combined.

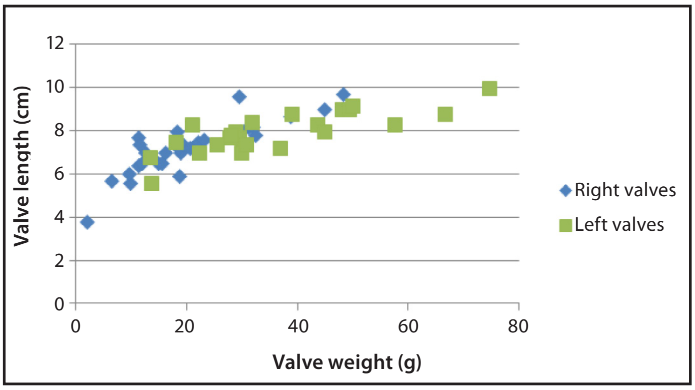


Figure 7.11 Growth of oysters as analysed by plotting valve length against valve weight; all excavated samples combined.

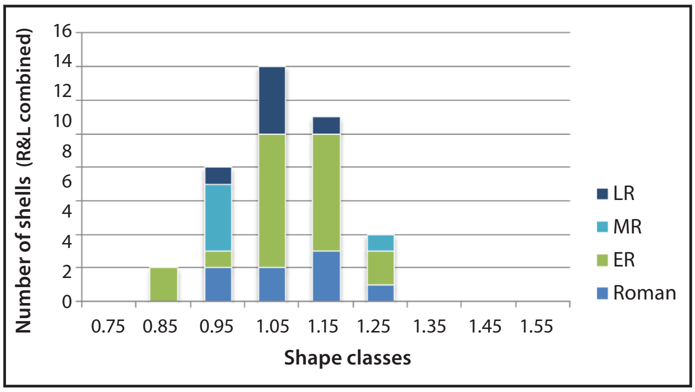


Figure 7.12 Analysis of the shape of the whole valves, left and right combined (phase abbreviations as for Table 7.16).

Chapter 8

Surface Survey of Sites of the Roman Era on the Lincolnshire Wolds

Steven Willis

8.1 Site Excavation and Landscape Survey: Partners or Rare Acquaintances?

In our endeavours to understand the use of past landscapes we are confronted with a series of dilemmas and challenges: what scale of study will provide answers to the questions we ask? If looking at one scale are we missing another? Should we seek to characterize generally over broad areas or concentrate on detailed intensive studies or indeed endeavour to combine both, all be that selectively? How do we devise and implement appropriate sampling strategies? It is often observed that an archaeological excavation provides a great deal of information on a point in the landscape – often a very small point - while survey provides perspective from identifying sites and concentrations of activity but through traces that lack the qualitative richness and validity provided by stratified remains. What can the results of excavation mean if there is limited comparative data available? What veracity do the data from surface survey have without concerted 'ground truthing'? Often it is not possible to combine excavation and wider landscape survey into a single project unless that is one conducted over several seasons or is a major infrastructure project where a swath of landscape is stripped and sampled (Williams 2003; Clotuche 2009). The archaeological method is about sampling and is practiced in a way that aims to consider biases and to calibrate findings in terms of the evidence types collected, be they from excavations or other means. Archaeological investigation is typically undertaken in circumstances not of our own choosing: in other words the studies have to fit in with many other variables; access, post-depositional processes, resources available, etc. Hence careful planning and targeting in project design are vital, allied with a consistent methodology especially when study in the field is long term.

This chapter presents some results of the ten year developing fieldwork project beyond the Mount Pleasant site in an area hardly touched by previous archaeological studies or development, but which is subject to modern 'industrial farming' (Section 1.12), and discusses the limits and possibilities this creates for archaeological investigation. The focus is on the evidence for settlement and activity in the Roman era and the application of differing means of data gathering through survey and excavation. Evidence from excavation, study of aerial photos, geophysical survey and intensive fieldwalking is explored which reveals levels of spatial patterning relating to site morphology and placement in the landscape. The results of analysis to date provide some clear patterns and answers for the region. Methodological and procedural aspects raised are also discussed.

8.2 Development and Aims of the Survey

Study of other sites of Roman date from the wider area has been by means of surface surveys as the Project has gathered data on settlement and economy in the area around Mount Pleasant. This survey is ongoing and is generating a matrix of data from a number of sites. This will be written up in turn more fully in volume 2 of this Project. One of the strands of this study examines the specifics in location of the sites. Another deals with their character as revealed by their (i) morphological elements, as shown by aerial photography and geophysical survey and (ii) via the types of material evidence recovered from surface collections (such as pottery, quern fragments, nails, recorded finds, oyster shell, etc.). This chapter attends more to the first of these strands (the second will be covered in detail in volume 2). Some clear trends emerge from the recovered finds evidence and from the spatial and topographic setting of the sites and these findings contribute to a broader discussion. Aspects of survey methodology are also considered.

The site examined in the present volume can only be properly characterized through reference to other sites in southern and eastern England and with those in its surrounding landscape. Whilst for some parts of the East Midlands in some periods the existing knowledge is strong, for others this is not so and these are identified in the major review documents as requiring more research input in present and future work (Cooper 2006; Taylor 2006, 146, 157-8; Knight *et al.* 2012). One of the themes mentioned at various points in this publication, and a driver of these studies is the limited degree of archaeological investigation of the Lincolnshire Wolds and its hinterland, particularly with regard to later prehistory and the Roman era. This has been recognized as the case for some years. When early in 1998 I first approached the then County Archaeologist, Steve Catney, with the idea of developing a landscape survey project in the area, this need to address the gap in knowledge was a primary motivation. The proposal was to undertake a study focused on surface survey; we agreed that was a priority but he felt the examination of the Mount Pleasant site through selective evaluation excavations and ploughsoil studies was more urgent. The prospect of researching the wider landscape was then on hold as the work at Mount Pleasant became the primary focus. Excavation at Trench J was expected to be the final trench and with the development of work at that trench in its earlier two seasons (2002-3) the nature of the outlook altered. The need to gather information on other sites in the vicinity was acute; surface scatters were known from reporting by local researchers and enthusiasts (cf. Chapter 1), and some sites or likely sites of Iron Age and/or Roman date were known or suggested by the aerial photographic studies of Dilwyn Jones (1988; 1989; 1998a; 1998b) but there was an absence of concerted study of any sites. No excavations of Iron Age sites have been conducted within tens of kilometres of Mount Pleasant bar the examination of the site at Otby Top as part of the present Project (see below, this Chapter). Sites of Roman date are somewhat better known but for Market Rasen the evidence is not published, in the case of Ludford excavation has been very small scale (cf. Section 1.9), while the villa sites at Kirmond le Mire and Walesby are only known by exposure of a mosaic and by older trenching respectively (see below, this Chapter) and as we have seen there has been little work exploring Roman Caistor (Section 1.9.1). The landscape transect study by Sheffield University concentrated on lithic collections and the Neolithic with little identification/collection of later material (Phillips 1989). The reconnaissance in advance of the Skitter Hatton pipeline along its course through the central Wolds identified some likely sites and surface scatters but did not involve concerted investigative study (Bonner and Griffiths 1994).

The work at Mount Pleasant in 2002-3 happened not to involve a student training element but was conducted with the assistance of local volunteers and community members. They were keen to undertake archaeological work at other times of the year, not just in the late summer when good weather, harvest and University vacations coincide to facilitate student training excavation and were keen and available to undertake fieldwalking through the autumn, winter and spring months, and able even to suggest suitable target sites! Thus for eleven consecutive years from 2003 the Project has included field survey work, not least via fieldwalking (see Table 2.1). One of the first aims was to undertake gridded fieldwalking in Street Furlongs since as noted above (Chapter 3) no survey work of any type had been available or possible prior to the opening of Trenches I and J. At Easter 2004 the first tranche of fieldwalking was undertaken in Street Furlongs.

8.3 The Existing Record

Notes and records of Lincolnshire's Iron Age and Roman sites, as well as of find-spots of Iron Age and Roman items, are comprehensive for an historic county that is large, and which was seemingly comparatively populous at this time. Publications in the 1960s, 1970s and 1980s placed much basic information on 'finds' readily in the public domain (for instance in the periodicals: *Lincolnshire Architectural and Archaeological Society Reports and Papers*, *Lincolnshire History and Archaeology, The East Midlands Archaeological Bulletin,* together with general studies such as Todd 1973; 1991; Whitwell 1970; 1982; 1992). Those decades saw a commitment to collecting and archiving finds records that, whilst not unique to the county at the time was something not invariably seen elsewhere, and formed a sound basis for the present HER. These records were an amalgam of chance discoveries and observations (many the result of agricultural practice) and reports of past finds, together with some purposeful archaeological fieldwork. Latterly the amount of information recovered via developer funded contact archaeology and metal detecting and in turn the Portable Antiquities Scheme (encouraging the reporting of detected and other finds) together with fieldwalking programmes in some parts of the historic county (e.g. Hayes and Lane 1992; Leahy 2007b), has resulted in an explosion of new information and recorded finds-spots. So much of this new data though is, for this county, as elsewhere, little synthesized. In Lincolnshire commercial excavations have tended to be small scale, in contrast to the picture in adjacent Cambridgeshire, and parts of Northamptonshire and Nottinghamshire. In sum existing sites and finds records for the county are a fairly strong resource and may be used for discerning sites and for targeting fieldwork in order to verify the nature of say surface ceramic scatters.

The Lincolnshire Wolds in particular have been little explored archaeologically, though their potential for study and evidence recovery is high (see Chapter 1). In recent decades, as elsewhere across much of Lincolnshire, metal detecting has been undertaken as a popular past time and has led to the discovery of what is likely to be (in sum) a vast amount of metalwork and coinage particularly of Iron Age and Roman date from the Lincolnshire Wolds. A large proportion of these finds are now being documented via the Portable Antiquities Scheme. Systematic archaeological work on the Wolds has been rare and limited to monitoring and small-scale excavation in advance of the pipeline routes and small building developments, together with countryside stewardship assessments. This lack of study arises from the comparative absence of modern settlement on the Wolds and the largely agricultural use of the land. In the late 20th and early 21st centuries localized development has occurred elsewhere, off the Wolds, as around Market Rasen. There has also been an absence of research interest in the region, both historically and through recent times.

Aerial reconnaissance and mapping of aerial photography (AP) data was conducted systematically by the Royal Commission for Historic Monuments of England, including an intensive study as part of the National Mapping Programme initiative of the 1990s (Jones 1988; 1998a; 1998b; Bewley 1998a). Lincolnshire's geology and associated soils have proved conducive to the generation of cropmarks. In consequence there exists a fairly strong record of aerially detected cropmarks for prehistoric, Roman, medieval and post medieval sites and land use. Specific projects have targeted parts of the county via intensive air reconnaissance and mapping of cropmark and soil mark sites, including the Wolds (Jones 1988; 1998a; 1998b). The Wolds give rise to cropmarks in suitable conditions, and the detected record to date for some parts compares well numerically with that for other landscapes in the region (Jones 1988, 10; Bewley 1998b, fig. 3; Kershaw 1998, fig. 3; Taylor 2007, fig. 6.2).

Overall, expansion of knowledge of the archaeology of Lincolnshire and the Wolds specifically has not matched that seen for other parts of England, including much of the East Midlands (cf. May 1976, xv; Jones 1988, 19). Whilst the Wolds and surrounding areas have yielded many Iron Age and Roman finds from metal detecting, very few sites are known for the Roman period in any detail and sites identified by AP await 'ground truthing'. Prof. Todd's map showing villas in the East Midlands identifies only four for the area (1991, fig. 25), all from the western side of the Wolds, none of which are the subject of modern investigation or publication, while his map 'Rural settlements noted in the text' shows, astonishingly, that no sites are mentioned at all for central and eastern Lincolnshire which appear as a complete blank (1991, fig. 36), a reflection of the lack of quality information. His plots are of course now somewhat out of date but are indicative of the ongoing general pattern of very limited investigation of the region's archaeology (Taylor 2007, fig. 3.5).

8.4 The Survey: Questions and Methods

With next to no excavated and published sites of the Iron Age and Roman era from the Wolds or the adjacent areas to draw upon, there was little available evidence by which to address the question as to how representative the Mount Pleasant site was within the surrounding milieu. It was decided the project needed to generate its own data via survey to address these questions by searching for other sites in the hinterland of the site, establish their placement in the landscape and gather surface material as a sample. This began in late 2003. The aim of this survey has therefore been to assess the cultural material present in order to date and characterize such sites and thereby contextualize both these sites and the site of the original excavations. A key element of the survey is fieldwalking.

The survey has aimed to recover artefactual material (pottery, ceramic building material, quern fragments, metalwork (including coins) etc.) in order to locate sites of the period, and with which to date them and learn something of their status and economy. Where other information, particularly AP data exist this can be used too, combined with the survey, to consider site morphology. Given the paucity of existing data establishing this 'base line' has seemed apt.

8.5 Methodology Outlined

How might these aims be met? Key questions were what scale of study should be undertaken and its area, and what type of study: extensive versus intensive. Extensive meaning here a broad coverage by survey with the main purpose of essentially locating sites across a landscape and recording overall distribution (cf. Fasham *et al*. 1980, 2-3); this might be conducted by traditional line walking (cf. Fasham *et al*. 1980, 3-8). It is a method that should ensure a degree of representativeness in locating past sites and is perhaps most suitable in areas where there is little in the way of existing records of potential sites and activity areas. Initiating a programme of fieldwalking organized via parishes, or transects, can be apt when such 'site prospection' is to the fore. This means was undertaken for the surveys of East Hampshire, the Raunds area, County Durham and the more recent Cambrésis survey, projects which looked to find sites over broad landscapes (cf. Shennan 1985; Parry 2006; Haselgrove *et al*. 1988; Deru 2011; 2012). Intensive study, on the other hand, here means concentrated survey via some form of gridded or very close interval fieldwalking, to map the detail and distribution of surface finds at sites, normally when sites are already known of or suspected (cf. Fasham *et al*. 1980, 6-8). We are of course interested in both wide extensive studies that locate activity areas and sites in 'uncharted' areas *and* also the extent of sites and scatters and their character, and in maximizing systematically collected material in order to better understand the sites. In some surveys where the incidence of sites is little known the method is to undertake line walking of arable fields to locate sites (enabling extensive coverage) and then when a concentration is located to, in selected cases, undertake an 'intensive pick-up' over the concentration or to undertake gridded walking. A major consideration in the approach adopted relates to the resources available: access to the field, number of walkers, time, project priorities, and so forth. The more intense the survey via fieldwalking the more labour, planning and recording are required, hence cost-effectiveness in undertakings has to be weighed. The germane question therefore for this Project in planning the type of survey was whether the main priority was to establish the distribution and density of sites in a given area by searching systematically and locating new sites, or to concentrate on detailed survey of known or suspected sites. Of relevance here are two specific projects which illustrate the nature of approaches and an observation on recent trends. Firstly, Haselgrove's long term examination of the Aisne Valley in southern Picardy, begun in the early 1980s, which at the outset combined on the one hand examination of cropmark sites via intensive gridded fieldwalking with, on the other, extensive survey via transects spaced along the valley where line walking was undertaken to locate sites of all dates (e.g. Haselgrove 1984; 1985; Haselgrove *et al.* 1991; in some cases excavation followed on from the identification of the sites/activity foci by surface collection, as at Soupir, Le Parc and Beaurieux, Les Grèves (e.g. Haselgrove and Lowther 2005)). Second, in the case of the extensive brickwork-plan field-systems with enclosures and settlements in Nottinghamshire, known from APs since the 1970s, Garton instituted a system of 10m interval line walking to gather data on this otherwise little explored Romano-British landscape, between 1984 and 1991, *because* her project was dealing with such an expansive set of identified sites (Garton 2008). Finally, broad area fieldwalking projects have become less common in recent years; looking back their heyday might be seen to cover 1975-95 (cf. Taylor 2006, 139). They have not disappeared but are less often conducted, perhaps due to: (i) the fact that they are now unlikely to be undertaken by archaeological contract units who typically work to strict schedules in precise locations (not landscapes), (ii) the scale of sustained commitment needed, and where funds for such work from central sources have dried up, and (iii) perhaps also as they are less fashionable academically (spatial and quantitative studies are less to the fore in the era of post-processualism, while much, presently popular landscape study focuses on the rewarding possibilities offered by GIS and digital platforms which are rather desk based – though are an harmonious medium for traditional processual/empirical data such as surface surveys give rise to). Be this as it may fieldwalking has generated a large literature dealing with methodological potentials and possible pit-falls and limitations, and so awareness of the consequences of the means adopted is sophisticated (e.g. Jones 2006).

Since the general aim was to map the incidence of sites of the period across the landscape and place the excavated site at Mount Pleasant in context, the first step was to establish what was already known and what data were available for study. To this purpose there were several means of locating sites and securing information for the area:
(i) consulting the Local Authority records: in this case the Historic Environment Record (formerly the Sites

and Monuments Record) held by LCC (cf. LCC 2010)
(ii) consultation and employment of plotted AP information via purchase of tile plots from English Heritage
(iii) engaging local knowledge of the occurrence of surface finds
(iv) undertaking area prospection in order to locate *new* sites and activity areas
(v) undertaking site and activity area prospection in order to establish the date and character of material and/or remains at points where *some* information was already known. (Records of this type are very often partial or relate to one dimension of information: such as a note of a pottery/ceramic scatter, or limited AP information)

At the outset it was decided that since a number of sites of likely Roman and potentially Iron Age date were to some extent known or suspected in the vicinity, the issue was not one of 'finding sites' and that a targeted, intensive approach would be adopted. This would be preferable in this case to initiating a programme of fieldwalking organized via parishes, or transects; whilst this strategy would have its merits such an activity would be time-consuming, with uncertain outcomes (cf. Allen *et al*. 2010). The thinking was that this chosen approach would facilitate the recovery of quality data on Iron Age and Roman period occupation in the project area. Hence it was decided to conduct intensive walking using a 10m by 10m square gridded basis over and around known or suspected sites with total coverage walking/surface recovery within each square. Such a method constitutes a considerable investment of time, a factor which firmly limits the spatial extent of such work, and cannot be entertained for this reason within a number of survey designs (Parry 2006, 7). Even this level of intensive survey is not of course particularly refined and is a compromise. Some sites were examined by 5m by 5m square units during the Raunds survey (Parry 2006) but with rural sites of the Roman era this probably does not lead to a greater definition of occupation chronology, though can contribute to finer spatial definition, though there remains the question of the extent to which the surface finds (perhaps themselves only 2% of the pottery in the ploughsoil zone) reflect actual sub-ploughsoil zone archaeology *in situ* or 'ploughed-out' (Hinchliffe and Schadla-Hall 1980; Schiffer 1987). At Piercebridge, County Durham, a similar gridded system was adopted for the 2003 survey of Tofts Field in the area of the northern *vicus*. This consisted again of 5m by 5m squares; this 'high resolution' approach was apt given the likely density of former buildings, occupation features and activity zones at this military-civil complex (which could be deduced from AP evidence and existing – though less systematic - knowledge) on a major Roman road. It was also feasible given the finite spatial parameters of this site (Hingley and Rogers 2008).

The broad extensive survey might provide the archaeologist with a more systematic and objective means of site prospection and detection, however, it can be massively labour intensive/ time consuming (especially in terms of ratio of time input to sites discovered) and necessitates at least several seasons to maximize coverage. Targeting the 'known' or 'likely' sites would meet the project aims and given the limits of time would be cost-effective. By focusing on these locations it is true that the questions arise: how are these sites 'known'; is there a bias in how they came to be known; by focusing on a sample of known sites what might be being missed in the wider landscape? These are inherent matters for archaeological projects to weigh. A consideration here is Jones' observation based on the air photographic evidence that the density of cropmark sites attributable to the Roman period on the Wolds is not high suggesting a: "sparsely populated landscape [and a] dispersed pattern of settlement" (1998b, 69). The number of sites recorded from AP evidence for the Wolds is comparatively good, but doubtless many sites have also not shown via cropmarks (see 8.7.3). Jones notes that some in the valleys may be masked by subsequent occupation and practice (1998b, 69). Far fewer sites have been identified on the eastern half of the Wolds, though why is not known (Jones 1988, 21). Overall the implication follows that extensive fieldwalking survey might not locate many new sites, though this must not be assumed.

Jones noted that some areas have produced high concentrations of sites and he gave two examples, one indeed being: "the western edge of the Wolds between Ludford and Caistor" (1998b, 69), this in fact being the vicinity of the Mount Pleasant site, and which has become the area most closely examined by survey for this project. The adjacent strip of landscape below this scarp also has a high concentration of Roman period sites. This area may have been a productive 'hotspot' for a range of commodities (iron extraction, quern production, pottery manufacture and logging, as well as agriculture (Swan 1984, 49; Whitwell 1982, 66; cf. Visser 2010)). Pottery was manufactured in the middle and later Roman periods along this edge between Market Rasen and Caistor and proportions were evidently consumed in comparatively large quantity locally (though as Leary notes above (6.1) there is a surprising East Midland source diversity within the assemblage from Mount Pleasant). This ease of access to pottery and its 'turnover' in use perhaps means that sites lying close to the sources are likely to have consumed more ceramics and thence leave a more readily detectable signature in surface sherd scatters. Thus both pottery and cropmarks assist in locating sites of the period. Widespread arable cultivation hereabouts has inexorably brought to the surface previously buried artefacts which have then been noted by eye. These locations could therefore be targeted via fieldwalking. Field availability and access were amongst key determinants affecting the collection of fieldwalked samples for this Project.

8.6 The Fieldwalking: the Significance of Circumstances in Shaping the Work

A range of factors determined the possibility of accessing land in order to undertake fieldwalking. Primary considerations and requirements involved assessment of appropriate land to survey (arable fields in suitable areas), while the collecting team personal had to be on hand. The land needed to be available and in a suitable condition for collection. Permissions to undertake the walking needed to be granted by the farmer and landowner, by the local civil authority and in some cases too by Natural England (responsible for Stewardship arrangements). In one case permission was withheld where the estate in question had a rule of not allowing archaeologists on their land (perhaps to avoid visits by metal detector users and/or because there were game birds being raised (with associated shoots); this was in Kirmond le Mire parish where the estate contains an evident Iron Age and/or Roman enclosure complex, probably representing a farmstead, clearly discerned from AP (see Fig. 9.5, site 3, at North Top). In recent years the gap between harvest, ploughing and drilling has shortened, not least on the Wolds where often harvest of barley (or wheat) might occur in late August and then drilling occurs by mid or late September with winter barley or wheat, before ploughed soils have weathered towards an optimum for the observation and collection of surface finds by the archaeologist. Damp warmer autumns in recent years have resulted in quick germination and early growth such that the crop is too far advanced to enable fieldwalking by late October (as was the case, for instance, with the Walesby Top and Swinhope sites (see below) and sites near Rectory Farm, Thoresway (Thoresway parish), and Kirmond Top, by the High Street (Ludford parish), in October 2005). Ideal, from a fieldwalking point of view, are arable fields where the soils have been harrowed or disced and then left to weather for weeks with the action of rain, etc. to reveal sherds and other finds. Often though if fields are free of crops and ploughed this is coarse ploughing and unsuitable for walking. Sowing winter cereals as opposed to spring sowing is not invariable, though very common presently in this landscape. Often though when a field is to be sown in the spring it is left with standing stubble over winter and is not ploughed till the spring (standing stubble, for instance, was present with the Otby Top north-east field (see below) and at the sites near North Top, near Stainton le Vale, (Kirmond le Mire parish; Jones 1988, 25) and Swinhope Hill, north of Binbrook (the location of a notable enclosure with apparent roundhouse within of Iron Age and/or Roman date (Jones 1988, 20, fig. 11; 1998b, 75, fig. 9), in October 2005)). Then, in the spring, ploughing, sowing and germination can occur in rapid sequence, meaning there is only then a narrow time slice of availability for fieldwalking, in non-ideal circumstances. Further, some crops are harvested later, in the early autumn, such as potatoes. Two other recent changes in practice are significant: direct drilling (i.e. sowing of seeds without any ploughing of the land with its standing stubble from the previous crop), and shallow ploughing. Both the latter are designed to reduce carbon emissions and high fuel costs associated with working tractors but mean that turned, disced and weathered soils that are recommended as ideal for fieldwalking and surface collection may be increasingly rare. Hence the opportunity for undertaking fieldwalking is more limited than ever these days, more so than one might anticipate. Survey planning needs to possess the *savoir-faire* of these new circumstances; the window of fieldwalking opportunity may often now be 3-4 week periods either in late September-early October or late March-early April, if at all (see Table 8.1). Thankfully in terms of the present Project occasionally fields due to be planted in the spring were ploughed and available for walking over the autumn and winter months.

8.7 Sites Examined: Specific Case Studies

Five sites examined via survey are documented here; their locations are shown in Figure 8.1.

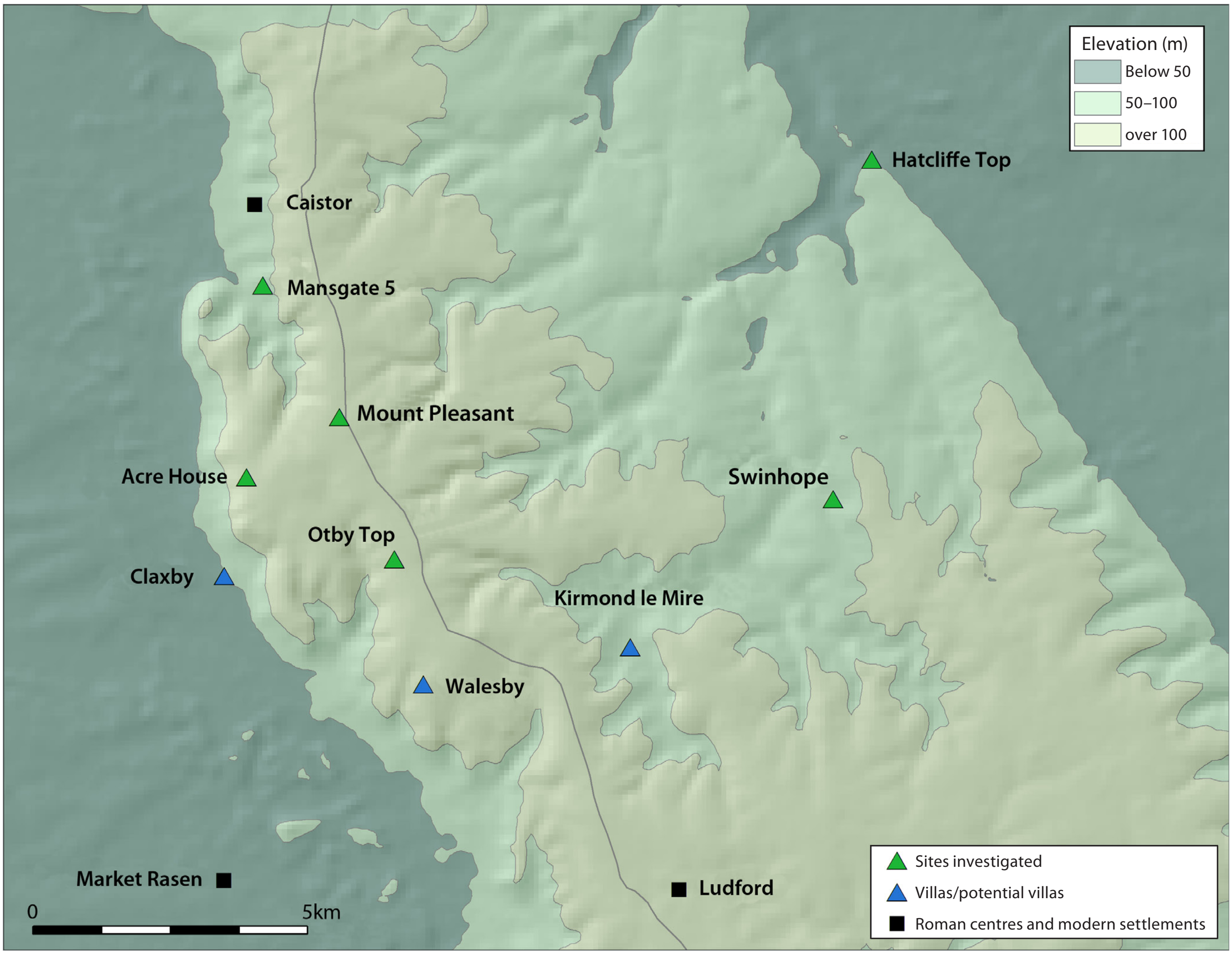


Figure 8.1 Map showing a section of the central Lincolnshire Wolds with the sites investigated.

8.7.1 Mansgate Hill

(NGR TF 116 999; lies at an elevation of c. 80m above OD; the nearest current spring issues c. 30m to the south, at a spring sap on the scarp slope).

The first site where gridded fieldwalking was undertaken was on Mansgate Hill, east of Nettleton village, specifically the large field known as 'Mansgate 5'. The presence of Roman pottery and tile was known at this location by a local member of the project team, Alan Daws, through his ecological conservation work. The finds came from the southern half of the field. The field had also been cultivated in the mid-20th century by the father of two sisters, Jean Childs and Gwen Bain, who had supported the Mount Pleasant excavation throughout. They recalled finding Roman pottery on the field as children. No other archaeological information regarding this field was known to the author at the time. Finds collected from walk-over survey visits by Alan Daws were examined and their Roman character confirmed. A team was organized to undertake systematic walking in November 2003. The find-spot area lay in an arable field. Since this was a known concentration of material culture it was decided to undertake fieldwalking by a gridded system of squares, 10m by 10m, over part of the area that had produced finds in order to collect more material with which to date and characterize the activity and its spatial aspects. An area 40m by 100m was walked (i.e. forty 10m x 10m units). The team comprised walkers who were familiar with the local Iron Age and Roman pottery types. Conditions were very good. Alan Daws conducted systematic metal-detecting within the gridded area. The area produced a moderate amount of pottery (Fig. 8.2), perhaps less than expected compared to the material from the walk-over survey. However, fragments from rotary

Figure 8.2 The site at Mansgate 5 showing the topographic location, cropmark features and position of the survey grid (blank squares yielded no pottery; the three levels of density relate to frequency figures for pottery at this site specifically; it is possible that some sherds are of Iron Age date). (Prepared using data that is © Crown Copyright/database right 2011; an Ordnance Survey/ EDINA supplied service under License to the University of Kent. The cropmark data appearing here and on other illustrations in this chapter was purchased from the National Monuments Record in 2007 and was supplied under License).

querns of Spilsby Sandstone were present in six grid squares and oyster shells were also recovered from the gridded area, associated with the Iron Age and Roman pottery. Subsequently the AP evidence covering this field and vicinity was purchased from English Heritage and was found to show a pair of rectangular enclosures within the field forming a figure of eight in plan (Fig. 8.2). Finds recovered, together with the AP cropmark suggest the presence of a Roman period farmstead. A larger area of coverage would have been preferable, but the exercise recovered sufficient evidence with which to provisionally date and characterize the site (see Table 8.3 and Section 8.8). As a follow-up the field was visited in September 2008 and a walk-over survey conducted, though conditions were not ideal as the field was coarsely ploughed, partly weathered and the surface dusty. In the summer of 2012 the opportunity was taken to conduct a magnetometer survey over the area and this was conducted by Lloyd Bosworth assisted by students and volunteers. The plot of the data is shown in Figure 8.3 and the interpretation in Figure 8.4. The evidence for this site will be fully documented and discussed in the second volume (Willis forthcoming).

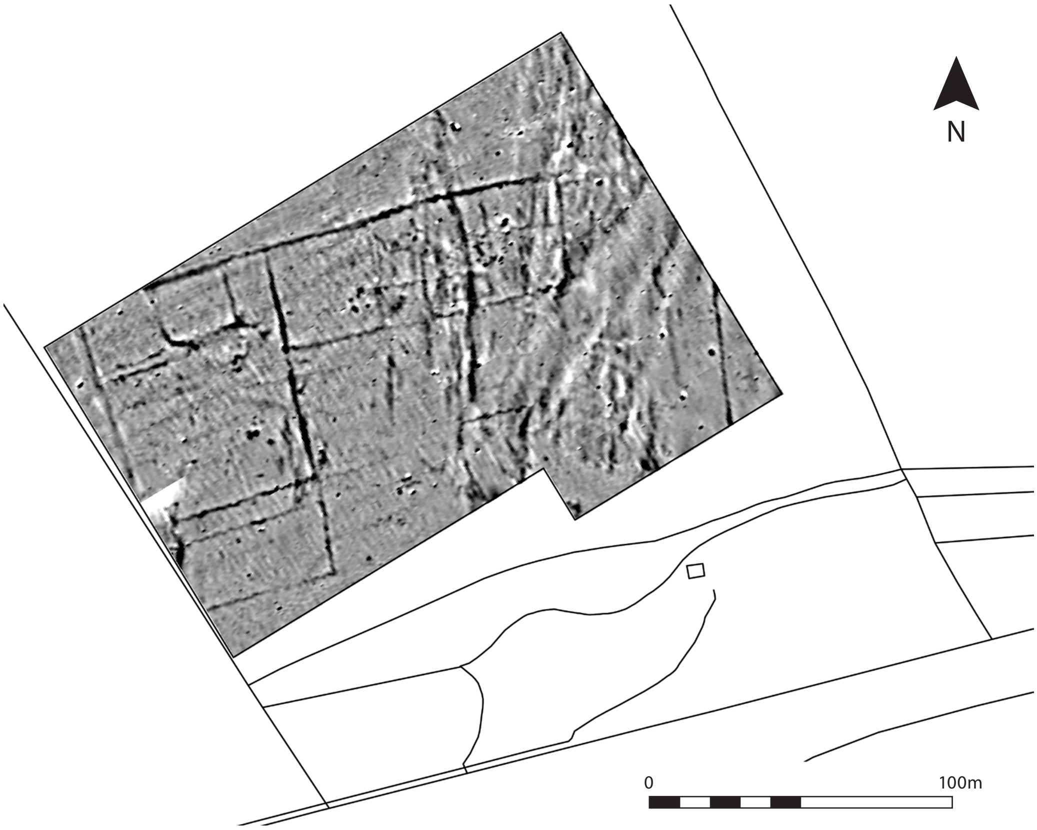


Figure 8.3 Plot of results from the magnetometer survey conducted in Mansgate 5 in 2012 showing geophysical anomalies.

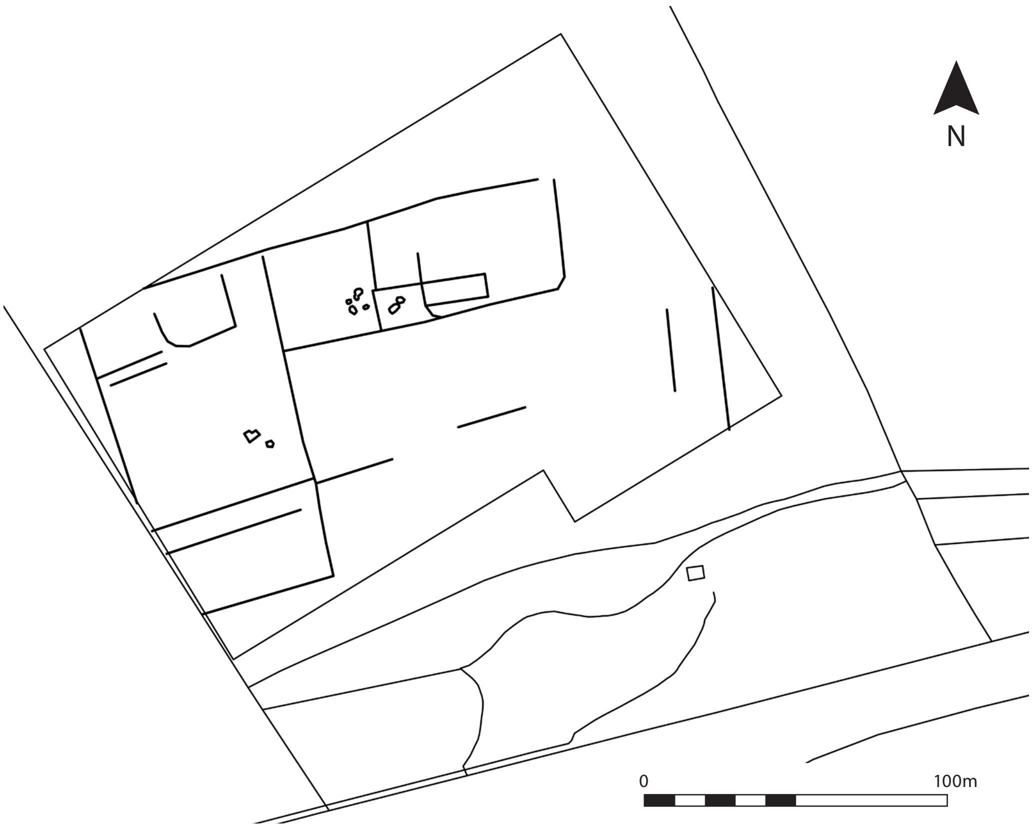


Figure 8.4 Interpretation of the results from the magnetometer survey in Mansgate 5.

8.7.2 Mount Pleasant

(NGR TF 133 977; lies at an elevation of 150m above OD; lies at the head of a now dry valley, wherein there is a modern agricultural reservoir 300m to the E).

The gridded fieldwalking has been undertaken over the western side of the site, immediately east of the B1225 in the long field known as Street Furlongs; since the modern road evidently overlies the approximate position of the Roman road here this constitutes the eastern side of what developed to be a Roman roadside settlement (cf. above; Willis 2008). The fieldwalking was undertaken subsequent to the excavations (for reasons outlined above, section 8.2). In November 1998 the field on the opposite side of the road, to the north-east, immediately north of East Field, was walked. This was carried out to establish whether the concentration of Roman finds in East Field continued to the north; the work indicated that it did not continue, or at least the density of Roman era material was much lower than in East Field (Willis with Dungworth 1999, 32). This walking was via the line method with individual finds three dimensionally recorded. However, with the new phase of fieldwalking east of the Roman/modern road it was decided to follow the total coverage gridded method via 10m by 10m squares. The aim was to establish the extent of the site on its eastern side and the densities of artefacts. This was especially important since no AP evidence or existing geophysical survey existed for this field. In part this erstwhile lack of survey data was due to the fact that access had been restricted as the field had been used for crop trials for a number of years. In April 2004, 61 squares were walked and a further set of 66 squares contiguous with these was walked in 2006. A third and final set of 55 squares was walked in 2009 when a pilot magnetometer survey was also undertaken (Section 8.2/8.2.1). Some eight of these squares in 2009 by the western edge of the field were half squares as the estate had instituted a wildlife margin which extended the uncultivated area into the alignment of the walked block (see Fig. 8.5). In total the work thereby surveyed a 350m by 40-50m block adjacent to the roadside and over the evident Roman roadside settlement. In all three exercises conditions were very good and the walking team over the three stages essentially comprised

Figure 8.5 The gridded fieldwalking at Street Furlongs showing the topographic location, cropmark features and position of the survey grid (the three levels of density relate to frequency figures for pottery at this site specifically).

individuals who participated in all three seasons and/or at the other sites walked. The collected material comprised a very sizable assemblage, found to extend throughout most of the walked area. One square yielded as many as 154 sherds, ten squares produced individual totals of over 90 sherds. Fragments from five querns were recovered during the fieldwalking, four in Spilsby Sandstone and one in Millstone Grit (Section 6.11). A sample of squares was subject to systematic metal detecting, with a high frequency of readings and artefacts, especially iron and lead. The northern end of the field was subject to line-walking (2006 and 2009) as this area was away from the known concentration of surface finds: no new concentrations were identified by this means. Further analysis of the results from the systematic fieldwalking at Mount Pleasant will be part of the second volume in this series.

Table 8.1 All fieldwalking undertaken to date as part of the Project.

Site and Field	Date of Fieldwalking	Activity Type	Condition of Field
Mansgate Hill Mansgate 5	Nov. 2003	Gridded Fieldwalking	Ploughed & harrowed; sown with very light crop growth showing; weathered
Mansgate Hill Mansgate 5	Sept. 2008	Walk-over survey	Ploughed; not sown; partly weathered
Mount Pleasant North Field TF 129 980	Nov. 1998	Line Walking	Ploughed & harrowed; sown but no crop showing; weathered
Mount Pleasant Street Furlongs	April 2004	Gridded Fieldwalking	Ploughed & harrowed; sown with very light crop growth showing; weathered
Mount Pleasant Street Furlongs	April 2006	Gridded Fieldwalking; Line Walking	Ploughed & harrowed; sown with very light crop growth showing; weathered
Mount Pleasant Street Furlongs	Oct.2009	Gridded Fieldwalking; Line Walking	Ploughed & harrowed; sown with very light crop growth showing; weathered
Acre House Two Chimneys	Nov. 2006	Gridded Fieldwalking	Ploughed & roughly harrowed; not sown or no crop showing; weathered
Acre House Two Chimneys	March 2007	Gridded Fieldwalking	Ploughed & harrowed; sown but no crop showing; weathered
Otby Top NE & NW Fields	Sept. 2008	Walk-over survey; Gridded Fieldwalking of 4 sample squares	Ploughed & harrowed; sown but no crop showing; not weathered
Otby Top NE & NW Fields	Oct. 2008	Gridded Fieldwalking	Ploughed & harrowed; sown with very light crop growth showing; weathered
Otby Top South East Field	Aug. 2010	Gridded Fieldwalking	Ploughed & harrowed; sown but no crop showing; weathered
Swinhope c. TF 221 959	Sept. 2008	Walk-over survey	Ploughed & roughly harrowed; not sown or no crop showing; partly weathered
Hatcliffe Top West Field c. TA 227 017	Aug. 2010	Line Walking	Ploughed; not sown; quite weathered

Table 8.2 Inventory of sites fieldwalked (by gridded method).

Site & parish	Means by which first known to the Project	Other evidence prior to fieldwork	Documented Previous Finds or Report
Mansgate Hill, Nettleton parish	Personal communication to author by member of public	Aerial Photographic evidence	None known
Mount Pleasant, Nettleton and Rothwell	Personal communication to author from professionals	Detectorist finds; Geophysical survey; Fieldwalking	Grey Literature report by British Gas prior to pipe laying
Acre House, Normanby-Le-Wold	Personal communication to author by member of public	Surface pottery	Reports of finds from the 1960s on HER
Otby Top, Walesby	Aerial Photographic evidence	None	Site visited by Jones (1988, 21)

8.7.3 Acre House

(NGR TF 114 963; lies at an elevation of 130-150m above OD; the nearest current spring issues c. 230m to the north-west, down the scarp slope, though there was probably one just c. 25m from the site prior to mining and pumping in the modern era).

The Acre House site lies to the south-west of the farm of that name in the arable field known as 'Two Chimneys'. The presence of Roman pottery and tile was known at this location to a local resident with a keen interest in history, Alan Dennis, who had collected ceramics from the field. Previous reports of surface finds are logged from the 1960s when it was reported that Roman pottery, including samian ware, together with a dolphin brooch, had been recovered (Whitwell and Wilson 1968, 27; Whitwell 1982, 280). Following a site visit in the summer of 2006, which verified the presence of a spread of Roman material, systematic walking was undertaken in the autumn of that year with a block of 50 squares walked, with some systematically metal detected. The team comprised nine different walkers, the majority of whom were familiar with the local Iron Age and Roman pottery types. Collection conditions were good. The block yielded a considerable number of sherds, almost entirely Roman, with no clear drop-off in quantities recovered in any direction (see Fig. 8.6). Subsequently a further 10 squares were walked in an intermittent diagonal transect, at a remove from the earlier block and these yielded fewer sherds, with some blank squares and with a much lower ratio: 24 sherds from 10 squares (see Table 8.3). Finds recovered, including quern fragments, suggest the presence of a Roman period farmstead, but in this case there are no cropmarks known from aerial photography, nor

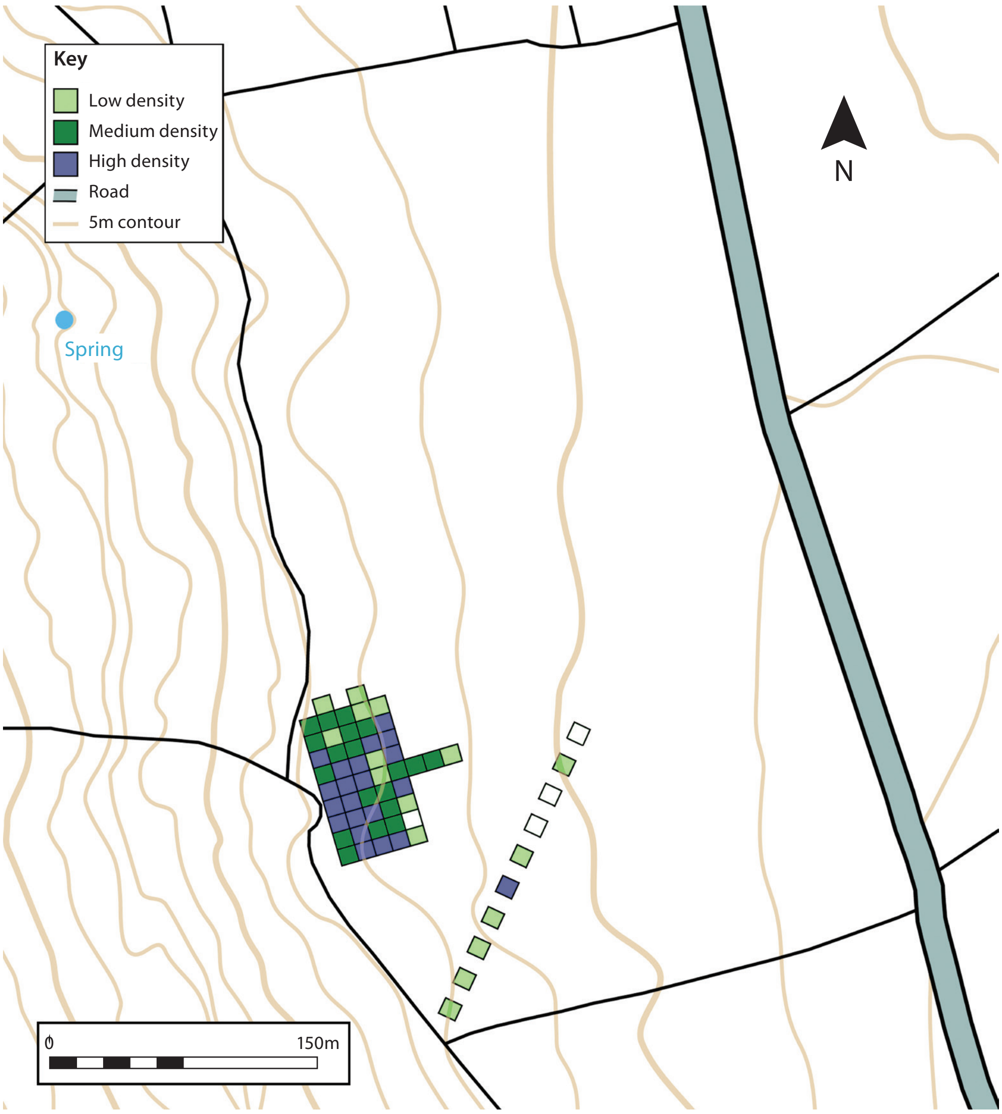


Figure 8.6 The site at 'Two Chimneys', Acre House, showing the topographic location and position of the survey grid (blank squares yielded no pottery; the three levels of density relate to frequency figures for pottery at this site specifically).

Table 8.3 Details of gridded fieldwalking sampling. Alan Daws collected an additional 436 sherds from walkover survey at the Mansgate Hill site and these are being studied. A further 141 Roman pottery sherds and one quern fragment are available for study from Acre House arising from walkover survey by Alan Dennis.

Site:	Squares Walked	Total Number of IA and/or Roman sherds	Average Per Square	Number of Squares with no IA and/or Roman sherds	Number of Diagnostic Quern Fragments Recovered	Number of Oyster Valves recovered
Mansgate Hill	40	103	2.6	9	6	3
Mount Pleasant	182	5353	29.4	0	6	66
Acre House	60	458	7.6	4	8	2
Otby Top	202	1058	5.2	31	6	14
Totals:	484	6972	14.4	44	26	85

other evidence types. Again a larger area of coverage would have been preferable, but the exercise recovered sufficient to date and characterize the site (Table 8.3). As a follow-up a geophysical survey would be appropriate.

8.7.4 Otby Top

(NGR TF 143 948; lies at an elevation of 150-160m above OD; the nearest current spring issues c. 210m to the W, down the scarp slope).

The site lies on the edge of the ridge of the chalk scarp above the valley known as Normanby Bottoms, that cuts back into the scarp at this point and into which drain a series of spring fed streams. The site extends across parts of four arable fields south of the former farm at Otby Top. A site of probable Iron Age and/ or Roman date here was indicated by features on the AP (Jones 1988, 21). These cropmarks were partly reproduced by Jones in his 1998 discussion where they are grouped with other cropmarks suggested to represent minor settlements or farmsteads (Jones 1998b, fig. 9). The AP evidence (see Fig. 8.8) shows three or four modest sized sub-rectangular enclosures. Three are on a similar orientation and scale and would appear to be contemporary or related: they measure c. 60m x ?55m (enclosure 1), 60m x 50m, and 40m x ?40m (enclosures 2 and 3 respectively). Enclosures 2 and 3 are contiguous and not dissimilar to the enclosures at Mansgate Hill. The fourth apparent enclosure, enclosure 4, (c. 35m x 30m) is somewhat irregular and its designation as an enclosure is less certain. Four linear features, each traceable for at least 35m, which follow approximately the contour are probably ditches. Within enclosure 1 occurred (on the AP) a penannular feature open to the south measuring c. 11m in diameter (measured internally between the edges of the feature). This would seem, on the basis of parallels with other enclosures of this type, likely to represent the former position of a roundhouse, the feature more likely being its eaves-drip gully rather than a wall slot (see below). Mostyn-Lewis reported a nearby surface scatter of Romano-British greyware, with Otby Top Farm given as the location, while the grid reference lies by the farm buildings (1966, 46). This may refer to the same site or an associated focus nearby as the grid reference is only 250m north of the site examined here.

No other archaeological information regarding this site was known to the author prior to visiting the site for the first time in September 2008. It was immediately clear that Roman period occupation debris extended hereabouts, with both pottery and quern fragments visible on the surface. Systematic walking was undertaken (Fig. 8.7). The first tranche of fieldwalking was conducted in the north-eastern and north-western two fields of the four, with a block of 58 squares walked over the main concentration of surface visible ceramics on the cusp of the scarp, and a further nine squares a little to the east over enclosures 2 and 3. A further sample of three squares was walked near the north-west corner of the north-west field where a thin but conspicuous spread of stone at the surface seemed potentially to indicate the presence of a stone founded building. Pottery of Roman date was found at this location including an amphora sherd and outside the gridded area half of a quernstone was recovered. The team comprised five experienced walkers and conditions were very good. Stan Little conducted systematic metal-detecting within the gridded area and prospective detecting beyond it. He recovered 15 Roman coins, a lead weight and a pewter weight or votive token of Roman date fashioned as a head in cameo. Overall this sampling produced a considerable assemblage of sherds of essentially mid-late Roman date on provisional assessment. All squares yielded pottery. The coins from this exercise have been identified by Richard Brickstock and all date to the last 150 years of the Roman era.

A second tranche of walking became possible in August 2010. On this occasion the south-east field was in an ideal state for surface collection. A block of 22 by 6 squares was walked, this covering the location of enclosure 1. Systematic metal-detecting within the gridded area was again conducted and prospective detecting beyond it within this field. Roman coins recovered totaled seven, of similar date to the group recovered in 2008. Some clear patterning was apparent during the walking and subsequently. The eastern and middle areas of the block, over enclosure 1 produced a very modest tally of sherds including 27 squares that yielded no pottery, of a total of 30 from the 2010 area that yielded no pottery, so the pattern was a strong one. Contrastingly, the western end produced much larger quantities. The low-ish number of sherds from this eastern side of the 2010 block accords with the pattern from the eastern 9 squares walked in 2008 to the north; these areas cover enclosures 1-3. Given that enclosures 1-3 appear from their layout to be contemporary a similar level of recovery from the walking undertaken over them might not be considered surprising. Further, the sherds from this side of the site complex appear, following provisional assessment, to be of early Roman date, while those from the western side of the complex are later Roman in emphasis. That there are greater quantities of pottery of later Roman date on the western side suggests the focus of occupation/activity switches location in the middle part of the Roman era. That there are more sherds of later Roman types present on the western side of the complex is perhaps not an index of increased population or intensity of activities, rather it may reflect the chronology and greater availability of pottery from local kilns in the Claxby/Walesby area along the foot of the Wolds, which were especially productive from the middle Roman era (Bryant 1977; Swan 1984). When the precise presence of pottery by grid square is mapped and overlain on a plot of the AP evidence a strong correlation occurs between the presence of the cropmarks and the higher incidence of recovered pottery. This implies that recovered sherds derive from host features below the plough-zone and

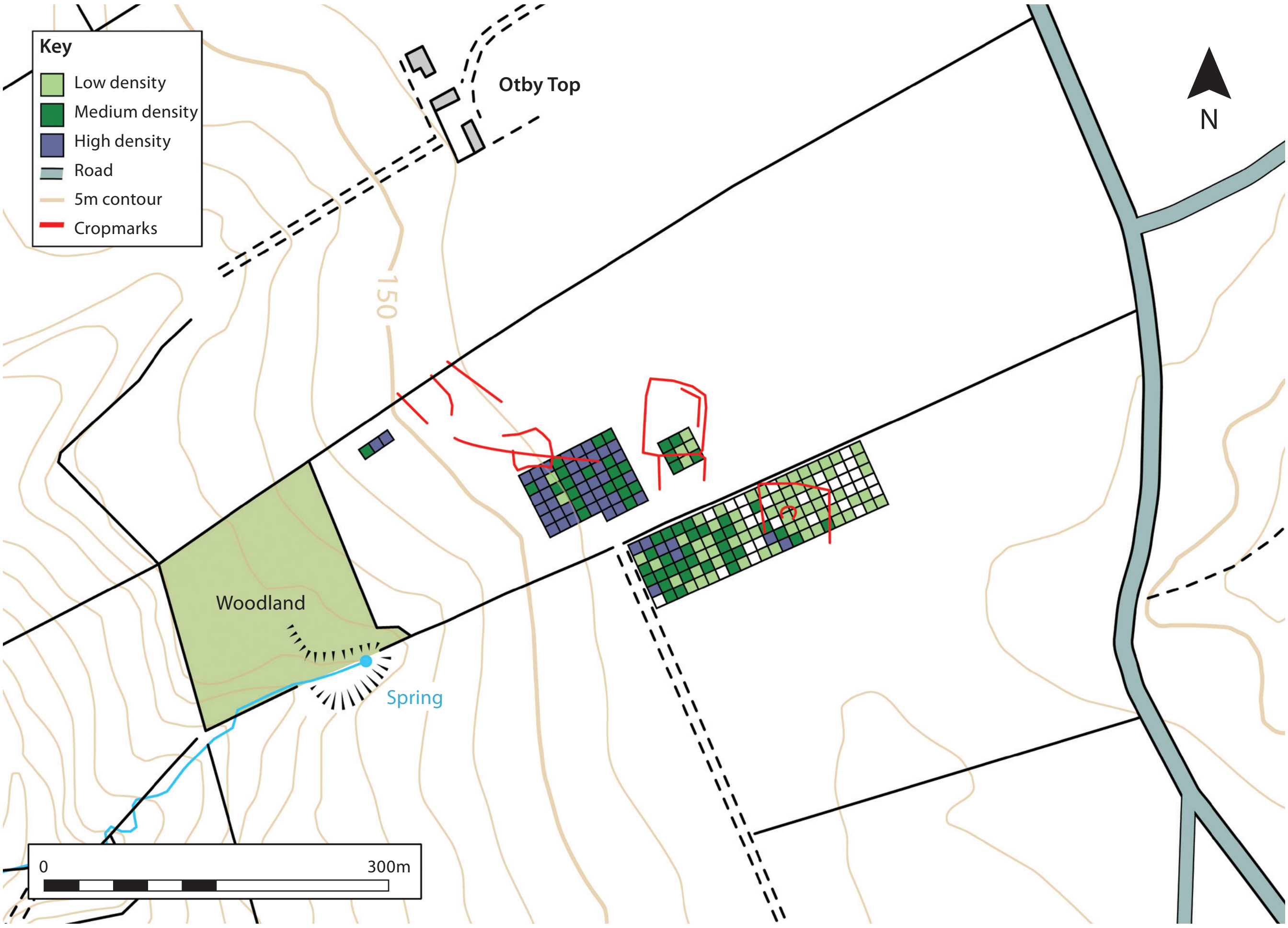


Figure 8.7 The site at Otby Top, showing the topographic location and position of the survey grid (blank squares yielded no pottery; the three levels of density relate to frequency figures for pottery at this site specifically).

Figure 8.8 The site at Otby Top showing the (numbered) enclosures relative to the gridded fieldwalking.

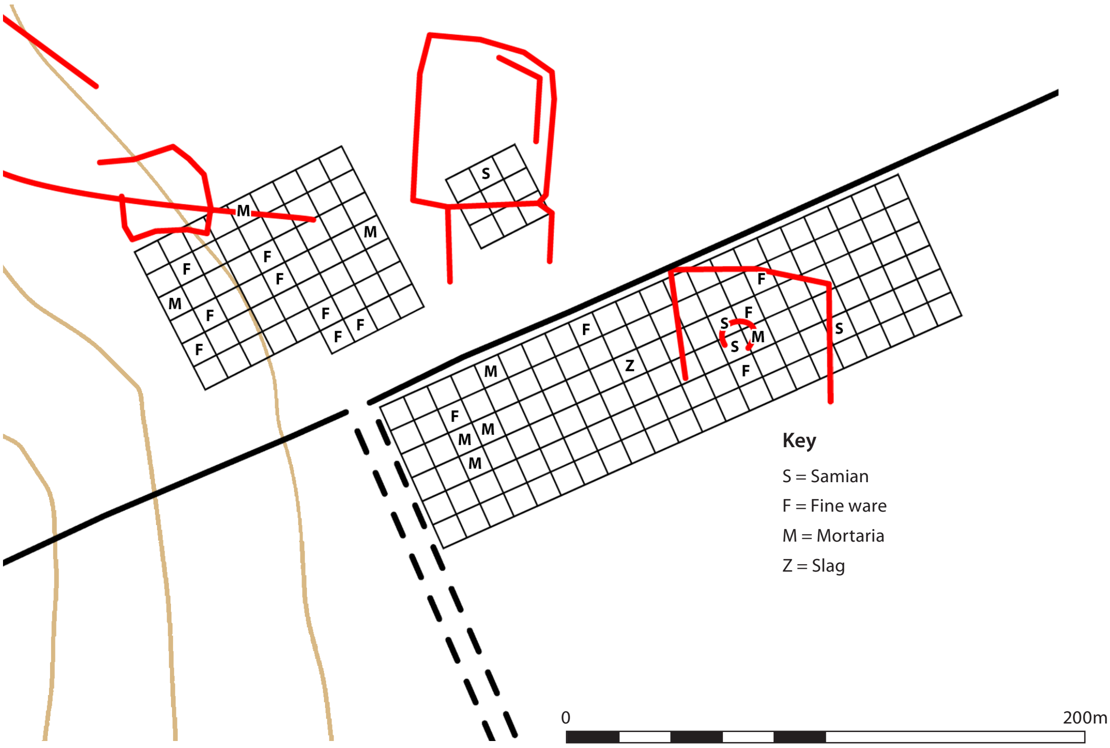


Figure 8.9 The site at Otby Top showing the presence of samian, other fine ware, mortaria and slag.

hence may be a good index of the date and status of such remains, or, if they are 'ploughed out', where they had once been; more generically this correspondence appears to show that surface collected material can in at least some proportion of cases be a good indicator of sub-ploughsoil zone archaeology (see below, this Section). Further, when the incidence of some of the diagnostic pottery types is mapped a clear pattern is revealed: samian and other fine ware are clearly associated with the enclosure ditches and particularly the penannular/likely roundhouse feature indicating their date and perhaps something of the locus of use of early Roman fine ware at the site (Fig. 8.9). Contrastingly mortaria, a pottery type that is more common from the mid-Roman era in Britain (cf. Rush 1997) is much more frequent on the western side of the site. Overall the surface collection exercises have covered 202 10m by 10m units and have verified that Jones designation as a likely farm is probably correct.

In August 2012 two trenches were opened over Enclosure 1 with the aim of establishing the degree of survival of any ancient deposits and to recover cultural material and samples for environmental analysis (Willis 2012). This sampling work would complement the data from the fieldwalking and make a contribution to the broader understanding of settlement and ecology in the area. As with the excavations at Hatcliffe Top (cf. 8.7.5) this was a collaboration, with the North-East Lincolnshire Archaeological and Local History Society (NELALHS) joining the University of Kent team, comprising mainly postgraduate and undergraduate students. It had been expected that the trenches would be placed on the basis of the AP mapping and a follow-up geophysical survey (in August 2012). However, the wet summer meant that harvest was delayed and hence the trenches were opened in discrete cleared areas within the standing wheat crop, thanks to the agreement of the farmer, Neil Cooper. Trench A was opened in the area of the north-west corner of enclosure 1 as indicated by the AP evidence. The results are in the process of being analyzed but the corner of a substantial V-shaped ditch encountered and excavated appears to be Iron Age, and after it had filled a pebble surface was laid in the Roman period with two smaller linear features also dating to the Roman period. Trench B was placed over the area of the putative circular structure within the enclosure. However, no penannular gully was encountered, though there where several features recorded. Geophysical survey should verify if any traces of the features seen on the AP images and mapped by Jones (Jones 1988, 21) survive; it may be that in the intervening 30 years the feature has been ploughed-out. A systematic metal detecting survey was also part of this work in 2012 and the results of that exercise and of the trenching will form part of the second volume (Willis forthcoming).

8.7.5 Hatcliffe Top

(Excavated site: NGR TA 229 022; lies at an elevation of 45-55m above OD; the Waithe Beck lies in the valley immediately (c. 100m) to the north. Area Fieldwalked: TA 227 017; lies at an elevation of c. 50-55m above OD; the Waithe Beck lies c. 450m to the north while a further stream lies c. 350m south of the centre of the walked area).

The site at Hatcliffe Top on the eastern fringe of the Lincolnshire Wolds has been subject to four seasons of excavation as part of the present Project; and this has been possible through linking and working with the North-East Lincolnshire Archaeology and Local History Society, led by David Robinson. Geophysical survey and the excavation of stratified deposits show this to be a mid- to late Roman farmstead complex, with perhaps earlier origins. A site at this location was first identified from surface finds made by the ploughman in the 1960s and one corner of the field had shown ditches on AP. The field containing the site was walked by the NELALHS in April 2005 by close interval traverse and stint method. This was prior to the linking up of the society and the present writer to initiate the excavations. It may be that the field is re-walked using the gridded method used at the sites noted above. The purpose in mentioning the site here is two-fold: to note its location in the landscape and secondly to briefly report the fieldwalking undertaken noting the contrast of methods and results to that of the gridded site walking.

The Hatcliffe Top site overlooks the lowlands of the so-called Marsh to the east. It lies on the south side of the Waithe Beck at the point where the valley of the beck opens into the Marsh. This is a significant point in terms of communications: the A18 runs along the edge of the Wolds here and can be presumed to follow an established ancient 'dry-route' along the side of the Marsh; the Waithe valley is an access point into the heart of the Wolds and a modern road runs along the valley inland to Hatcliffe village and beyond. The geophysical survey shows that the morphology of the Roman site is laid out in alignment with these arterial elements. Hence the Roman farm had adjacent fresh water, good communications, an elevated well-drained position and a variety of adjacent environments advantageous for mixed agriculture. By the late Roman period it was processing produce on a significant scale, perhaps from a fairly wide catchment. Given that c. 100 Roman coins have come from the site metal detecting survey this may too have been a place for marketing and transactions, consistent with Taylor's observation that coin levels at some rural sites suggest such a role (2001, 56).

The large field to the south-west of the site was available for fieldwalking in August 2010. The field is an amalgam of three former fields and now has a wedge shaped form measuring approximately 620m across on its eastern side narrowing to 250m at its western end, by 500m. It was decided to undertake fieldwalking to establish whether the excavated site continued along the valley side, perhaps as a ladder type settlement, or whether there was a further occupation/activity node. Given the scale of the field and that no archaeological data was known for it, the decision was to undertake line-walking. The field length of c. 500m was divided so that the most eastern 100m of the field was walked, the middle 100m and the western-most 100m to the field edge. This was at 10m spacing between walkers as the walking team was generally inexperienced for this was also conducted as a training exercise. The conditions were fair, with a somewhat coarsely ploughed but weathered field surface. 128 100m walks were undertaken in order to compete the exercise, so the equivalent of a 12.8km course was covered. There were very few finds of any date, notable were eight worked lithics of various types. Just eleven sherds of Roman date (including one possibly Iron Age) mean that on average more than ten 100m walks were necessary to recover one Roman sherd. Eight of these sherds came from the eastern end of the field, mostly by the point where it plateaus off. Hence the greatest incidence was in the area nearest the known site in the adjacent field and may represent an associated activity zone (presumably not settlement *per se*), manuring or 'background noise'.

8.8. Site Character and Date

Choices as to where to place the grid squares and 'collect' from sites to some extent determine the results. The aim has been to gather artefacts with a view to broad dating and site characterization, but also to potentially define areas of clustering and variation in the incidence of surface material. The areas walked were placed to capture material over part, at least, of the observable concentration, but also across areas with thinner spreads or absence in order to potentially define occupation and activity foci and any changes through time. Reflecting on the work to date one may conclude that the main aims (location, dating and characterization) have been met to some degree but more extensive survey per site is warranted to better define concentrations; this observation will feedback into future gridded walking on this project.

Provisional assessment of the pottery from the Mansgate Hill site (from the gridded walking together with 436 pottery finds collected from the field by Alan Daws prior to the gridded sampling) suggests a mid- to late Roman date. The ratio of diagnostic quern fragments to pottery collected from the systematic walking is 1:17, suggesting the particular significance of querns and perhaps milling at this site (although such data cannot be taken as a straightforward index). Provisional assessment of the pottery from the Acre House site (from the gridded walking together with 141 Roman pottery finds collected from the field by Alan Dennis prior to the gridded sampling) also suggests a mid- to late Roman date. The ratio of diagnostic quern fragments to pottery collected from the systematic walking is 1:57. The finds from Otby Top span the Roman period. This site originates in the Iron Age and it may be that the others do too but pottery of this date is not so well represented in ploughsoils as it does not survive well. Assessment of the evidence from Otby Top suggests an Iron Age-early Roman site at one location and a shift to an adjacent location (c. 100m to the west) in the mid-late Roman period. Here the ratio of diagnostic quern fragments to pottery from the gridded walking is 1:176. All three sites would appear to be farmsteads. The site at Mount Pleasant on the High Street developed as a roadside settlement. It too probably included farms that operated from the site (cf. Rackham, Chapter 7). The origins of activity and settlement at the site extend back into the Late Iron Age. There is early Roman occupation at the site, though the bulk of the Roman pottery is mid- to later Roman. The ratio of diagnostic quern fragments to pottery *from the gridded walking* is 1:892, indicating a strong consumption of pottery and a lesser significance to querns in the daily activities at the site (at least by this controlled sample).

8.9 Patterns: Environment, Space and Choice

As the examination of these sites unfolded it became apparent that a close correlation existed between site location and environmental elements. The sites at Mansgate Hill, Acre House and Otby Top are positioned adjacent to springs. So too is the site at Walesby Top (cf. Chapter 1, 1.9) two kilometres south of Otby Top (TF 147 927; lying at an elevation of 140-145m above OD; the nearest current spring issues c. 300m to the south-west, down the scarp slope). Jones has published a cropmark of this likely villa (1988; 1998b, fig. 4 and 73 ; see Fig. 9.5, site 2), referencing the 19th century excavations (Philpot 1861). It is hoped that this site can be walked in the future. In all cases the (present) springs lie no more than 300m away from the Roman period sites; it is likely these springs were in existence in Roman times. In addition all of these sites lie on the edge of the high land plateau of the Wolds, overlooking the scarp slope to the west. This position, as well as being near to a fresh water source, will have enabled mixed farming through the cultivation of the workable soils of the chalk plateau, the use of the scarp slopes potentially for managed woodlands as a source of timber and fuel and as pannage for pigs or grazing for sheep/goats, while the lower lying environments at the base of the scarp might provide meadows and grazing (by the streams) and other cultivatable land on sandy soils.

That said, these sites, located on the cusp of the western edge of the Wolds lie on what are now comparatively poor quality soils (that is, by or on Grade 4 land (Fig. 8.10)). Soils here are thin due to gravitational movement, over the long term, of soils to the valley bottoms via soil creep, wash and colluviation, but also due to wind erosion: the Wolds edge here lies c. 120m above the Clay Vale and is exposed to the prevailing westerly winds which can whip in and blow dry soil dust to the east. In March 2007 at the Acre House site a fiberglass reinforced cloth tape snapped in the westerly wind, testimony to its remarkable strength on occasions. Elevation, thin soils, exposure to winds and on the whole free draining subsoil mean that water retention in the soil is not strong. Soil quality here may have been better two millennia ago, when the profile may have been thicker following evident clearance in the Neolithic

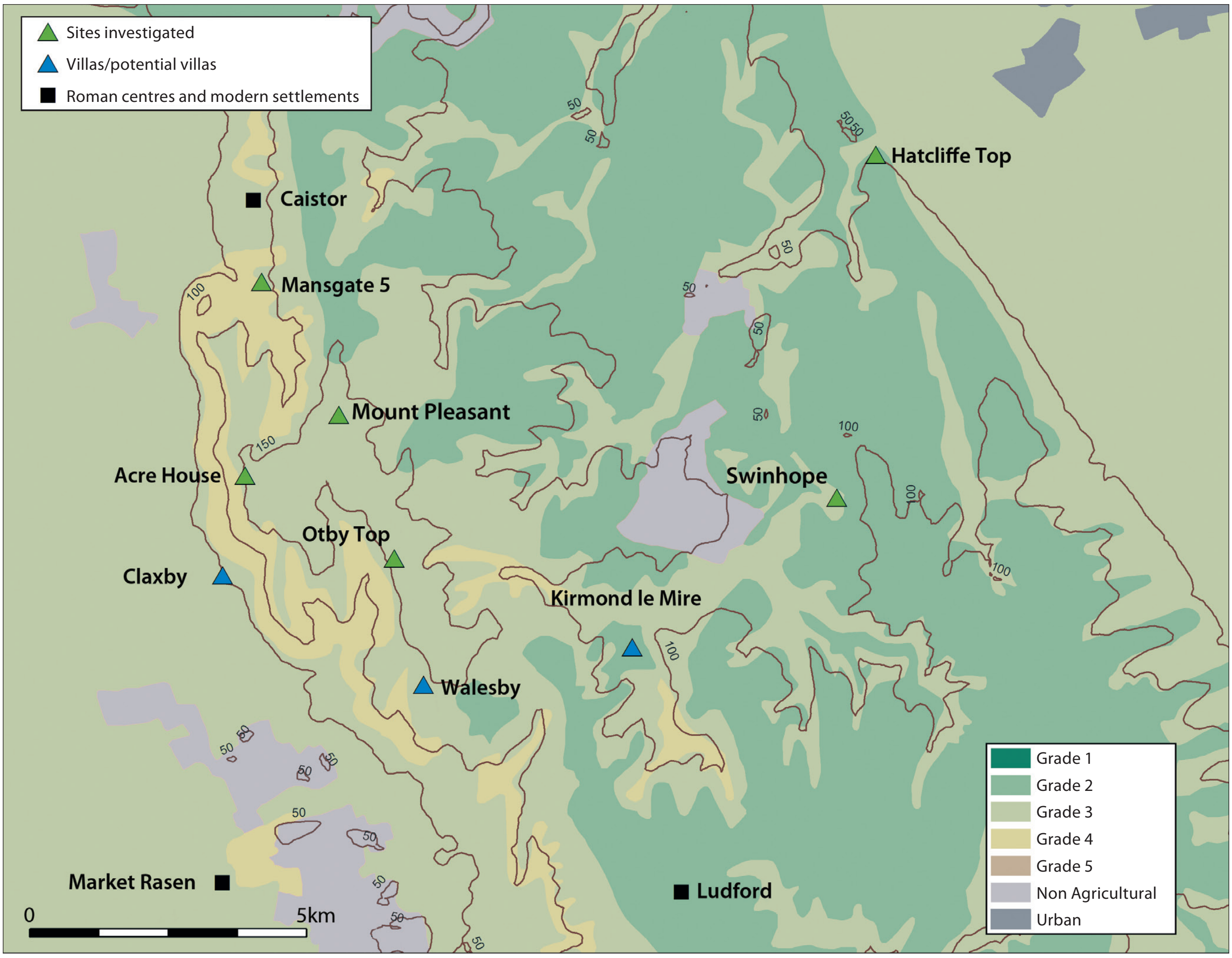


Figure 8.10 Agricultural land classification across the study area. (Prepared using data that is © Crown Copyright/database right 2011; an Ordnance Survey/EDINA supplied service).

and Bronze Ages. Nowadays soil improvement via the addition of fertilizer is essential for crop yields, together with crop rotation. In the past, specifically the Roman period, manuring may have been essential in order to sustain yields (cf. Gaffney *et al.* 1985), pointing to the likelihood of some degree of mixed farming. The main crop these days on this western fringe is barley, in rotation with oilseed rape and other crops such as peas. In the late medieval period and early modern era sheep-raising was important, with much land on the Wolds under pasture (Everson *et al.* 1991, 38). It might be assumed then that these farms of the Roman era participated in a mixed arable and pasture economy but we need better data from a number of sites in order to be clearer regarding general practice. From Mount Pleasant we know there was crop processing at least during the mid-Roman period (Rackham, Chapter 7), with one corn-dryer confirmed through excavation and others suggested by geophysical survey (2.8.1) while the bone assemblage indicates that all three major domestic species were being raised locally by the site inhabitants (Rackham, Chapter 7). At Hatcliffe Top at least four 'corn-drying' ovens have been identified. Quern fragments were recovered in association with Roman period ceramics during fieldwalking at Mansgate Hill, Acre House and Otby Top and are of a type that is found stratified in Roman period layers at Mount Pleasant, and are evidently Iron Age and/or Roman in date (see Chapter 9). This of course does not mean that these sites were milling their own cereals for their consumption or to trade, as they might be grinding grains produced elsewhere. The question then as to whether these sites are mixed farms growing crops and raising animals is still to be definitively established. Such characterization is vital given that knowledge of agricultural regimes is very limited for both the Wolds and much of the East Midlands (Monkton 2006).

A further significant aspect as regards environment is elevation and climate. This area is the highest land

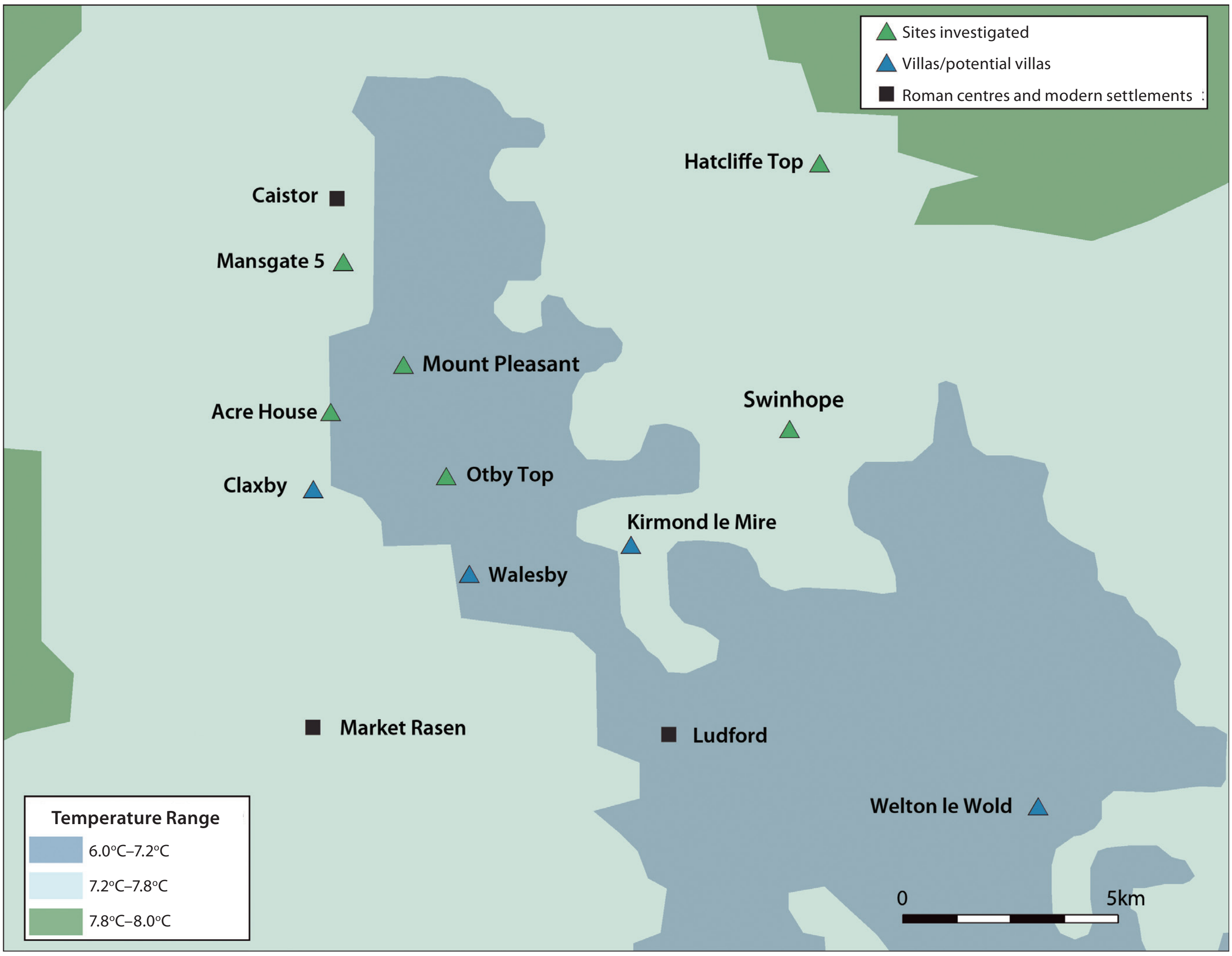


Figure 8.11 April average mean temperature 1971-2000 across the study area. (Prepared using data that is © Crown Copyright/database right 2011; an Ordnance Survey/EDINA supplied service). Source: Met Office data. Contains public sector information licensed under the Open Government Licence v1.0.

in Lincolnshire, rising to 168m above OD. In recent decades radio, radar and transmitter masts have been a feature of the landscape, as a consequence of this elevation. The correlate of this position is that temperatures are lower and thus the growing season shorter. Data for the 30 year period 1970-2000 shows that on average the temperature for the month of April through that period was up to c. 2° lower across the area of these surveyed farms than at the villa site at Kirmond le Mire (White 1976) and putative villa at Swinhope (TF 221 959; Bewley and Jones 1992, fig. 4; Jones 1998b, 73, fig. 4; but see Everson *et al*. 1991, 191, fig. 135) and other lower lying adjacent areas across Lincolnshire (Fig. 8.11). This is highly significant as April is a critical month for seed germination and early season plant growth for both cereals and grasses.

Set alongside the comparatively moderate soil quality of the area it is evident that these farms of the Roman era were occupying land that may have been least conducive to productivity: a challenging situation. Were these sites occupied not so much by choice but of necessity? Were they a function of population size in the region by the Roman period which meant that less attractive, previously marginal land was colonized as there was already full occupation of the better quality land by other farmers and estates. Such an argument is supported perhaps by the occurrence of the few villas known to date in eastern Lincolnshire in the vicinity of Grade 2 land (Horkstow) or Grade 3 land, at the foot of the Wolds (Claxby and Bigby) while the adjacent villa at Kirmond le Mire, on the Wolds, occupies better quality land by a chalk stream, within a broad sheltered natural lower lying milder bowl (Todd 1991; White 1976; see a Figs 8.10 and 8.11). From the Kirmond le Mire villa surface finds are mainly fourth century, though there is some earlier pottery. Limited work there in the mid 1970s seems to have simply revealed the mosaic for which the site is primarily known (attributed to the fourth century (Neal and Cosh 2002, 160-1)), perhaps reflecting an

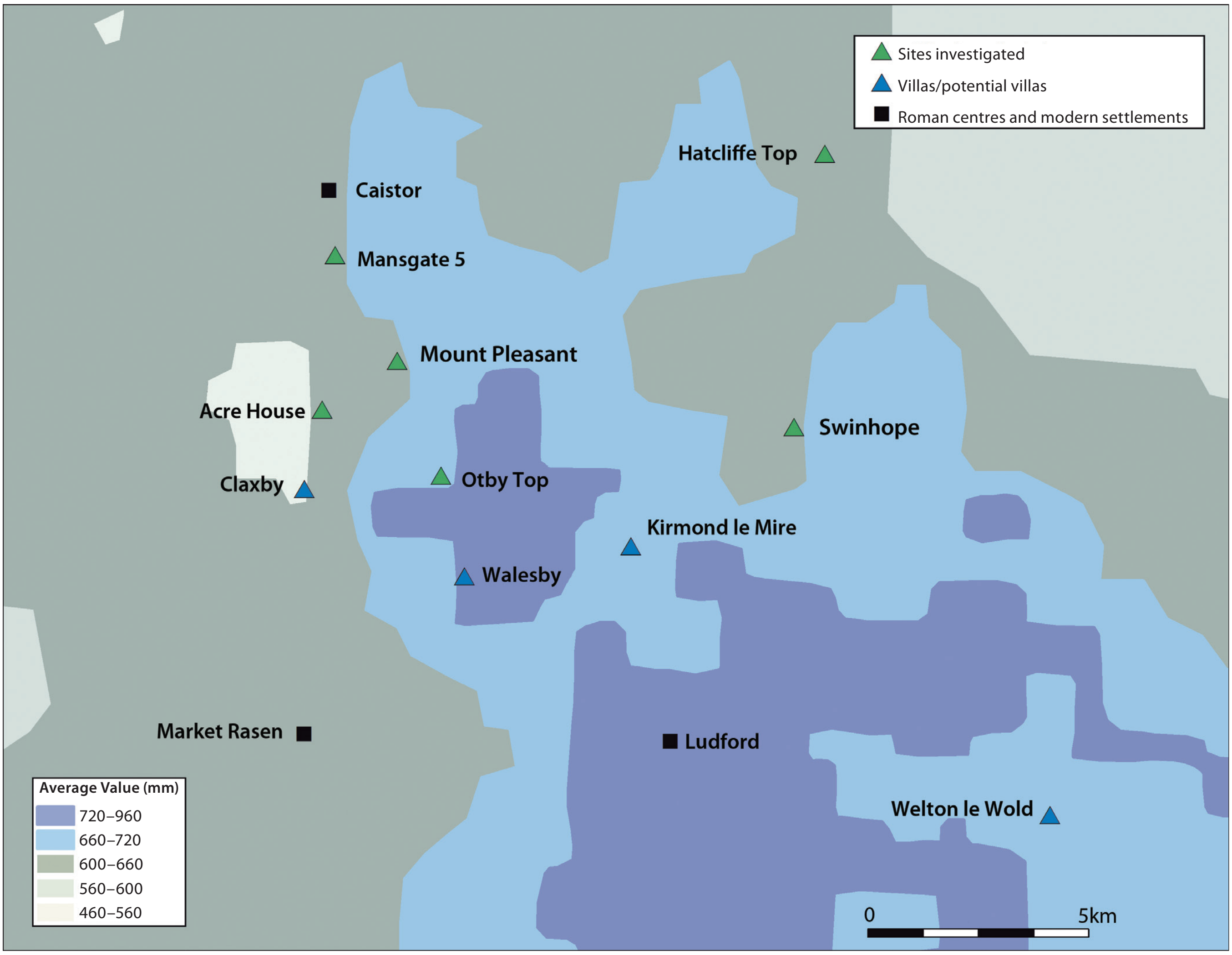


Figure 8.12 Rainfall averages across the study area 1971-2000. (Prepared using data that is © Crown Copyright/database right 2011; an Ordnance Survey/EDINA supplied service). Source: Met Office data. Contains public sector information licensed under the Open Government Licence v1.0.

investment of wealth generated from estate farming. Some fieldwalking was pursued in the 1970s following the discovery but unfortunately no publication followed these investigations and the site has not been subject to concerted study. Hence, overall, there are important questions here regarding the interplay of spatial location, micro environment, population size, economy and the extent of human choices. Further research is necessary to capture data from which to address such questions.

8.10 Discussion

As archaeologists we make decisions regarding the aims and nature of our fieldwork and research but usually not within circumstances of our exact choosing. This is true for developer led contract archaeology but also with longer term research projects. The work we undertake must be 'fitted in' with: the priorities of other interested parties, agendas and day-to-day activities within modern society. Hence there can so often be elements of contingency. We strive to make the best of the opportunities within the circumstances encountered. Project planning, definition of aims and concerted preparation are essential, yet nonetheless projects often evolve as new information becomes available and new questions emerge, often developing out of data and the experience of the earlier phases of project work (reflecting English Heritage's *Management of Archaeological Projects* format); they adapt to contingencies and possibilities (cf. Crowther *et al.* 1985). The project reported here has evolved from a specific excavation to a wider consideration of a landscape, its past settlement and economy.

With the sites identified and examined here there would seem to be a pattern to their location in the landscape. Those at Mansgate Hill, Acre House and Otby Top, together with the Walesby Top site all lie next to spring heads and on the edge of the high land overlooking the western scarp of the Wolds. They lie at similar elevation on similar soils, and are of similar date and scale. It is likely that they represent farmsteads. They seem deliberately placed in the landscape to optimize access to water supply and a variety of ecological/agricultural zones, though their circumstances were, from an agricultural view point, not especially advantageous given specifics of climate, exposure and soil quality. The question arises as to whether these are locations of choice or, given the comparatively harsh conditions for farming, those of last resort! Equally one might ask how representative these sites are. Other sites are known for the period along the western foot of the Wolds and on the interior of the Wolds, through some surface finds and AP evidence. With the latter sites information is extremely limited (often no more than a Museum note on broadly dated chance finds) and these sites require proper survey. Jones' mapping of cropmarks likely to be of Roman date across this landscape shows some to be at a distance from springs and chalk streams (1998b), particularly on the higher ground; presumably wells were cut to supply water needs, as on the chalk Wolds in East Yorkshire, at Rudston villa and elsewhere (Ramm 1978, 104). Overall, the distribution on the Lincolnshire Wolds is, on this rather unsystematic evidence, suggestive of a relatively dense settlement matrix of farmsteads and occasional villas and roadside settlements. It follows from the sites surveyed and reported here that there is a predictive aspect. This arises from the verification of the existence of these sites positioned by springs along the crest of the scarp: are further sites of this age and character to be anticipated at points with like features along the western Wolds edge?

That may be so. Roman era farms might be predicted at Normanby le Wold, between the Acre House and Otby Top sites (where Roman finds are noted on the County HER) and on the Wolds edge further south in the North Willingham area. To the north the enigmatic Roman site at Caistor with its small walled area of late Roman date sits on a shelf on the scarp slope in an area rich in springs. These were doubtless important in its evolution, but it seems a qualitatively different site to those mapped by the present project and its raison d'être, as in later times, seems likely in part to relate to its location where the western scarp of the Wolds is cut back eastwards and the gradient more gentle than at many other points enabling access east across the Wolds in the direction of modern day Grimsby (the route now taken by the A46, linking Lincoln with North-East Lincolnshire).

It is possible that there is Iron Age occupation below these Roman era farms that we are not detecting remotely via standard survey methods. This is possible if the traces of settlement were more ephemeral and less conducive to detection via AP (which is often the case with Iron Age sites (Willis 2006)) and given that pottery of Iron Age date in much of Britain is not robust and readily susceptible to attrition, frost-shattering and disaggregation in modern ploughsoils. Hence, excavation might be the only means of establishing the presence or otherwise of Iron Age occupation preceding the Roman era farmsteads and other sites. At two Wolds sites, namely Otby Top (cf. above 8.7.4) and Binbrook (Jones 1988, 20, fig. 11; 1998b, 75, fig. 9), air photographic evidence shows enclosures within which lie apparent ring ditch features likely to represent eaves-drip gullies of the type associated with the British roundhouse tradition. Such structures are typical of the Iron Age in Britain, though it is clear the popularity of this architectural style extends into the Roman era, so they may be entirely Roman in date in these instances. Indeed, excavations at Goltho, south-west of Wragby, in the Clay Vale, revealed a sequence of roundhouses in use through the early Roman period (Beresford 1987, 15). The excavations at Mount Pleasant revealed Iron Age features, and metal detectorists have previously recovered many Iron Age coins, while to the south extensive Late Iron Age occupation seems likely at Ludford (TF 20 89; e.g. May 1984, 21).

A decision to position farmstead settlements on the edge of high land over-looking valley floors is a practice seen with Iron Age communities in various parts of north-west Europe, seemingly by choice. In the early 1980s Haselgrove identified the clear tendency of Iron Age farms in the Tyne and Tees region to occur around the 125m contour, for instance, on the edge of the Wear Lowlands (Haselgrove 1982; 1984, 12). He interpreted this as relating to a mixed farming regime enabling cattle grazing on wetter lower lying land (e.g. in the Wear Valley), sheep grazing on the uplands (e.g. on the East Durham Plateau), together with cereal crops. Though (on current evidence) earlier in date, as with these Lincolnshire sites, the preferred explanation for Haselgrove at the time of writing was that this was advantageous for the development of varied agricultural practice (mixed farming), while it might too have had an element of defensive consideration. Equally the survey of incidence of La Tène sites in the département de l'Oise showed the location of sites near plateau edges, above or on valley sides was something of a preference, especially by the late La Tène period (Gaudefroy *et al*. 2001); the farm at Jaux/Le Camp du Roi, near Compiègne, is a case in point (Malrain *et al*. 1994).

PhD research by Elizabeth Blanning on the incidence of rural sites in Kent using GIS has demonstrated that their occurrence closely corresponds with specifics of geology, topography, climate, soils and water: there is a strong frequency of sites along a narrow band of better grade agricultural soil associated with the margin of the Gault Clay and Upper Greensand with the Chalk Downs, with sites situated below the Downs (Blanning in prep.). This is also the spring line, at the junction of the Downs and the impermeable strata. She interprets this as indicating deliberate location to make use of two different underlying geologies and environments: crops could be grown on Gault, and coombe soil at the scarp foot, and sheep grazed on the hillside. Adjacent environments are less attractive: heath and poorly drained areas to the south, forming part of The Weald, while The Downs are dry and colder and have a capping of near intractable (to the ancient farmer) 'Clay with flints'. Her data show that 154 out of 203 site records relating to Roman buildings (whether *in situ* structural evidence or scatters of ceramic building material) are on or within 500m of the most workable soils (class 1 or 2; of those that are not 31 are on unclassified land and many of these seemingly would be on 1 or 2 land if the areas had not now been built up). Whilst this patterning shows rational choice in site location and finds parallel with the access to different environments along a downland edge, as seen with the Lincolnshire Wolds, there is a contrast in that the Wolds appear to 'fill up' with settlements – even when soils and climate are not advantageous. In Kent, however, on the North Downs there is an absence of settlement evidence for the Roman period, either because the landscape is too bleak or because population levels were such that expansion onto marginal land was not necessary. One other possibility might be raised, namely that part(s) of Kent were set aside as imperial lands with specialist functions (cf. Mattingly 2006); the Downs may have been extensively wooded at this time.

The landscape of the Lincolnshire Wolds – deeply rural in both the past and the present – has, prior to the current initiative, been profoundly unresearched, yet the evidence to date shows its high potential for integrated studies (cf. Jones 1988, 29; Taylor 2001, 52). During the Roman era it was populated with farms and smaller centres that were evidently productive and long lived. The project is continuing with further sites due to be walked, together with concerted geophysical survey and GIS mapping, building on the evidence gathered from Mount Pleasant.

Chapter 9

Site Character and Context: A Discussion

Steven Willis

9.1 Project Aims and Future

This Project was started in order to address the lack of archaeological study of the Wolds, which have been little explored in the past. Normal contract based archaeology has and will be rarely undertaken in this landscape, away from the few centres of population and with the exception of occasional pipelines. Given that the Wolds have a rich and varied history of human use it was felt that the area was a priority for archaeological input, or, relative to other regions of Britain and some areas of the East Midlands, our knowledge and understanding would remain minimal. Parts of the East Midland region have seen a transformation in data and study for the Iron Age, Roman and other periods largely as a result of development or mineral extraction: the hinterland of Leicester and parts of the Trent valley, for example, while to the south, archaeological excavations in Cambridgeshire over the past 25 years have been extensive. The Wolds have featured by degree in the regional research agenda and strategy documents (Cooper 2006; Knight *et al*. 2012) but it is less clear how aims might be implemented and who might fund them. By contrast the Witham valley has what amounts to its own research framework (Catney and Start 2003). That landform has not become a 'hot-spot' for investigation although the potential is equally enormous to that of the Wolds, given its buried and partly waterlogged landscapes, as demonstrated by LiDAR images covering the valley (I am grateful to Peter Chowne for discussing these with me). Lobbyists for the archaeology of the Witham valley exist in greater number and louder voice than is the case with the Wolds and so it is no surprise that study ambitions for the valley get a whole page in the 2012 East Midlands strategy document (Knight *et al*. 2012, 69); that is justified, but the case for investigation of the Wolds is equally strong.

The Project began, and continues, with a training role. Through commitment and hard endeavour students and volunteers have worked and learned skills together. They have given much to this Project through work at this site and others explored by fieldwork as part of this Project. No student or volunteer over the 15 years has been asked to pay for this training. That is due to the bursaries from the Universities of Durham, Sheffield and Kent that have enabled students to attend, covering food, accommodation and travel. Lincolnshire County Council was able to meet a range of project costs in the early years when there was a budget to support such activities, which its County Archaeologist and Conservation Services Manager had help set up. Reflecting back on the Project aims (cf. Section 2.5) this volume is testimony to the fact that they have been largely met, through the energies of the field and post-excavation teams, though it is for the reader to judge the success of these undertakings. This site has been widely sampled but the trenches are small scale and the fieldwalking whilst producing c. 15000 sherds and other items has collected a slight fraction of the material in the plough-zone (though that method retains its wide virtues (cf. Hayes and Lane 1992; Taylor 1996; Leahy 2007b, 137-8)). There is more that can be undertaken at this site, with intriguing questions still to be addressed. So the site has much further potential.

9.2 The Agricultural Base

Agriculture and its fortunes are the essential backdrop to society, settlement and use of the Wolds in present times and so it will have been in earlier times. In the Iron Age and Roman era the contribution of extractive and manufacturing industries (quern production, stone quarrying, iron smelting, potting and textile production) is less clear on existing evidence, but degrees of craft and rural industry are typical of the East Midlands generally (Taylor 2007, 47). That mixed agriculture was practiced and its products processed at the site during these times is made clear from the reports on the environmental archaeology (Chapter 7). We have seen from Chapter 8 that at least some farms were located on the margin of the plateau and the western escarpment of the Wolds, close by springs. Such locations offered some advantages but also drawbacks as discussed in that Chapter; it may be that these locations were 'chosen' of necessity if other locations were already in use. Field and Leahy in discussing the prehistoric and Anglo-Saxon site at Nettleton Top comment that: "One can only guess at the pressures on the land which may have resulted in the settlement of an exposed spot on top of the hill" (Field and Leahy 1993, 37). This should not be assumed though as modern farms and farmhouses occupy similar positions (as at Acre House, Normanby Lodge, Normanby Grange and Highfield Farm) and Rawding highlights how 'best practice' operated in these circumstances in the 19th century (2001, 12).

Wealth was being invested in villas nearby and is reflected in the votive material committed to the earth at Mount Pleasant. How this wealth was generated is not known but agriculture might be presumed to be the source to at least some degree. Mixed agriculture would have helped maintain soil fertility and spread risk.

Winter on the Wolds can be distinctly cold and thereby problematic for farming (Rawding 2001, 30-1) with significant snow falls recorded in recent decades. Hardy crops are suited to the environment and Wolds tops where soils are chalky and thin, such as barley, oats and turnips, important since the early modern period and tied in with sheep raising (oats being rarely grown in recent decades). Rawding notes that the 1801 crop returns indicate the prominence of turnips with barley the second largest acreage. Wheat was more profitable than barley but: "Wheat yields were more variable; as a result, at the start of the century it was still considered a high-risk crop by Wolds farmers" (Rawding 2001, 16). Agricultural diversity and systematic rotation ('High Farming') certainly generated profits in the 19th and 20th centuries (Rawding 2001; Whitlock 1987).

Rackham's analysis (Section 7.2) indicates breeding of cattle, sheep and pigs at the site.

As he, and Stallibrass before him (Stallibrass 1999), emphasize very little is known regarding animal husbandry and the character of faunal assemblages from the region. Samples from other sites are required in order to build an understanding of how Iron Age and Roman communities were organised in terms of agriculture and how they interacted with each other and with their environments across the region (cf. Stallibrass 1995; cf. above Section 7.3). The excavated sample from Hatcliffe Top will assist, but is just one site. Without this knowledge we are not able to assess the impact of Roman rule on the region, and the potential role of the legionary fortress and subsequent colony at Lincoln (Dobney *et al.* 1996). As Rackham notes the farms of the Wolds are likely to have been a significant source of supply of agricultural produce to Roman Lincoln, and to other consumer populations.

Figure 9.1 The results of the geophysical survey shown on a Google Earth image of the site. © 2013 Google; © 2013 Europa Technologies; Image © The Geoinformation Group.

Figure 9.2 Alan Daws, with the Humber estuary in the distance.

9.3 Caistor High Street

Caistor High Street, linking Horncastle with Caistor and continuing to South Ferriby, is today an important arterial route in eastern Lincolnshire. Its course runs along the natural ridge of the Wolds, near its western escarpment and follows the east-west watershed (cf. Fig. 9.1). Scratch the cover of any general book dealing with the Roman period in the East Midlands and you will learn that this route has its origins in prehistory and is used by the Romans for their needs. These deductions (based on precedents from elsewhere in Britain) are probably correct but do not have a basis in known facts (cf. Whitwell 1970, 53). This road is listed by Margary as his number 270 which he describes as a "Romanized ridgeway" (Margary 1973, 191). The 1978 edition Ordnance Survey map of Roman Britain marks the route with its category 'prehistoric trackways in contemporary use'. The road has not been confirmed by discovery of surfaced sections or through excavation, though it may be concealed by the modern road. Excavations near Bully Hill Top between Mount Pleasant and Ludford, east of Tealby (5.5km south of Mount Pleasant) suggested that there may not have been a route on this alignment in prehistory, though the findings were not definitive (Field and Knight 1992). The antiquity of the road though is implied by the fact that as Whitwell observes the route: "forms the longest division between parishes of any road, Roman or pre-Roman in the area" (Whitwell 1982, 69). The results of the excavations 1998-2013 and the geophysical survey indicate that the modern B1225 at Mount Pleasant overlies a Roman road in existent in the second and third centuries AD, if not before, given that properties of this date front on to an evident road. Buildings 1-3 all appear to front on to this road while the property boundaries at Trench I are also aligned with it (Fig. 9.4). Whilst it is reasonable to assume the Caistor High Street was significant in the Roman period there must also have been a 'low road' along the western escarpment linking the communities along the foot of the scarp. Such a road might have been vulnerable to the vagaries of surface drainage and even landslides at various points depending on its course but this may have had the advantage of following flatter land and a voiding an ascent of the Wolds.

9.4 Location and Landscape

Lincolnshire has a tradition of published general studies and compendia focused on landscape and history where the interplay of culture and land are often to the fore (e.g. Field and White 1984; Ellis and

Figure 9.3 East to west panorama of East Field.

Crowther 1990; Bennett and Bennett 1993; Howard and Start 2007). More specific studies focus on the area of the Wolds or other aspects (e.g. Rawding 2001; Russell and Holmes 2002; Robinson 2009a; Stennett 2009). A common thread is the human experience and the cultural consequences of landscape and human interaction. Landscapes are not a given or neutral space, but actively created environments where choices are played out and where processes unfold, and constitute places marked by human experience, tradition, symbols and narratives. Mount Pleasant was, from the time of the first settled communities and clearance of the land until the later Roman period a nodal point in the landscape, a crossroads where a north-south arterial route met tracks accessing and rising from the incised valleys to the south, north-west and east. This is a high point with views to the mouth of the Humber, to the north-east (Fig. 9.2). Whilst that can be a striking vista it is far from being a unique vantage point in the Wolds landscape and the significance of such a view in earlier times is conjectural. It may be that there was a spring in the ancient past, issuing further up the valley below Street Furlongs than is the case today (possibly where the estate reservoir has been instituted in the recent past) when the water table may have been higher; that might have been ascribed a particular significance. Otherwise there is little to distinguish this location topographically from other parts of the Wolds (Fig. 9.3), while the presence of elongated enclosures and likely barrows is not unique in this area, although those at Top Buildings and North Field, together with the postulated example at Trench A (see below) are at variance with others in the area as they were positioned on top of the ridge whilst others are located in valleys (Phillips 1989). There is no evidence that people were living at the site in the Neolithic era or Bronze Age but they were by the Roman period. At this location they presumably needed to sink wells to obtain a convenient access to water which might otherwise be obtained from some distance down the adjacent valleys.

9.5 The Site in the Neolithic

A clear outcome of the excavations and survey is the light it sheds on Neolithic activity, which was evidently extensive. This was confirmed by the radiocarbon dates from the comparatively deep palisade at Trench D, context [4028]. This feature appears likely to be an enclosure of which [4050] formed an eastern side. [4028] cut an earlier feature [4051]/[4099] which appears to have been a linear feature composed of a band of post holes and this feature was presumably of early Neolithic date and a palisade of some form. Other post settings at Trench D may belong to this period. The small group of faunal remains from (4038) from which the radiocarbon dates were obtained appears to have been placed up against the cut of [4028] at the point where it cut through the earlier feature [4051]/[4099]. Composed of red deer antler and bovine vertebrae and a large radius, potentially from a sub-adult small aurochs, this group may be seen as selected items of hunted deer and prime meat bearing cuts (pers. comm. Keith Dobney and James Rackham). Whilst these elements point to the likelihood of a symbolic deposit this should not be unquestionably assumed (cf. Rowley-Conwy and Owen 2011); these authors also point out that aurochs were rare in British Neolithic assemblages. Cattle bone and deer antler also occurred associated in the ditch at Giants Hills 1 long barrow (May 1976, 49). The geophysical survey may have picked up this Neolithic enclosure but that is not

certain as there is a later enclosure in this location too, which may have generated the registered anomalies. Early Neolithic enclosures often had funerary and ceremonial uses, being meeting places for transactions and feasting (cf. Pollard 1997, 27; Bishop, Chapter 4) and Mount Pleasant is a suitable location as noted above. It is possible that the palisades at Trench D were parts of a timber complex or façade sequence associated with a putative enclosure/long barrow at Trench A; timber sequences are known at sites that develop as long barrows (Phillips 1936; Evans and Simpson 1991; cf. Pollard 1997, 31).

Whilst it was not anticipated that Neolithic remains would be encountered when the location of Trench D was selected, the placement of Trench G was motivated by the intention to examine the long linear feature running north-south through the northern and middle area of East Field, as identified on Phil Catherall's geophysical survey; this was thought likely to be a prehistoric feature. In Chapter 2 the presence of parallel linear features was discussed, for whereas Catherall had discerned and drawn one linear in his interpretation, closer scrutiny of his plot shows two linears (referred to as CLFE and CLFW in Chapter 2, with the former the feature mapped by Catherall). Upon excavation sections of two linear features were exposed at Trench G, a deep palisade with a well-defined slot [7006] and to the west a band of apparent post holes [7004], etc. No dating evidence was recovered from these features, and bulk soil samples proved sterile. These two features are evidently parts of the two linear features generating the geophysical anomalies CLFE and CLFW and whilst they are undated the nature of their decalcified soil fills points to a prehistoric date. Their course follows the slight ridge through the field that marks the east-west watershed of the Wolds and the likelihood must be that they are a land division feature and part of a Neolithic landscape. Whether they are contemporary or mark two phases is not known.

It may be significant that at Trench D the earlier Neolithic feature [4051]/[4099] was morphologically similar to [7004] whereas the subsequent palisade trench [4028]/[4050] was more emphatic, so perhaps this is a guide to phasing at Trench G. At Trench H feature [8017] closely resembled [7004] in terms of feature morphology and in the character of the soil fill. The geophysical evidence suggests that [8017], specifically the alignment of the north-south part of the cross represented by [8017] may represent the same feature, that is [7004]) as it continues south. Trench H did not extend sufficiently to the south-east to establish whether there was a continuation of [7006]/CLFE at this point though the geophysical readings show the feature may not have extended this far to the south (cf. Chapter 2 and Fig. 3.1). The prospect that [7004]/[8017] and /or [7006] are one side to a cursus monument is raised by the presence of the linear anomaly to the west identified by Catherall as Feature F2 (Fig. 2.2 and 2.4, though note he includes our feature CLFE as part of Feature 2) This is a not particularly strong anomaly but it is noteworthy that Moody and Webber's plots (Figs 2.5 and 2.6) show what may be a part of this feature to the west of Trench G on the northern side of East Field. In the report for British Gas the possibility is raised that F2 might be a cursus (Catherall *et al.* 1998, 59). This deduction is supported by the evidence from the excavations at Trenches G and H. The perhaps attractive idea that Catherall's Feature F4 (Fig. 2.4) represents a cursus aligned on the highest point in Lincolnshire at Normanby Top to the south-west (Fig. 2.1) and the mouth of the Humber, visible to the north-east was, contrastingly, not supported by the evidence at Trench H where the anomaly forming the northerly linear was found to be Late Iron Age/ Roman. Catherall's view that F4/Complex B was likely to relate to the Iron Age and Romano-British enclosure system (pers. comm.) was accordingly upheld.

As noted in Chapter 1 linear monuments ascribed a Neolithic date are known on the Wolds, but rare, with a cursus type monument identified at Thorganby, some 6.5km due east of Mount Pleasant (Jones 1998a, 98-9, fig. 11). Such linear features or avenues can be aligned towards contemporary long barrows where they might terminate (cf. Pollard 1997, 39-41). If this feature in East Field represented by these long linear features (F2/CLFW/CLFE) is a cursus several points arise. It runs along the spine of the Wolds ridge and so follows the topographic grain of the land. The feature at Top Buildings generally thought to be a long barrow (Section 1.6 and Fig. 2.1) was not seemingly its destination as it is not aligned on that monument. A relationship with the elongated enclosure/long barrow in North Field is possible (Jones 1998a, No. 48; see Section 1.6). Cursus monuments are hardly known from the historic county of Lincolnshire (Bennet 2009; see discussion of their 'absence' by Jones 1998a, 100-1) although Peter Chowne (pers. comm.) has recently identified a new candidate in the south of the county in the Witham valley.

Catherall believed there to be two or more circular features within F2 which in the 1990s were more visible on screen than in the plot (Fig. 2.4, Features F25 and F26, see Chapter 2). It is possible these apparent circular anomalies are the signals from the remains of round barrows also occupying the ridge, though presumably later than F2. Cursus monuments normally lack internal elements but a small timber circle had been constructed within the cursus at Springfield, Essex (Pollard 1997, 39). The plot of the worked flints recovered during the British Gas team's survey (Fig. 4.5) shows some concentration at this general locality (cf. Catherall *et al.* 1998, 59). Unfortunately Ian Brooks' report on the assemblage was not included in the original reports (Brooks 1994; Bonner and Griffith 1994; Catherall *et al.* 1998) and could not be located for the current report.

The excavations add further support to the indications from cropmark evidence, earlier finds and the remnant of upstanding monuments that this landscape was well-used in prehistory, with Neolithic and Bronze Age funerary monuments frequent along the ridge followed by the modern High Street. The large ditch encountered at Trench A [1007]/[1026] is likely to be a feature associated with this landscape, perhaps the quarry ditch for an elongated enclosure and/or long barrow. The scale and section of this feature and the nature of its fills (Figs. 3.12 and 3.13) bear a close resemblance to the profiles and character of the quarry ditches for the Hoe Hill and Ash Hill long barrows investigated by Sheffield University in the 1980s (e.g. Phillips 1989, figs 2.3, 2.5 and 3.4). Dates obtained from these features (Phillips and Walker 1989) confirm early Neolithic construction and activity into the middle Neolithic at those sites, in accord with dates from Trench D at Mount Pleasant. Ideally more fill from the ditch at Trench A would have been excavated but in the time and circumstances the student team did well; some when in the future further work may be undertaken at this location in East Field. The recovery of something dateable from the earlier fills would doubtless have been informative but as discussed (Section 3.3.1 and Chapter 7) lower feature soils were sterile. The ditch appears to have been recut (a phenomenon noted too by Phillips at her long barrow sites) and at a later stage the axe-head was deposited which Needham sees as unlikely to be a chance loss (Section 4.2.3). This points to a continuing biography for the feature at Trench A, one being marked by a powerful statement if the axe is a placed deposit. What though does this feature represent? The geophysical plot and interpretation (Fig. 2.2 and 2.4) show a major anomaly here (F23), consistent with the evident scale of the feature as shown by the excavations. The feature is an elongated U-shape and given such a form is suggestive of an elongated enclosure and perhaps a long barrow. At the south end there is a large anomaly (F33) which indicates a hollow or chalk quarry (Catherall *et al.* 1998, 5; Moody and Webber Chapter 2, Figs. 2.5 and 2.6). There is no reason to think this is other than a chalk quarry but its presence at the southern end of F23 is curious. If F23 surrounded a long barrow was that an upstanding feature like others nearby in this district of the central Wolds (cf. Phillips 1989)? If so was it opened by antiquarians and a hole made that then developed into a chalk extraction/marling pit (cf. Sections 1.13 and 2.2)? This possibility also might be considered in the case of the quarry hollow at the southern end of Street Furlongs (Sections 2.2 and 2.8.1). From the lip of this feature Gwen Bain found, by chance, at the surface, the two ground stone axe-heads reported by Bishop (Chapter 4); these were found on the same day nearby to each other, the only stone axes known from the field. One was burnt and as Bishop notes such finds are not customary at settlement sites but are associated with monuments (Section 4.1.5). Was there once a monument at this location, an enclosure or barrow? If there was a long barrow was this likewise opened in the 18th or 19th centuries, subsequently becoming a quarry hole as in the scenario postulated for F23/F33 by Trench A?

As noted above (Sections. 1.6 and 2.3.2) an elongated enclosure, perhaps having once contained a long barrow, was present in North Field. This feature measured around 60m in length (Fig. 2.1). It was not Scheduled as in the early 1990s it had not long been recognized, having been catalogued from aerial photos by Dilwyn Jones (Jones 1998a, No. 48). Its shape was confirmed by a limited geophysical survey in advanced of the Skitter-Hatton pipeline, being an elongated rectangle with curved ends (pers. comm. David Griffiths), conforming to air photographic plotting (cf. Fig. 8.5). It was damaged on its western side by machining and grading when the Skitter-Hatton pipeline trench was inadvertently cut through it in 1993 but part of the feature remained outside the easement so partially survives. Salvage work focused on the quarry ditch of the monument by the British Gas team revealed that it had been recut on several occasions and finds included Beaker pottery, fragments of Middle Bronze Age collared urn and mid-Roman items concentrated in the upper fill of the surrounding ditch (Bonner and Griffiths 1994, 36; Elsdon and Leary 1994). The monument was seemingly still receiving deposits in the Late Neolithic-Bronze Age transition, and perhaps too its position and significance was being marked in the Romano-British period. Dr Griffiths recalls that a proportion of the Romano-British pottery around the monument disturbed by the machining comprised large unabraded pieces. The character of the Roman period pottery does not, however, include unusual or axiomatically votive material (Leary in Catherall *et al*. 1998) and the interpretation of its composition and the formation processes accounting for its deposition are not straightforward. Turning back to Trench A, the major ditch here had Late Iron Age and early Roman pottery within it. Perhaps this was the accumulation of settlement detritus from activities nearby; certainly the pottery is quite fragmented and mixed, and as with the monument in North Field the ceramics do not include obvious votive material. From across the top fills of the ditch the three-part chatelaine cosmetic set was recovered which would seem likely to be a deliberate inclusion of a typical votive item (Cooper, Section 6.7.9). Were the monument in North Field and that at Trench A/F23 similar features, both to some degree extant in the early first century AD, and seen by the contemporary community as foci to place cultural material? Catherall and Leary (Catherall *et al*. 1998, 4 and 65; above Section 2.3.2) give instances where older monuments, including long barrows, were being visited in later cultural eras (cf. Woodward 1992, 26-8; Woodward and Leach 1993, 305). Similar cases of likely veneration of Bronze Age barrows in the Roman era include Stanwick, Northamptonshire, and Longstone, Derbyshire (Neal 1989, 152-7; pers. comm. Ruth Leary). Closer to Mount Pleasant, at Giants' Hill 1 long barrow, Skendleby, towards the southern end of the Wolds, a deliberate placement of five stacked flat Romano-British sherds was recorded in the upper ditch fill (Phillips 1936, 71). Such practice of acknowledging these older monuments is a now widely recognized phenomenon (Hingley 1999). Given that by the Roman period there was established settlement at Mount Pleasant, one can reference other sites where Iron Age and Roman settlement is placed besides earlier monuments, such as Thundersbarrow Hill (Curwen 1933), Rookery Hill (Bell 1977, 139-41) and Barcombe villa (Rudling *et al*. 2002), all in Sussex, though in these instances the monuments are round barrows. At Navenby there were indications of Neolithic and Bronze Age activity, including a hengiform monument in the area that is later occupied by the Roman roadside settlement (Palmer-Brown and Rylatt 2011, 9-12). Similarly at Dragonby there was some evidence for Neolithic activity with traces continuing into the Later Neolithic/Beaker era but the nature of the remains is very different from the ceremonial/ritual features at Mount Pleasant (May 1996, 35-47).

Returning to the Neolithic there is no evidence that there was settlement in nearby association with the palisades and elongated enclosures/long barrows. Pollard noted that ceremonial monuments were often deliberately sited over former occupation sites (Pollard 1997, 34). Given the limited nature of the excavations and the fact that Neolithic domestic material is rarely identified amongst surface collected assemblages, the absence of evidence for Neolithic settlement is not a clear indication that there was none. All one can say is that the features recorded fit with a ceremonial use of the cleared landscape (cf. Section 1.4) probably with the incorporation of funerary monuments and of a type often seen as signalling the importance of ancestors and land tenure (Bradley 1984).

In sum several palisades, the enclosure at Trench D and the large ditch at Trench A are all Neolithic, or likely Neolithic features (and dating from the Early Neolithic), with some evidence of a sequence at Trench D, and some of these features, at least, may be contemporary. There is little cultural material to associate with this bar a proportion of the lithic artefacts, and the significance of those from the 1998-2013 fieldwork is weighed by Bishop (Section 4.1). The Bronze Age and Romano-British finds from Trench A and the elongated enclosure No. 48 are consistent with ongoing or periodic veneration, or acknowledgment of significance ascribed to these earlier monuments, by the Late Iron Age, associated perhaps with a shrine.

Bronze Age evidence is not well attested by the excavated evidence and finds. As noted, it is possible that the putative circular anomalies F25 and F26, and another within F4, are plough flattened round barrows. The area of F25 and F26 shows no correspondence to anything significant in terms of the fieldwalked pottery which might add slight weight to their interpretation as ring ditches of barrows (in so far as the pottery from that exercise does not indicate that they are Iron Age or later). A solitary Beaker sherd was found during the 1992-3 fieldwalking (Fig. 6.11) and several similar sherds came from the salvage operation of 1993 in North Field. Some flint items from the 1998-2013 fieldwork date to the earlier Bronze Age and finer items recovered are of the type often associated with graves (see Bishop 4.1.4).

The Early Bronze Age axe stratified in the fills of a recut in the quarry ditch at Trench A is an exceptional instance of an axe of this date found *in situ* (Needham, Section 4.2). As Needham notes the nature of the find cannot be fully understood given the limited investigation of the find context and the lack of associated data. Typologically similar axe-heads, both with bands of rain decoration, are known from Digby in the south-west of the county (Fig. 4.8) and Osgodby, on the moorland below the Wolds escarpment, to the west of Mount Pleasant (Whitwell and Wilson 1969, 100, fig. 1 no. 2). Bennet states that: "Ritual deposits of bronzes … have only been found in rivers and fen edge locations off the Wolds" (Bennet 2009, 24) and so this particular find is all the more noteworthy. There is no indication that the axe was a found or curated item subsequently interred in the Iron Age in line with the practice noted by Hingley and others (Hingley 2009; Musson 1991, 63; Stead 1998a) or a marker of termination or a boundary (cf. Hingley 1990a; 1990b; Merrifield 1987). The presence of a plain body sherd of distinctive fabric from the main fill of the recut ditch (1008), appearing to incorporate grog, suggested to David Knight a likely Early to Middle Bronze Age attribution, in accordance with the date of the axe and the stratified sequence (cf. Section 3.3.1). The context lay just above (physically and stratigraphically) layer (1025) which contained the axe, adding slight weight to the interpretation that the axe was deposited in the Early Bronze Age. Nothing else of such a date came from Trench A.

9.6 The Site in the Later Iron Age and Roman Era

9.6.1 Site Organization

The geophysical surveys provide much detail on the presence and shape of past features at the site and perhaps with few exceptions (notably the chalk quarries) these are evidently ancient features. In East Field (Fig. 2.4) the east-west linear feature F1 traverses the field and seems likely to be prehistoric (Section

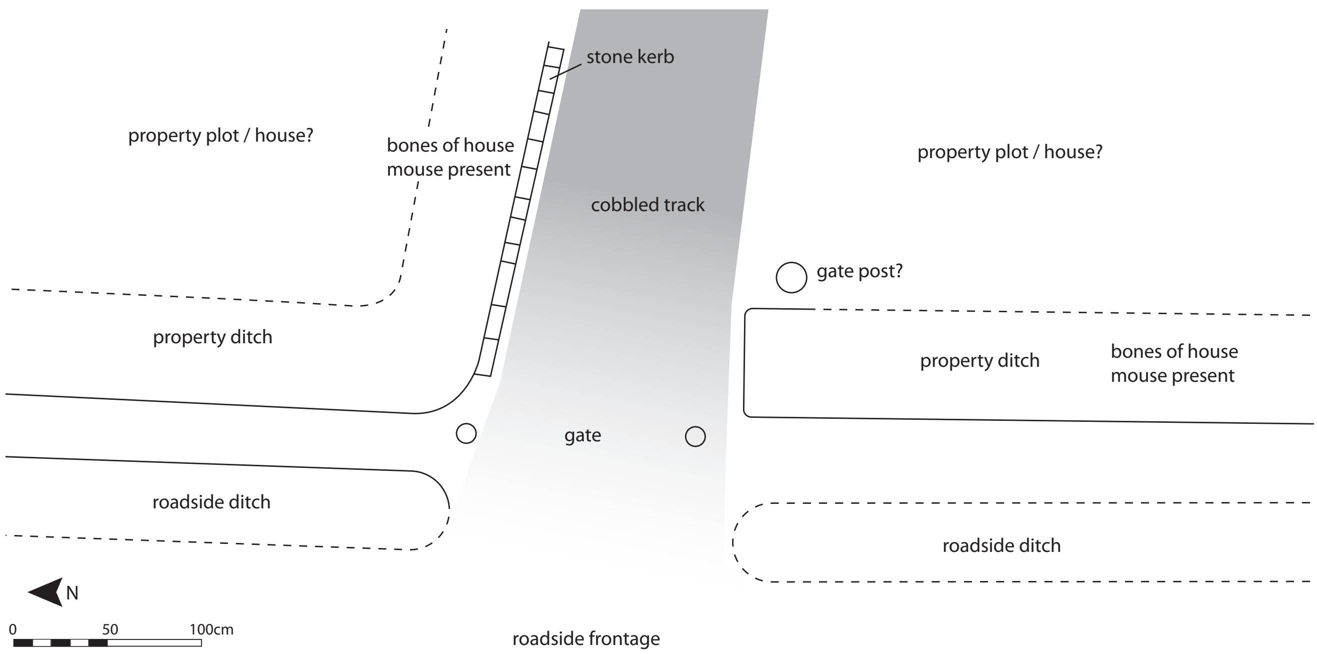


Figure 9.4 Interpretative plan of Trench I.

2.3.3), F2 and CLFW and CLFE are also evidently early in the site sequence and are considered at length above. The enclosure at Trench D of Neolithic date could be the right-angled anomaly showing on Catherall's plot (cf. F7) though there are overlying Late Iron Age and Roman ditches on similar alignments to the Neolithic palisades so it is uncertain what features generated the anomalies in this palimpsest at F7 and F8 (Complex A). Broadly, as discussed above (under 9.5), these features represent extensive land divisions probably ceremonial and involving a funerary element. This is one landscape and above it is the Later Iron Age and Roman use of the location. Overall the alignments and form of the ditches and enclosures of this phase are consistent with those of roadside settlements, though in this case there are also tracks leading in several directions. The main focus is the area either side of the modern B1225 and this is borne out by the surface finds and excavated evidence: there are buildings and properties here in some density and the weight of evidence points unequivocally to the fact that by the middle Roman period, and perhaps before, the Roman road must essentially underlie the course of the modern road which perhaps uses its forerunner as a foundation. A string of enclosures in East Field and Street Furlongs are defined at their distal ends to the road by single uniform boundary ditches indicating planned space. There are tracks beyond these back-enclosure boundaries on either side of the site which are generally free of other features. The track in Street Furlongs follows the topography and presumably heads down eastward into the valley leading to Rothwell. Smith notes similar back-lanes at other sites (1987, 24). To its south-west is an enclosed area the layout of which is consistent with the string of property boundaries that front onto the road to its west and so it is evidently contemporary in origin and part of a widespread design. This design is on an alignment seen too with the ditches and associated features in Trench I and Building 2 at Trench J. The ditches excavated at Trench I evidently formed part of a coherent system of property boundaries fronting onto a road immediately to the west and may indeed be roadside ditches (Fig. 9.4). Yet in truth whilst there is a broadly linear ladder type arrangement the detail is complex either side of the B1225 with something of a palimpsest of ditches on varying alignments of the type seen at Trenches E and particularly Trench J prior to the institution of Building 2. Ditch [9514]/[9700], yielding Iron Age and early Roman finds, had a south-west to north-east alignment and the later ditches [9698] and [9699] have alignments mirroring that of other features at Trench E (cf. [5011] and (5006)) and Complex B in East Field, at variance with the alignment of Building 2 which is more or less perpendicular to the B1225. Stone founded Buildings 1 and 2 appear to be part of the more formalized settlement lay out, which is on an approximate east-west alignment, though [9698] and [9699] could be property boundaries of an earlier scheme (of Roman date). The string of property plots here is reminiscent of other roadside settlements of the region: at Hibaldstow, Navenby, Sapperton and Shiptonthorpe (Smith 1987; Palmer-Brown and Rylatt 2011; Simmons 1976; 1995; Millett 2006; see Smith 1987, 22-33). The depths of the property plots at other sites, such as Neatham and Chelmsford, is generally between 40-50m (Smith 1987, Chapter 2), which is apparently the depth at Mount Pleasant.

Between Complex C in East Field and ditch F14 (see Fig. 2.4) a track branches off to the north-west, accessing Nettleton Bottom. There is an evident absence of features in East Field where Complexes A, B, C, D and E converge and Leary suggested this was a likely cross-roads (Section 6.1.6.1). The absence of geophysical anomalies at this node is reflected too in a paucity of pottery from fieldwalking across this area. No geophysical survey has been undertaken in the field to the south of East Field and so it is not certain whether Complex E extends into this field. Walkover surveys in this field between 1998 and 2000 and latterly found no traces of cultural or structural material from the surface of the field: finds were zero despite the field surface being in a suitable condition. The local belief that a mosaic was found below the barns (Section 2.1) is intriguing; would this be related to a villa or perhaps mansio fronting on to the road? It is unlikely that a temple at this location would have possessed a mosaic. A mansio is possible, while one might normally expect a villa to be set back further from the road. At Hibaldstow, Building VI, which replaces an aisled building, has the winged corridor form of a small villa and is set a little back from the road but within the series of property plots by the core of the settlement (Smith 1987, figs 2, 3 and 14). This is a very unusual building type to occur at a roadside settlement.

Complex A (Fig. 2.4) is unusual for a roadside settlement and resembles a separate farm unit, or the type of enclosure complex one might associate with a shrine or temple, which in this case would be besides the likely Neolithic monument of Trench A and F23. The ditches F10 define a track accessing the complex from the main road. There are, however, no indications amongst the finds that this was the location of a shrine or temple.

The collective organized nature of the enclosures, lanes and tracks suggests community level organization and planning at one or more stages and

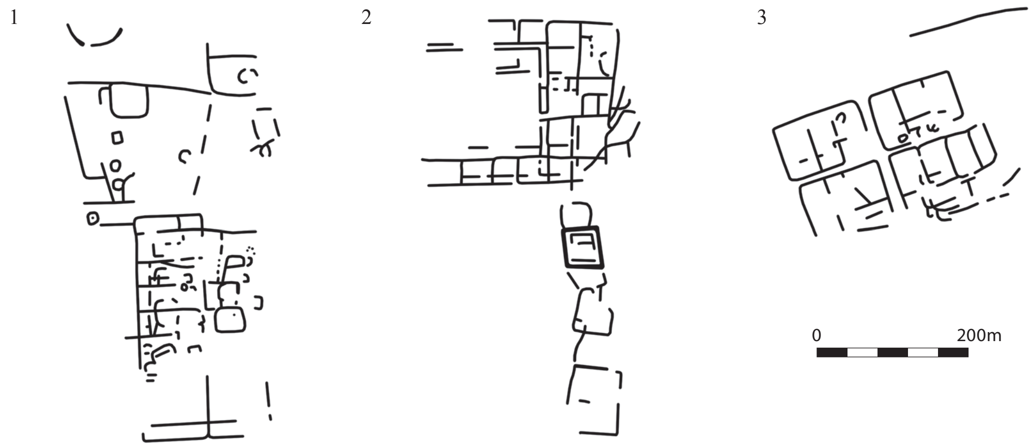


Figure 9.5 Major cropmark complexes in the vicinity of the site. 1: Priory Farm, Stainton le Vale (TF191946); 2: Walesby Top, 3: North Top, Kirmond le Mire (TF174932).

this is a characteristic seen both at other roadside settlements (Smith 1987, Chapter 2, for instance Neatham) and sites with smaller communities. The latter include Priory Farm, Orford, Stainton le Vale (Fig. 9.5, site 1; Everson *et al*. 1993, fig. 7 is an aerial photo of the site showing as clear soil marks in March 1966) which is reminiscent of the layout of the site at Faverdale (Proctor 2012), and the likely farmstead site at North Top, Kirmond le Mire (Fig. 9.5, site 3). The latter appears to be of a scale suggesting an extended family group or community of like size: four households perhaps and it is easier to understand that a group of this size might follow a shared orderly design. This is seen too in the layout of the Walesby villa (Fig. 9.5, site 2). Both the Priory Farm and North Top sites could include roundhouses judging from the plotted cropmarks which might suggest Iron Age origins or the vernacular architectural tradition continuing into the Roman period, as is seen at nearby Goltho (Beresford 1987). Overall we can conclude that orderly design was a shared practice, and presumably the product of the community's choice.

9.6.2 Buildings

The nature of the buildings encountered in the excavations is discussed under the trench headings in Chapter 3, while the materials are considered in Chapter 5. As is so often the case, particularly in rural circumstances, the buildings were represented by truncated vestiges, the remnants following robbing, clearance for agriculture and ploughing, etc. With the exception of the preservation under the hedge bank at Trench J only foundations were extant, which may not be a reliable guide to the manifestation of upper levels. The width of Building 2 is known, at approximately 8.45m, a similar width to aisled buildings at Hibaldstow and Shiptonthorpe. Its length is not known but internal details for the western end are partially known. Since the length is unlikely to have been less than 18m (cf. Section 3.3.10) the internal floor space will have been substantial, while the roof space may also have been used. The aisle post positions only survived on the northern side of the structure where four or five were identified in a row (Fig. 3.85). It may be that the posts were set in pits or rested on padstones as either is possible from the surviving evidence; the posts of the aisled Roman building at Wrawby (Fig. 1.2) are believed to have stood on stone pads (Beasley 2008). At Mount Pleasant, judging from the extant post positions of the northern aisle, these were c. 2.4m apart, which is close to the spacing at Wrawby (2.5m: Beasley 2008, 9), and a little less than the spacing recorded at the Deepdale (Atkins *et al*. 1981) and Winterton (Stead 1976) examples which was 3m. The south-west corner of the building included a partitioned area, Room 1, while the north-west corner may also have had a functionally separate area similar to Building III at Hibaldstow (cf. Smith 1987, fig. 11). The spread of scorching within the area of the building (9707) may relate to a hearth or oven belonging to its use. The building of phase 3.3 at Shiptonthorpe had an oven in a similar location, though further from the road end (Millett 2006, illus. 15.2). It is regrettable that more of Building 3 did not survive as it lies at the end of the sequence and seems to represent a return to fully wooden architecture, but using the same property location. Such spatial continuity is known elsewhere at roadside settlements, Shiptonthorpe being a case in point (Millett 2006). It is possible the post holes cutting into the top of the west wall of Building 2 represent replacement of the front of Building 2 but if so why was this not following the form of the original build of Building 2 using a timber plate? It is difficult to find a parallel for post settings cut into a wall of a building at sites of this date in the region.

The wall foundations in the case of Building 1 appear to be convenient materials to hand rather than the use of selected and robust materials; those for Building 2 varied but for the coursing above the foundations had been selected and constructed with care. Flint was not employed as a building stone in the area in the Roman period, and is rarely seen as a building material in subsequent eras (Robinson 2009c, 64). Flint seams in the chalk are rare and tend to be tabular, and so the area lacks the type of nodular flint employed in, for instance, East Anglia and Sussex. Chalk was used as a surfacing material for tracks and yards (as apparent in Trenches B, E, and J and at Hatcliffe Top) and in Building 2 it was used as an internal facing stone. The structural use of chalk is discussed in Chapter 5 and typically it was employed as a convenient substitute material for structural elements that were not exposed or which might be conveniently replaced with this weaker stone. In latter periods in the area chalk was used for the core of walls, notably church walls (Robinson 2009c, 64). Ironstone and Roach were used for external walls at Building 2 and for the floor foundation at Building 1, with some use of Tealby Limestone in foundations in both cases. Ironstone, Roach and Tealby Limestone must have been brought to the site by cart from local quarries. Chalk was also used in the foundations of both buildings and in the case of Building 1 this was alongside some erratics, presumably collected from stream beads or topsoil surfaces, perhaps retrieved from soil turned in the agricultural cycle. Whether the evidence from Buildings 1 and 2 is a guide to the appearance of other stone structures at the site is not certain. A comparatively dense surface spread of stone in East Field in the area of F18 and F19 (Fig. 2.4) presumably relates to the disturbance of one or more stone founded buildings. That said a general spread of ironstone occurs along the western margin of Street Furlongs within the ploughsoil and in the vicinity of the B1225 in the north half of East Field, while being absent elsewhere. Since chalk, or in one instance at Trench I gravel, was used for surfaces, the presence of stone would seem likely to relate to buildings rather than surface consolidation. (Gravel might be collected from valley floors and stream beds while a modern era small scale pit extracting gravel existed in the corner of the field known as 'Stonepit' on the east side of the road from Rothwell to L'Ings Farm, Croxby Top (Whitlock 1987, the 1951 Plan of The Rothwell Farms)).

Roofing was probably via thatch or timber shingles, or possibly turf, given that so few ceramic tile fragments were encountered. There is some evidence from Hibaldstow of the use of sandstone (from Coal Measures) to fashion peg tiles (Smith 1987, 192), though this may only have been for buildings where budgets could expend to such permanence. Further west slating is known in the Roman era (cf. Taylor 2006, 153). A stone or tile roof was a major financial outlay (Mills in press), and so the picture at Mount Pleasant, unsurprisingly, conforms with the picture seen at other regional roadside settlements which are more rural than urban in nature. At Navenby there were only c. 124 pieces of CBM recovered in a variety of fabrics, suggesting *ad hoc* arrivals at the site rather than any organized supply or fabrication for roofing one or more buildings; as was the case at Mount Pleasant, these were mostly not usefully stratified (Young 2011). It is unsurprising then to see that the buildings depicted in the front cover illustration of the Navenby monograph are thatched (Palmer-Brown and Rylatt 2011). Similarly at Shiptonthorpe the roof cover is thought to have been thatch or heather (Millett 2006, 312). The area of the Roman aisled building investigated by trial trenches at Wrawby (see Fig. 1.2) produced only thirteen fragments of Roman CBM (Boyle 2008), which could again suggest this building was not tile-roofed, although at least one room had finely painted wall plaster which is often seen as indicating comparative wealth (Beasley 2008). By contrast tile was evidently prominent at the Walesby villa site judging from the reports of the work there in the mid-Victorian era (Philpott 1862, 137), and that would tally with the likelihood that the commissioners of a villa had the wealth to afford and cultural interest in a style of house with a tiled roof.

An association between the occurrence of nails and Building 1 is suggested by the spatial plot of the finds from Trench B (Fig. 3.16 right) and it is likely that nails were used in the construction of Buildings 1 and 2 (Table 5.3); nails were also fairly frequent finds at Trench I thought to lie besides to two property plots (Tables 3.11, 3.15 and 3.16). Some 18 nails were recovered at Downlands, Walmer, Kent, where part of a Romano-British aisled building with stone foundations was examined (Jarman 2010, 64). Philpot reports "many nails" from the villa site at Walesby (1862, 138). These numbers are dwarfed by the 815 nails recovered at trench 3, Shiptonthorpe, opened over a sequence of Romano-British buildings, though this trench measured approximately 40 x 40m so was a fairly large 'catchment' area (Snetterton-Lewis 2006). There was no spatial patterning to the distribution at this trench at Shiptonthorpe (illus. 5.8); some 75% of the nails were unbent, indicating they had not been extracted after use, and the proportion unbent from Trench J matches this figure (Table 5.3).

Another building at the site presumably existed if the architectural stone (Section 5.1) is from this site, as would seem likely. The working on the stone is not something to be expected with the stone founded half-timber aisled buildings of the type that Buildings 1 and 2 represent, and given the context provided by the finds assemblages from the site it is easy to conceive that Les Brown's architectural stone came from a substantive classical temple; this would seem the most straight forward explanation for its occurrence. Even so it would represent a remarkable manifestation at this essentially rural site, and one that meant a considerable input of finance. Where it may have stood is not known. The stone came from the hedge base on the west side of Street Furlongs and was presumably moved there to clear the field for agricultural work. It is a case study in taphonomy and an index for the site as a whole: what was once manifest at the site but now is so fragmentary.

9.6.3 Material Culture

Volumetric Study

During the excavations a tally was kept of the volumes of soil excavated per context following the methodology established by Millett at Shiptonthorpe from the mid 1980s and subsequently employed at excavations at Redcliff (Creighton and Willis forthcoming) and Hatcliffe Top (Willis forthcoming). The principles, potentials and limitations have been outlined in the Shiptonthorpe report (Eastaugh *et al*. 2006), with the purpose being to: "quantify variations in artefact deposition through the stratigraphy [by] not only quantify[ing] the material recovered but also to obtain estimates of the volume of earth excavated" (ibid. 75). This enables the ratios of finds to volume of context removed to be established. Table 3.17 (above) shows numbers of pottery sherds and bone fragments recovered per context at Trench I alongside the litres of soil excavated. Emma Jackson has undertaken a study of these data from the Mount Pleasant site trenches which she presented at a conference at the University of Amsterdam in 2011 (Jackson 2011). This analysis will be turned to in volume 2 of this Project where it will be compared with the information from other sites, notably Hatcliffe Top. As with calibration of Roman coin data following an established method (e.g. Casey 1986; Reece 1991) the results only become significant through comparisons, both intra-site (as at Shiptonthorpe between feature types) and between sites, so like data are needed from more sites building on the study conducted for Shiptonthorpe. Tables 9.1 and 9.2 provide a flavour of these data; such data can provide a firm basis for statements regarding frequency of finds and provide insight into deposit formation processes and consumption.

Supply and Consumption

It is well established that site pottery assemblages in the Roman period can be an index of wealth, access and consumer choice. Vessel repair may indicate limited wealth or access, a lack of samian in settlement deposits at a site might contrast with its prominent use in graves and structured deposits at the same site, and communities can exercise marked choice in what they purchase which might not be economically rational but responding to other priorities (Evans 1993; 1988; Willis 2005). Leary presents comparative data that indicate a strong rural signature to the Mount Pleasant assemblage with low proportions of fine wares and imports (Table 6.33); Cool's assessment of the glass draws similar conclusions (6.5.5). Such a profile may be expected for a small nucleated/roadside settlement away from major supply routes and the close orbit of regional urban or military centres (Mount Pleasant is 30km north-east of Lincoln). At present we do not know what is typical for sites on the Wolds or its immediate hinterland as there has been limited archaeological work with little being funded to publication (a point stressed by Rackham in discussing the faunal remains). In discussing the similar sized pottery assemblage from Shiptonthorpe Evans notes the low level of fine ware present and "profoundly" jar based and rural nature: a rural community in a roadside setting with no marketing function (2006, 140-1). Further Evans sees the community as having strong Lincolnshire connections such that it may have originated south of the Humber. Dressel 20 oil amphorae and the Pélichet 47 wine amphora sherds occurred in small numbers at Shiptonthorpe which Evans sees as not atypical of a rural community (Evans 2006). This pattern of presence but infrequency is seen at Mount Pleasant where these two amphora types – the most commonly encountered types in Roman Britain – also occur, though rarely. No other amphora types occur at Shiptonthorpe and whilst Mount Pleasant also produced a sherd from a Campanian wine amphora sherd (from Trench J) this is insufficient to alter the essential picture. Samian is not common at either Shiptonthorpe or Mount Pleasant; the Shiptonthopre data (Millett 2006, illus. 7.3-6) exhibit what in a different region might be thought an exceptionally strong presence of decorated forms but I have shown elsewhere that East Yorkshire generally has a strong showing of Drag. 37 decorated bowls at rural sites (e.g. Willis 2005). There are echoes of this prominence amongst the samian from Mount Pleasant amongst both the items from the 1992-3 fieldwalking and the samian sherds from the 1998-2013 fieldwork (Table 6.6 and Section 6.4.2) but a fuller analysis lies in the future when the samian from Mount Pleasant is examined alongside that from the other sites investigated as part of the Wolds Project (Willis forthcoming).

Several indicators can be used to gauge the connectedness of the site, of its users and consumers, and the degree to which the types and origins of material culture reflect wider spheres. Relevant here is the location of the site on an arterial route and evident nodal point to and through which people and goods might be travelling. Of course being on a road along which people and goods pass does not necessarily mean that resources in transit will be 'dropped off' as bigger markets and contracts might be at play: Shiptonthorpe, for instance, on what is a more important road, from Brough to York, does not have a sub-set or smaller proportion of items seen in York, many of which are likely to have passed through Shiptonthorpe. Civitas capitals enjoyed supplies of samian in quantity but at settlements between such centres the levels are lower and often formed with less of the elaborate types (Willis 2005). Purse, preference and peers can influence consumption patterns and so it is important to factor in what types of people will have lived at the site, what they could afford and how they wished to express themselves. They will have been able to exercise considerable choice in expression, through agency influenced by tradition and aspiration and in terms of how they saw themselves. Mentioning Shiptonthorpe, it is relevant too that Evans concluded that this roadside settlement did not have a marketing role as far as one could judge on the basis of the ceramics (2006, 141).

Iron Age finds include a few items of Middle Iron Age date which follow regional traditions; equally the much more strongly represented Late Iron Age pottery has affinity in fabric, forms and finishing with many types precedented at Dragonby, a site about a day's journey away. The brooches too have regional parallels in Lincolnshire, East Anglia, and south-east England. The Nauheim brooches are northern finds within the general distribution. Where the brooches were made is not known. A small amount of Gallo-Belgic imported pottery occurs in the form of Cam. 113 butt beaker and *Terra Rubra*, and a sherd of the latter is also known at Fonaby north of Caistor (Section 1.9.1). Of more local origin, Shaffrey notes that at least three beehive querns are present, these being, typologically

Table 9.1 Trench I: Volumetric Analysis – ratio of pottery sherds per litres of soil excavated.

Context and Type	Number of Sherds	Litres Excavated	Sherds per 100 litres of deposit (rounded up)
9003: Silt layer: hillwash	394	4527	9
9008: Fill of ditch [9009]	220	918	24
9010: Fill of ditch [9013]	70	708	10
9018: Fill of ditch terminal etc. [9013]	58	396	15
9014, 9019, 9022: Fill of ditch [9020] etc.	24	1500	2

Table 9.2 Trench I: Volumetric Analysis – ratio of bone fragments per litres of soil excavated.

Context and Type	Number of Bone Fragments	Litres Excavated	Bones per 100 litres of deposit (rounded up)
9003: Silt layer: hillwash	178	4527	4
9008: Fill of ditch [9009]	67	918	7
9010: Fill of ditch [9013]	87	708	12
9018: Fill of ditch terminal etc. [9013]	31	396	8
9014, 9019, 9022: Fill of ditch [9020] etc.	93	1500	6

Iron Age (this chapter). As elsewhere the Claudian invasion of AD 43 and the inclusion of the East Midlands into the new province is not visible as an immediate ceramic horizon in the pottery assemblage or in other finds from the site (cf. Willis 1996).

In the Roman period a similar pattern of locally and regionally derived items, together with some more exotic imports is apparent. Quantities of finds increase with some deposits containing numerous finds and a wide range of artefact types, such as layers (1003) and (1005) at Trench A, layer (3003) at Trench C, (5004) at Trench E, and some of the ditch fills at Trenches I and J, notably the fills of [9698] which yielded much pottery in comparatively unfragmented condition. Considering the pottery, Leary (pers. comm.) felt that insufficient data was available for other sites in the locality of northern and eastern Lincolnshire (due to the rarity of archaeological fieldwork) to be able to discuss pottery supply in a detailed manner and we agreed that this was best undertaken when the pottery from the other sites examined by this Project had been studied in detail, in particular the sizable assemblages from the excavations at Hatcliffe Top and surface survey at Otby Top (Willis forthcoming). The pottery from the Market Rasen kiln site excavations might also be published by then. Nonetheless several major trends can be highlighted. Firstly, the forms present are on the whole very well paralleled in the region, as the repeated references to the few comprehensive corpuses available show (i.e. to John Samuels' thesis study (1983), Ian Stead's Winterton and North Lincolnshire volume (1976) and to the Dragonby Series (in May 1996)). What seems striking from Ruth Leary's report are the number of confirmed or likely local and regional sources which are represented at the Mount Pleasant site. Whilst the East Midlands generally, and in this instance, Lincolnshire and South Yorkshire in particular, had many centres producing pottery in the Roman period the number of production sites from which the Mount Pleasant assemblage derives is perhaps surprisingly wide. This occurs despite the proximity of an apparent string of kilns and production sites along the western escarpment of the Wolds from Linwood Warren to Caistor, and probably beyond which were producing good quality utilitarian wares for the kitchen and the store, and fine wares fit to be seen on an elite dining table in the form of the fine so-called Parisian wares. In part attention to the chronology of supply is significant as not all sources were in production through the Roman era. Nevertheless the network of supply is complex and this raises questions as to the means of supply. Was much of this indirect through secondary distribution centres or fairs? As yet we cannot say: research is needed to address this question. The amount of samian from the site is moderate considering the overall size of the recovered assemblage. The normal sources are represented and in proportions that are consistent with smaller nucleated settlements in Britain (cf. Willis 2005). In order to gauge the frequency of samian relative to other wares it is essential to have stratified groups of the appropriate date. The fieldwalking collections from the site include much third and some fourth century material, together with some Late Iron Age pottery, in other words a considerable proportion of the pottery collected during these exercises comes from periods when samian was not being imported to Britain and so the frequency of samian amongst the surface collections will appear lower than its frequency at the site during the eras when it was being supplied and in use (c. AD 40-250, with the main supply c. AD 70-190/200). That said there is a tendency for fieldwalkers to spot small sherds and flakes of samian given its colour and sheen and so is the case at Mount Pleasant. Hence a preferred index would be to establish the proportions of samian from contexts dating to c. AD 40-250 and from these it is clear that whilst the consumers at the site had access to samian it is present in the low proportions typical of Small Towns and roadside settlements (Willis 2005, 7.2.5, Tables 23, 24, 27 and 28); Neatham is, for instance, comparable. The Mount Pleasant pottery assemblage overall displays a composition seemingly mirrored at the rural nucleated centre at Medbourne, Leicestershire. At that site the pottery composition is similar to contemporary assemblages at rural sites but with just a slightly higher proportion of regionally traded as opposed to local/unsourced coarse wares (pers. comm. Jeremy Taylor). This may simply be because the local pattern of consumption is functionally adequate and there is little exposure to alternatives or need to alter the traditions of ceramic use or to adopt new consumption patterns and differentiate from surrounding peers.

The locality was also able to supply adequate building stone and querns in Spilsby Sandstone, though there are also some examples in Millstone Grit from the Pennines. Hones and whetstones were collected and fashioned from local stones, some doubtless in an *ad hoc* fashion. More surprising is the identification of several whetstones from the western Weald. It would seem likely that such stones were widely traded, and as research and recognition progresses in the future the near exceptional nature of these finds at Mount Pleasant may prove to be one find-spot of a wider pattern of distribution, seen so far at Fiskerton and Wroxeter (cf. Shaffrey Section 6.12). Other regional or extra-regional imports presumably include the glass (Section 6.5), including the cup with the fish design that *might* have Christian associations.

Another resource brought to the site is coal. Coal is known from more than 200 sites of Roman date in Britain (Dearne and Branigan 1995). Smith records coal from Yorkshire and Durham associated with Building IV at Hibaldstow (Smith 1987, 191) but none is reported as present at Dragonby, Navenby or Shiptonthorpe, though it is conceivable that it regularly passes unrecognized during archaeological fieldwork. A fragment was collected from the south-east corner of North Field during fieldwalking but from ploughsoil it could be a recent arrival. Stratified examples came from ditch [9698] at Trench J and in sufficient measure to suggest that this is not glacially shifted material (besides it is absent from the natural postglacial silt clays masking parts of the site. Fragments of coal were present in three of the fills of ditch [9698] at Trench J, (9571), (9647) and (9669), in other words in three out of four places where the ditch was sampled through the trench. Coal was also present in the layers above (9647), namely (9567) and (9635), which may include material from the ditch. Five small fragments of coal were recovered from the bulk soil sample collected from layer (9569) over the floor surface of Room 1 in Building 2 at J (Table 7.2 and Appendix One), while two further fragments came from (9629) a layer at the north-west corner of Building 2 (Room 2) which was probably contemporary with the use of the building. Both (9569) and the ditch fills of [9698] were noticeably ash rich. Coal is often found to have been a fuel used in Roman era smithing (Cleere 1976) but was also used as domestic fuel (Jackson 2012, 192). It is possible that the ditch fill items relate to smithing (context (9671) also yielded 309g of fuel ash slag), while that from the later phase within Building 2 was employed in a domestic context.

Discussion of the Querns

The querns recovered from the site came from Trenches H, I and J, the surface of Street Furlongs and from below field hedgerows; none were encountered during the British Gas survey (Appendix 3). No querns are complete, but that is not unusual (Wright 1996, 365). None were found in primary contexts. The majority are seemingly Roman. No querns were found in Iron Age contexts (bar the possible fragment from the Middle Iron Age pit [9645]) but that may simply be a function of the limited extent to which contexts of that era were explored by excavation. Since the recorded assemblage is just 18 querns any trends in the sample must be considered provisional. Aspects and trends observed within the sample may be supported by future finds, and should become clearer when the querns from the other sites surveyed and excavated as part of the present project (i.e. at Acre House, Hatcliffe Top, Mansgate Hill and Otby Top) are fully studied, allied to an examination of older finds, such as the quernstones from Walesby (Philpot 1862, 138). The large majority of the querns are in grey green sandstone, most probably Spilsby Sandstone, though Shaffrey (after Wright 1996) notes the possibility of Elsham or Folkestone as potential alternative sources (see above). The large assemblage of querns and semi-completed querns from the recent excavations at the East Wear Bay manufacturing site, Folkestone (Parfitt 2012), have been examined on various occasions by the current writer and it is clear that the character of the stone is consistently different from that of the querns recovered from Mount Pleasant and other sites investigated as part of the Project. The East Wear Bay stones have a finer grain size and a paler grey appearance to their matrix, reminiscent of Portland cement; (I am grateful to Kate Holtham-Oakley for facilitating access to the store where these are housed, at the Port of Dover). On balance it is likely that these sandstone querns from the Mount Pleasant site are manufactured from exposures of the stone in the Nettleton Top area (Wright and Firman 1992; Wright 1996, 368).

There are aspects of Spilsby Sandstone that may affect the taphonomy of items made from this particular rock type. It can vary in its degree of cementing and character and the properties of the rock are related to the specifics of where it outcrops (cf. Robinson 2009b, 2). That said the querns from this site, in this sandstone, together with others recovered as part of the Project and to be reported in volume 2, (from Acre House, Hatcliffe Top, Mansgate Hill and Otby Top), appear to be homogeneous and likely to be from the same source, or from sources with shared fairly robust properties. The importance of sourcing quern stones from regional sites is axiomatic and established (Wright and Firman 1992; Wright 1996) and it is intended that further petrological analysis will be undertaken on the querns from the Project sites, to be included in volume 2.

Robinson notes that when employed as a building material, as it has been since Roman times, particularly at the southern end of the Wolds, the exposed surfaces of the rock can develop a hard patina but if broken and exposed to weathering, erosion can be marked (Robinson 2009c, 63). This may be a feature of one or two broken querns of this rock but seems uncommon in the case of this collection.

Fragments of Spilsby Sandstone are quite frequent in the ploughsoil from the site and must derive from stones brought to the site as the rock does not outcrop on the top of the Wolds. As a conspicuous grey green, speckled and slightly sparkling (and in this location alien) type, fragments were examined during the fieldwork whenever they were encountered to see if they showed any signs of having been shaped into querns or other items. Many pieces were too small to include diagnostic features (such as simple but tell-tale flat plains). In the ploughsoil items of Spilsby Sandstone would be vulnerable where calcareous fossils within the rock might be weathered out enabling water to enter the rock which might then freeze in winter and crack the rock; moreover this stone would not be resistant to plough impacts of modern machinery over the long term: querns 7 and 17 for instance show ploughshare scars. Hence it is not surprising that so many items of Spilsby Sandstone in the ploughsoil are fragments that have seemingly reached the optimum point of breakage and thus there is limited chance their surviving form will give clues as to their original functional form.

Amongst the assemblage Shaffrey notes three examples that are of beehive forms and likely to be of Iron Age date (Querns 16, 17, 18). Curiously, two of these (Nos 16 and 17) come from below the eastern field boundary hedge of Street Furlongs, at points close by each other, towards its southern end (see Appendix 3). This raises the question as to whether they might indicate Iron Age activity near this part of the site. They had evidently been moved to the field margin at some time, so as not to impede ploughing. These were heavy stones and so are unlikely to have been moved very far if they were carried and they did not appear to have been off-loaded from a vehicle since they were not part of any group of stones, nor were they at a junction point of any sort. There is no reason to believe they came from the field to the east of Street Furlongs, known by the name of Far Kiln Close, as no evidence of Iron Age or Roman activity is known from that field (see above, Section 1.14). Hence it would seem that they had been removed from the ploughsoil on the eastern side of Street Furlongs near to Fieldwalking Line P. There are some surface finds from this area of the field but the density is low and Iron Age items do not feature firmly amongst these finds. Hence, a specific context for these beehive querns is not apparent. The other beehive type quern (No. 18) was also recovered from below a hedge, but in this case the hedge on the north side of East Field (see Appendix 3). Unusually one of these querns (No. 17) still retained part of its iron spindle, though what had held this originally in place (if anything) had not survived; as recovered the spindle was extant to the level of the quern surface and so had evidently survived through residing within the protection of the drilled hole in which it sat, and the material around it. To these three typologically Iron Age examples may be added the fragment of Spilsby Sandstone with a pecked surface, probably from a quern, recovered from the Middle Iron Age pit context (9644) at Trench J (Section 3.3.10).

Spilsby Sandstone is also exposed in some cases near the base of the incised valleys draining to the east in the north central Wolds where these are cut to a depth sufficient to reach it. Such exposures may have provided opportunities for extraction and working. One potential location in the Iron Age and Roman period may be the "opencast sandstone quarrying" observed near Black Springs, Thoresway, with Roman pottery found nearby (Whitwell and Wilson 1969, 104).

Quern stones in Spilsby Sandstone are known from Goltho, c. 20km south of the site reported here, where they are assumed to be associated with the first century AD to early Roman settlement that underlies the early medieval manor (Beresford 1987). From the excavations at Goltho an upper and lower stone were recovered belonging to the beehive tradition (Smith 1987; Owen 1987). A half of a large beehive quern of Spilsby Sandstone was also recovered as part of the present project during fieldwalking at Otby Top in 2008 (Willis forthcoming). Fieldwalking at Acre House and Mansgate 5 has produced further examples (Sections 8.7.1 and 8.7.3). Fragments from three beehive querns are also reported from the site near Rectory Farm, Thoresway, (TF 17 96), where Roman period finds are known from the field surface (Wilson 1971, 9); their lithography is not reported.

In her report on the querns Shaffrey raises the suggestion (based on typology and a trend seen in the quern assemblage from Dragonby) that the Spilsby Sandstone items may relate to the Iron Age phases at the site, with the querns in Millstone Grit belonging to the Roman period. That could be possible if the Spilsby Sandstone querns in Roman contexts at the site are residual, although that seems on the outer reaches of probability given the number associated with Roman period contexts. A comparison with Dragonby, which lies across the Clay Vale from Nettleton/Rothwell is valid as they may have been not greatly dissimilar sites. Dragonby lies c. 26 km north-west of one likely source of Spilsby Sandstone querns - namely Nettleton Top. Reporting the querns from Dragonby, Wright (Wright 1996) pointed up the association of Spilsby Sandstone querns with Iron Age contexts, so the implication of this perspective is that manufacture and/or supply of querns in Spilsby Sandstone declined with the onset of the Roman era. A change in supply of querns to Dragonby might be explained if alternative manufacturing centres developed in the Roman period that were nearer and provided querns with better properties, or if there was improved access to such sources. Iron Age distribution systems may have broken or been refigured as a consequence of the Roman invasion, and indeed mineral extraction might have become closely administered in the Roman period given that in theory (i.e. that is by decree) minerals were Imperial property (cf. Mattingly 2006, 494).

It is fully conceivable that querns were still being produced in Spilsby Sandstone into the Roman period, but given that Dragonby seems to have declined in status in the Roman era it may have lost its ability to 'pull' in querns from the Wolds. If Dragonby ceased to receive querns of Spilsby Sandstone in the Roman era it does not necessarily follow that manufacturing in this rock had ended; the supply focus may have altered and indeed communities in the central Wolds may still have preferred querns in this stone, which would be a local and traditional source, that was perhaps cheaper and with a cultural resonance arising from tradition and its local source. More examples of stratified querns should help to resolve some of these questions. The major Late Iron Age quern manufactory at East Wear Bay, Folkestone, which exploited Greensand from Thanet Beds also declined with the advent of the Roman era (Parfitt 2012).

As well as its use for manufacturing querns some fragments of Spilsby Sandstone may be from stones used for construction. Whilst no Spilsby Sandstone was observed amongst the structural stones of Buildings 1 and 2 it was used in the building of the Late Roman walls of Horncastle. Large amorphous blocks of the rock occur in a loose cluster towards the north-east corner of East Field in the area of Enclosure 21 and may represent building stone, perhaps foundation material. Reflecting on ways to gather more information in the future on the presence of both this rock type and that of Claxby Ironstone, the other key stone introduced to this site and others dated to this period in the area, the logging of the incidence of fragments in the ploughsoil would help to display the spatial incidence within which may be revealed useful patterning. Such spatial logging is now very straightforward via accurate GPS equipment, and would enable the presence of these 'alien' stones observed at the surface of ploughsoils to be mapped, allied to a system recording fragment sizes. With Claxby Ironstone this could highlight potential locations of stone buildings. With Spilsby Sandstone this mapping might suggest areas where querns were in use, which could relate to other spatial data such as geophysical anomalies or pottery distributions. The method might therefore unlock archaeologically meaningful information from fragments which in themselves are formless and seem insignificant.

Whetstones and Hones

Study of the whetstones and hones by Ruth Shaffrey was instructive. On the one hand she recognized the possibility that several were likely imports of Wealden Sandstone, a possibility confirmed by John Allen, presumably in the Late Iron Age and/or Roman era (Section 6.12). Street Furlongs and East Field produced a comparatively large number of these items, the latter from Les Brown's Collection rather than the systematic walking of 1992-3. One wonders how often such items are overlooked in excavation and fieldwalking and passed over and not recognized, perhaps as fieldworkers are not anticipating them. Shaffrey expressed surprise at the number from the site and the fact that many show extensive use, especially those from East Field (pers. comm. Ruth Shaffrey). The much larger scale archaeological work at Dragonby produced an assemblage entirely comprised of whetstones (17), with curiously no hones (May 1996, 378-81). The Shiptonthorpe report similarly records few examples, specifically four, of which all are whetstones with one from a Late Roman context and the others not securely stratified (Millett 2006, 244-5). Les Brown's collection of around twenty items from East Field might suggest a workshop specializing in metalwork or stone working and so there is some support for the thesis that organized metalworking was undertaken at Mount Pleasant. As at Dragonby there were no examples stratified in Iron Age deposits. At Dragonby use in the Roman era was thought more likely (May 1996, 378).

9.7 Metalworking

David Dungworth's study of the slag and associated materials from the archaeological fieldwork (Section 6.13.2) identified no clear evidence that systematic smelting of iron was taking place. Smelting might be anticipated given the proximity of ore bearing rocks and even iron pan in the near vicinity (e.g. Section 1.13). Les Brown, however, had collected several items of slag from the surface of East Field and examination identified two as indicative of iron smelting bloomery slag (Section 6.13.3). There is no reason to believe this material is other than associated with the ancient site. The question remains whether ironstone was systematically mined in the Roman period hereabouts for smelting. This could have been a significant undertaking and potential wealth generator, as elsewhere in the region (Schrüfer-Kolb 2004) and is a matter for future investigation. It may have gone hand in hand with the extraction of Spilsby Sandstone for quern manufacture. No sites on the Wolds in the area of Mount Pleasant are known to have iron smelting evidence but iron smelting was seemingly being undertaken on Otby Moor and Linwood Warren and other locations along the foot of the Wolds (Jones 1988, 26-7; Wilson and Wilson 2007, 216-7; pers. comm. Catherine Wilson) as well as at Hibaldstow (Smith 1987). Given the likelihood that ore extraction and smelting was quite well-spread in the region this is certainly an area where fieldwork and research is needed (cf. Taylor 2006, 152; Willis 2006, 115).

Smithing is indicated by hammerscale and though this can seem ubiquitous at Roman sites marked densities of hammerscale may indicate where such activities occurred. The ploughsoil at Trench B and in the adjacent area contained a higher frequency of slag, consistent with the pre-excavation report of metalworking debris from this area. Upon excavation Building 1 proved to have a concentration of slag and metalworking droplets but the veracity of these finds as evidence for a use of the building for such crafts is lessened by the fragmentary nature of the remains. Smithing at Roman roadside settlements will have been a standard activity (cf. Smith 1987). The hones and whetstones may have been a part of this metalcraft. Given the indications that there was a temple at the site it is conceivable that slag was brought to the site as an offering, being a charged symbol of crafts and transformation.

9.8 Shrine, Temple and Veneration

An exceptional corpus of coins and small metal items is known from the site. The extraordinary number of Iron Age coins recovered from East Field in the past and catalogued in part by Jeffrey May (Catherall *et al*. 1998) and the items of miniature martial equipment (Stead 1998a; Farley 2011) are headlining finds pointing to the existence of a shrine and temple at the site since such items are often associated with sites of that nature (e.g. Score 2011; Cooper Section 6.7). One of the curious aspects of the fieldwork reported here is the fact that there was a different composition to the items likely to be of this association recovered. The finds catalogued in the report for British Gas (Catherall *et al*. 1998) include only three brooches either from the detected finds or the 1992-3 fieldwalking and these are all of penannular type - though it is mentioned in Section 11.1 of that report that a large number of brooches have come from the site. Contrastingly the work of 1998-2013 produced 14 brooches (Section 6.7.2), mainly of Late Iron Age to mid-first century AD date (none of which is a penannular type), but only three Iron Age coins. Perhaps there was some selection process involved with detectorists taking coins to Jeffery May as they knew of his primary interest in such finds rather than brooches. This difference is not explained by any one factor. Presuming a proportion of the brooches were *ex votos* items it is noteworthy that the practice of using them in this way seems to stop in the early Roman period, and Roman coins do not appear to be being used as a substitute. Nor it seems was pottery used in this role, in contrast to its role at some other sites with structured deposition such as Baldock (Stead and Rigby 1986).

Amongst the likely votive items is the cosmetic set from Trench A. Cosmetic sets and their constituent elements have received a considerable amount of attention in studies and literature in the past twenty years (e.g. Carr 2007; Eckardt and Crummy 2008). They are known from the later Iron Age and conquest period Britain (Hill 1997) and it is likely that the set from Trench A is of that date. Typologically the set parallels that from grave II at Deal, Kent (Birchall 1965, fig. 12). Hill suggests that their increased archaeological representation from the Late Iron Age was a consequence of both their increased use and their symbolic importance, reflecting the attention given to the management of appearance at this time (1997, 98). Their use for votive purposes is well-attested.

The rings from East Field reported by Ian Marshman (Section 6.8) are striking items which raise questions relating to veneration and the understanding of the site and its hinterland. Marshman points out that intaglios are comparatively well represented from sites in Lincolnshire, including sites of likely similar character and function to the one reported in this volume. Marshman (pers. comm.) notes that metal-detected finds from the possible temple at Great Walsingham in north Norfolk include two unusual relief bezel rings, in this case not depicting Vulcan but Mercury (who is understood to be the primary dedication God at this temple), alongside several rings with intaglios. Marshman points out that all of these are of a similar date to those from Nettleton/Rothwell (with the exception of the Roma intaglio) and perhaps represent a similar kind of votive practice. Also present is a ring with a dedication to the Matres and a ToT ring (cf. Daubney 2010a; 2010b). The rings depicting Vulcan must be a strong pointer to the identity of the dedication at Mount Pleasant (Marshman 6.8) and this would tally with the likely significance of iron production in the area for which there is some evidence (discussed above) and the possibility there was metalworking at the site. A metal figurine of Mars is said to come from the site (Catherall *et al.* 1998, 68), which would not be problematic alongside a primary dedication to Vulcan (Wait 1985). A shrine or temple to Mars may have existed at Dragonby from where two figurines of Mars are recorded (May 1996, 264-7, 271, 395 and 603). At Nettleham, to the north-east of Lincoln, a dedication to Mars Rigonemetis and the Divine Emperors relates to an arch, presumed to mark a *temenos* entrance (Wright 1962, 192, pl. 28, 1). Returning to Vulcan, there is evidence from *Ariconium*, a confirmed iron smelting centre of Roman date by the Forest of Dean suggesting that he, or at least a smith-god, was worshipped there, where the community will certainly have included ironworkers (Jackson 2012, 175-6).

There is little sign of the paraphernalia and accoutrements of religious ritual and there is only one tazza represented amongst the c. 20 000 pottery sherds known from the site (pers. comm. Ruth Leary). As to where the presumed shrine and temple was located Catherall's suggestion (Catherall *et al.* 1998) was that it lay near F40, a location ascribed very much on the basis of reports from detectorists and through observation of their preferred scanning locality. Reports point consistently to this area. There are no surface or geophysical traces indicative of such a focus at this point and Trench F, located near to F40 did not recover any 'signal' of such a nearby focus. Iron Age shrines can be ephemeral structures, comprising no more than a pit and a small wooden surround in many cases, and so might not be readily identified short of excavation. Such shrines were often monumentalized in the Roman era (Lewis 1966) and the large architectural stone recovered by Les Brown would be consistent with a temple structure: all be this a massive classical one (Section 5.1). Thinking imaginatively is it possible that the two sausage shaped pits at Trench J were part of a *temenos*? Similar pitting marking perimeters is known at other shrine sites, such as Lancing Down (Bedwin 1981).

9.9 Coins and the Later Roman Period

Figures 9.6 and 9.7 show the distribution of the coins recovered during the work in 1992-3 and 1998-2013. The plot for East Field shows coins recorded during the British Gas team's survey, the coins from the excavated trenches between 1998 and 2000 and coins arising from piecemeal metal-detecting through those seasons when stubble and bales inhibited systematic scanning. Figure 9.7 records the array of coins from Street Furlongs, from the excavated trenches and the episodes of field survey, but in particular arising from the systemic detecting undertaken in 2011 (cf. Section 6.6). The plot for East Field records what must be a tiny assemblage compared to the Iron Age and Roman coins that can be presumed to have been recovered over the years by detecting but which have passed unrecorded. Unsurprisingly coins of third and fourth century date are more common than earlier issues and these types mainly date to the later third century and early fourth century when large numbers of coins were at times in circulation. The small group from Trench F is exceptional and is discussed further below as well as under Section 6.6; a clustering is evident through the middle, eastern, margin of the field next to the course of the main Roman road. The plot for Street Furlongs also shows a string of close-knit finds adjacent to the modern/Roman road, though in this case towards the southern end of the field, and for some unexplained reason less came from the area opposite the clustering in East Field; perhaps in practice this was not as systematically covered by detecting as we thought; this area certainly yielded large quantities of pottery from earlier fieldwalking. A cluster of coins and also brooches comes from the area of the inverted Y-shaped feature opposite the boundary between East Field and North Field on the other side of the road where the 'Concrete Road' proceeds down to the quarry sites in Nettleton Bottom. The date of this feature is not known but coins and brooches dating to the first to third centuries are grouped here in the ploughsoil. Another cluster occurs towards the south-east corner of Street Furlongs as the land rises from the head of the valley to a plateau that continues to Rothwell Top Farm (cf. Section 6.6). On the plateau proper third century coins give way to coins dating to the first half of the fourth century. Indeed third century coins, which are most numerous from Street Furlongs, tend to occur to the centre and west of the area of the field examined and around the southern, eastern and northern margin of the surveyed area there is a greater tendency for coins of other periods to occur. The four second century coins from Trench J (taking the Caracalla issue from (9635) as second century) are conspicuous, such that the excavated trench has produced a picture at variance with the coins recovered from the ploughsoil.

The evidence of the coin and pottery assemblages

Figure 9.6 The location of coins recovered from East Field during the British Gas archaeological team's survey 1992-3 and from the fieldwork 1998-2000 when coins came from three trenches, with several also recovered from elsewhere by the Project's detectorist. Two brooch finds recovered by the Project detectorist are also shown (see Section 6.7.2). Colour Codes: Purple - Iron Age; Blue - second century; Green - third century; Red - fourth century; Black - not dated.

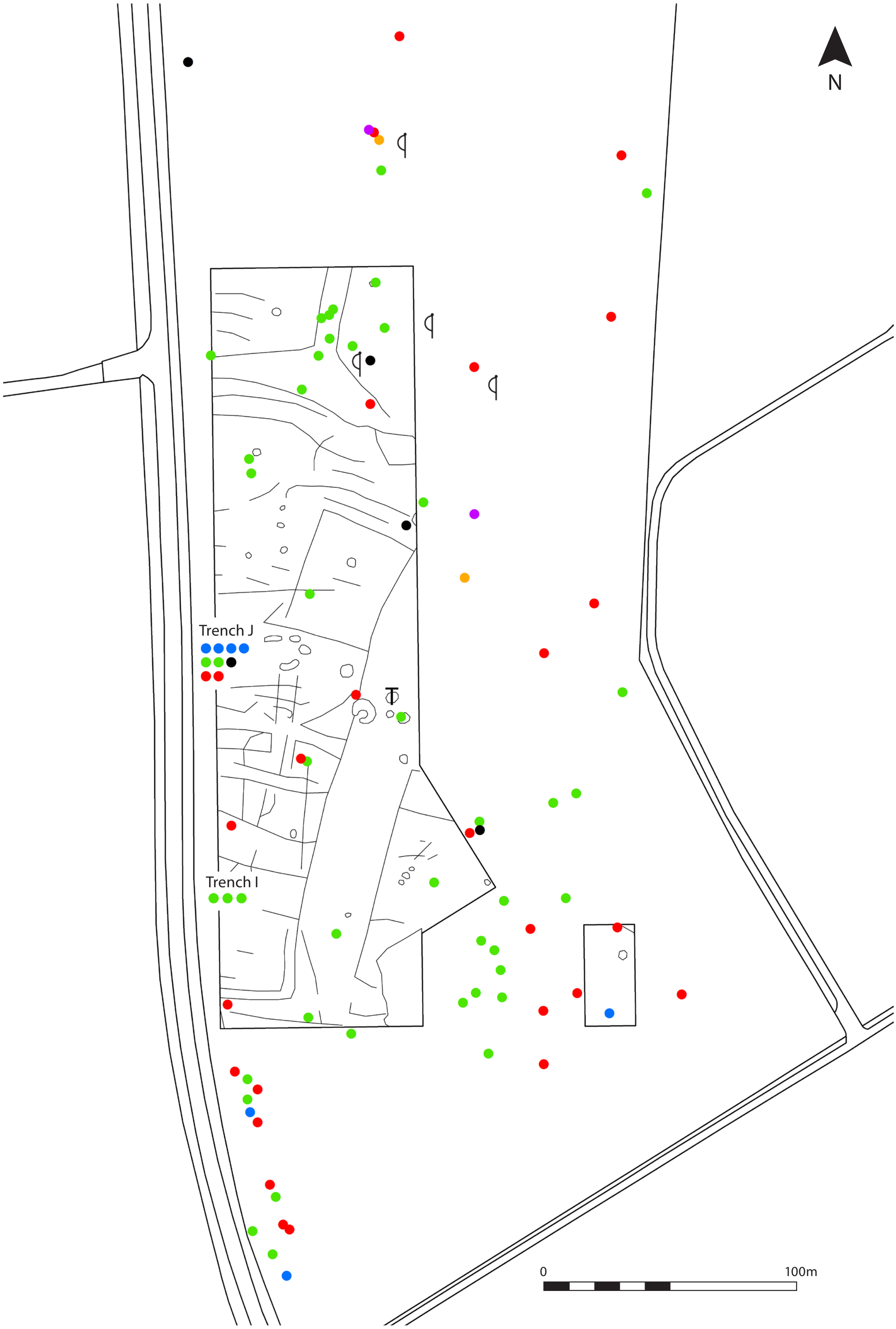


Figure 9.7 The location of Iron Age and Roman coins recovered from Street Furlongs during fieldwork 2000-2011. Four brooch finds recovered by the Project detectorists in 2011 are also shown, as is the find-spot of the inscribed lead tablet (see Section 6.9) marked with a T. Colour Codes: as Fig. 9.6, bar Orange - first century, while Black here denotes third or fourth century.

marries up in pointing to an end in the occupation at the site during the mid-fourth century, if not a little before-hand. Holman (Section 6.6) sees the coins indicating a rapid abandonment with only two coins dating to after AD 350 and both come from Trench F. The coins for the 330s and 340s are comparatively infrequent signalling the decline or abandonment took place before c. AD 350. Leary notes of the site generally that: "significant ceramic disposal had ceased after the mid-fourth century", while the picture at Trench J is representative with the pottery, suggesting activity in the area of Trench J ceased in the first half of the fourth century. The post settings of Building 3 and the alignments to the south side of J contained the latest pottery, consistent with their phasing, as did the accumulation of material over the floor of the north-west corner of Building 2, (9620). The latter context also yielded a fragment of Late Roman glass, being Cool's No. 17 dated to the fourth century (Section 6.5). Cool also sees the bead from Trench C (No. 11) as likely to be fourth century and such beads are often associated with the military. It seems it is intrusive in this Trench C context. This end to the occupation by the mid-fourth century contrasts with the picture seen at other roadside settlements in the region such as Shiptonthorpe and Navenby where there is seemingly firm occupation until the end of the Roman era (e.g. Sitch 2006; Palmer-Brown and Rylatt 2011, see for example table 4.4).

Rural temples typically, though not invariably, display a burst of late fourth century coins (Reece 1991; pers. comm.) and so more coins of this date might have been expected if there was continuing occupation with a temple present. Contrastingly there is an unusually high number of coins of AD 313-24. Richard Reece points out that a comparatively strong showing of coins of 313-330 can be indicative of military contexts or connections, as the pattern is seen at sites such as Richborough. This need not mean that the site itself has a military presence, but rather that it may be within a sphere in which military personnel and/or their (extra) pay is circulating. Alternatively it may indicate a stationing of a small detachment on the road that did not continue beyond reorganisations of the mid-fourth century (Richard Reece, pers. comm).

David Holman notes in his report (Section 6.6) that there is a striking contrast between the coin list from Mount Pleasant and that from the Hatcliffe Top site (examined as part of this Project (cf. Fig. 1.2 and 8.7.5)). This is so great, Holman observes, that a relationship between these sites may be inferred, perhaps the result of settlement reorganization, possibly in response to Imperial and/or external factors or that they were part of a wider scheme. The site at Hatcliffe Top, on the eastern fringe of the Wolds, is in use up to at least the end of the fourth century. A reorganization at this time may have been engendered by barbarian raiding along the east coast (in which case the Wolds will have been a frontier), demographics, or for economic reasons. This is also the time when nearby Caistor may have been at its most important politically, militarily and economically, though, to date, we only have the walling and defences of that site by which to gauge its potential significance. There is evidence from elsewhere on the Wolds indicating that sites are occupied in the later fourth century. A cluster of fourth century coinage is known from north of Swinhope (TF 21 96; PAS Database for Lincolnshire) which includes four House of Constantine coins (of which three are examples of the *FEL. TEMP. REPARATIO* (falling horseman) type) an issue of Gratian, a House of Valentinian coin and one further, Valentinian coin. Late Roman occupation seems likely too at the Walesby villa site, as indicated by a decorated lead tank (Whitwell 1982, 147-8; Malone 2010).

Richard Reece (pers. comm.) points out that an abrupt end to occupation at Mount Pleasant and a re-establishment elsewhere raises certain questions if the *raison d'être* of the site was as a religious focus. He points out that often the religious focus *is the site itself*, unless a cult image was mobile and devotion and attendance could then shift with the image.

As noted in the introductory Chapter Caistor has not seen the ongoing excavation and research that Rahtz said was needed fifty years ago: "to throw some light on the wider problems of the dating and status of Caistor, which have not been answered in the present excavation" (1960, 176). What the walls represent or enclosed is unknown; evidence is elusive. One of the intriguing questions of the Late Roman period in the region might though have a bearing on these matters. Christianity and the establishment of churches and Christian religious authority in the fourth century in the northern provinces of the empire appears to have been a permeating phenomenon. Elsewhere Late Roman defended areas included contemporary churches, as at Tongeren (Vanderhoeven 2011), and Maastricht (Raepsaet-Charlier and Vanderhoeven 2003) while at Lincoln a Saxon church (St Paul in the Bail) was constructed in the area of the former forum. Churches are also to be found within the forts of the Saxon shore (e.g. at Portchester, Richborough, Reculver and Othona) although the dates of establishment are not known. Was there a church of Late Roman date within the walls of Roman Caistor, perhaps under the present church? Research work is needed at Caistor and the town's heritage now has some organized and dedicated 'champions'.

Leary found no Anglo-Saxon pottery amongst the c. 20 000 sherds from Mount Pleasant that she examined, and nor are any Anglo-Saxon coins known or reliably attributed to the site to this writer's knowledge. The report prepared for British Gas states that: "no post-Roman material had been recognised from East Field until recently, when a small collection of ceramic artefacts was submitted to JM [Jeffery May] by a metal detectorist. Among the Romano-British and Iron Age material was found a bun loomweight of Anglo-Saxon type" (Catherall *et al*. 1998, 2); further details or the veracity of the attribution to East Field are not known.

9.10 People, Lives and Community

The inscribed lead tablet is a highly significant find, probably representing a curse. Such objects are rare outside the Bath/Uley concentration, and the Mount Pleasant find is the most northerly example known in the empire (Tomlin, Section 6.9). Two curse tablets are recent finds from the Highcross area of Leicester, listing named people (pers. comm. Nick Cooper), and three others are known from Red Hill, Ratcliffe on Soar, from the site of the Roman temple to Jupiter (Elsdon 1982b; Tomlin 2004). Both sites are within the same tribal territory, as conventionally ascribed, as Mount Pleasant, but are over 100km to the south-west. The Mount Pleasant find tells us that it is likely that the religious function of the site carried through to the latest Roman occupation in the fourth century and that people in the region had Roman names, knew and practiced Latin, and followed classical religious practice and idioms; there was seemingly a theft. The listing of personal names gives us a unique insight into the identity of these local citizens of the empire:

Figure 9.8 The Intaglio and its impression.

the people of the Wolds in Roman times. Tomlin (Section 6.9) believes these to be either two families or households, with a named head, and wherein we can discern something of their relationships to each other: one headed by Servandus, and including Hermo, Epinus and *Tenera,* the other headed by Clarentius, and including Epinus, *Serenella*, *Melidone* and Euopius.

There is no doubt that the site in the Roman era was a roadside settlement community the economy of which strongly involved agriculture and the processing of agricultural goods, for instance via the corn-dryer at Trench J. Some metalworking may have been undertaken and there is evidence too for bone working. It is not certain there was any settlement at the site before the mid-first century AD. Before that the presence might be seen as activity, particularly votive activity, though on balance it seems likely that there would have been some level of occupation in the later Iron Age. There are as yet no indications of roundhouses.

This was a community that made strong use of pottery and judging from the coin evidence was integrated into the Roman monetary economy. The community had footwear with hobnails, used some glass, occasionally ate oysters and had Latin names and conformed in many ways to the norms in Romano-British cultural practice in a rural setting. Either they or visitors to their site gifted items of meaning and value to the gods. Evans characterized the settlement at Shiptonthorpe as poor and a rural community that happened to live at a roadside (Evans 2006). In their specialist reports Leary and Cool see the Mount Pleasant site as a basic rural entity, with Cool accounting for exceptional glass as relating to the temple, which also seems the proper context for the rings and brooches. There may have been more than one focus of veneration but seemingly one was monolithic on a scale worthy of an urban context judging from the architectural stone. A special status to the people living here due to the religious dimension of the site is possible but is not manifest in the material traces. Marshman suggests that the intaglio depicting Roma implies a person of official status visited the site or had an association with it, given the ideological and symbolic message of the image and its potential active use as a seal. Was this a veteran settled via the colony at Lincoln? Cooper notes that the armlet from Street Furlongs (item 15 in his catalogue) may be from an *armilla* presented to soldiers at the time of the Conquest (Crummy 2005)

All told the lifestyles of the Mount Pleasant community seem essentially rural. Smaller centres in the countryside often have low levels of samian and fine pottery and other material culture, and smaller nucleated rural sites should not be expected to show more of an urban pattern of consumption simply due to their comparative size and organization. Taylor (2013) observes that we have been far too over prescriptive in our categorisations of urban and rural in the past, a habit which has led to the stagnation in the analysis of sites such as Mount Pleasant that do not necessarily fit readily into the simple site classifications established decades ago. The nature of roadside settlements varies greatly across the province due to the nature of the communities from which they are formed, their traditions and economies and their relationships with other communities. Taylor believes that in the East Midlands the extent, longevity and organic form of many of these sites was a reflection of the extent to which communities in the rural landscape integrated with the wider Roman world through its decentralised polyfocal network of local centres rather than major urban foci (pers. comm.). As noted above there may be no need or inclination to adopt anything other than a mode of consumption reflecting that of the rural community of the wider milieu. If anything roadside settlements in southern and eastern England become ever more 'rural' in their consumption patterns through the mid- to Late Roman period. Given that the Wolds and its surrounding area have seen little archaeological investigation we are some way from knowing what is normal for rural and smaller nucleated centres such as Mount Pleasant.

9.11 Stewardship and Preservation

Routine ploughing over decades has denuded the archaeological remains but other factors have and continue to add to this process, such as soil creep and animal disturbance. Buildings such as Buildings 1 and 2 and perhaps 3 have been heavily truncated and it is welcome that an unploughed margin is now instituted along the western side of Street Furlongs where the Roman properties are known. Contrastingly some deposits survive very well such as the deep cut ditches, layering either side of the modern road at some points (as was clear from Trenches E and I) and most strikingly under the hedge bank of Street Furlongs, so there may be a strip of the site over 500m long that is reasonably extant under the B1225, its verges and the field margins. A gauge of the erosion of the site is the enormous quantity of cultural material in the ploughsoil, as testified by the pottery collected via fieldwalking and the systematic recovery of finds from the ploughsoil above the excavated trenches. Surface finds are sufficiently common that several coins were surface finds spotted by eye not machine. Some data in Chapter 3 where the recorded finds from the ploughsoil are listed can be compared to the numbers of equivalent finds from *in situ* layers: the proportions from ploughsoil signal how much of the site has been eroded.

Study of the character of the pottery groups recovered from the ploughsoil sampling together with the distribution patterns of sherd abrasion levels disclosed patterning, particularly in the unabraded sherds. As discussed in Chapters 2, 3 and 8 interpreting such data and understanding what it represents is not necessarily straight forward as a number of factors may be at play. That said, considered study can be feed into site preservation and management strategies. The Project has led to the implementation of such schemes, under Countryside Stewardship.

Appendix 1

Coarse items recovered from Environmental Samples examined more closely and listed.

Context	Count	Weight	Description
Trench C (3003) 1998 Sample 1			
Copper alloy	1	> 0.1	Tiny fragment
Fuel ash slag	1	0.2	
Fired Clay	16	2.7	Fragments
Hobnail	1	1.4	Iron tack, evidently a hobnail with bent-over point, original length c 13mm; domed head c. 8.5mm in diam.
Probable Hobnail	1	0.5	Iron, very likely a hobnail head, c 9mm in diam.
Probable Nail	1	0.7	Iron strip, possibly from a nail shank c 18mm in length; rather fragmentary but could be square sectioned
Pottery	7	4.7	6 Transitional; 1 Roman greyware
Trench D (4005) 1999 Sample 1			
Pottery	7	8.1	5 Calcite tempered; 1 Roman greyware; 1 Roman oxidized
Trench D (4008) 1999 Sample 2			
Oyster	4	0.2	Flakes
Pottery	13	9.6	8 Calcite tempered; 4 Roman greyware; 1 Transitional fabric
Trench D (4018) 1999 Sample 3			
Flint	4	7.3	Rather than being burnt flint these items have magnesium accretion and are natural
Trench D (4064) 1999 Sample 4			
Iron Object	1	1.1	Rounded item, near spherical; covered in corrosion products 10 x 9 x 6mm
Pottery	6	4.5	3 Roman greyware; 1 grog and quartz tempered; 1 Transitional; 1 flake of samian: Lezoux, form not identifiable c. AD 120-200 (perhaps c. 120-160)
Trench D (4071) 1999 Sample 5			
Oyster	3	0.1	Flakes
Pottery	6	10.4	3 Calcite tempered; 1 grog tempered; 1 Transitional; 1 white ware flagon with red slip
Red Chalk	2	2.4	Had been thought to be pottery
Trench E (5004) 1999 Sample 6			
Pottery	16	10.1	15 Calcite tempered; 1 Roman greyware
Trench E (5010) 1999 Sample 7			
Pottery	1	0.4	Calcite tempered
Trench F (6015) 1999 Sample 9			
Charcoal	6	0.2	Fragments
Pottery	1	0.5	Calcite & grog tempered
Trench H (8004) 2000 Sample 3			
Fired Clay	1	0.1	Fragment
Trench I (9008) 2000 Sample 10			
Fuel ash slag	16	1.1	
Pottery	4	4.1	4 Roman greyware
Claxby Ironstone	1	0.6	Had been thought to be pottery
Trench I (9010) 2000 Sample 9			
Fuel ash slag	31	2.4	
Fired Clay	1	0.1	Fragment
Nail	1	3.6	Iron nail with square shank c. 21mm in length and apparent round head
Nail	1	4.3	Iron nail with square shank, bent with much corrosion c. 27mm in length
Pottery	13	7.1	7 Calcite tempered; 1 Roman greyware; 5 unidentified
Grey Chalk	1	1.3	Fragment of this hard variety
Claxby Ironstone	1	0.2	Had been thought to be pottery

Coarse items recovered from Environmental Samples examined more closely and listed (continued).

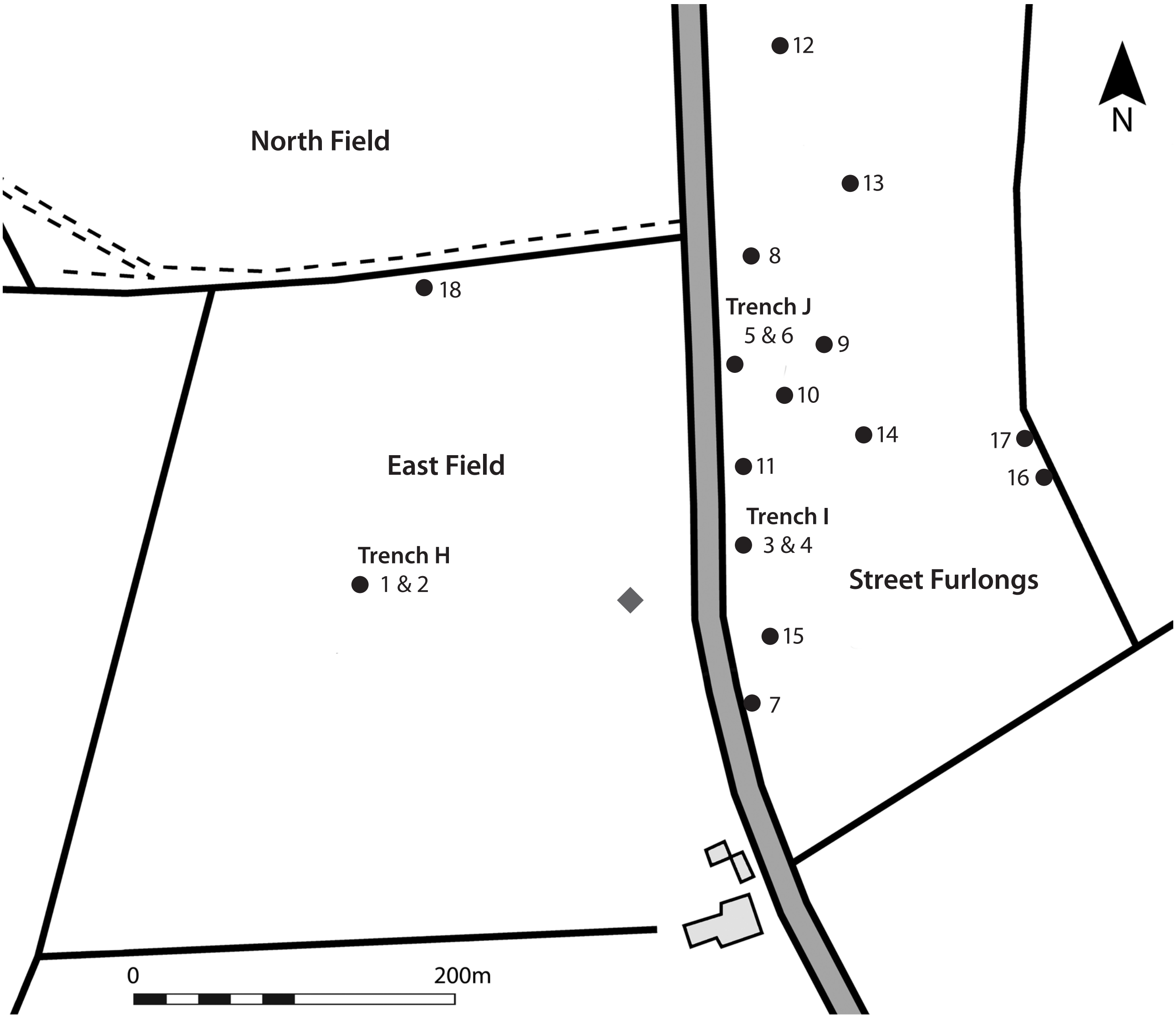
Context	Count	Weight	Description
Trench I (9022) 2000 Sample 11			
Pottery	2	0.9	2 Roman greyware
Trench J (9505) J Sample 1			
Bone	1	0.2	Had been thought to be pottery
Pottery	6	5.5	6 Calcite tempered
Trench J (9522) J Sample 2			
Fired Clay	1	0.2	
Trench J (9558) J Sample 3			
Fuel ash slag	3	0.4	
Fired Clay	1	0.6	
Oyster	2	1.7	Fragments
Pottery	17	47.8	Roman
Red Chalk	2	1.2	Had been thought to be tile
Stone	1	1.1	Had been thought to be pottery
Tealby Ironstone	44	333.3	Had been thought to be tile/fired clay
Trench J (9569) J Sample 5			
Coal	5	1.1	
Chicken Eggshell	< 63	N/A	
Fuel ash slag	10	0.7	
Nail	1	3.2	Apparent iron nail shank fragment c. 37mm in length
Mortar	c. 115	127.7	Includes 2 burnt fragments; had all been thought to be fired earth/clay
Oyster	3	1.2	2 Flakes and 1 fragment
Pottery	1	0.1	Roman
Red Chalk	1	0.6	Had been thought to be fired earth/clay
Grey Chalk	1	0.4	Had been thought to be fired earth/clay
Stone	5	6.5	Was down as 'Pottery?'
Trench J (9577) J Sample 4			
Chicken Eggshell	7	N/A	
Fuel ash slag	1	1.6	
Fired Clay	4	1.2	
Flint	3	0.3	Flakes
Pottery	2	1.2	Calcite tempered
Pottery	2	0.5	? Transitional, perhaps from same vessel; had been thought to be fired clay
Claxby Ironstone	3	4.9	Had been thought to be fired clay
Trench J (9644) J Sample 6			
Flint	1	0.1	Tiny leaf-shaped flake with cortex, probably natural; 11 x 7 x 0.5mm
Pottery	6	15.1	Wall sherds; rounded breaks; all have calcite temper and one has angular quartz
Trench J (9650) J Sample 7			
Pottery	1	2.2	Wall sherd; calcite tempered greyware
Trench J (9666) J Sample 9			
Mortar	1	1.9	Concreted fragment
Pottery	1	1.5	Wall sherd; calcite tempered greyware
Pottery	1	4.9	Wall sherd; tempered with clay pellets (?grog) and quartz
Trench J (9684) J Sample 11			
Nail	1	5.2	Iron nail represented by head and part of the square sectioned shank, broken, 19mm in length; coated in corrosion products etc.
Iron Strip	1	3.1	Flat strip of iron, possibly a complete object, 25 x 14 x 3mm; coated in corrosion products

Appendix 2

The gridded areas of the fieldwalking undertaken in Street Furlongs 2004-9 showing the codes of the individual squares.

Appendix 3

The find-spots of the 17 querns recovered during the fieldwork, 1998-2013, plus the quern found by Les Brown. The numbers refer to the catalogue entries for the querns. No querns were recovered from North Field and none were recovered during the 1992-3 fieldwalking in East Field. The approximate find-spot of the Intaglio depicting Roma, found by Les Brown, is marked with a diamond.



Appendix 4

Listing and quantification of the oyster shell from the excavated trenches. *Elizabeth Somerville*

		OYSTER											
		whole		**umbo**									
Phase	**Context**	LHS	RHS	LHS	RHS	u/s	MNI	frag	tot weight	wt whole	wt umbos	wt frags	Notes
Unstratified	5001							2	5.1			5.1	
U/S but prob. derive from Roman	9621	2	1	3	4	4	7	4	235.5	97.5	127.1	10.9	plus frag whelk Neptunea sp
Not Phased but shells likely Roman	9567			2	2		2		70.8		70.8		
Modern, shells likely Roman	9500				1		1	5	21.3		13.6	7.7	
Modern, shells likely Roman	9501	2		5	2	4	9	15	222.2	70.2	98.7	53.3	
Modern, shells likely Roman	9519			1		1	1	1	24.6		22.4	2.2	plus frag whelk Buccinum undat.
Modern, shells likely Roman	9558						1	2	3.1			3.1	1 x int. drill holes
Modern, shells likely Roman	9576					1	1		9.4		9.4		
Modern, shells likely Roman	9608					1	1	2	20.4		18.4	2	
Modern, shells likely Roman	Comb. 9637	0	1	0	1	1	2	2	27.9	12.6	12.6	2.6	
Re-deposited Roman	9003						1	1	0.3			0.3	
?Post-Roman, shells likely Roman	9553			1			1		8.4		8.4		
Post-Roman, shells likely Roman	9563				1		1		8.1		8.1		
Post-Roman, shells likely Roman	Comb. 9622	0	1	4	3	4	6	5	151.6	6.5	140	5.1	
RESIDUAL ROMAN	**TOTAL**	**4**	**3**	**16**	**14**	**16**	**34**	**39**	**808.7**	**186.8**	**529.5**	**92.3**	**Meat wt 255**
Roman	2003				1	1	1	6	22.1		10.6	11.5	
Roman	2006						1	4	0.5			0.5	
Roman	3002						1	1	2.8			2.8	
Roman	8003			2		2		19	15.2		7.4	7.8	
Roman	9011						1	2	0.2			0.2	
Roman	9512		4	2	2	2	7	7	198.6	110.3	78.8	9.5	
Roman	9554		1	2	1		2	1	66.3	21	41.1	4.2	
Roman	9556	1					1		13.5	13.5			
Roman	9604		1				1		31.1	31.1			
ROMAN	**TOTAL**	**1**	**6**	**6**	**4**	**5**	**15**	**40**	**350.3**	**175.9**	**137.9**	**36.5**	**Meat wt 112.5**
TOTAL Roman unphased-RR&R		**5**	**9**	**22**	**18**	**21**	**49**	**79**	**1159**	**362.7**	**667.4**	**128.8**	**Meat wt 367.5**

Listing and quantification of the oyster shell from the excavated trenches (continued).

		OYSTER											
		whole		**umbo**									
Phase	**Context**	LHS	RHS	LHS	RHS	u/s	MNI	frag	tot weight	wt whole	wt umbos	wt frags	Notes
Early Roman	4000s		2	6	2	5	8	14	187	23.3	139.2	24.5	MNI
Early Roman	5002/ 5004				1	1		3	12.8		9.4	3.4	
Early Roman	5004				1	1		2	9.4		8	1.4	
Roman	8004					1		4	6.3		3.6	2.7	
Early Roman	9018	1			2	2	3	5	45.2	13.3	16.7	15.2	
Early Roman	9026						1	1	9.3			9.3	
Late IA - Early Roman	9505					1	1	5	12.2		5.5	6.7	
Early Roman	Comb. 9521	7	7	24	18	4	33	30	1149.6	425.2	651.5	72.9	cc
Early Roman	Comb. 9577	1	1	1	1	0	2	6	111.8	61.2	41	9.6	
Early Roman	9650	2			1	2	3	4	128.2	81.7	25.3	21.2	
Early Roman	9666	1	1	1			2	2	107.6	72.7	34.3	0.6	
LIA or early Roman	9671					1	1		7.2		7.2		
Early Roman	9673	1		1			2		42.6	25.5	17.1		
Early Roman	9675				1		1	3	18.8		13.6	5.2	
EARLY ROMAN	**TOTAL**	**13**	**11**	**33**	**27**	**18**	**57**	**79**	**1848**	**702.9**	**972.4**	**172.7**	**Meat wt 427.5**
Mid Roman	9008					1	1	6	6		4.9	1.1	
Mid Roman	9010				1		1	1	9.5		9.4	0.1	
Mid Roman	9024				1	1	1		13		13		
Mid Roman	9518						1	3	0.5			0.5	
Mid Roman	Comb. 9569	0	3	0	0	0	3	1	47.1	46.9		0.2	
Mid Roman (poss. some late)	Comb. 9620	2	2	2	1	0	4	7	155.4	89.3	50.5	15.6	
MID ROMAN	**TOTAL**	**2**	**5**	**2**	**3**	**2**	**11**	**18**	**231.5**	**136.2**	**77.8**	**17.5**	**Meat wt 82.5**
Late Roman	9019			1	1		1	1	20.6		18.9	1.7	
Late Roman	9022			1			1	1	14.5		12.1	2.4	
Late Roman	9526	1					1		74.5	74.5			
Late Roman	9561						1	1	0.3			0.3	
Late Roman	9583	1			1		1	2	69.3	57.4	9.3	2.6	cc
Late or Post-Roman	9597			2			2		17.1		17.1		
Late-or-Post Roman	9611					1	1	2	9.4		3.8	5.6	
Late-Roman, some items 9647?	9635	1	4	5	2	7	9	11	270.2	97.78	156.8	15.1	
LATE ROMAN	**TOTAL**	**3**	**4**	**9**	**4**	**8**	**17**	**18**	**475.9**	**229.68**	**218**	**27.7**	**Meat wt 127.5**
Overall total (excavated shell)		**23**	**29**	**66**	**52**	**49**	**134**	**194**	**3714.4**	**1431.48**	**1935.6**	**346.7**	**1005**

Appendix 5

Plots showing the incidence of Iron Age and Roman pottery in the middle and lower ploughsoil zones at Trenches A-C, per square metre.

9	2	8	3	3
3	3	10	7	8
4	7	2	2	0
7	2	4	5	2
1	7	6	6	1

Figure A5.1 The density of Iron Age and Roman pottery sherds per square metre within the middle ploughsoil zone, context (1001) at Trench A. The top row is at the north side of the trench.

4	3	1	1	2
0	1	9	10	2
2	10	3	3	8
2	0	3	1	1
4	0	0	0	3

Figure A5.2 The density of Iron Age and Roman pottery sherds per square metre within the lower ploughsoil zone, context (1002) at Trench A. The top row is at the north side of the trench.

29	26	
14	7	
4	9	
9	5	
13	10	
16	8	
4	10	
0	6	
6	1	10
9	3	12

7	14	
3	12	
6	11	
4	2	
1	13	
1	0	
7	1	
13	6	
22	10	24
9	11	13

Figure A5.3 (left) The density of Iron Age and Roman pottery sherds per square metre within the middle ploughsoil zone, context (2001) at Trench B. The top row is at the north side of the trench.

Figure A5.4 (right) The density of Iron Age and Roman pottery sherds per square metre within the lower ploughsoil zone, context (2002) at Trench B.

6	8
9	10
7	4
10	5
9	9
1	9
11	13
8	16
15	27
7	10

2	0
6	3
9	8
6	7
7	8
1	4
3	2
1	3
6	3
4	2

Figure A5.5 (left) The density of Iron Age and Roman pottery sherds per square metre within the middle ploughsoil zone, context (3001) at Trench C. The top row is at the north-west side of the trench.

Figure A5.6 (right) The density of Iron Age and Roman pottery sherds per square metre within the lower ploughsoil zone, context (3002) at Trench C.

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Abbreviations of standard references

AE *L'Année Épigraphique*

CIL *Corpus Inscriptionum Latinarum*

RIB *Roman Inscriptions of Britain*

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The unremarkable arable landscape around Mount Pleasant today belies the importance of the area in the past; at the highest point of the Lincolnshire Wolds and at the head of three radial valleys, this was a highly significant locality in earlier times. The discovery of surface finds by archaeologists working ahead of a prospective gas pipeline in 1992-3 augmented a collection of finds metal-detected during the 1980s. The large number of Iron Age coins and contemporary miniatures indicative of votive material suggested the location of a shrine.

At the instigation of the County Archaeologist supported by Lincolnshire County Council, Steven Willis began a programme of evaluation trenching at Mount Pleasant in 1998 in a research exercise designed to better understand the site and to assemble information to assist the longer term management of the extensive, though fragile, remains there. The work on site included student training in fieldwork methods, assisted by the vital contribution of volunteers from the local community.

Ten trenches were excavated, each revealing remains confirming the significance of the site to the early populations of the Wolds. A number of Neolithic palisade features were recorded representing land division and enclosure features, evidently part of a ceremonial landscape associated with barrows. The discovery of a stratified Early Bronze Age axe-head, Middle and Late Iron Age finds, including pottery, brooches, quernstones and coins were a testament to its continued occupation.

Whilst the more striking finds point to votive activity, evidence for economic and cultural activity and prolific pottery finds from the Early Roman era, suggest a settled community was established by this period. The enclosure systems and tracks revealed by geophysical survey on either side of the B1225, which runs through the site, suggested that the modern road must overly a Roman predecessor. Stone founded buildings and site morphology exposed by excavation confirmed this and showed the site to have been a nodal point in the landscape, a crossroads embedded in the topography. A continuing religious focus at the site is demonstrated by the presence of an inscribed lead tablet of the Late Roman period with a list of named Roman citizens, presumably two households of this site or locality.

Studies of faunal and environmental samples provide an insight into diet, crop production, local ecology and land use. Together with the specialist analysis of the artefactual evidence, this volume reveals a complex picture of the life and times of the site until occupation came to a rather abrupt end in the first half of the fourth century in an apparently widespread re-organization of settlement in the region. There was no post-Roman occupation; until the recent discoveries, all evidence of the rich archaeology of the site was in danger of remaining in obscurity. Further investigative work on the Wolds however is now recognized as a research priority.

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